



# Product Catalog

Power Blocks, Terminal Blocks, Fuse Holders, Custom Products



A Regal Brand



Developing **CUSTOM PRODUCTS** is why "Special" is LITERALLY our middle name. Marathon Special Products' core value is to provide quality solutions to meet our customers' needs. We have the engineering and manufacturing capabilities to provide:

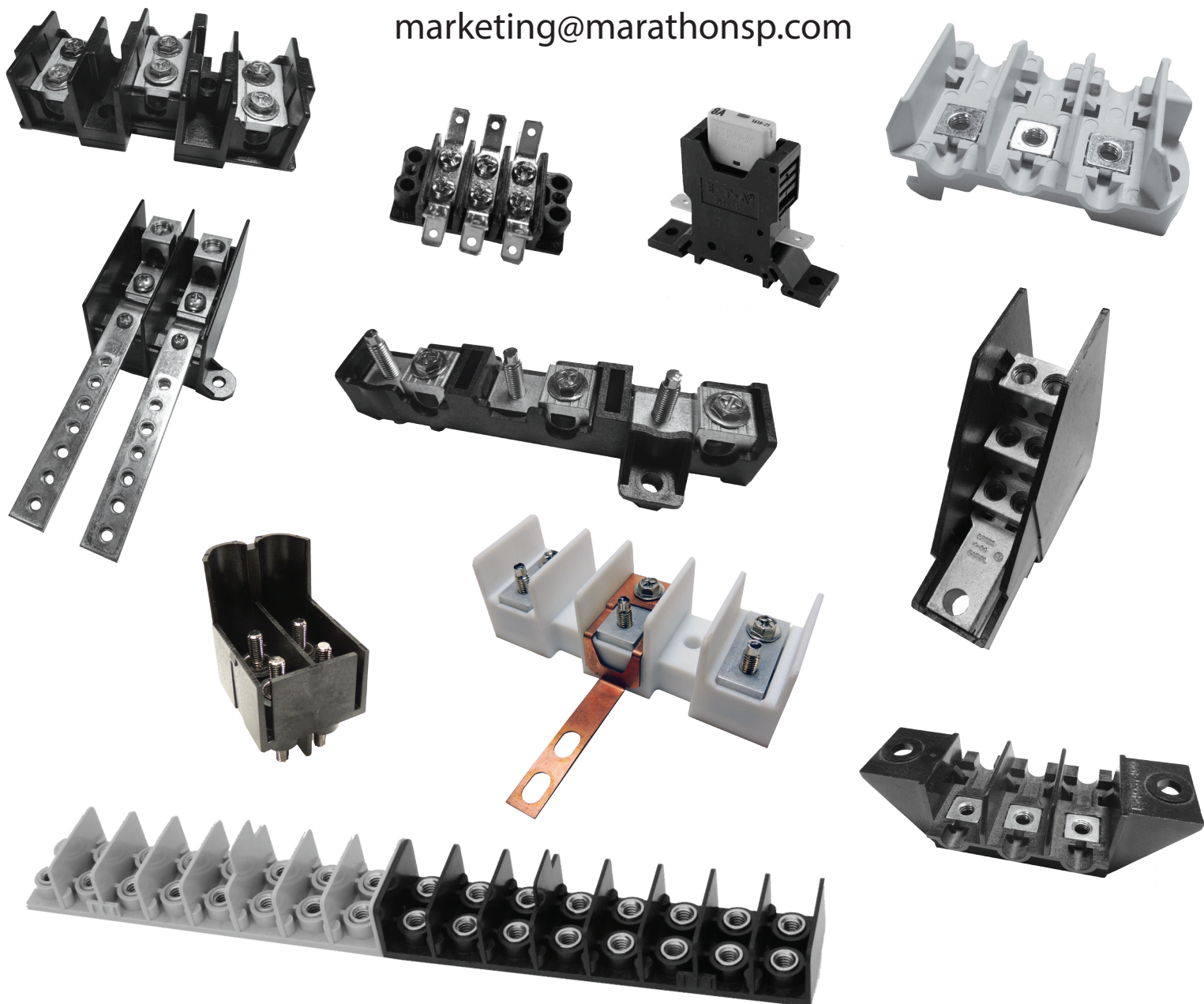
- Special hardware configurations to terminal blocks
- Special power block designs
- Special fuse holder designs
- Special terminal block designs for any application
- Special ratings that aren't available

Our product development team can quickly respond to your requests with the use of 3D modeling, finite element analysis, rapid prototyping and a UL approved test lab to accelerate the performance verification process for any testing requirements.

Please call or e-mail us your request today!

419-352-8441

[marketing@marathonsp.com](mailto:marketing@marathonsp.com)

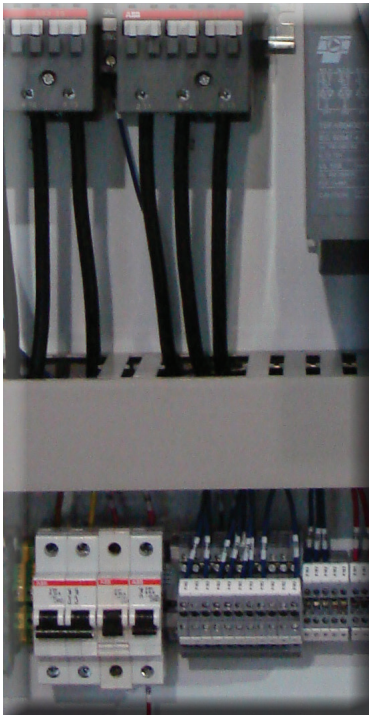




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POWER BLOCKS

SPECIALTY  
TERMINAL BLOCKS

HEAVY DUTY  
TERMINAL BLOCKS

BARRIER  
TERMINAL BLOCKS

MILITARY  
TERMINAL BLOCKS

SECTIONAL  
TERMINAL BLOCKS

FUSE HOLDERS

# General Information

## Agency Approvals:

The majority of products manufactured by Marathon Special Products are Underwriters Laboratories and Canadian Standards Association approved.

The approval status of products can be found throughout the catalog. Below are the different approval forms and brief descriptions.



Listed products by Underwriters Laboratories have been evaluated to U.S. safety requirements. These products are qualified for use in equipment without end-use agency approval when applied within the product's rated performance.



Listed products by Underwriters Laboratories have been evaluated to both U.S. and Canadian safety requirements. These products are qualified for use in equipment without end-use agency approval when applied within the product's rated performance.



Recognized products by Underwriters Laboratories have been evaluated to U.S. safety requirements. These products are components of a larger product or system and have guidelines addressing the suitability when used in an end product.



Recognized products by Underwriters Laboratories have been evaluated to U.S. and Canadian safety requirements. These products are components of a larger product or system and have guidelines addressing the suitability when used in an end product.



Certified by Canadian Standards Association, suitable for use in other equipment where Canadian Standards Association determines the suitability of the combination.



Compliance with European Union Low Voltage Directive.

## Tightening Torque:

Specified tightening torque is listed for all products, either on the carton label or the product label. All torque specifications are based on UL 486. In some cases, because of various connector designs, our specified torque is different from the torque tables shown in UL 486.

## Wire Ampacity:

The ampacity of a wire is its current carrying capacity with reference to the cross sectional area of the conductor(s), the temperature rating of the insulation and ambient temperature.

Marathon specified wire ranges are based on UL approved tests using 75°C wire. Wires with temperature ratings other than 75°C are approved while observing NEC Article 310 wire tables for allowable ampacities of insulated conductors. Marathon voltage and amperage ratings remain constant and are independent of the temperature rating of the wire used in application. Wire gauges and type must remain within the Marathon specified ranges to be UL approved. However, UL approval for higher currents may be obtained in some end-use applications.



# General Information

## Tolerances for Catalog Dimensions:

Length Dimensions	Tolerance	All Other Dimensions	Tolerance
1.0" - 5.0"	± .030	X.X"	± .030
5.1" - 10.0"	± .050	X.XX"	± .020
10.1" - 15.0"	± .060	X.XXX"	± .010

Note: Catalog Dimensions are for guidance only and are not to be construed as inspection standards.

This catalog is intended to present product data that will help the end user with design application. Marathon Special Products reserves the right to change or update without notice. Please visit [www.marathonsp.com](http://www.marathonsp.com) for the most up-to-date product information.

Wire Chart - based on UL Class B/C stranded wire (also known as code wire or rigid stranded wire).

	○	○	○	○	○	○	○	○	○	○	○	○	○
<b>SIZE</b>	#14	#12	#10	#8	#6	#4	#3	#2	#1	1/0	2/0	3/0	4/0
<b>DIAMETER</b>	.073	.092	.115	.146	.184	.235	.281	.295	.335	.380	.420	.475	.530
<b>AMPS</b>	15	20	30	50	65	85	100	115	130	150	175	200	230

	○	○	○	○	○	○	○
<b>SIZE</b>	250kcmil	300kcmil	350kcmil	400kcmil	500kcmil	600kcmil	750kcmil
<b>DIAMETER</b>	.580	.635	.690	.730	.820	.893	.998
<b>AMPS</b>	255	285	310	335	380	420	475

## SCCR Information:

The requirements of the National Electric Code (NEC) and UL508A now require many electrical panels to carry a Short Circuit Current Rating (SCCR). Analyzing the SCCR of individual components and overcurrent protection devices is a method of determining the SCCR of an electrical assembly.

Many of Marathon's recognized and listed power blocks have now been tested and approved for higher SCCR. The higher ratings are based on proper wire sizes and the appropriate circuit protection device (fuses or circuit breakers). UL508A does allow default SCCR for power distribution blocks of 10,000A with no additional testing.

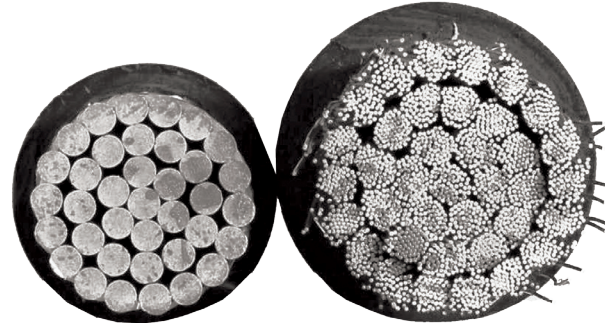
For detailed SCCR product information, please see the individual product data sheets available at: [www.marathonsp.com](http://www.marathonsp.com)

# General Information

## Flexible Stranded Wire Information:

Traditionally bare wire terminals used on Power Blocks and Fuse Holders have only been evaluated for use with rigid (Class B & C) wire. The majority of MSP's terminals have been evaluated for use with flexible stranded wire classes such as Class G, H, I (DLO) and K per UL 486A-B. This enables customers to be UL and NEC compliant while using flexible classes of wire without the use of crimp type terminals. We also supply a range of studded products to allow for the use of crimp terminals, which are recommended for larger wire sizes (greater than #1 AWG).

Flexible stranded wire classes also bring additional considerations to address such as an increase in wire diameter and the number of strands per a given wire size. The photo to the right shows two 250 kcmil wires of different classes. The one on the left is the traditional Class B with 37 strands. The one on the right is a finely stranded Class K. Although they are the same wire classification of 250, you can see the Class K is larger in diameter. This illustrates the need to specify a terminal to accept a larger standard wire size. The table below shows the increase in strand count per each wire size.




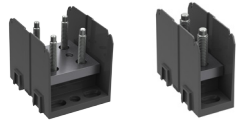





Wire Gauge	AWG/kcmil						Wire Gauge	
	Rigid Stranded			Flexible Stranded				
	CSA Compact	Class B	Class C	Class G	Class H	Class I (DLO)		Class K
	Number of Strands*							
#20 AWG						10	#20 AWG	
#18						16	#18	
#16						26	#16	
#14						41	#14	
#12						65	#12	
#10		7	19			104	#10	
#8						168	#8	
#6	7			49	133	266	#6	
#4						420	#4	
#2						665	#2	
#1						836	#1	
1/0						1064	1/0	
2/0	19	19	37	133	259	1323	2/0	
3/0						1666	3/0	
4/0						2107	4/0	
250 kcmil						2499	250 kcmil	
300 kcmil						2989	300 kcmil	
350 kcmil						3458	350 kcmil	
400 kcmil	37	37	61	259	427	3990	400 kcmil	
500 kcmil						5054	500 kcmil	
600 kcmil						6065	600 kcmil	
750 kcmil						7581	750 kcmil	
1,000 kcmil		61		427		10101	1,000 kcmil	

\*Specific quantity of strands for Classes G, H, I (DLO) & K may vary by manufacturer



# Power Blocks

Marathon Special Products has been an industry leader for supplying power blocks in North America since 1955. We've achieved this by providing one of the broadest line offerings with various sizes, terminal styles, electrical ratings and features. Our power block offerings listed below are sure to meet your needs.

Power Block Type	Page #	Description	
Bulk Fastening (BFPB)	5	The BFPB Series is a single pole design that consists of a series of stud fasteners to allow you to terminate various combinations of crimp lugs or flexible bus bar with one configuration. The series is ideal for use with flexible stranded wire terminations or large and abnormal wiring combinations.	
Mini Bulk Fastening	6	The Mini Bulk Fastening power block is available in many configurations to suit individual requirements. This product is ideal for power distribution options when terminating flexible stranded wire with crimp lugs for flexible bus bar.	
Enclosed (EPB)	7	The EPB Series are enclosed versions of our traditional power block configurations. This series consists of a modular single pole design that provides touch proof protection for splicer and distribution connector styles.	
High Voltage (HVPB)	9	The HVPB Series are High Voltage (1500 AC/DC) versions of our traditional power block configurations. This series consists of a modular single pole design for splicer, distribution and studded connector styles.	
Splicer & Distribution	11	Splicer and distribution power blocks are our traditional NEMA style offering. Splicer power blocks provide the same number of wire inputs as outputs, and distribution power blocks provide multiple load outputs per each incoming wire(s).	
Stud Configurations	17	Studded power blocks are part of our traditional NEMA style offering. These power blocks provide studs, or a combination of bare wire terminals with the stud, to terminate crimp lugs or bus bar to our power blocks to splice or distribute power.	
Miscellaneous Configurations	20	Miscellaneous power blocks are part of our traditional NEMA style offering. These power blocks provide tapped holes or quick-connects in addition to bare wire terminals to splice or distribute power.	

## Standards:

MSP's power blocks are either UL recognized or listed. Most have either CSA certification or cUR recognition for Canadian customers, as well as compliance to CE (Component IEC 60947-7-1).

Recognized power blocks comply to UL 1059 and CSA C22.2 No. 158. All of our power blocks meet the 600V spacing requirements for application classes B & C and some Class A (135s):

- Class A - Service; including dead front switchboards, panel boards and service equipment
- Class B - Commercial appliances; including business equipment and electronic data processing equipment
- Class C - Industrial, general

Listed power blocks comply to UL 1953. These are all rated 600V and are intended to be used on the load side of service equipment in accordance with the National Electrical Code, NFPA 70. These blocks are used for splicing conductors in metallic wireways, auxiliary gutters, junction boxes, termination boxes and control panels in order to distribute power to separate loads. Listed power blocks additionally provide feeder circuit terminal spacing requirements of UL508A.

# Bulk Fastening Power Block

## Electrical

- 1605 amps
- 1000 volts AC/DC (cULus)
- Multiple wire rating - refer to data sheets for details
- Provides feeder circuit terminal spacing

## Mechanical

- Insulator - thermoplastic: 125°C (257°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel mountable

## Features/Benefits

- Modular construction to accommodate numerous terminal options
- Available for 2 to 6 stud terminal positions
- Accommodates power distribution options for listed lugs sized up to 1000kcmil

## Features/Benefits - cont'd

- First power terminal block to have a high SCCR rating (35k) with no over current protection device
- Reliably terminates flexible stranded classes of wire with crimp lugs
- Suitable to terminate and distribute power with flexible bus bar

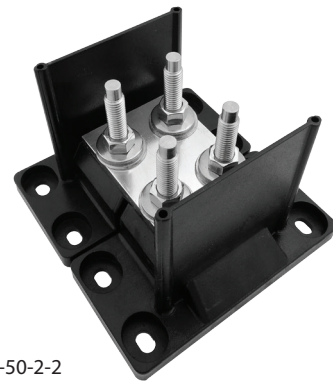
## Standards

- UL recognized file no. XCFR2.E62806 (UL 1059)
- cUR recognized file no. XCFR8.E62806 (UL 1059)
- RoHS compliant (all)

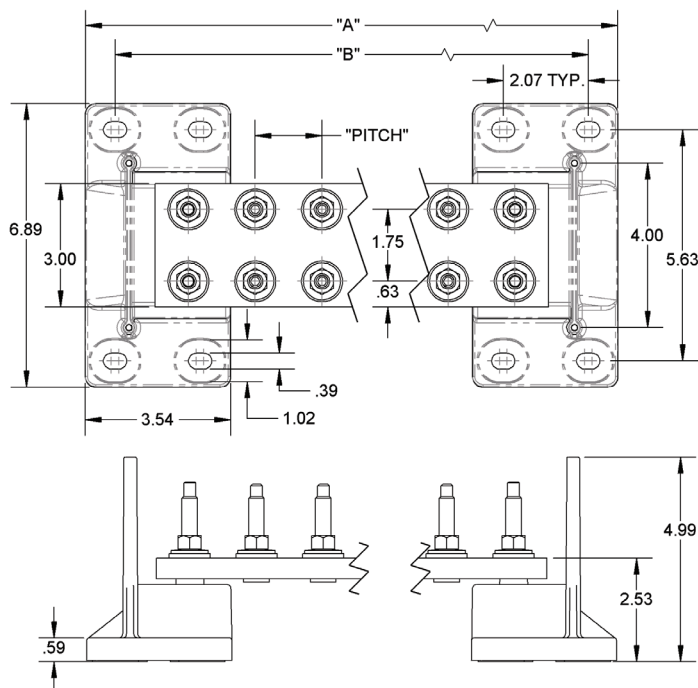
## Accessories (consult customer service)

- Covers - Flat screw-on - see chart for catalog numbers
- Hardware - included with the block as shown

Catalog #	Stud Positions	Stud Size	Dimensions			Cover Part #
			Pitch	A	B	
BFPB-50-2-2	2	1/2	2.125	7.14	5.69	CC-BFPB-2-2
BFPB-50-2-3	3	1/2	2.125	9.27	7.82	CC-BFPB-2-3
BFPB-50-2-4	4	1/2	2.125	11.39	9.94	CC-BFPB-2-4
BFPB-50-2-5	5	1/2	2.125	13.52	12.07	CC-BFPB-2-5
BFPB-50-2-6	6	1/2	2.125	15.64	14.19	CC-BFPB-2-6
BFPB-37-1-3	3	3/8	1.625	8.27	6.82	CC-BFPB-1-3
BFPB-37-1-4	4	3/8	1.625	9.89	8.44	CC-BFPB-1-4
BFPB-37-1-5	5	3/8	1.625	11.52	10.07	CC-BFPB-1-5
BFPB-37-1-6	6	3/8	1.625	13.14	11.69	CC-BFPB-1-6



BFPB-50-2-2



BFPB-37-1-4  
With Cover



# Mini Bulk Fastening Power Block

## Electrical

- 750 - 1500 amps
- 1500 volts

## Standards

- UL recognized file no. XCFR2.E62806 (UL 1059)
- cUL recognized

## Mechanical













- Can be panel mounted over din rail

## Accessories (consult customer service)

- Hinged covers available

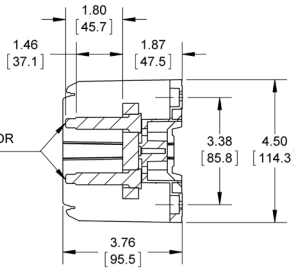
## Features/Benefits

- Unique material allows 1500V UL rating
- SCCR 25ka rating with no over current protection device
- Accommodates various power distribution options with listed lugs
- Eliminates the need for self fabricated junction blocks in unique applications with large or unusual wiring combinations
- Improved reliability for flexible stranded wire termination with listed lugs
- Suitable to terminate and distribute power with flexible bus bar

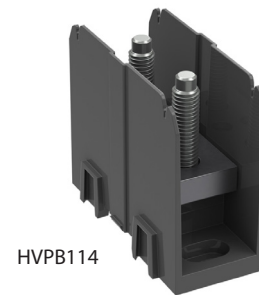
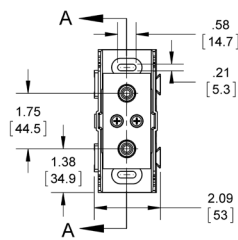
Amps	Catalog #	Connector Temp. Rating	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/Pole	Wire Range AWG/kcmil	Connector Openings/Pole	
750	HVPB112	90°C	Plastic	CU	Stud, 3/8	1 	Stud, 3/8	1 	UL Recognized 
750	HVPB114	90°C	Plastic	CU	Stud, 1/2	1 	Stud, 1/2	1 	UL Recognized 
1500	HVPB212	90°C	Plastic	CU	Stud, 3/8	2 	Stud, 3/8	2 	UL Recognized 
1500	HVPB214	90°C	Plastic	CU	Stud, 1/2	2 	Stud, 1/2	2 	UL Recognized 

### SINGLE WIDE PREPARED WIRE 750A FLEXIBLE BUS BAR 595A

DIMENSIONS ARE FOR THE 3/8" STUDS



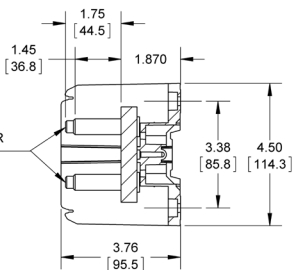
SECTION A-A



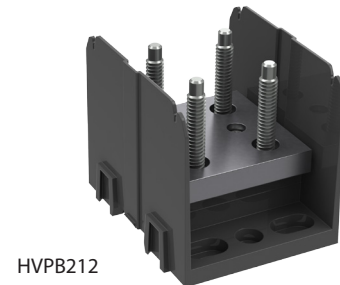
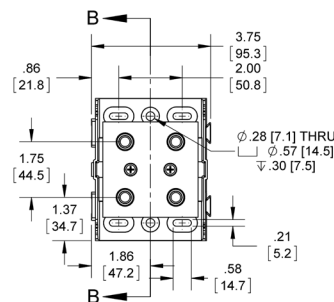
HVPB114

### DOUBLE WIDE PREPARED WIRE 1500A FLEXIBLE BUS BAR 985A

DIMENSIONS ARE FOR THE 1/2" STUDS



SECTION B-B



HVPB212

# Enclosed Power Blocks - Splicer/Distribution

## Electrical

- 115 - 510 amps
- 600 volts AC/DC (UL)
- Up to 1000 volts (IEC) - reference data sheets
- Flexible stranded wire compliant
- Multiple wire rating - refer to data sheets for details
- Listed products provide feeder circuit terminal spacing

## Mechanical

- Insulator - thermoplastic: 125°C (257°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel and/or DIN mountable

## Standards

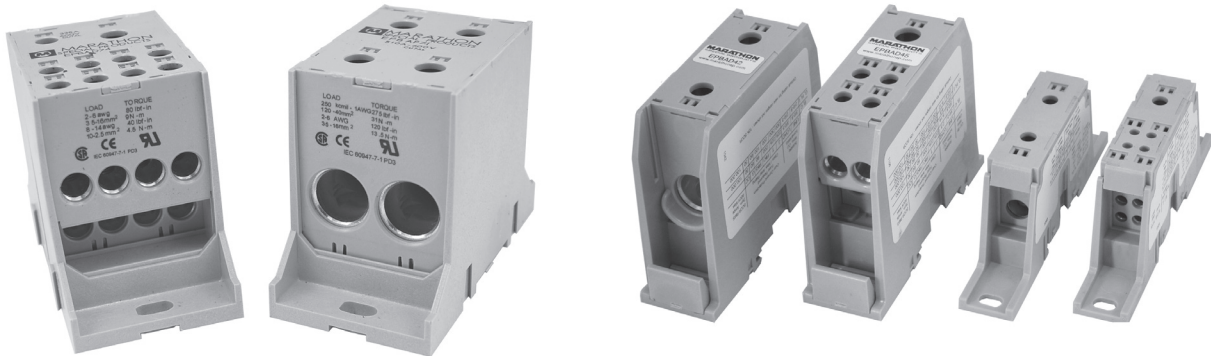
- See chart for product specific approvals listed
- UL listed - or - UL recognized
  - Listed file no. QPQS.E309401 (UL 1953)
  - Recognized file no. XCFR2.E62806 (UL 1059)
- CSA certified file no. LR19766 (CSA C22-2 No. 158)
- CE (component IEC 60947-7-1)
- IEC 60529, IP-20
- RoHS compliant (All)

## Accessories (consult customer service)

- Marker-cards - available with custom printing
- DIN rail and anchors

## See on-line data sheets for:

- Dimensional drawings
- Detailed SCCR information
- Termination and mounting specifications



Shown left to right: EPBAD74, EPBAD71 EPBAD42, EPBAD45, EPBAD21, EPBAD24

## Ordering Code:

EPB

Enclosed Power Block

X

Connector material:  
A - Aluminum rated copper or aluminum wire  
C - Copper rated copper wire only

X













Mounting:  
D - Mount on 35 mm DIN rail  
P - Flat panel  
  
(21/24 are DIN and panel mountable)

XX

21 - (1) #2 to (1) #2  
24 - (1) #2 to (4) #10  
42 - (1) 3/0 to (1) 3/0  
45 - (1) 3/0 to (4) #2  
71 - (2) 250 kcmil to (2) 250 kcmil  
74 - (1) 400 kcmil to (1) 2/0 to (8) #2



# Enclosed Power Blocks - Splicer/Distribution

Amps	Catalog #	Mounting Style	MAX SCCR	Connector Material	LINE SIDE		LOAD SIDE		Agency Compliance
					Wire Range AWG/kcmil	Connector Openings/ Pole	Wire Range AWG/kcmil	Connector Openings/ Pole	
115	EPBAD21	Both DIN/ Panel	100,000	AL	#2 - #14	1 	#2 - #14	1 	UL Listed CSA Certified CE Compliant
115	EPBAD24	Both DIN/ Panel	65,000	AL	#2 - #14	1 	#10 - #18	4 	UL Listed CSA Certified CE Compliant
200	EPBAD42	DIN	100,000	AL	3/0 - #14	1 	3/0 - #14	1 	UL Listed CSA Certified CE Compliant
	EPBAP42	Panel							
	EPBCD42	DIN	100,000	CU					
	EPBCP42	Panel							
200	EPBAD45	DIN	100,000	AL	3/0 - #14	1 	#2 - #14	4 	UL Listed CSA Certified CE Compliant
	EPBAP45	Panel							
	EPBCD45	DIN	100,000	CU					
	EPBCP45	Panel							
335	EPBAD74	DIN	10,000	AL	400 - #6/ 2/0 - #14	1/1 	#2 - #14	8 	UL Recognized CSA Certified CE Compliant
	EPBAP74	Panel	100,000						
	EPBCD74	DIN	10,000	CU					
	EPBCP74	Panel	100,000						
510	EPBAD71	DIN	10,000	AL	250 - #6	2 	250 - #6	2 	UL Recognized CSA Certified CE Compliant
	EPBAP71	Panel	100,000						
	EPBCD71	DIN	10,000	CU					
	EPBCP71	Panel	100,000						

Go to [WWW.MARATHONSP.COM](http://WWW.MARATHONSP.COM) for:

- Product specific data sheets (includes detailed drawings & SCCR Ratings)
- Request 2D/3D CAD files
- Check distributor stock
- Request samples



# Power Blocks - High Voltage (1500V)

## Electrical

- 350 - 950 amps
- 1500 volts AC/DC (UL)
- Provides feeder circuit terminal spacing at 600V
- Flexible stranded wire compliant
- Multiple wire rating - refer to data sheets for detail

## Mechanical

- Base, thermoplastic
- Insulator temp-rating: 110°C (230°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel mountable
- Modular construction for multi-pole configurations

## Standards

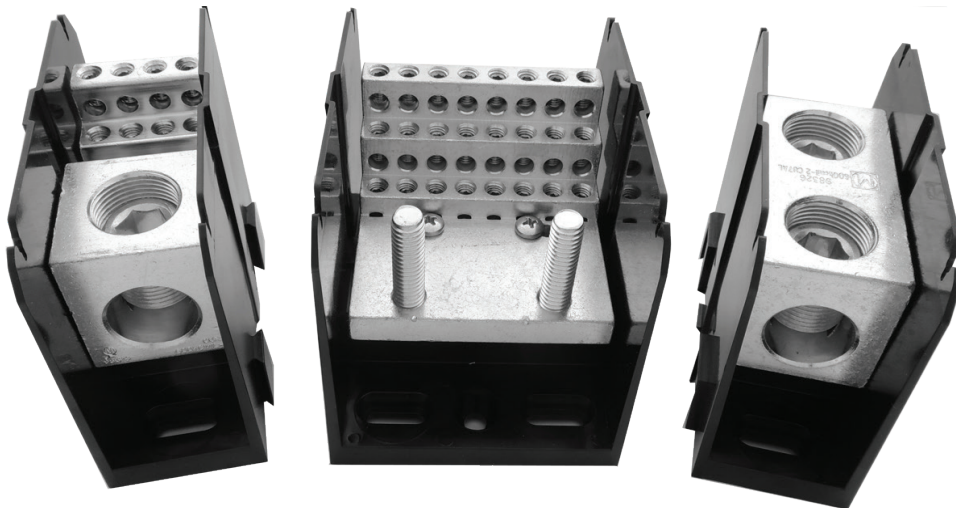
- UL recognized file No. XCFR2.E62806 (UL 1059)
- cUR recognized file No. XCFR8.E62806 (UL 1059)
- RoHS compliant

## Accessories

- Covers - Hinge covers available (see ordering code)
- Printing - consult factory for custom requests

## See on-line data sheets for:

- Dimensional drawings
- Detailed product specific information
- Termination and mounting specifications













































Shown left to right: HVPB108, HVPB203, HVPB109

## Ordering Code:

SERIES	IDENTIFIER	COVER OPTION
HVPB	XXX	XX
High Voltage Power Block	Random 3-digit Identifier	Blank = No Cover CH = Hinge Cover Attached



# Power Blocks - High Voltage (1500V)

Amps	Catalog #	Connector Temp. Rating	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/Pole	Wire Range AWG/kcmil	Connector Openings/Pole	
350	HVPB105	90°C	Plastic	AL	Stud, M10	1 	#10 - #14 (a)	24 	UL Recognized 
420	HVPB108	75°C	Plastic	AL	600 - #2	1 	#4 - #14	12 	UL Recognized 
420	HVPB109	75°C	Plastic	AL	600 - #2	1 	600 - #2	1 	UL Recognized 
430	HVPB101	90°C	Plastic	AL	Stud, M10	1 	#6 - #14 (b)	12 	UL Recognized 
430	HVPB103	90°C	Plastic	AL	Stud, M10	1 	#4 - #14 (c)	8 	UL Recognized 
430	HVPB107	90°C	Plastic	CU	Stud, M10	1 	Stud, M10	1 	UL Recognized 
430	HVPB208	90°C	Plastic	CU	Stud, 1/2-13 x 1.44"	1 	Stud, 1/2-13 x 1.44"	1 	UL Recognized 
760	HVPB210	75°C	Plastic	AL	500 - #4	2 	#2 - #14	12 	UL Recognized 
760	HVPB211	75°C	Plastic	AL	500 - #4	2 	2/0 - #14	8 	UL Recognized 
860	HVPB205	90°C	Plastic	AL	Stud, M10	1 	#4 - #14 (c)	16 	UL Recognized 
860	HVPB207	90°C	Plastic	AL	Stud, M10	2 	#4 - #14 (c)	16 	UL Recognized 
860	HVPB201	90°C	Plastic	AL	Stud, M10	1 	#6 - #14 (b)	24 	UL Recognized 
860	HVPB203	90°C	Plastic	AL	Stud, M10	2 	#6 - #14 (b)	24 	UL Recognized 
950	HVPB602	90°C	Plastic	AL	600 - #2	2 	600 - #2	2 	UL Recognized 

(a) suitable for #8 AWG, limited to 40A per wire, copper only  
 (b) suitable for #4 AWG, limited to 75A per wire, copper only  
 (c) suitable for #2 AWG, limited to 95A per wire, copper; 75A per wire, aluminum

# Power Blocks - Splicer/Distribution

## Electrical

- 60 - 2280 amps
- 600 volts AC/DC (UL)
- Flexible stranded wire compliant
- Multiple wire rating - refer to data sheets for details
- Listed products provide feeder circuit terminal spacing

## Mechanical

- Base, black thermoplastic or phenolic (see chart)
- Insulator temp-ratings
  - Thermoplastic: 125°C (257°F) - UL RTI
  - Phenolic: 150°C (302°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel mountable, 132 series is also DIN mountable

## Standards

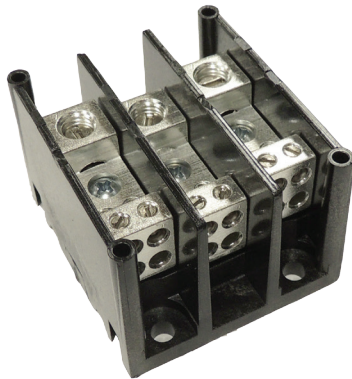
- See chart for product specific approvals listed
- UL listed - or - UL recognized
  - Listed file no. QPQS.E309401 (UL 1953)
  - Recognized file no. XCFR2.E62806 (UL 1059)
- CSA certified file no. LR19766 (CSA C22-2 No. 158)
- CE (Component IEC 60947-7-1)
- RoHS compliant (All)

## Accessories (consult customer service)

- Covers - see page 24 for series cover specifications
- Marking strips - available with custom printing
- Printing - consult factory for custom requests

## See on-line data sheets for:

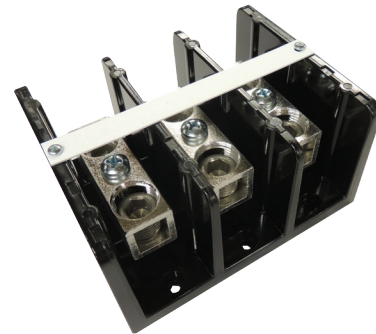
- Dimensional drawings
- Detailed SCCR information
- Termination and mounting specifications



1413400

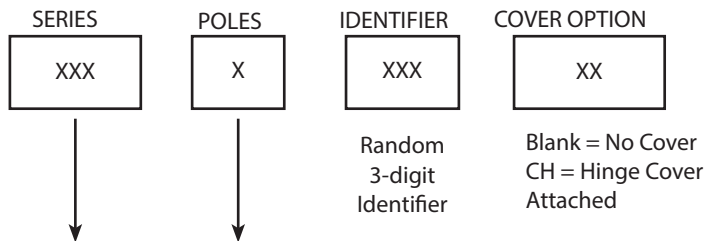


1333587CH  
(shown with cover)





































1433124  
(shown with marking strip)

## Ordering Code:





































Series	Poles Available	Dimensions	Cover Type Available
141	1/2/3/4	Pg 21	Flat
140	2/3	Pg 22	Flat
132	0/1/2/3	Pg 21	Hinge
142	1/2/3	Pg 21	Flat
143		Pg 22	Flat
133		Pg 22	Hinge
144		Pg 23	Flat
145		Pg 23	Flat
135		Pg 23	Hinge

# Power Blocks - Splicer/Distribution



































Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/Pole	Wire Range AWG/kcmil	Connector Openings/Pole	
60	141x403	1/2/3/4	Plastic	AL	#2 - #14	1 	#10 - #18	2 	UL Recognized CSA Certified CE Compliant
115	141x300	1/2/3/4	Plastic	AL	#2 - #14	1 	#2 - #14	1 	UL Recognized CSA Certified CE Compliant
115	142x552	1/2/3	Phenolic	AL	#2 - #14	1 	#2 - #14	1 	UL Recognized CSA Certified CE Compliant
115	141x400	1/2/3/4	Plastic	AL	#2 - #14	1 	#10 - #18	4 	UL Recognized CSA Certified CE Compliant
150	142x121	1/2/3	Phenolic	CU	1/0-#14	1 	1/0-#14	1 	UL Recognized CSA Certified CE Compliant
175	132x572	0/1/2/3	Plastic	AL	2/0 - #14	1 	2/0 - #14	1 	UL Recognized CSA Certified CE Compliant
175	142x572	1/2/3	Phenolic	AL	2/0 - #14	1 	2/0 - #14	1 	UL Recognized CSA Certified CE Compliant
175	132x972	1/2/3	Plastic	CU	2/0 - #14	1 	2/0 - #14	1 	UL Recognized CSA Certified CE Compliant
175	132x570	0/1/2/3	Plastic	AL	2/0 - #14	1 	#4 - #14	4 	UL Recognized CSA Certified CE Compliant
175	142x570	1/2/3	Phenolic	AL	2/0 - #14	1 	#4 - #14	4 	UL Recognized CSA Certified CE Compliant
175	132x580	0/1/2/3	Plastic	AL	2/0 - #14	1 	#4 - #14	6 	UL Recognized CSA Certified CE Compliant
175	140x402	2/3	Phenolic	AL	2/0 - #14	1 	#4 - #14	4 	UL Recognized CSA Certified CE Compliant
175	140x401	2/3	Phenolic	AL	2/0 - #14	1 	#4 - #14	6 	UL Recognized CSA Certified CE Compliant
175	132x970	0/1/2/3	Plastic	CU	2/0 - #14	1 	#4 - #14	4 	UL Recognized CSA Certified CE Compliant
175	142x970	1/2/3	Phenolic	CU	2/0 - #14	1 	#4 - #14	4 	UL Recognized CSA Certified CE Compliant
255	143x124	1/2/3	Phenolic	CU	250 kcmil - #6	1 	250 kcmil - #6	1 	UL Recognized CSA Certified CE Compliant
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

































# Power Blocks - Splicer/Distribution

Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/Pole	Wire Range AWG/kcmil	Connector Openings/Pole	
255	140x801	2/3	Phenolic	CU	250 - #6	1 	250 - #6	1 	UL Recognized CSA Certified CE Compliant
310	140x303	2/3	Phenolic	AL	350 - #6	1 	350 - #6	1 	UL Recognized CSA Certified CE Compliant
310	143x126	1/2/3	Plastic	AL	350 - #6	1 	350 - #6	1 	UL Recognized CSA Certified CE Compliant
310	133x126	1/2/3	Plastic	AL	350 - #6	1 	350 - #6	1 	UL Recognized CSA Certified CE Compliant
310	140x404	2/3	Phenolic	AL	350 - #6	1 	#4 - #14	6 	UL Recognized CSA Certified CE Compliant
310	133x554	1/2/3	Plastic	AL	350 - #6	1 	2/0 - #14	2 	UL Recognized CSA Certified CE Compliant
310	140x410	2/3	Phenolic	AL	350 - #6	1 	2/0 - #14	2 	UL Recognized CSA Certified CE Compliant
310	143x554	1/2/3	Phenolic	AL	350 - #6	1 	2/0 - #14	2 	UL Recognized CSA Certified CE Compliant
310	133x324	1/2/3	Plastic	AL	350 - #6	1 	#8 - #14	24 	UL Recognized cUL Recognized CE Compliant
335	144x401	1/2/3	Phenolic	CU	400 - #6	1 	#2 - #14	6 	UL Recognized CSA Certified CE Compliant
335	143x552	1/2/3	Phenolic	AL	400 - #6	1 	#2 - #14	4 	UL Recognized CSA Certified CE Compliant
335	143x553	1/2/3	Phenolic	AL	400 - #6	1 	#2 - #14	6 	UL Recognized CSA Certified CE Compliant
335	144x560	1/2/3	Phenolic	AL	400 - #6	1 	#2 - #14	8 	UL Recognized CSA Certified CE Compliant
335	133x552	1/2/3	Plastic	AL	400 - #6	1 	#2 - #14	4 	UL Recognized CSA Certified CE Compliant
350	133x305	1/2/3	Plastic	AL	2/0 - #14	2 	2/0 - #14	2 	UL Recognized CSA Certified CE Compliant
350	143x306	1/2/3	Phenolic	AL	2/0 - #14	2 	2/0 - #14	2 	UL Recognized CSA Certified CE Compliant
350	143x555	1/2/3	Phenolic	AL	2/0 - #14	2 	#4 - #14	6 	UL Recognized CSA Certified CE Compliant

# Power Blocks - Splicer/Distribution



















Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/Pole	Wire Range AWG/kcmil	Connector Openings/Pole	
350	133x555	1/2/3	Plastic	AL	2/0 - #14	2 	#4 - #14	6 	UL Recognized CSA Certified CE Compliant
350	143x955	1/2/3	Phenolic	CU	2/0 - #14	2 	#4 - #14	6 	UL Recognized CSA Certified CE Compliant
350	133x955	1/2/3	Plastic	CU	2/0 - #14	2 	#4 - #14	6 	UL Recognized CSA Certified CE Compliant
380	143x953	1/2/3	Phenolic	CU	500 - #4	1 	#2 - #14	6 	UL Recognized CSA Certified CE Compliant
380	133x953	1/2/3	Plastic	CU	500 - #4	1 	#2 - #14	6 	UL Recognized CSA Certified CE Compliant
380	144x551	1/2/3	Phenolic	AL	500 - #4	1 	#2 - #14	6 	UL Recognized CSA Certified CE Compliant
380	145x579	1/2/3	Phenolic	AL	500 - #4	1 	#2/0 - #14	6 	UL Recognized CSA Certified CE Compliant
380	133x587	1/2/3	Plastic	AL	500 - #4	1 	#2 - #14 350 - #6	3/1 	UL Recognized CSA Certified CE Compliant
380	143x587	1/2/3	Phenolic	AL	500 - #4	1 	#2 - #14 350 - #6	3/1 	UL Recognized CSA Certified CE Compliant
380	145x594	1/2/3	Phenolic	AL	500 - #4	1 	#2 - #14	8 	UL Recognized CSA Certified CE Compliant
380	145x552	1/2/3	Phenolic	AL	500 - #4	1 	#2 - #14	12 	UL Recognized CSA Certified CE Compliant
420	144x557	1/2/3	Phenolic	AL	600 - #4	1 	600 - #4	1 	UL Recognized CSA Certified CE Compliant
420	133x360	1/2/3	Plastic	AL	600 - #2	1 	600 - #2	1 	UL Recognized CSA Certified CE Compliant
420	133x588	1/2/3	Plastic	AL	600 - #2	1 	#2 - #14 1/0 - #14	6/3 	UL Recognized CSA Certified CE Compliant
420	133x595	1/2/3	Plastic	AL	600 - #2	1 	#4 - #14	12 	UL Recognized CSA Certified CE Compliant
420	133x585	1/2/3	Plastic	AL	600 - #2	1 	#2 - #14	8 	UL Recognized CSA Certified CE Compliant
420	133x575	1/2/3	Plastic	AL	600 - #2	1 	2/0 - #14	4 	UL Recognized CSA Certified CE Compliant

# Power Blocks - Splicer/Distribution

Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/Pole	Wire Range AWG/kcmil	Connector Openings/Pole	
420	133x565	1/2/3	Plastic	AL	600 - #2	1 	250 - #6	2 	UL Recognized CSA Certified CE Compliant
420	135x601	1/2/3	Plastic	AL	600 - #2	1 	#6 - #14	24 	UL Recognized cUL Recognized
475	135x701	1/2/3	Plastic	AL	750 - 1/0	1 	750 - 1/0	1 	UL Listed <sup>1</sup>
510	133x320	1/2/3	Plastic	AL	250 - 1/0	2 	250 - 1/0	2 	UL Recognized CSA Certified CE Compliant
510	133x596	1/2/3	Plastic	AL	250 - 1/0	2 	#4 - #14	12 	UL Recognized CSA Certified CE Compliant
510	133x597	1/2/3	Plastic	AL	250 - 1/0	2 	#2 - #14	8 	UL Recognized CSA Certified CE Compliant
510	133x598	1/2/3	Plastic	AL	250 - 1/0	2 	2/0 - #14	4 	UL Recognized CSA Certified CE Compliant
620	145x129	1/2/3	Phenolic	AL	350 - #4	2 	350 - #4	2 	UL Recognized CSA Certified CE Compliant
620	1331348	1	Plastic	AL	350 - #4	2 	#8 - #14	48 	UL Recognized CSA Certified CE Compliant
690	145x587	1/2/3	Phenolic	AL	500 - #4 350 - #4	1/1 	2/0 - #14	4 	UL Recognized CSA Certified CE Compliant
760	145x301	1/2/3	Phenolic	AL	500 - #4	2 	500 - #4	2 	UL Recognized CSA Certified CE Compliant
760	145x592	1/2/3	Phenolic	AL	500 - #4	2 	#4 - #14	12 	UL Recognized CSA Certified CE Compliant
760	145x586	1/2/3	Phenolic	AL	500 - #6	2 	2/0 - #14	8 	UL Recognized CSA Certified CE Compliant
760	145x992	1/2/3	Phenolic	CU	500 - #4	2 	#2 - #14	12 	UL Recognized CSA Certified CE Compliant
760	145x986	1/2/3	Phenolic	CU	500 - #4	2 	2/0 - #14	8 	UL Recognized CSA Certified CE Compliant
760	145x408	1/2/3	Phenolic	AL	500 - #6	2 	#2 - #14	12 	UL Recognized CSA Certified CE Compliant
840	145x411	1/2/3	Phenolic	AL	600 - #2	2 	3/0 - #6 #4 - #14	4/4 	UL Recognized CSA Certified CE Compliant

<sup>1</sup>UL Listed without a cover (CH). When purchased with a cover, the product is UL Recognized to US and Canadian standards (cULus).

# Power Blocks - Splicer/Distribution

Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/ Pole	Wire Range AWG/kcmil	Connector Openings/ Pole	
950	135x605	1/2/3	Plastic	AL	600 - #2	2 	350 - 4	4 	UL Recognized cUL Recognized CE Compliant
950	135x702	1/2/3	Plastic	AL	750 - 1/0	2 	750 - 1/0	2 	UL Listed <sup>1</sup>
950	135x703	1/2/3	Plastic	AL	750 - 1/0	2 	250 - #6	6 	UL Listed <sup>1</sup>
950	135x704	1/2/3	Plastic	AL	750 - 1/0	2 	2/0 - #14	10 	UL Listed <sup>1</sup>
950	135x705	1/2/3	Plastic	AL	750 - 1/0	2 	#2 - #14 250 - #6	12/3 	UL Listed <sup>1</sup>
950	135x706	1/2/3	Plastic	AL	750 - 1/0	2 	#2 - #14 250 - #6	4/5 	UL Listed <sup>1</sup>
950	135x707	1/2/3	Plastic	AL	750 - 1/0	2 	#2 - #14 3/0 - #6	12/4 	UL Listed <sup>1</sup>
950	135x708	1/2/3	Plastic	AL	750 - 1/0	2 	3/0 - #6	8 	UL Listed <sup>1</sup>
2280	1453401 <sup>2</sup>	1	Phenolic	AL	500 - #4	6 	2/0 - #14	18 	UL Recognized cUL Recognized CE Compliant

<sup>1</sup> UL Listed when purchased without a cover (CH). When purchased with a cover, the product is UL Recognized to US and Canadian standards (cURus).

<sup>2</sup> Special 1-pole power block with the dimensions of a 3-pole 145 series power block.

Go to [WWW.MARATHONSP.COM](http://WWW.MARATHONSP.COM) for:

Product specific data sheets (includes detailed drawings & SCCR Ratings)

Request 2D/3D CAD files

Check distributor stock

Request samples





# Power Blocks - Stud Configurations

## Electrical

- 115 - 1680 amps
- 600 volts AC/DC (UL)
- Flexible stranded wire compliant
- Multiple wire rating - refer to data sheets for details

## Mechanical

- Base, black thermoplastic or phenolic (see chart)
- Insulator temp-ratings
  - Thermoplastic: 125°C (257°F) - UL RTI
  - Phenolic: 150°C (302°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel mountable, 132 series is also DIN mountable

## Standards

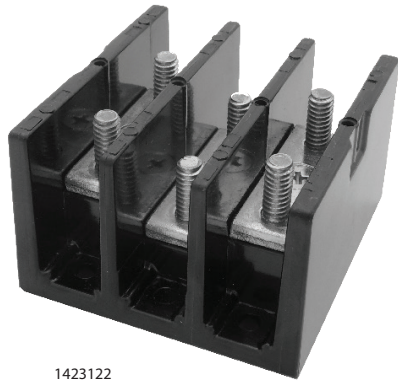
- See chart for product specific approvals listed
- UL recognized file no. XCFR2.E62806 (UL 1059)
- CSA certified file no. LR19766 (CSA C22-2 No. 158)
- CE (Component IEC 60947-7-1)
- RoHS compliant (all)

## Accessories (consult customer service)

- Covers - see page 24 for series cover specifications
- Marking strips - available with custom printing
- Printing - consult factory for custom requests

## See on-line data sheets for:

- Dimensional drawings
- Detailed SCCR information
- Termination and mounting specifications

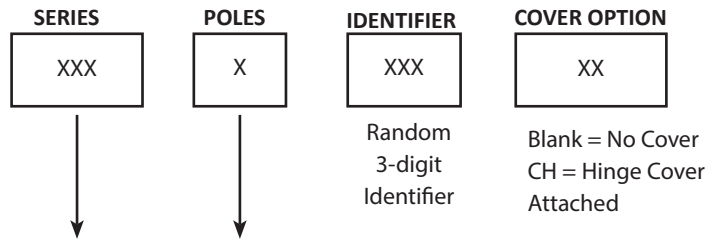


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

































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
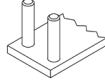

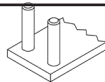

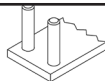

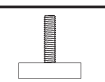

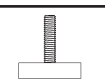

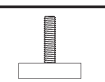
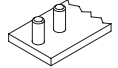
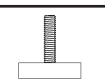

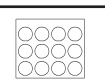

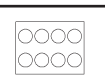

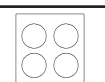

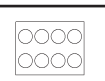

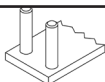

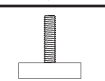

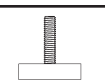

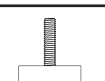


Series	Poles Available	Dimensions	Cover Type Available
141	1/2/3/4	Pg 21	Flat
140	2/3	Pg 22	Flat
132	0/1/2/3	Pg 21	Hinge
142	1/2/3	Pg 21	Flat
143		Pg 22	Flat
133		Pg 22	Hinge
144		Pg 23	Flat
145		Pg 23	Flat
135		Pg 23	Hinge

# Power Blocks - Stud Configurations

Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil - or - Stud Size	Stud or Connector Openings/Pole	Wire Range AWG/kcmil - or - Stud Size	Stud or Connector Openings/Pole	
115	141x203	1/2/3/4	Plastic	AL	#2 - #14	1 	#10-32 X .60	1 	UL Recognized CSA Certified CE Compliant
175	132x574	0/1/2/3	Plastic	AL	2/0 - #14	1 	1/4-20 x .50	1 	UL Recognized CSA Certified CE Compliant
175	132x474	0/1/2/3	Plastic	AL	2/0 - #14	1 	M6 X 13	1 	UL Recognized CSA Certified CE Compliant
175	142x574	1/2/3	Phenolic	AL	2/0 - #14	1 	1/4-20 X .50	1 	UL Recognized CSA Certified CE Compliant
175	143x590	1/2/3	Phenolic	AL	2/0 - #14	1 	1/4-20 X 1.38	1 	UL Recognized CSA Certified CE Compliant
200	132x122	0/1/2/3	Plastic	CU	1/4-20 X .56	1 	1/4-20 X .56	1 	UL Recognized CSA Certified CE Compliant
200	132x422	0/1/2/3	Plastic	CU	M6 X 15	1 	M6 X 15	1 	UL Recognized CSA Certified CE Compliant
200	142x122	1/2/3	Phenolic	CU	1/4-20 X .56	1 	1/4-20 X .56	1 	UL Recognized CSA Certified CE Compliant
230	143x563	1/2/3	Phenolic	CU	3/8-16 x 1.18	1 	3/8-16 x 1.18	1 	UL Recognized CSA Certified CE Compliant
230	143x561	1/2/3	Phenolic	CU	3/8-16 x 1.18	1 	1/4-20 x 1.38	1 	UL Recognized CSA Certified CE Compliant
230	144x553	1/2/3	Phenolic	CU	3/8-16 x 1.44	1 	3/8-16 x 1.44	1 	UL Recognized CSA Certified CE Compliant
260	144x122	1/2/3	Phenolic	CU	3/8-16 x 1.44	1 	1/4-20 X .56	2 	UL Recognized CSA Certified CE Compliant
310	133x564	1/2/3	Plastic	CU	M10 x 30	1 	M10 x 30	1 	UL Recognized CSA Certified CE Compliant
310	133x563	1/2/3	Plastic	CU	3/8-16 x 1.18	1 	3/8-16 x 1.18	1 	UL Recognized CSA Certified CE Compliant
310	143x559	1/2/3	Phenolic	AL	350 - #6	1 	3/8-16 x 1.13	1 	UL Recognized CSA Certified CE Compliant
310	133x559	1/2/3	Phenolic	AL	350 - #6	1 	3/8-16 x 1.25	1 	UL Recognized CSA Certified CE Compliant
310	133x558	1/2/3	Phenolic	AL	350 - #6	1 	M10 x 30	1 	UL Recognized CSA Certified CE Compliant

# Power Blocks - Stud Configurations

Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil - or - Stud Size	Stud or Connector Openings/ Pole	Wire Range AWG/kcmil - or - Stud Size	Stud or Connector Openings/ Pole	
360	145x573	1/2/3	Phenolic	CU	3/8-16 x 1.44	1 	3/8-16 x 1.44	2 	UL Recognized CSA Certified CE Compliant
360	145x583	1/2/3	Phenolic	CU	3/8-16 x 1.44	1 	1/4-20 x 1.44	2 	UL Recognized CSA Certified CE Compliant
380	144x569	1/2/3	Phenolic	AL	500 - #4	1 	1/4-20 x 1.06	2 	UL Recognized CSA Certified CE Compliant
380	144x575	1/2/3	Phenolic	AL	500 - #4	1 	3/8-16 x 1.31	1 	UL Recognized CSA Certified CE Compliant
410	145x606	1/2/3	Phenolic	CU	1/2-13 x 1.44	1 	1/2-13 x 1.44	1 	UL Recognized CSA Certified CE Compliant
410	133x611	1/2/3	Plastic	CU	1/2-13 x 1.38	1 	1/2-13 x 1.38	1 	UL Recognized CSA Certified CE Compliant
475	145x613	1/2/3	Phenolic	CU	3/8-16 x 1.44	1 	3/8-16 x 1.44	1 	UL Recognized CSA Certified CE Compliant
510	133x272	1/2/3	Plastic	AL	3/8-16 x 1.19 <sup>(a)</sup>	1 	4 - #14	12 	UL Recognized CSA Certified CE Compliant
510	133x280	1/2/3	Plastic	AL	3/8-16 x 1.19 <sup>(a)</sup>	1 	#2 - #14	8 	UL Recognized cUL Recognized CE Compliant
510	133x270	1/2/3	Plastic	AL	3/8-16 x 1.19 <sup>(a)</sup>	1 	2/0 - #14	4 	UL Recognized CSA Certified CE Compliant
760	145x282	1/2/3	Phenolic	AL	3/8-16 x 1.00	2 	2/0 - #14	8 	UL Recognized CSA Certified CE Compliant
760	145x599	1/2/3	Phenolic	AL	500 - #4	2 	3/8-16 x 1.31	2 	UL Recognized CSA Certified CE Compliant
760	145x610	1/2/3	Phenolic	AL	500 - #4	2 	1/2-13 x 1.31	1 	UL Recognized (cURus)
840	144x614	1/2/3	Phenolic	CU	3/8-16 x 1.00	1 	3/8-16 x 1.00	1 	UL Recognized CSA Certified CE Compliant
1680	145x615	1/2/3	Phenolic	AL	600 - #4	2 	1/2-13 x 1.56	1 	UL Recognized CSA Certified CE Compliant

<sup>(a)</sup> M10 x 30mm stud is available as an alternate.

Consult customer service or visit <http://www.marathonsp.com/EngineeringRequest.html> for part numbers and availability.

# Power Blocks - Miscellaneous Configurations

## Electrical

- 115 - 200 amps
- 600 volts AC/DC (UL)
- Flexible stranded wire compliant
- Multiple wire rating - refer to data sheets for details

## Mechanical

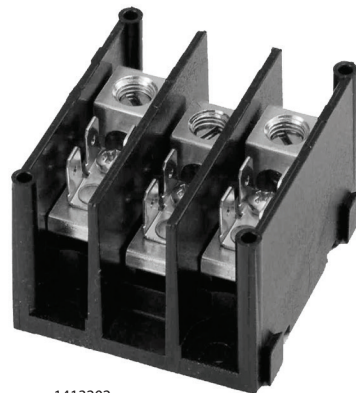
- Base, black thermoplastic or phenolic (see chart)
- Insulator temp-ratings
  - Thermoplastic: 125°C (257°F) - UL RTI
  - Phenolic: 150°C (302°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel mountable, 132 series is also DIN mountable

## Standards

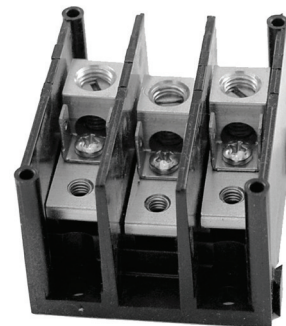
- See chart for product specific approvals listed
- UL recognized file no. XCFR2.E62806 (UL 1059)
- CSA certified file no. LR19766 (CSA C22-2 No. 158)
- CE (Component IEC 60947-7-1)
- RoHS compliant (All)

## Accessories (consult customer service)















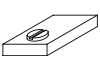

- Covers - see page 24 for series cover specifications
- Marking strips - available with custom printing
- Printing - consult factory for custom requests



1413202



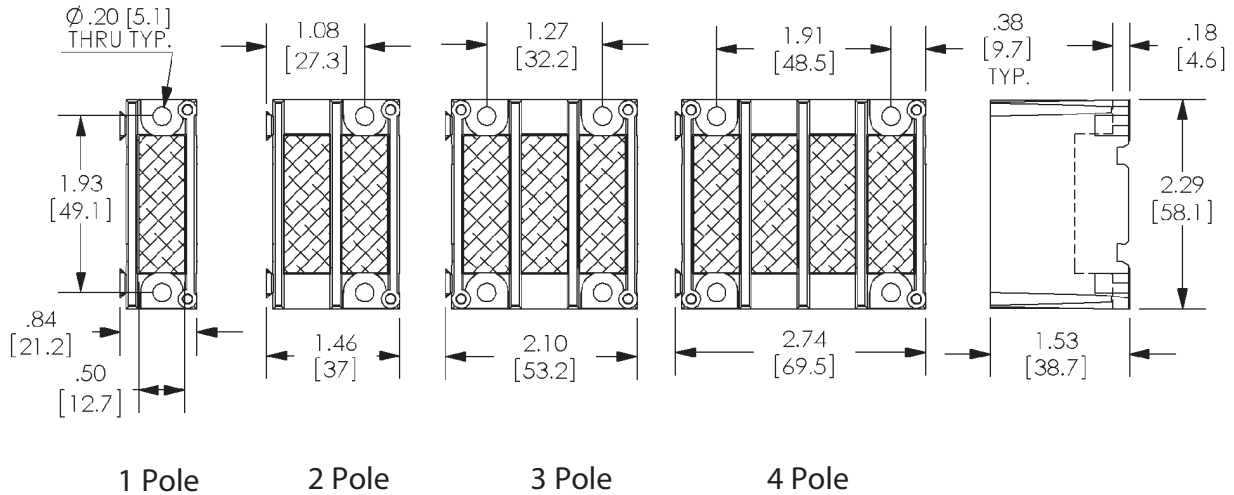
1413205

Amps	Catalog #	Poles (X)	MATERIAL		LINE SIDE		LOAD SIDE		Agency Compliance
			Insulator	Conn.	Wire Range AWG/kcmil	Connector Openings/Pole	Wire Range AWG/kcmil	Connector Openings/Pole	
115	141x201	1/2/3/4	Plastic	AL	#2 - #14	1 	#10-32 Tapped Hole	1 	UL Recognized CSA Certified CE Compliant
115	141x202	1/2/3/4	Plastic	AL	#2 - #14	1 	1/4 Quick Connects	4 	UL Recognized CSA Certified CE Compliant
115	141x205	1/2/3/4	Plastic	AL	#2 - #14	1 	1/4 Quick Connects (2) & #10-32 Tap	2/1 	UL Recognized CSA Certified CE Compliant
115	141x301	1/2/3/4	Plastic	AL	#2 - #14	1 	#2 - #14 & 1/4 Quick Connect	1/1 	UL Recognized CSA Certified CE Compliant
175	142x553	1/2/3	Phenolic	AL	#2/0 - #14	1 	1/4-20 Tapped Hole	1 	UL Recognized CSA Certified CE Compliant
175	132x579	1/2/3	Plastic	AL	#2/0 - #14	1 	#2 - #14 & (1) Quick Connect	1/1 	UL Recognized
175	132x670	1/2/3	Plastic	AL	#2/0 - #14	1 	#4 - #14 & (1) Quick Connect	4/1 	UL Recognized
200	142x123	1/2/3	Phenolic	CU	1/4-20 Screw	1 	1/4-20 Screw	1 	UL Recognized CSA Certified CE Compliant

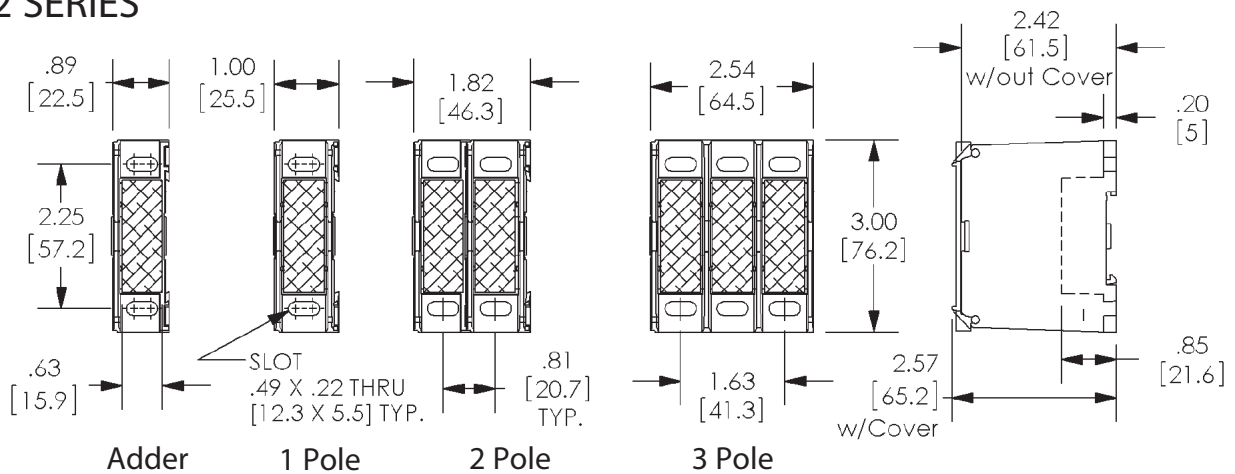


# Power Terminal Block Dimensions

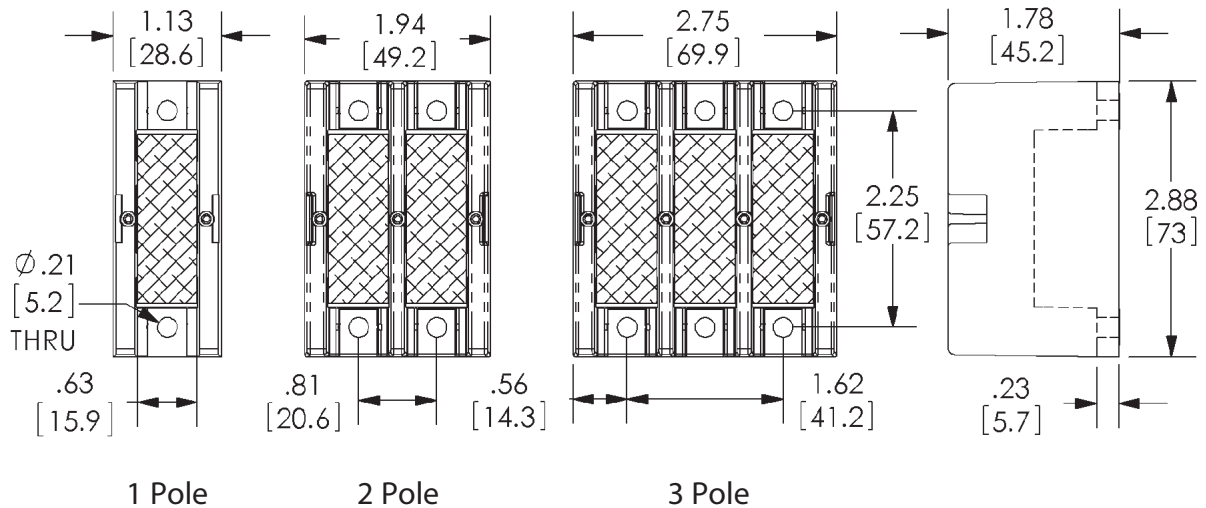
## 141 SERIES



## 132 SERIES

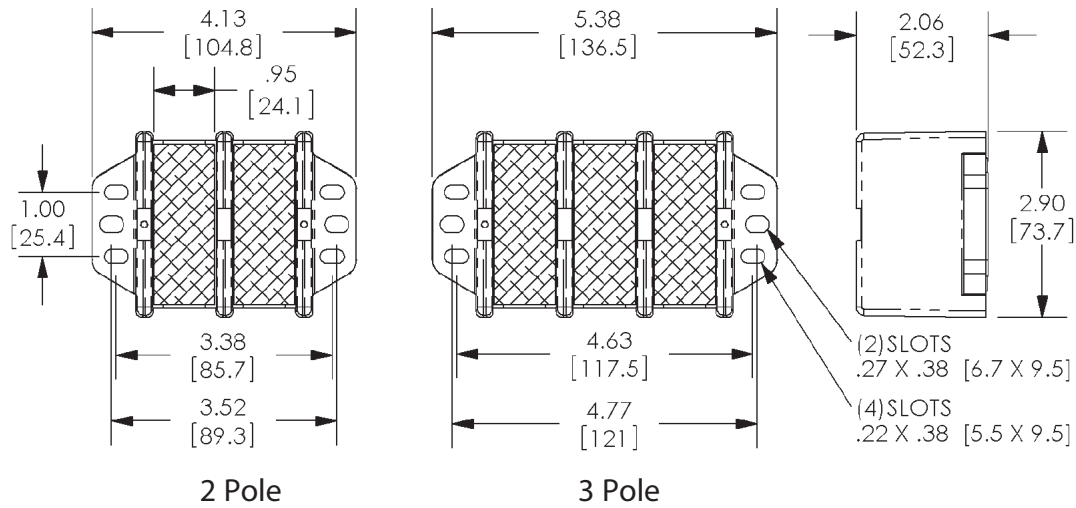


## 142 SERIES

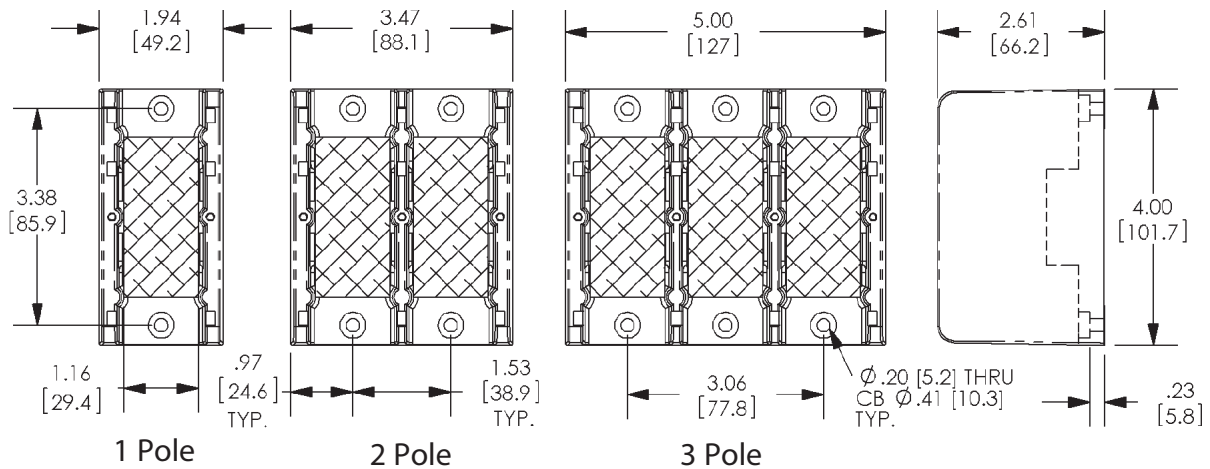


# Power Terminal Block Dimensions

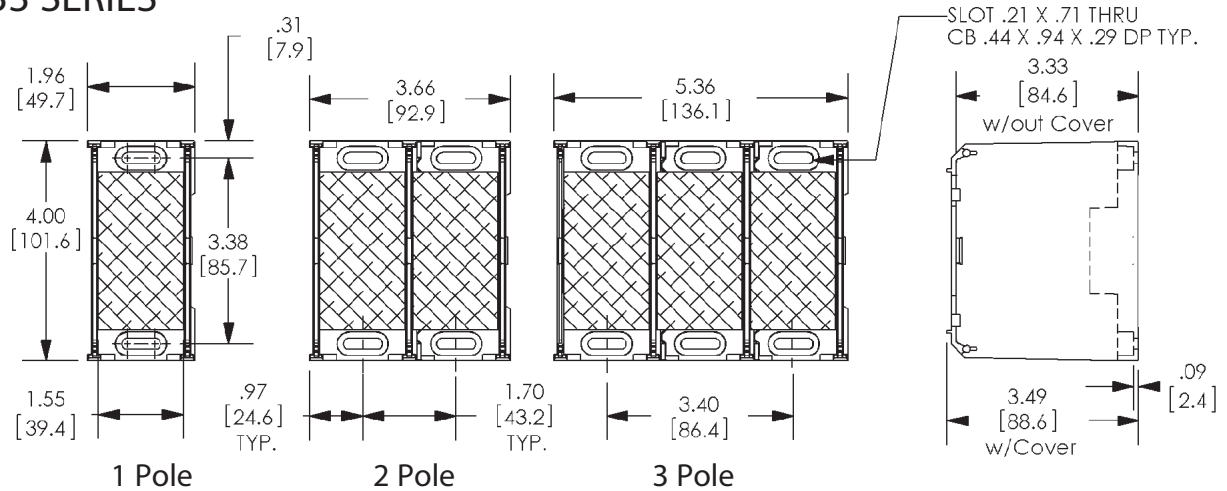
## 140 SERIES



## 143 SERIES

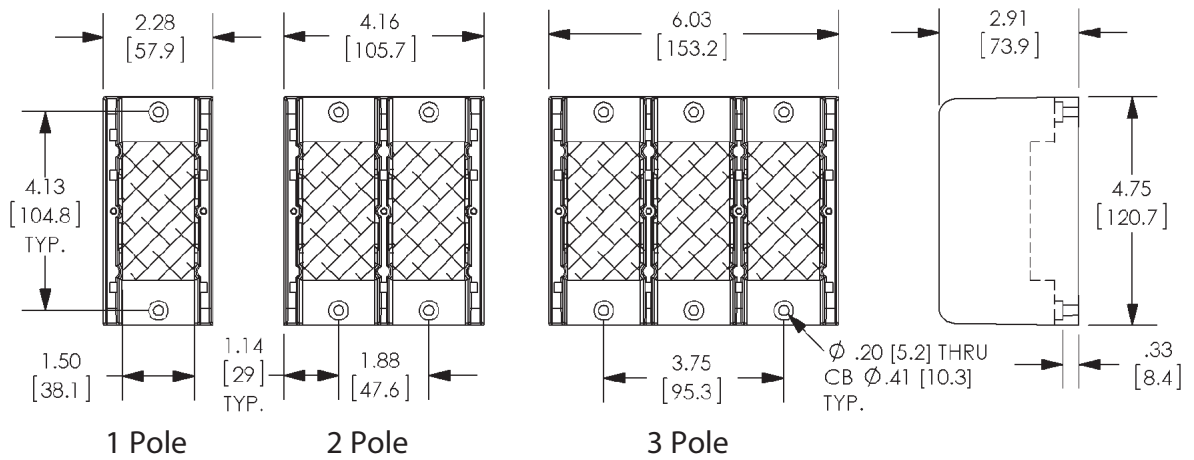


## 133 SERIES

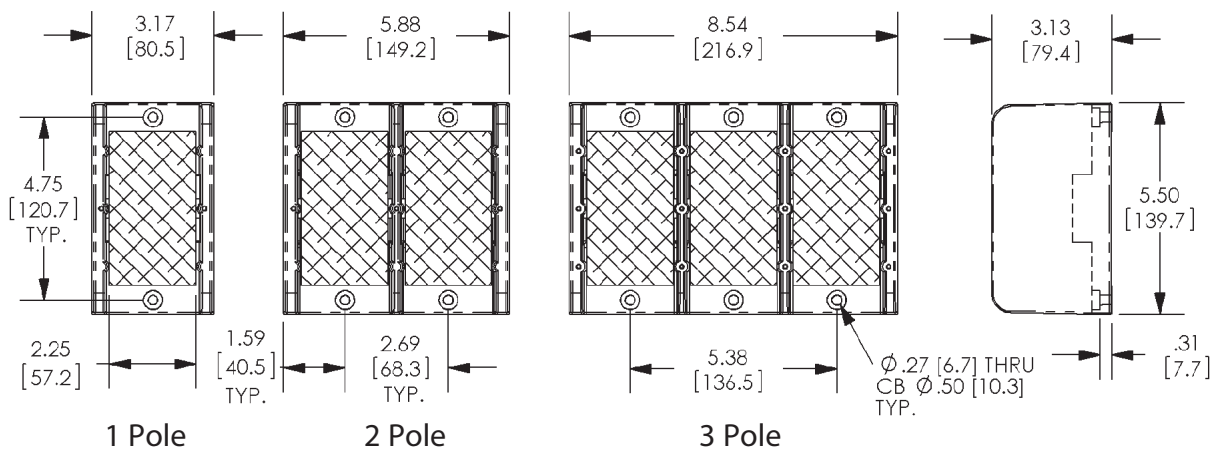


# Power Terminal Block Dimensions

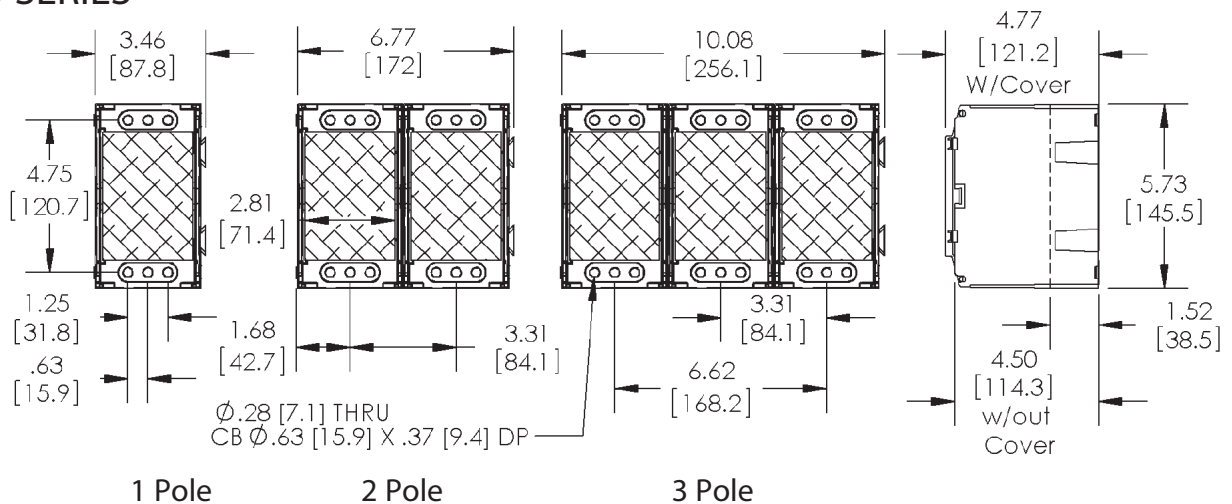
## 144 SERIES



## 145 SERIES



## 135 SERIES



# Power Block Covers

## Specifications:

### 140/141/142/143/144/145 Series (Figures 1 & 2)

- Material UL recognized, QMFZ2, 125°C, .06 clear protective plastic
- Thread cutting screws furnished per cover
- RoHS compliant

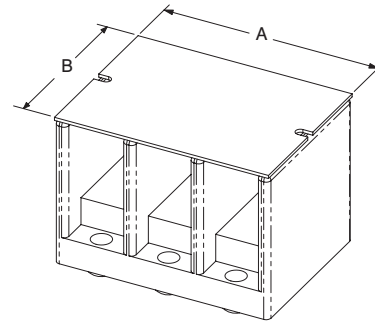


FIGURE 1

### 132/133 Series (Figure 3)

- Snap on, hinge cover, black thermoplastic
- UL recognized, QMFZ2, 125°C
- RoHS compliant

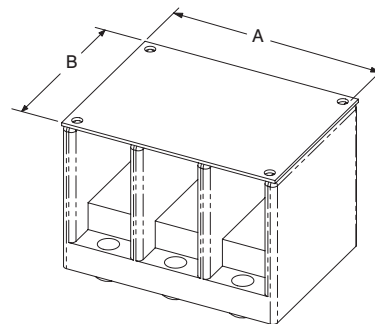


FIGURE 2

### 135 Series (Figure 4)

- Snap on, hinge cover, black thermoplastic
- UL recognized, QMFZ2, 125°C
- RoHS compliant

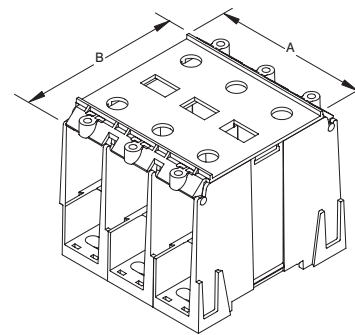


FIGURE 3  
(Hinge Cover)

## Dimensions (inches):

Catalog #	A	B	Figure #
CC1402	2.75	2.50	1
CC1403	4.00		
CC1411	0.77	2.40	2
CC1412	1.42		
CC1413	2.05		
CC1414	2.68		
CC1421	1.06	2.75	1
CC1422	1.87		
CC1423	2.68		
CC1431	1.78	3.38	1
CC1432	3.31		
CC1433	4.84		
CC1411	2.12	4.00	1
CC1442	4.00		
CC1443	5.87		
CC1451	2.87	4.5	1
CC1452	5.56		
CC1453	8.28		
CH1321	0.88	2.87	3
CH1322	1.69		
CH1323	2.50		
CH1331	1.93	3.89	3
CH1332	3.61		
CH1333	5.30		
CH1351 (one pole only)	3.35	5.65	4

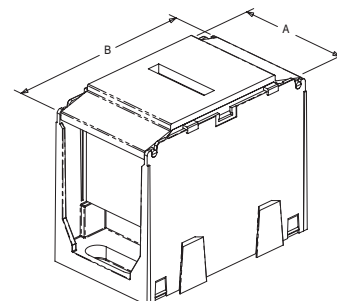


FIGURE 4  
(Hinge Cover)



# Studded Power Feed Thru Terminal Blocks

## ST722 Series

### Electrical

- 300 volts AC/DC (UL)
- 115 - 175 amps (see chart)
- Wire range is determined by the compression lugs used. Typically accepts 2/0 - #8 AWG lug sizes.
- Short circuit current rating (SCCR) of 10K
- Factory and field wiring

### General Specifications

- Base, black thermoplastic
- Studs, brass, nickel plated
- Insulator temp-rating: 125°C (257°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel mountable (back or end)
- .73" centers (pole-to-pole)
- Accommodates two hole compression lugs with .625" centers and a max width of .64"
- Application torque: 35 lbf-in for #10 - 32 and M5, 50 lbf-in for 1/4" - 20 and M6

### Standards

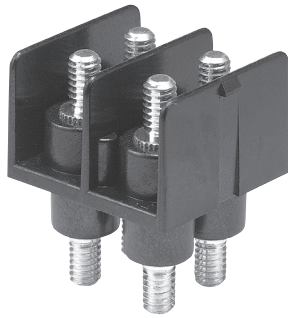
- See chart for product specific approvals listed
- UL recognized file no. XCFR2.E62806 (UL 1059)
- CSA certified file no. LR19766 (CSA C22-2 No. 158)
- CE (component IEC 60947-7-1)
- RoHS compliant (all)

### Accessories

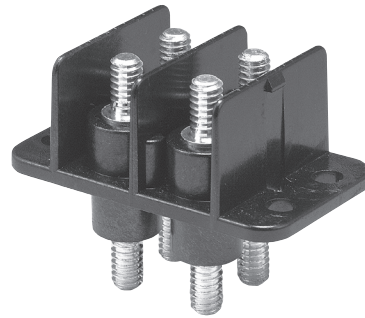
- Hardware - see table below for specifications
- Covers - see page 27 for series cover specifications
- Printing - consult factory for custom requests

### See On-line Data Sheet for:

- Panel cut-out specifications
- Detailed product specific information
- Termination & mounting specifications



ST722B2502



ST722E2502

### Ordering Code:

Series	Mounting Style	Thread Size	Number of Poles	Terminal Options	Hardware Options
ST722	X	XX	XX		

B = Back Mount  
E = End Mount

25 = 1/4-20  
19 = #10-32  
M6 = M6  
M5 = M5

01 = 1 Pole  
02 = 2 Pole  
03 = 3 Pole  
04 = 4 Pole  
05 = 5 Pole  
06 = 6 Pole

Blank = Studs Top & Bot.  
T1 = Tap Top, Stud Bot.  
T1S = Stud Top, Tap Bot.  
T2 = Tap Top & Bot.

Blank – No hardware  
UH – All nuts shipped bulk  
AH – All nuts assembled  
DL – Assembled barrier side, remainder shipped bulk

# Studded Power Feed Thru Terminal Blocks

## ST722 Series

SPECIALTY  
TERMINAL BLOCKS

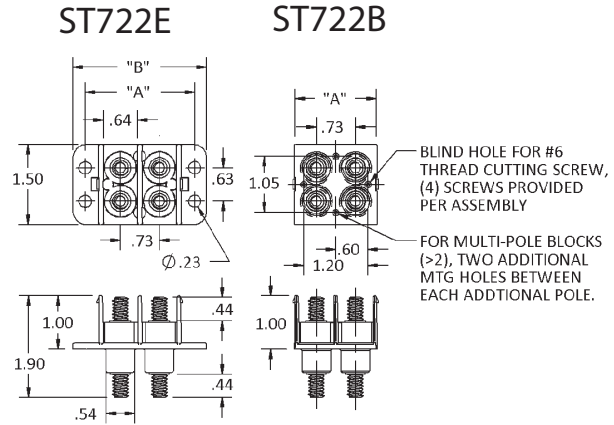
Series	Amp Rating	Mounting Style	Poles Available	Terminal Illustration (2 pole shown)	Agency Compliance
ST722Bxxxx	175	Back	2 to 6		UL Recognized CSA Certified CE Compliant
ST722BxxxxT1	115	Back	2 to 6		UL Recognized cUL Recognized CE Compliant
ST722BxxxxT1S	115	Back	2 to 6		UL Recognized cUL Recognized CE Compliant
ST722BxxxxT2	115	Back	2 to 6		UL Recognized cUL Recognized CE Compliant
ST722Exxxx	175	End	1 to 6		UL Recognized CSA Certified CE Compliant
ST722ExxxxT1	115	End	1 to 6		UL Recognized cUL Recognized CE Compliant
ST722ExxxxT1S	115	End	1 to 6		UL Recognized cUL Recognized CE Compliant
ST722ExxxxT2	115	End	1 to 6		UL Recognized cUL Recognized CE Compliant

# Studded Power Feed Thru Terminal Blocks

## ST722 Series Dimensions

SPECIALTY  
TERMINAL BLOCKS

Catalog #	Number of Poles	Dimensions	
		"A"	"B"
ST722Bxx02	2	1.55	N/A
ST722Bxx03	3	2.28	N/A
ST722Bxx04	4	3.01	N/A
ST722Bxx05	5	3.74	N/A
ST722Bxx06	6	4.47	N/A
ST722Exx01	1	1.32	1.77
ST722Exx02	2	2.05	2.50
ST722Exx03	3	2.78	3.23
ST722Exx04	4	3.51	3.96
ST722Exx05	5	4.24	4.69
ST722Exx06	6	4.97	5.42



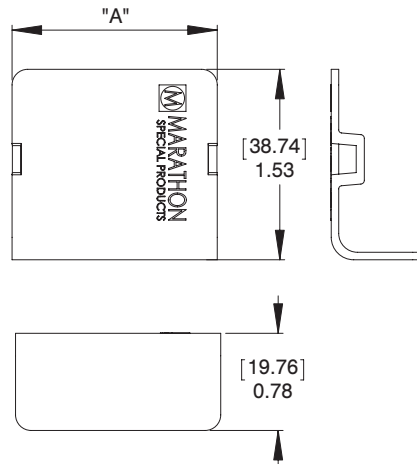
((4) #6 THREAD CUTTING SCREWS PROVIDED)

### Cover Available

- Covers fit all styles available
- Base, thermoplastic
- Flammability UL 94 V-0



Catalog Numbers	Poles	Dimension "A"
C72201	1	.91
C72202	2	1.64
C72203	3	2.37
C72204	4	3.10
C72205	5	3.83
C72206	6	4.56



# Studded Power Feed Thru Terminal Blocks

## ST715 Series

### Electrical

- 300 volts AC/DC (UL 1059 Class B and C)
- 80 amps
- Wire range is determined by the compression lugs used. Typically accepts #6 - #14 lug sizes.

### General Specifications

- Base, black thermoplastic
- #10-32 studs, brass, nickel plated
- Insulator temp-rating: 125°C (257°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel (back or slide options)
- 2 pole at .56" center (pole-to-pole)
- Application torque: 35 lbf-in
- Accommodates two hole compression lugs on .625" centers and a max width of .50"

### Standards

- UL recognized file no. XCFR2.E62806
- cURus recognized file no. XCFR8.E62806
- CE (component IEC 60947-7-1)
- RoHS compliant (all)

### Accessories

- Hardware - see table below for specifications
- Covers - consult customer service
- Printing - consult customer service

### See on-line data sheet for:

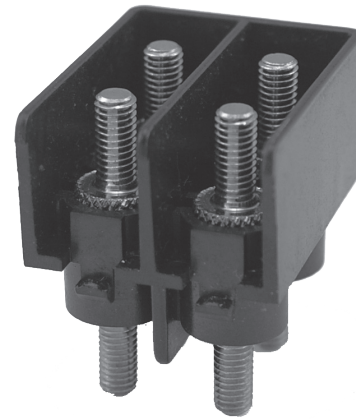
- Panel cut-out specifications
- Detailed product specific information
- Termination & mounting specifications

SPECIALTY  
TERMINAL BLOCKS

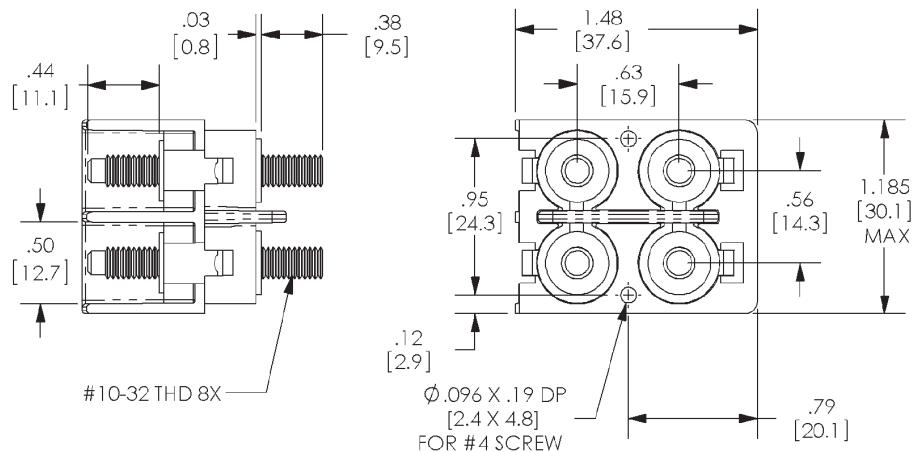
Ordering Code:

Series	Hardware Options
ST715S1902	

Blank – No hardware  
UH – All nuts shipped bulk  
AH – All nuts assembled  
DL – Assembled barrier side, remainder shipped bulk



ST715S1902





# Studded Power Feed Thru Terminal Blocks

## ST723 Series

### Electrical

- 600 volts AC/DC
- 380 amps
- Short circuit current rating (SCCR) of 10K
- Wire range is determined by the compression lugs used. Typically accepts 500 kcmil - 2/0 AWG lug sizes.

### General Specifications

- Base, black thermoplastic
- Studs, brass, nickel plated
- Insulator temp-rating: 125°C (257°F) - UL RTI
- Flammability, UL 94 V-0
- Mounting: panel (back mount only)
- 1.56" centers (pole-to-pole)
- Accommodates two hole compression lugs with 1.00" centers and a max width of 1.40"
- Application torque: 192 lbf-in

### Standards

- UL recognized file no. XCFR2.E62806
- cURus recognized file no. XCFR8.E62806
- RoHS compliant

### Accessories

- Hardware - see table below for specifications
- Mounting hardware included (4) #10 screws
- Covers - flat covers available (consult customer service)
- Printing - consult factory for custom requests

### See on-line data sheet for:

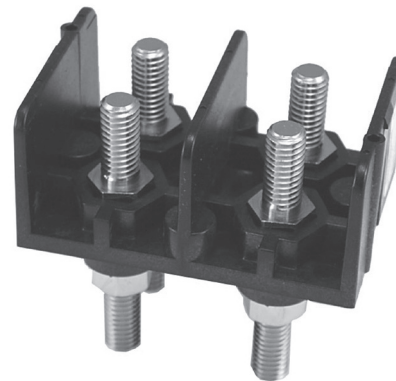
- Panel cut-out specifications
- Detailed product specific information
- Termination & mounting specifications

### Ordering Code:

Series	Number of Poles	Hardware Options
ST723B38	XX	

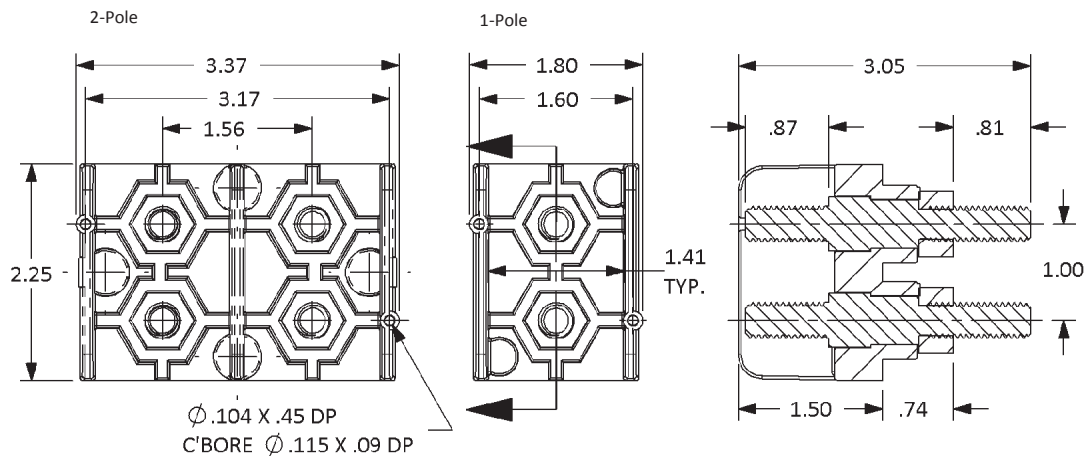
01 = 1 Pole  
02 = 2 Pole

Blank – No hardware  
UH – All nuts shipped bulk  
AH – All nuts assembled  
DL – Assembled barrier side, remainder shipped bulk



ST723B3802

### ST723B38xx - General Dimensions



# Single Stud Connection Block

## ST710 Series

**General Specifications**

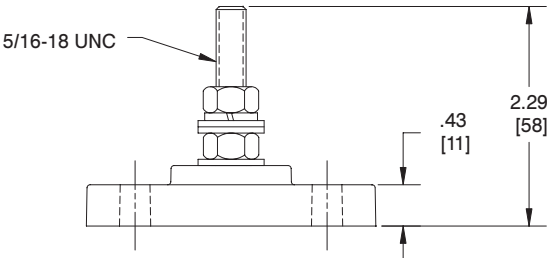
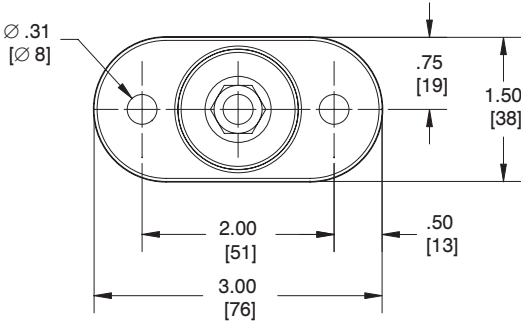
- Base, thermoplastic (available in red or black)
- Temperature rating of 125°C (UL RTI)
- Hardware, stainless steel
- 300 volt AC/DC
- Recommended mounting screw 1/4"
- Available with two stud sizes: 5/16" or 3/8"
- Designed for two or more wire lugs
- RoHS compliant



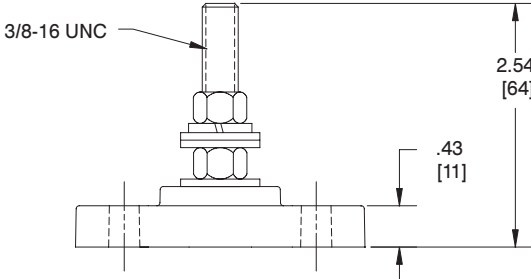
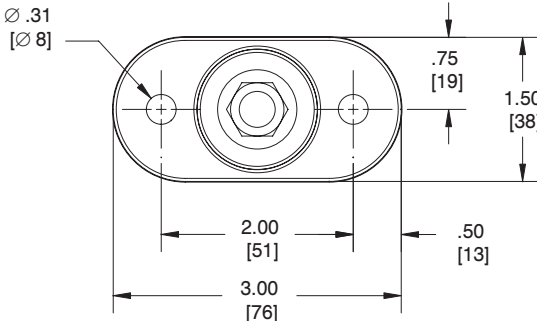
ST 710 38

SPECIALTY  
TERMINAL BLOCKS

**Catalog # ST 710 31**  
**5/16" Stud**



**Catalog # ST 710 38**  
**3/8" Stud**



# Motor Terminal Blocks (IEC Style)

## ST750 and ST755 Series

### Electrical

- Designed for delta and wye wiring configurations
- 35 to 560 amps
- 250 - 1100 volts
- For use with listed crimp lugs

### General Specifications

- Base, thermoset polyester, 130°C (UL RTI)
- Studs and hardware, steel, plated
- Link, copper, nickel plated
- All blocks include links and hardware assembled
- Insulator temp-rating: 130°C (266°F) - UL RTI
- Flammability, UL 94 V-0

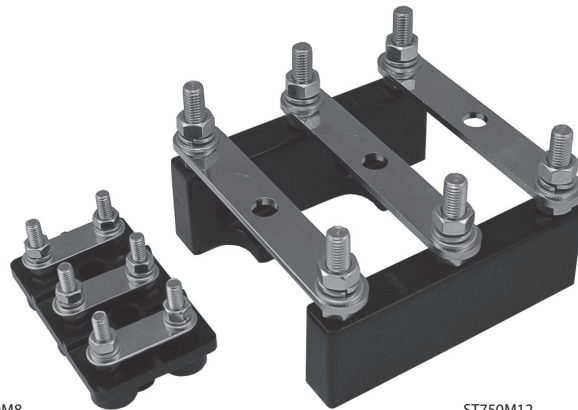
### Standards

- UR recognized file no. XCFR2.E62806
- cUR recognized file no. XCFR8.E62806 (investigated to CSA 22.2 No. 158)
- CE compliant - UL investigated to IEC 60947-7-1, file no. XCHG2.E243117, IEC 60947-7-1
- UL investigated to SANS 1804-2
- RoHS compliant

### See on-line data sheets for:

- Dimensional drawings
- Detailed product specific information
- Termination & mounting specifications

SPECIALTY  
TERMINAL BLOCKS



ST750M8  
(One Piece Style)

ST750M12  
(Two Piece Style)

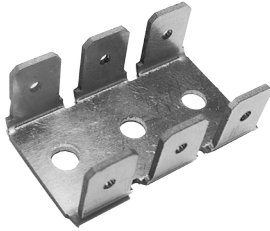
Catalog Number	Stud Size	Style	AMPERAGE		VOLTAGE			Wire Range	Overall Dimensions (L x W x H) mm
			cURus	IEC	cURus	IEC	Sans 1804		
ST755M4	M4	One Piece	38	50	300	630	250	#8 - #18 AWG	55 x 33 x 43
ST750M4	M4	One Piece	35	50	1000	1000	1100	#8 - #18 AWG	63 x 37 x 42
ST755M5	M5	One Piece	50	50	600	800	660	#8 - #16 AWG	68 x 40 x 45
ST750M6	M6	One Piece	101	121	1000	1000	1100	#2 - #14 AWG	85 x 50 x 62
ST750M8	M8	One Piece	160	185	1000	1000	1100	2/0 - #12 AWG	112 x 69 x 76
ST755M10	M10	One Piece	185	217	1000	1000	1100	3/0 - #8 AWG	140 x 86 x 91
ST755M12	M12	One Piece	242	271	1000	1000	1100	250 kcmil - #8 AWG	170 x 110 x 97
ST750M12	M12	Two Piece	315	374	1000	1000	1100	400 kcmil - #8 AWG	179 x 167 x 107
ST750M16	M16	Two Piece	560	520	1000	1000	1100	(2) 300 kcmil - (2) #2 AWG	201 x 191 x 133

All blocks include links and hardware assembled

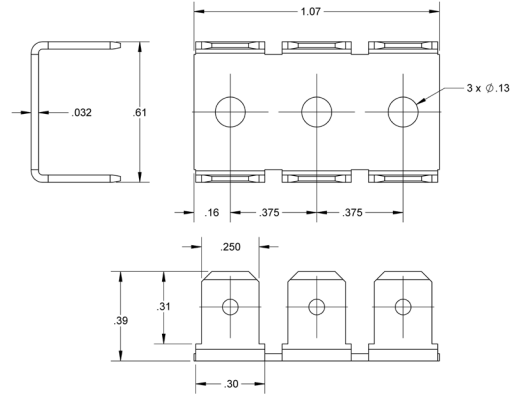
# Grounding Connector

## General Specifications

- Fits 1/4" electrical quick-connect terminals
- Brass, tin plated RoHS compliant



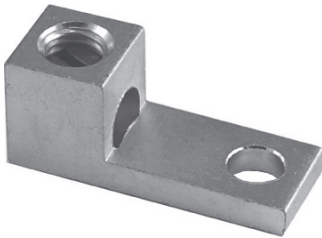
Catalog #
KT375



# Grounding Lugs

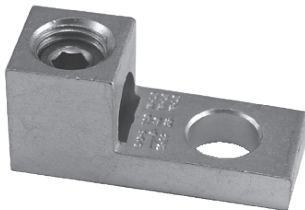
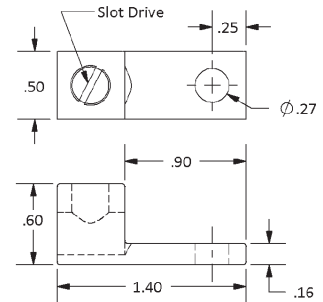
## General Specifications

- Connector, high conductive aluminum, tin plated
- Screw head is green ink
- Flexible stranded wire compliant
- UL recognized file No. ZMVB2.E43665
- CSA Certified File No. 63510-25
- RoHS Compliant

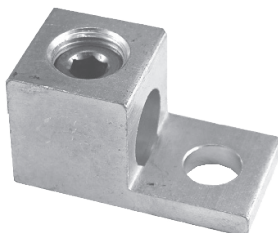
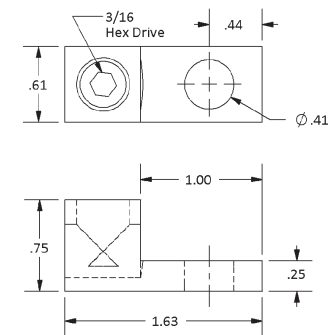


Catalog # (Part #)	Wire Range AWG/kcmil	Torque lb-in
GL02 (9807052)	#2 - #3	50
	#4 - #6	45
	#8	40
	#10 - #14	35

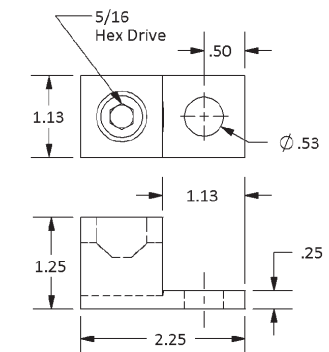
For hex drive screw, catalog number is GL02IH



Catalog # (Part #)	Wire Range AWG/kcmil	Torque lb-in
GL20 (9818102)	2/0 - #6	120
	#8	40
	#10 - #14	35



Catalog # (Part #)	Wire Range AWG/kcmil	Torque lb-in
GL35 (9819830)	350 kcmil - #6	375



SPECIALTY  
TERMINAL BLOCKS

# Heavy Duty Terminal Blocks

## 1100, 1103P and 1200 Series - Deadfront Type

### Specifications:

- 65 amps - 1100 series
- 70 amps - 1103P and 1200 series
- 600 volts AC/DC
- Base, phenolic, 150°C (UL RTI)
- Pressure spring, copper
- Wire range:
  - 1103P - (1) #4 - 14 AWG CU & (1-2) #10-14 AWG CU
  - 1200 - (1) #4 - 18 AWG CU
- Bare wire range #6 - 18 AWG CU
- See on-line data sheets for multiple wire information

### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



1104

Catalog #	# of Poles	Screws	Dimensions		
			A	B	
1102	1102S	2	Brass, Tin Plated	1.69	1.31
1104	1104S	4	Brass, Tin Plated	2.50	2.12
1106	1106S	6	Brass, Tin Plated	3.38	3.00
1107	1107S	7	Brass, Tin Plated	3.88	3.50
1108	1108S	8	Brass, Tin Plated	4.25	3.88
1112	1112S	12	Brass, Tin Plated	6.00	5.62
1202		2	Steel, Nickel Plated	1.81	1.44
1204		4	Steel, Nickel Plated	2.81	2.44
1206		6	Steel, Nickel Plated	3.81	3.44

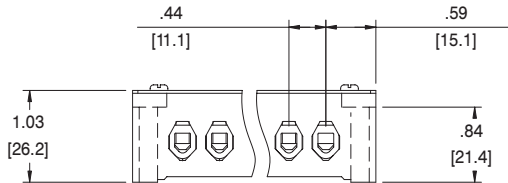
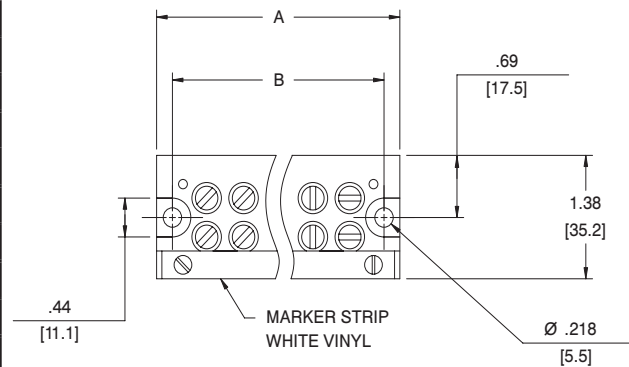
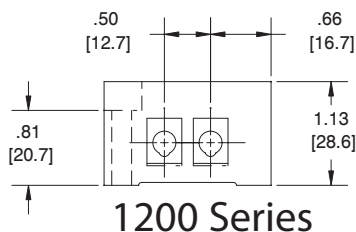
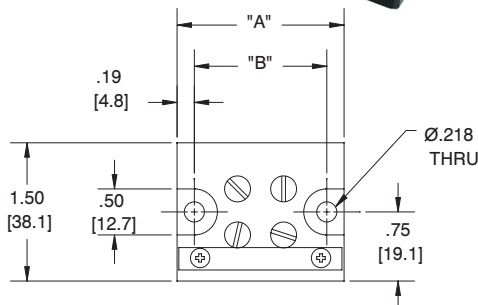
S=Copper Pressure Spring

mm = dim X 25.4

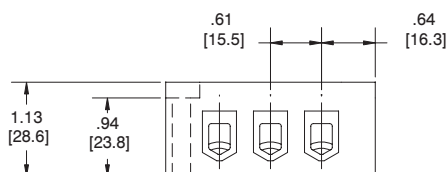
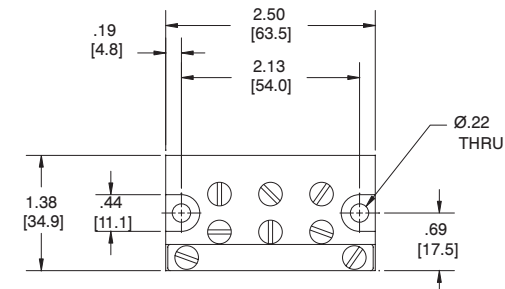
See page 116 for DIN Rail Adapter



1206



**1100 Series**



**1103P Series**



# Heavy Duty Terminal Blocks

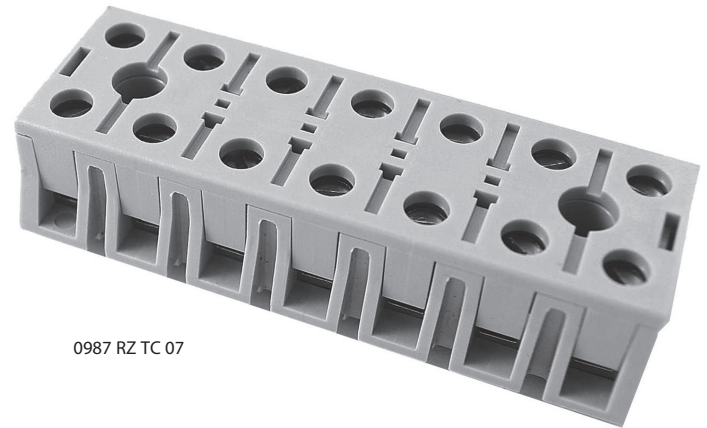
## 0987 RZ Series - Deadfront Type

### Specifications:

- 50 amps
- 600 volts AC/DC
- Base, plastic, 125°C (UL RTI)
- Screws, brass, tin plated
- Connector, copper alloy, nickel plated
- IP20 touchproof protection
- Wire range:
  - (1) #8 - #24 sol/str
  - (2) 12 str
  - (2) 14 str
  - (1) 12 str and (1) 14 str
- .475" centerline spacing
- See on-line data sheets for additional information

### Standards:

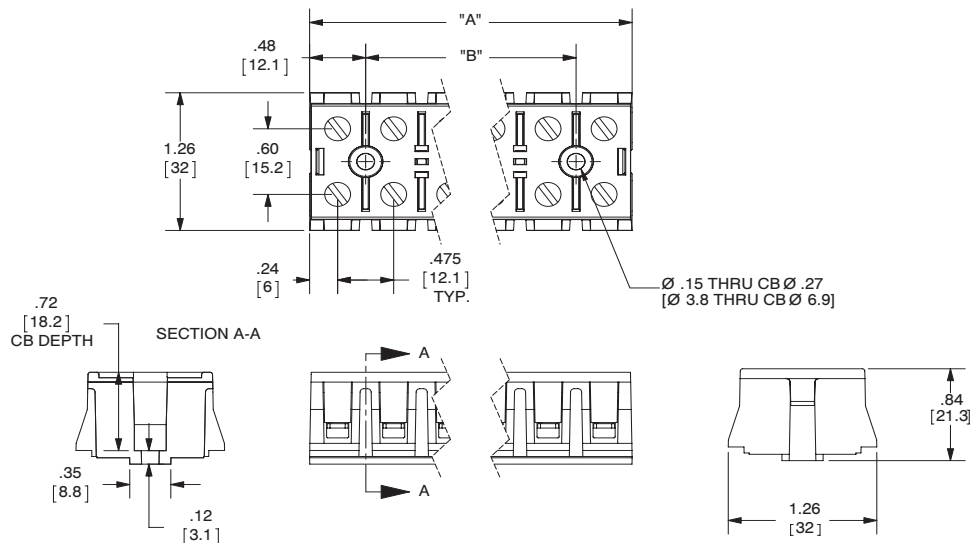
- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



HEAVY DUTY  
TERMINAL BLOCKS

Catalog #	# of Poles	Dimensions	
		A	B
0987 RZ TC 02	2	0.95	N/A
0987 RZ TC 03	3	1.43	0.48
0987 RZ TC 04	4	1.90	0.95
0987 RZ TC 05	5	2.38	1.43
0987 RZ TC 06	6	2.85	1.90
0987 RZ TC 07	7	3.33	2.38
0987 RZ TC 08	8	3.80	2.85
0987 RZ TC 09	9	4.28	3.33
0987 RZ TC 10	10	4.75	3.80
0987 RZ TC 11	11	5.23	4.28
0987 RZ TC 12	12	5.70	4.75

mm = dim X 25.4



# Heavy Duty Terminal Blocks

## 885 Series - Deadfront Type

### Specifications:

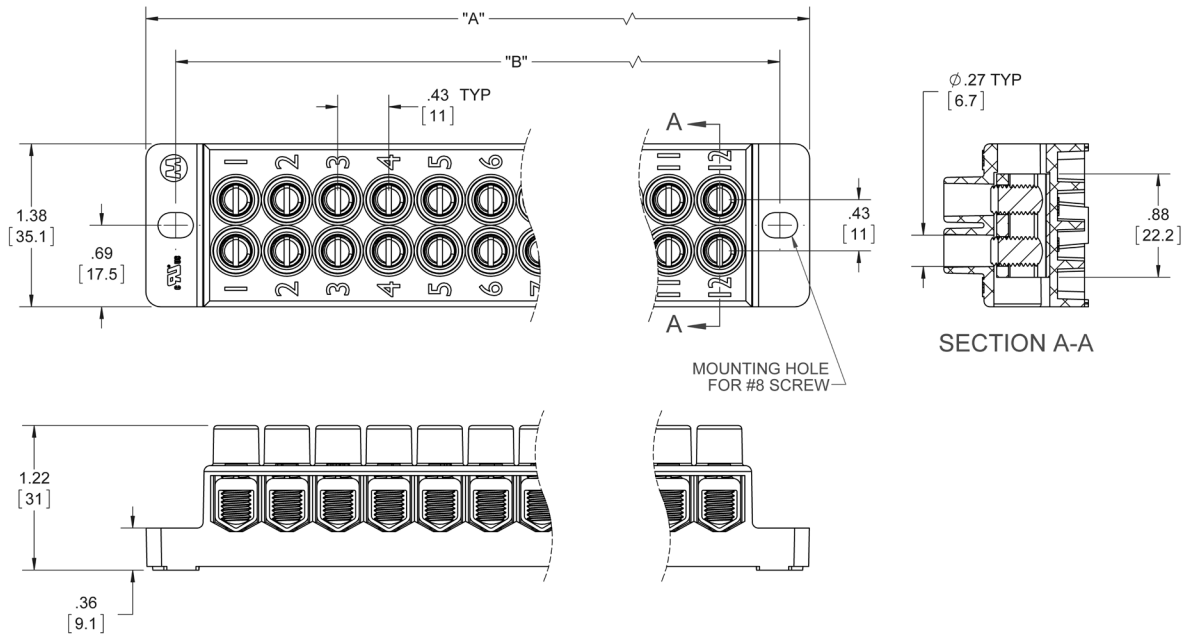
- 600V, 85 amps
- Base, thermoplastic, 130°C, (UL RTI)
- Available in 1 to 12 terminal positions
- UL and cUL recognized component
- 0.432" centerline spacing
- 16 in lbs force
- Numbered terminal positions
- Accommodates conductor sizes #4 AWG - #18 AWG



885 RZ 12

HEAVY DUTY  
TERMINAL BLOCKS

Catalog #	Lines	DIM "A"±.015 [.38]	DIM "B"±.015 [.38]
885 RZ 01	1	1.524 [38.71]	1.020 [25.91]
885 RZ 02	2	1.956 [49.68]	1.452 [36.88]
885 RZ 03	3	2.388 [60.66]	1.884 [47.85]
885 RZ 04	4	2.820 [71.63]	2.316 [58.83]
885 RZ 05	5	3.252 [82.60]	2.748 [69.80]
885 RZ 06	6	3.684 [93.57]	3.180 [80.77]
885 RZ 07	7	4.116 [104.55]	3.612 [91.74]
885 RZ 08	8	4.548 [115.52]	4.044 [102.72]
885 RZ 09	9	4.980 [126.49]	4.476 [113.69]
885 RZ 10	10	5.412 [137.46]	4.908 [124.66]
885 RZ 11	11	5.844 [148.44]	5.340 [135.64]
885 RZ 12	12	6.276 [159.41]	5.772 [146.61]



# Heavy Duty Terminal Blocks

## 985 GP Series - Deadfront Type

### Specifications:

- 85 amps
- 600 volts AC/DC
- Base, phenolic, 150°C (UL RTI)
- Screws, steel, tin plated
- Connector, aluminum, tin plated
- Wire range:
  - (1) #4 - #18 AWG
  - (1-2) #8 AWG
  - (1-4) #10-12 AWG
  - (1-6) #14-16 AWG
  - (1-8) #18
- .625" centerline spacing
- See on-line data sheets for additional information

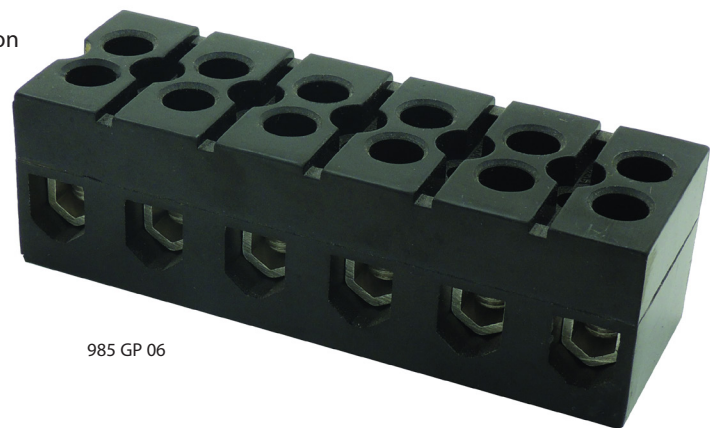
### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant

Catalog #	# of Poles	Dimensions	
		A	B
985 GP 02	2	1.16	N/A
985 GP 03	3	1.78	0.63
985 GP 04	4	2.41	1.25
985 GP 05	5	3.03	1.88
985 GP 06	6	3.66	2.50
985 GP 07	7	4.28	3.13
985 GP 08	8	4.91	3.75
985 GP 09	9	5.53	4.38
985 GP 10	10	6.16	5.00
985 GP 11	11	6.78	5.63
985 GP 12	12	7.41	6.25

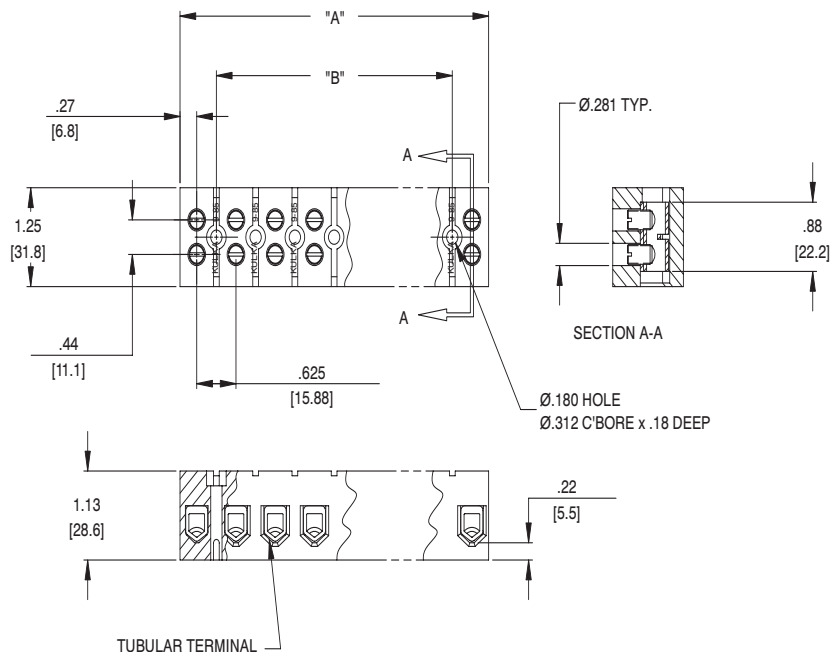
mm = dim X 25.4

See page 116 for DIN Rail Adapter



985 GP 06

HEAVY DUTY  
TERMINAL BLOCKS



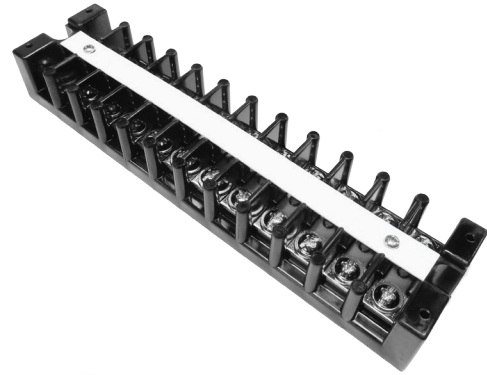
# Heavy Duty Terminal Blocks

## 1500 Series - Barrier Type

### Specifications:

- 75 amps
- 600 volts AC/DC
- Base, phenolic, 150°C (UL RTI)
- Screws, #10-32 phil-slot, brass, nickel plated
- Connector, brass, nickel plated
- 5/8" (.625") line-to-line spacing
- Bare wire range #10-22 AWG CU
- Accepts lugs w/max width of .50"
- See on-line data sheets for additional information

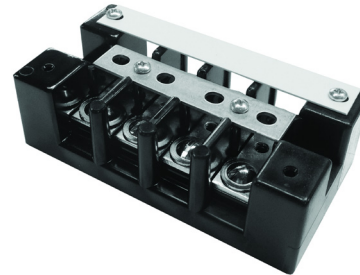
1512 STD



### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant

1504 SC

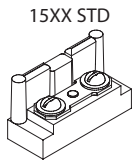


HEAVY DUTY  
TERMINAL BLOCKS

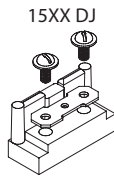
# of Poles	Catalog #							Dimensions		Clear Cover	White Cover
								A	B		
2	1502 MCJ	1502 STD	1502 DJ	1502 DJSV	1502 ST	1502 SC	1502 H	2.00	1.62	CC 1502	CW 1502
4	1504 MCJ	1504 STD	1504 DJ	1504 DJSV	1504 ST	1504 SC	1504 H	3.25	2.88	CC 1504	CW 1504
6	1506 MCJ	1506 STD	1506 DJ	1506 DJSV	1506 ST	1506 SC	1506 H	4.50	4.12	CC 1506	CW 1506
8	1508 MCJ	1508 STD	1508 DJ	1508 DJSV	1508 ST	1508 SC	1508 H	5.75	5.38	CC 1508	CW 1508
12	1512 MCJ	1512 STD	1512 DJ	1512 DJSV	1512 ST	1512 SC	1512 H	8.25	7.88	CC 1512	CW 1512

See page 116 for DIN Rail Adapter

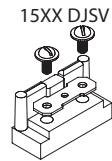
mm = dim X 25.4



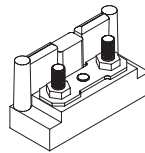
Standard Connector with Serrations for Anti-Rotation



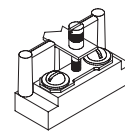
Removable Connector with Brass Insert



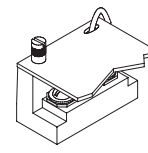
Removable Connector with Brass Insert, Removable Cover



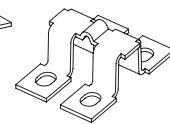
10-32 Stud, Removable Connector



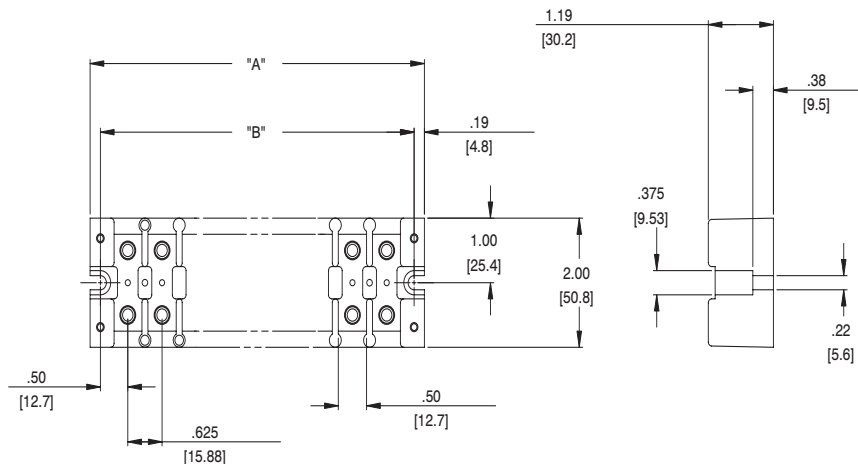
Short Circuiting Bar with Brass Insert, 4 Shorting Pins per Block



Standard Connector with Hinge Cover



Multiple Circuit Jumper



# Heavy Duty Terminal Blocks

## 1600 Series - Barrier Type

### Specifications:

- 75 amps
- 600 volts AC/DC
- Base, phenolic, 150°C (UL RTI)
- Screws, #10-32 phil-slot, brass, nickel plated
- Connector, brass, nickel plated
- 21/32" (.656") line-to-line spacing
- Bare wire range #10-22 AWG CU
- Accepts lugs w/max width of .50"
- See on-line data sheets for additional information



1604 H



1606 STD

### Standards:

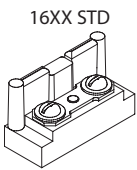
- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant

HEAVY DUTY  
TERMINAL BLOCKS

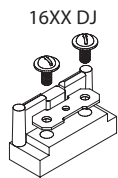
# of Poles	Catalog #								Dimensions		Clear Cover	White Cover
									A	B		
2	1602 MCJ	1602 STD	1602 DJ	1602 DJSV	1602 ST	1602 SC	1602 H	2.44	1.78	CC 1602	CW 1602	
4	1604 MCJ	1604 STD	1604 DJ	1604 DJSV	1604 ST	1604 SC	1604 H	3.75	3.09	CC 1604	CW 1604	
6	1606 MCJ	1606 STD	1606 DJ	1606 DJSV	1606 ST	1606 SC	1606 H	5.06	4.41	CC 1606	CW 1606	
8	1608 MCJ	1608 STD	1608 DJ	1608 DJSV	1608 ST	1608 SC	1608 H	6.38	5.72	CC 1608	CW 1608	
12	1612 MCJ	1612 STD	1612 DJ	1612 DJSV	1612 ST	1612 SC	1612 H	9.00	8.34	CC 1612	CW 1612	

See page 116 for DIN Rail Adapter

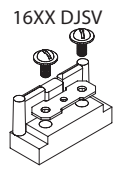
mm = dim X 25.4



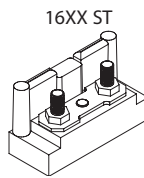
Standard Connector with Serrations for Anti-Rotation



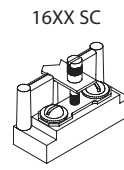
Removable Connector with Brass Insert



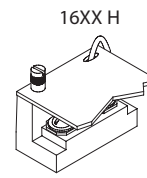
Removable Connector with Brass Insert, Removable Cover



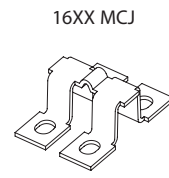
10-32 Stud, Removable Connector



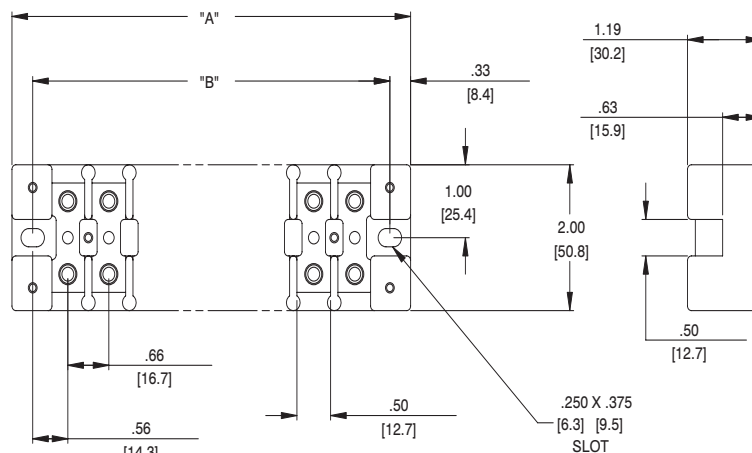
Short Circuiting Bar with Brass Insert, 4 Shorting Pins per Block



Standard Connector with Hinge Cover



Multiple Circuit Jumper



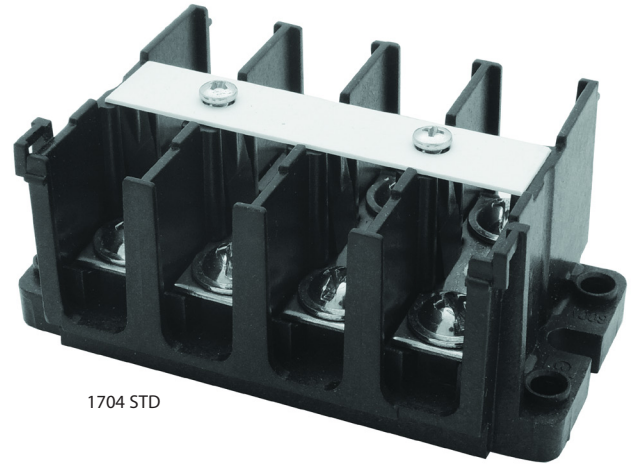


# Heavy Duty Terminal Blocks

## 1700 Series - Barrier Type

### Specifications:

- 75 amps
- 600 volts AC/DC
- Base, plastic, 125°C (UL RTI)
- Screws, #10-32 phil-slot, brass, nickel plated
- Connector, brass, nickel plated
- 5/8" (.625") line-to-line spacing
- Bare wire range #10-22 AWG CU
- Accepts lugs w/max width of .54"
- See on-line data sheets for additional information



1704 STD

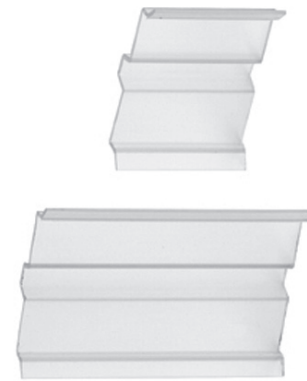
### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant

HEAVY DUTY  
TERMINAL BLOCKS

# of Poles	Standard Terminal	Short Circuit Terminal	Dimensions		Clear Cover
			A	B	
2	1702 STD	1702 SC	2.00	1.64	CC 1702
3	1703 STD	1703 SC	2.63	2.26	CC 1703
4	1704 STD	1704 SC	3.25	2.89	CC 1704
5	1705 STD	1705 SC	3.88	3.51	CC 1705
6	1706 STD	1706 SC	4.50	4.14	CC 1706
7	1707 STD	1707 SC	5.13	4.76	CC 1707
8	1708 STD	1708 SC	5.75	5.39	CC 1708
9	1709 STD	1709 SC	6.38	6.01	CC 1709
10	1710 STD	1710 SC	7.00	6.64	CC 1710
11	1711 STD	1711 SC	7.63	7.26	CC 1711
12	1712 STD	1712 SC	8.25	7.89	CC 1712

mm = dim X 25.4

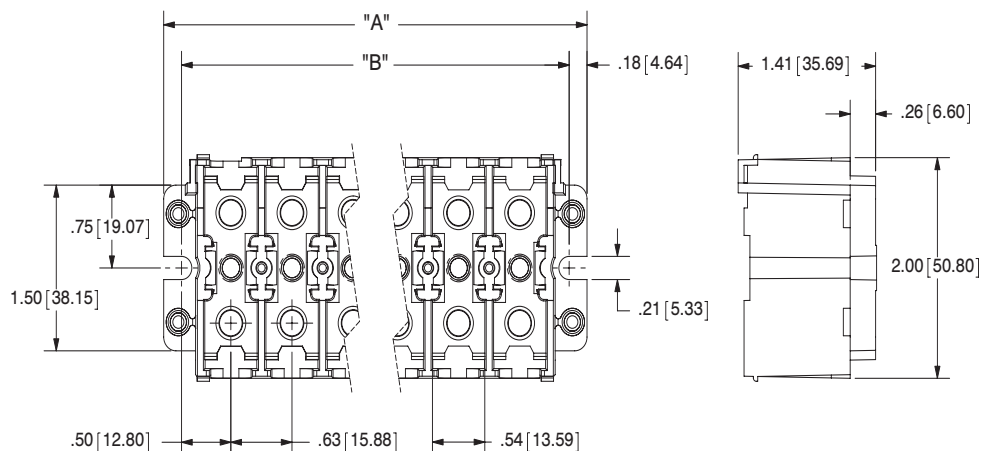


1700 series optional  
clear cover

STD = Standard Terminal - Connector Plate, 2 Phil-Slot Screws, Center M/S

SC = Short Circuit Terminal (Pin to be torqued to 5 in-lbs)

CC = Clear PVC snap on cover, sized to fit and protect



# Double Row Terminal Blocks

## General Information:

Double Row Terminal Blocks are available in many line-to-line spacings. Open and closed back designs are available as shown in the table below. Insulator bases are available in both phenolic and thermoplastic material. Each series has many hardware and marking options available.

## Ratings and Standards:

The voltage ratings of terminal blocks are based upon the minimum spacing between electrically conductive parts line-to-line through air and over surface and line-to-ground through air and over surface.

### Class A:

Service, including deadfront switchboards, panel boards and service equipment.

### Class B:

Commercial appliances including business equipment and electronic data processing equipment.

### Class C:

Industrial, general

Spacing Requirements (in inches)			
	Voltage	Through Air	Over Surface
Class A	51-150	0.500	0.750
	151-300	0.750	1.250
	301-600	1.000	2.000
Class B	51-150	0.063	0.063
	151-300	0.094	0.094
	301-600	0.375	0.500
Class C	51-150	0.125	0.250
	151-300	0.250	0.375
	301-600	0.375	0.500

## Reference Chart:

Amps	Voltage Rating <sup>1</sup>		Series	Catalog Page #	Base Material	Bare-Wire Range <sup>2</sup>	Screw Size	Inches L to L	# of Lines	Features
	Class B	Class C								
30	600	600	621 RZ	41	Plastic	#14-22	6-32	.437	1-30	Closed Back
20	300	150	670A RZ	42	Plastic	#12-22	6-32	.375	1-30	Closed Back
30	300	150	671 RZ	43	Plastic	#14-22	6-32	.437	1-30	Closed Back
30	600	600	672 RZ	44	Plastic	#12-14	8-32	.562	1-24	Closed Back
70	600	600	604	45	Phenolic	#10-14	12-32	.875	1-8	Open Back <sup>1</sup>
90	600	600	605	46	Phenolic	#10-14	1/4-28	1.125	1-6	Open Back <sup>1</sup>
20	250	N/A	670A GP (100)	47	Phenolic	#12-22	6-32	.375	1-36	Closed Back
30	300	150	671 GP (200)	48	Phenolic	#14-22	6-32	.437	1-30	Closed Back
30	N/A	600	672 GP (300)	49	Phenolic	#10-14	8-32	.562	1-24	Closed Back
30	N/A	600	400	50	Phenolic	#10-22	10-32	.687	1-12	Closed Back
5	300	N/A	410	51	Phenolic	#18-20	2-56	.250	1-23	Open Back <sup>1</sup>
15	300	300	600	52	Phenolic	#14-22	5-40	.375	1-22	Open Back <sup>1</sup>
15	300	300	600A	53	Phenolic	#12-22	6-32	.375	1-22	Open Back <sup>1</sup>
20	300	300	601	54	Phenolic	#12-22	6-32	.437	1-23	Open Back <sup>1</sup>
20	N/A	150	801	54	Phenolic	#10	6-32	.437	1-23	Open Back <sup>1</sup>
30	300	300	602	55	Phenolic	#10-18	8-32	.562	1-26	Open Back <sup>1</sup>
30	N/A	150	802	55	Phenolic	#10	8-32	.562	1-26	Open Back <sup>1</sup>
50	600	600	603	56	Phenolic	#10-16	10-32	.687	1-12	Open Back <sup>1</sup>

<sup>1</sup> Open back terminal blocks require an insulator strip to achieve voltage rating.

<sup>2</sup> Wire Range for Bare (unprepared) only. Prepared wire range (used with crimp type ring, fork or spade terminals) is dependent on the size of the crimp terminal applied and must not exceed the Amp rating specified.

# Double Row Terminal Blocks

## 621 RZ Series

### Specifications:

- 30 amps
- 600 volts Class B/C
- Base, thermoplastic, 125°C (UL RTI)
- Screws, steel, #6-32 phil-slot
- Terminals, plated brass
- Closed back
- 1-30 poles at 7/16" centers
- Accepts lugs w/max width of .33"
- Bare wire range #14-#22 AWG

### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



621 RZ 03

Catalog #	# of Poles	Dimensions	
		A	B
621 RZ 01	1	1.19	0.88
621 RZ 02	2	1.62	1.31
621 RZ 03	3	2.06	1.75
621 RZ 04	4	2.50	2.19
621 RZ 05	5	2.94	2.63
621 RZ 06	6	3.37	3.06
621 RZ 07	7	3.81	3.50
621 RZ 08	8	4.25	3.94
621 RZ 09	9	4.69	4.38
621 RZ 10	10	5.12	4.81
621 RZ 11	11	5.56	5.25
621 RZ 12	12	6.00	5.69
621 RZ 13	13	6.44	6.13
621 RZ 14	14	6.87	6.56
621 RZ 15	15	7.31	7.00
621 RZ 16	16	7.75	7.44
621 RZ 17	17	8.19	7.88
621 RZ 18	18	8.62	8.31
621 RZ 19	19	9.06	8.75
621 RZ 20	20	9.50	9.19
621 RZ 21	21	9.94	9.63
621 RZ 22	22	10.37	10.06
621 RZ 23	23	10.81	10.50
621 RZ 24	24	11.25	10.94
621 RZ 25	25	11.69	11.38
621 RZ 26	26	12.12	11.81
621 RZ 27	27	12.56	12.25
621 RZ 28	28	13.00	12.69
621 RZ 29	29	13.44	13.13
621 RZ 30	30	13.87	13.56

mm=dim X 25.4

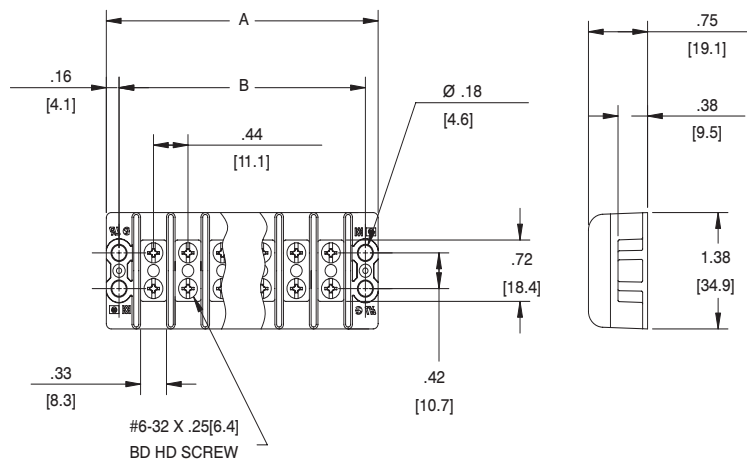
### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT37	Full Quick Connect (0° Flat)	See Page 73
KT38	Full Quick Connect (45° Bend)	
KT39	Full Quick Connect (90° Bend)	
KT43	Half Quick Connect (0° Flat)	
KT44	Half Quick Connect (45° Bend)	
KT45	Half Quick Connect (90° Bend)	
ST	Full Solder	See Page 77
3/4 ST	Half Solder	
J 621	Line-to-Line Jumper	See Page 74
601RJ(S)	Multiple Position Jumper	
3765	SEMS Pressure Saddle Screw <sup>1</sup>	
3767	SEMS Pressure Saddle Screw with External Tooth Lock Washer <sup>1</sup>	Consult C/S
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"

<sup>1</sup> Bare wire Range with SEMS screw of #12-22 AWG, Stranded Copper Only



# Double Row Terminal Blocks

## 670A RZ Series

### Specifications:

- 20 amps
- 150 volts Class-C, 300V Class B
- Base, thermoplastic, 130°C (UL RTI)
- Screws, steel, #6-32 phil-slot
- Terminals, plated brass
- Closed back
- 1-30 poles at 3/8" centers
- Accepts lugs w/max width of .31"
- Bare wire range #12-#22 AWG

### Standards:

- UL recognized file no. XCFR2.E47811
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



670A RZ 16

Catalog #	# of Poles	Dimensions	
		A	B
670A RZ 01	1	1.03	0.75
670A RZ 02	2	1.41	1.13
670A RZ 03	3	1.78	1.50
670A RZ 04	4	2.16	1.88
670A RZ 05	5	2.53	2.25
670A RZ 06	6	2.91	2.63
670A RZ 07	7	3.28	3.00
670A RZ 08	8	3.66	3.38
670A RZ 09	9	4.03	3.75
670A RZ 10	10	4.41	4.13
670A RZ 11	11	4.78	4.50
670A RZ 12	12	5.16	4.88
670A RZ 13	13	5.53	5.25
670A RZ 14	14	5.91	5.63
670A RZ 15	15	6.28	6.00
670A RZ 16	16	6.66	6.38
670A RZ 17	17	7.03	6.75
670A RZ 18	18	7.41	7.13
670A RZ 19	19	7.78	7.50
670A RZ 20	20	8.16	7.88
670A RZ 21	21	8.53	8.25
670A RZ 22	22	8.91	8.63
670A RZ 23	23	9.28	9.00
670A RZ 24	24	9.66	9.38
670A RZ 25	25	10.03	9.75
670A RZ 26	26	10.41	10.13
670A RZ 27	27	10.78	10.50
670A RZ 28	28	11.16	10.88
670A RZ 29	29	11.53	11.25
670A RZ 30	30	11.91	11.63

mm=dim X 25.4

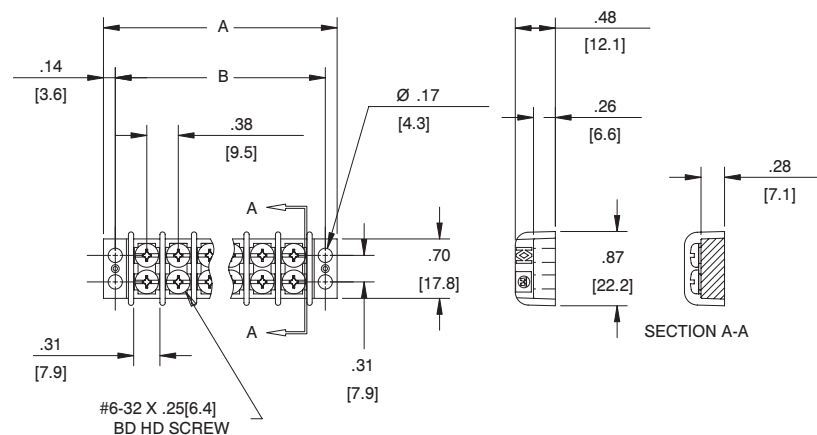
### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT19	Full Quick Connect (0° Flat)	See page 73
KT20	Full Quick Connect (45° Bend)	
KT21	Full Quick Connect (90° Bend)	
KT25	Half Quick Connect (0° Flat)	
KT26	Half Quick Connect (45° Bend)	
KT27	Half Quick Connect (90° Bend)	See page 77
ST	Full Solder	
3/4 ST	Half Solder	
Y	Feed Thru Solder (.312)	See page 74
J 600	Line-to-Line Jumper	
600RJ(S)	Multiple Position Jumper	Consult C/S
3865	SEMS Pressure Saddle Screw <sup>1</sup>	
PSB	Phil-Slot Brass Screw	

Quick Connects: .020" x .187"

<sup>1</sup> Bare wire Range with SEMS screw of #14-22 AWG, Stranded Copper Only



BARRIER  
TERMINAL BLOCKS

# Double Row Terminal Blocks

## 671 RZ Series

### Specifications:

- 30 amps
- 150 volts Class-C, 300V Class B
- Base, thermoplastic, 125°C (UL RTI)
- Screws, steel, #6-32 phil-slot
- Terminals, plated brass
- Closed back
- 1-30 poles at 7/16" centers
- Accepts lugs w/max width of .33"
- Bare wire range #14-#22 AWG

### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



671 RZ 06

Catalog #	# of Poles	Dimensions	
		A	B
671 RZ 01	1	1.19	0.88
671 RZ 02	2	1.62	1.31
671 RZ 03	3	2.06	1.75
671 RZ 04	4	2.50	2.19
671 RZ 05	5	2.94	2.63
671 RZ 06	6	3.37	3.06
671 RZ 07	7	3.81	3.50
671 RZ 08	8	4.25	3.94
671 RZ 09	9	4.69	4.38
671 RZ 10	10	5.12	4.81
671 RZ 11	11	5.56	5.25
671 RZ 12	12	6.00	5.69
671 RZ 13	13	6.44	6.13
671 RZ 14	14	6.87	6.56
671 RZ 15	15	7.31	7.00
671 RZ 16	16	7.75	7.44
671 RZ 17	17	8.19	7.88
671 RZ 18	18	8.62	8.31
671 RZ 19	19	9.06	8.75
671 RZ 20	20	9.50	9.19
671 RZ 21	21	9.94	9.63
671 RZ 22	22	10.37	10.06
671 RZ 23	23	10.81	10.50
671 RZ 24	24	11.25	10.94
671 RZ 25	25	11.69	11.38
671 RZ 26	26	12.12	11.81
671 RZ 27	27	12.56	12.25
671 RZ 28	28	13.00	12.69
671 RZ 29	29	13.44	13.13
671 RZ 30	30	13.87	13.56

mm=dim X 25.4

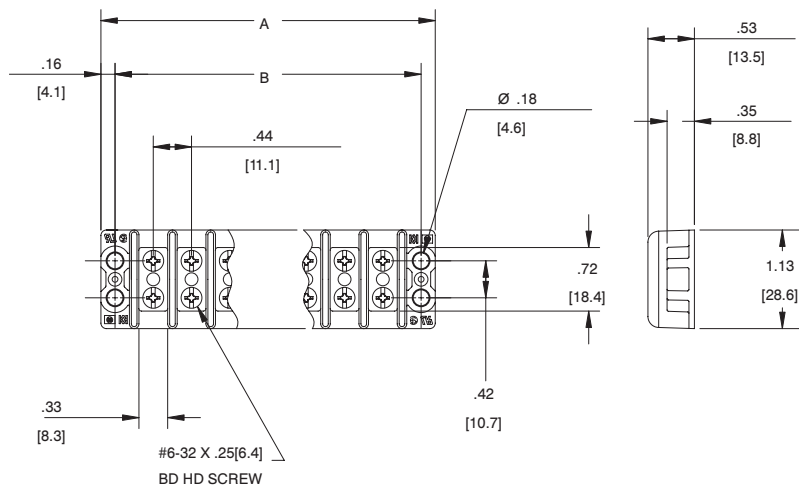
### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT37	Full Quick Connect (0° Flat)	See page 73
KT38	Full Quick Connect (45° Bend)	
KT39	Full Quick Connect (90° Bend)	
KT43	Half Quick Connect (0° Flat)	
KT44	Half Quick Connect (45° Bend)	
KT45	Half Quick Connect (90° Bend)	See page 77
ST	Full Solder	
3/4 ST	Half Solder	
J 601	Line-to-Line Jumper	See page 74
601RJ(S)	Multiple Position Jumper	
3765	SEMS Pressure Saddle Screw <sup>1</sup>	Consult C/S
3767	SEMS Pressure Saddle Screw with External Tooth Lock Washer <sup>1</sup>	
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"

<sup>1</sup> Bare wire Range with SEMS screw of #12-22 AWG, Stranded Copper Only





# Double Row Terminal Blocks

## 672 RZ Series

### Specifications:

- 30 amps
- 600 volts AC/DC, Class B/C
- Base, thermoplastic, 125°C (UL RTI)
- Terminals, plated brass
- Screws, steel, #8-32 phil-slot
- Closed back
- 1-24 poles at 9/16" centers
- Accepts lugs w/max width of .41"
- Bare wire range #12-#14 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



672 RZ 03

Catalog #	# of Poles	Dimensions	
		A	B
672 RZ 01	1	1.54	1.13
672 RZ 02	2	2.10	1.69
672 RZ 03	3	2.66	2.25
672 RZ 04	4	3.22	2.81
672 RZ 05	5	3.79	3.38
672 RZ 06	6	4.35	3.94
672 RZ 07	7	4.91	4.50
672 RZ 08	8	5.47	5.06
672 RZ 09	9	6.04	5.63
672 RZ 10	10	6.60	6.19
672 RZ 11	11	7.16	6.75
672 RZ 12	12	7.72	7.31
672 RZ 13	13	8.29	7.88
672 RZ 14	14	8.85	8.44
672 RZ 15	15	9.41	9.00
672 RZ 16	16	9.97	9.56
672 RZ 17	17	10.54	10.13
672 RZ 18	18	11.10	10.69
672 RZ 19	19	11.66	11.25
672 RZ 20	20	12.22	11.81
672 RZ 21	21	12.79	12.38
672 RZ 22	22	13.35	12.94
672 RZ 23	23	13.91	13.50
672 RZ 24	24	14.47	14.06

mm=dim X 25.4

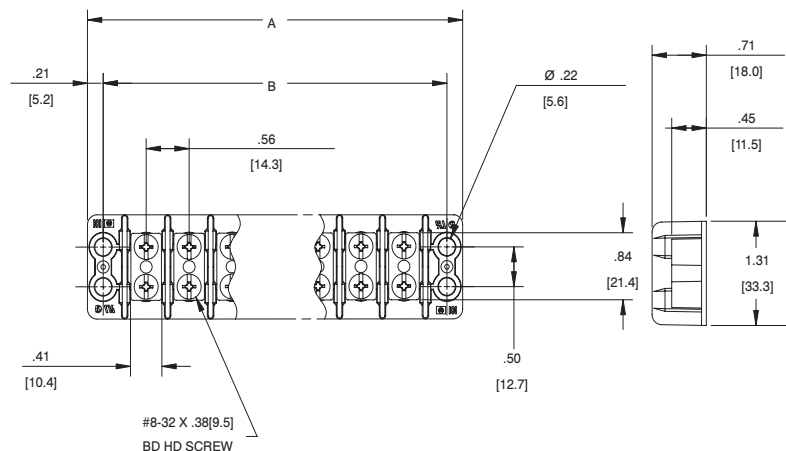
### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT55	Full Quick Connect (0° Flat)	See page 73
KT56	Full Quick Connect (45° Bend)	
KT57	Full Quick Connect (90° Bend)	
KT61	Half Quick Connect (0° Flat)	
KT62	Half Quick Connect (45° Bend)	
KT63	Half Quick Connect (90° Bend)	
ST	Full Solder	
3/4 ST	Half Solder	
J 602	Line-to-Line Jumper	See page 74
3786	SEMS Pressure Saddle Screw <sup>1</sup>	
3787	SEMS Pressure Saddle Screw with External Tooth Lock Washer <sup>1</sup>	Consult C/S
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"

<sup>1</sup> Bare wire Range with SEMS screw of #10-22 AWG, Stranded Copper Only



# Double Row Terminal Blocks

## 604 GP Series

### Specifications:

- A Kulka® Brand
- 70 amps
- 600 volts AC/DC, Class B/C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, brass, #12-32 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-8 poles at 7/8" centers
- Accepts lugs w/max width of .58"
- Bare wire range #10-#12 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



604 GP 04 PSB

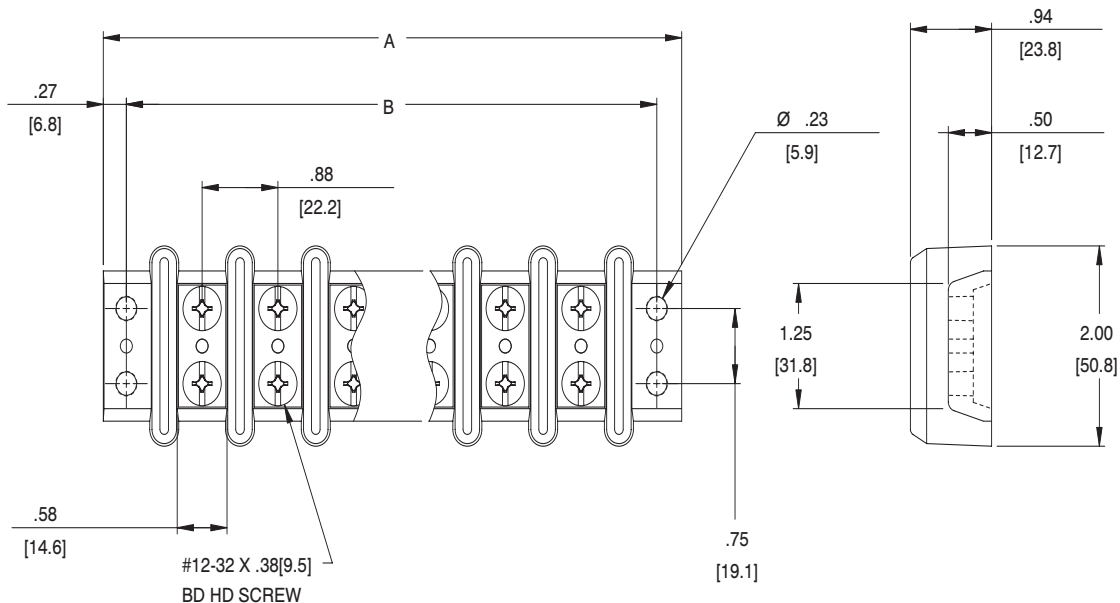
Catalog #	# of Poles	Dimensions	
		A	B
604 GP 01 PSB	1	2.28	1.75
604 GP 02 PSB	2	3.16	2.63
604 GP 03 PSB	3	4.03	3.50
604 GP 04 PSB	4	4.91	4.38
604 GP 05 PSB	5	5.78	5.25
604 GP 06 PSB	6	6.66	6.13
604 GP 07 PSB	7	7.53	7.00
604 GP 08 PSB	8	8.41	7.88

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
J 604	Line-to-Line Jumper	See Page 74
2402	Stud 10-32 Brass (.43 H) Nuts included	See Page 75

mm=dim X 25.4



BARRIER  
TERMINAL BLOCKS

# Double Row Terminal Blocks

## 605 GP Series

### Specifications:

- A Kulka® Brand
- 90 amps
- 600 volts AC/DC, Class B/C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, brass, 1/4-28 slotted
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-6 poles at 1 1/8" centers
- Accepts lugs w/max width of .67"
- Bare wire range #10-#14 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



605 GP 03 SLB

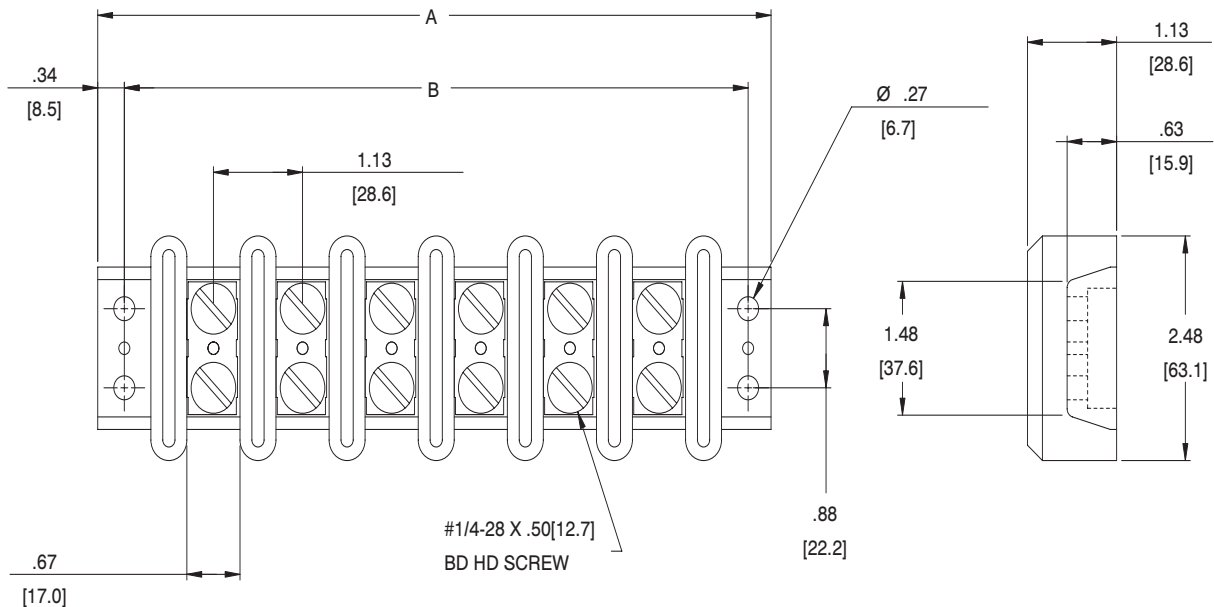
Catalog #	# of Poles	Dimensions	
		A	B
605 GP 01 SLB	1	2.88	2.25
605 GP 02 SLB	2	4.00	3.38
605 GP 03 SLB	3	5.13	4.50
605 GP 04 SLB	4	6.25	5.63
605 GP 05 SLB	5	7.38	6.75
605 GP 06 SLB	6	8.50	7.88

mm=dim X 25.4

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
J 605	Line-to-Line Jumper	See Page 74
2502	Stud 1/4-28 Brass (.750 H) Nuts included	See Page 75
PSB	Phil-Slot Brass Screw	Consult C/S



# Double Row Terminal Blocks

## 670A GP Series (100 Series)

### Specifications:

- A Kulka® Brand
- 20 amps
- 250 volts, Class B
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, steel, #6-32 phil-slot
- Closed back
- 1-36 poles at 3/8" centers
- Accepts lugs w/max width of .30"
- Bare wire range #12-#22 AWG

### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



Catalog #	Alternate Catalog #	# of Poles	Dimensions	
			A	B
670A GP 01	101	1	1.03	0.75
670A GP 02	102	2	1.41	1.13
670A GP 03	103	3	1.78	1.50
670A GP 04	104	4	2.16	1.88
670A GP 05	105	5	2.53	2.25
670A GP 06	106	6	2.91	2.63
670A GP 07	107	7	3.28	3.00
670A GP 08	108	8	3.66	3.38
670A GP 09	109	9	4.03	3.75
670A GP 10	110	10	4.41	4.13
670A GP 11	111	11	4.78	4.50
670A GP 12	112	12	5.16	4.88
670A GP 13	113	13	5.53	5.25
670A GP 14	114	14	5.91	5.63
670A GP 15	115	15	6.28	6.00
670A GP 16	116	16	6.66	6.38
670A GP 17	117	17	7.03	6.75
670A GP 18	118	18	7.41	7.13
670A GP 19	119	19	7.78	7.50
670A GP 20	120	20	8.16	7.88
670A GP 21	121	21	8.53	8.25
670A GP 22	122	22	8.91	8.63
670A GP 23	123	23	9.28	9.00
670A GP 24	124	24	9.66	9.38
670A GP 25	125	25	10.03	9.75
670A GP 26	126	26	10.41	10.13
670A GP 27	127	27	10.78	10.50
670A GP 28	128	28	11.16	10.88
670A GP 29	129	29	11.53	11.25
670A GP 30	130	30	11.91	11.63
670A GP 31	131	31	12.28	12.00
670A GP 32	132	32	12.66	12.38
670A GP 33	133	33	13.03	12.75
670A GP 34	134	34	13.41	13.13
670A GP 35	135	35	13.78	13.50
670A GP 36	136	36	14.16	13.88

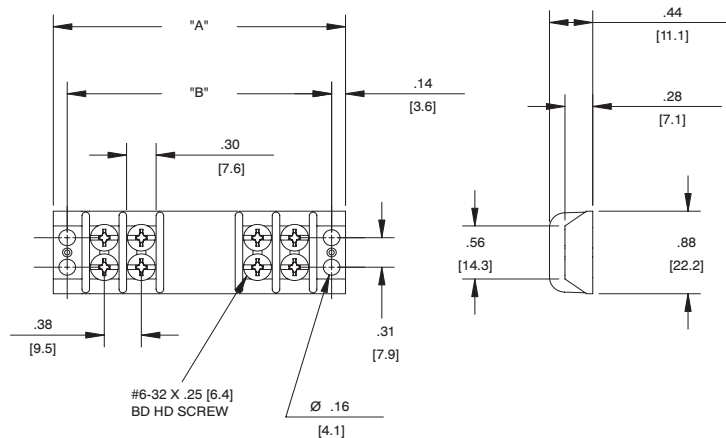
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### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT19	Full Quick Connect (0° Flat)	See page 73
KT20	Full Quick Connect (45° Bend)	
KT21	Full Quick Connect (90° Bend)	
KT25	Half Quick Connect (0° Flat)	
KT26	Half Quick Connect (45° Bend)	
KT27	Half Quick Connect (90° Bend)	See page 74
ST	Full Solder	
3/4 ST	Half Solder	
Y	Feed Thru Solder (.312)	
YSY	Feed Thru Solder (.500)	
J 600	Line-to-Line Jumper	Consult C/S
600RJ(S)	Multiple Position Jumper	
3000	Feed Thru Wire Wrap (.593)	
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .020" x .110"



BARRIER  
TERMINAL BLOCKS

# Double Row Terminal Blocks

## 671 GP Series (200 Series)

### Specifications:

- A Kulka<sup>®</sup> Brand
- 30 amps
- 150 volts Class C, 300 volts Class B
- Base, phenolic, 150°C (UL RTI)
- Screws, steel, #6-32 phil-slot
- Terminals, plated brass
- Closed back
- 1-30 poles at 7/16" centers
- Accepts lugs w/max width of .34"
- Bare wire range #12-#22 AWG

### Standards:

- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



671 GP 13

Catalog #	Alternate Catalog #	# of Poles	Dimensions	
			A	B
671 GP 01	201	1	1.19	0.88
671 GP 02	202	2	1.62	1.31
671 GP 03	203	3	2.06	1.75
671 GP 04	204	4	2.50	2.19
671 GP 05	205	5	2.94	2.63
671 GP 06	206	6	3.37	3.06
671 GP 07	207	7	3.81	3.50
671 GP 08	208	8	4.25	3.94
671 GP 09	209	9	4.69	4.38
671 GP 10	210	10	5.12	4.81
671 GP 11	211	11	5.56	5.25
671 GP 12	212	12	6.00	5.69
671 GP 13	213	13	6.44	6.13
671 GP 14	214	14	6.87	6.56
671 GP 15	215	15	7.31	7.00
671 GP 16	216	16	7.75	7.44
671 GP 17	217	17	8.19	7.88
671 GP 18	218	18	8.62	8.31
671 GP 19	219	19	9.06	8.75
671 GP 20	220	20	9.50	9.19
671 GP 21	221	21	9.94	9.63
671 GP 22	222	22	10.37	10.06
671 GP 23	223	23	10.81	10.50
671 GP 24	224	24	11.25	10.94
671 GP 25	225	25	11.69	11.38
671 GP 26	226	26	12.12	11.81
671 GP 27	227	27	12.56	12.25
671 GP 28	228	28	13.00	12.69
671 GP 29	229	29	13.44	13.13
671 GP 30	230	30	13.87	13.56

mm=dim X 25.4

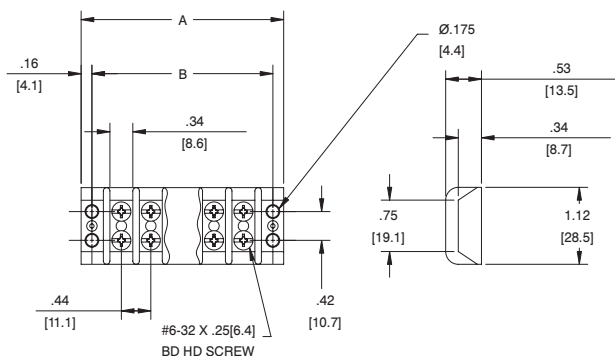
### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT37	Full Quick Connect (0° Flat)	See page 73
KT38	Full Quick Connect (45° Bend)	
KT39	Full Quick Connect (90° Bend)	
KT43	Half Quick Connect (0° Flat)	
KT44	Half Quick Connect (45° Bend)	
KT45	Half Quick Connect (90° Bend)	
ST	Full Solder	See page 77
3/4 ST	Half Solder	
Y	Feed Thru Solder (.437)	
YSY	Feed Thru Solder (.625)	
J 601	Line-to-Line Jumper	See page 74
601RJ(S)	Multiple Position Jumper	
3765	SEMS Pressure Saddle Screw	
3767	SEMS Pressure Saddle Screw with External Tooth Lock Washer <sup>1</sup>	Consult C/S
4000	Feed Thru Wire Wrap (.640)	Consult C/S
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"

<sup>1</sup> Bare wire Range with SEMS screw of #12-22 AWG, Stranded Copper Only



# Double Row Terminal Blocks

## 672 GP Series (300 Series)

### Specifications:

- A Kulka® Brand
- 30 amps
- 600 volts AC/DC, Class C
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, steel, #8-32 phil-slot
- Closed back
- 1-24 poles at 9/16" centers
- Accepts lugs w/max width of .42"
- Bare wire range #10-#14 AWG

### Standards:

- UL recognized, file no. XCFR2.E62806
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



672 GP 03

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

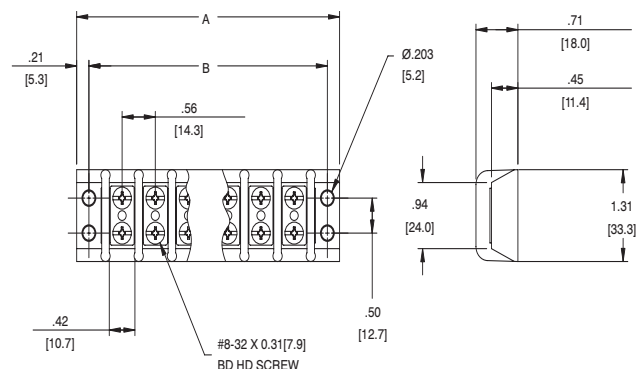
Catalog #	Alternate Catalog #	# of Poles	Dimensions	
			A	B
672 GP 01	301	1	1.54	1.13
672 GP 02	302	2	2.10	1.69
672 GP 03	303	3	2.66	2.25
672 GP 04	304	4	3.22	2.81
672 GP 05	305	5	3.79	3.38
672 GP 06	306	6	4.35	3.94
672 GP 07	307	7	4.91	4.50
672 GP 08	308	8	5.47	5.06
672 GP 09	309	9	6.04	5.63
672 GP 10	310	10	6.60	6.19
672 GP 11	311	11	7.16	6.75
672 GP 12	312	12	7.72	7.31
672 GP 13	313	13	8.29	7.88
672 GP 14	314	14	8.85	8.44
672 GP 15	315	15	9.41	9.00
672 GP 16	316	16	9.97	9.56
672 GP 17	317	17	10.54	10.13
672 GP 18	318	18	11.10	10.69
672 GP 19	319	19	11.66	11.25
672 GP 20	320	20	12.22	11.81
672 GP 21	321	21	12.79	12.38
672 GP 22	322	22	13.35	12.94
672 GP 23	323	23	13.91	13.50
672 GP 24	324	24	14.47	14.06

mm=dim X 25.4

Catalog #	Product Description	Page Reference
KT55	Full Quick Connect (0° Flat)	See page 73
KT56	Full Quick Connect (45° Bend)	
KT57	Full Quick Connect (90° Bend)	
KT61	Half Quick Connect (0° Flat)	
KT62	Half Quick Connect (45° Bend)	
KT63	Half Quick Connect (90° Bend)	
ST	Full Solder	See page 77
3/4 ST	Half Solder	
Y	Feed Thru Solder (.437)	
YSY	Feed Thru Solder (.625)	
J 602	Line-to-Line Jumper	See page 74
3786	SEMS Pressure Saddle Screw <sup>1</sup>	
SPSE	SEMS Pressure Saddle Screw with External Tooth Lock Washer <sup>1</sup>	Consult C/S
LWW	Feed Thru Wire Wrap (1.00)	Consult C/S
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"

<sup>1</sup> Bare wire Range with SEMS screw of #10-22 AWG, Stranded Copper Only



BARRIER  
TERMINAL BLOCKS



# Double Row Terminal Blocks

## 400 Series

### Specifications:

- 30 amps
- 600 volts AC/DC, Class C
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, steel, #10-32 phil-slot
- Closed back
- 1-12 poles at 11/16" centers
- Accepts lugs w/max width of .47"
- Bare wire range #10-#22 AWG

### Standards:

- UL recognized, file no. XCFR2.E62806
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



406

Catalog #	# of Poles	Dimensions	
		A	B
401	1	1.81	1.38
402	2	2.50	2.06
403	3	3.19	2.75
404	4	3.88	3.44
405	5	4.56	4.12
406	6	5.25	4.81
407	7	5.94	5.50
408	8	6.62	6.19
409	9	7.31	6.88
410	10	8.00	7.56
411	11	8.68	8.25
412	12	9.37	8.94

mm=dim X 25.4

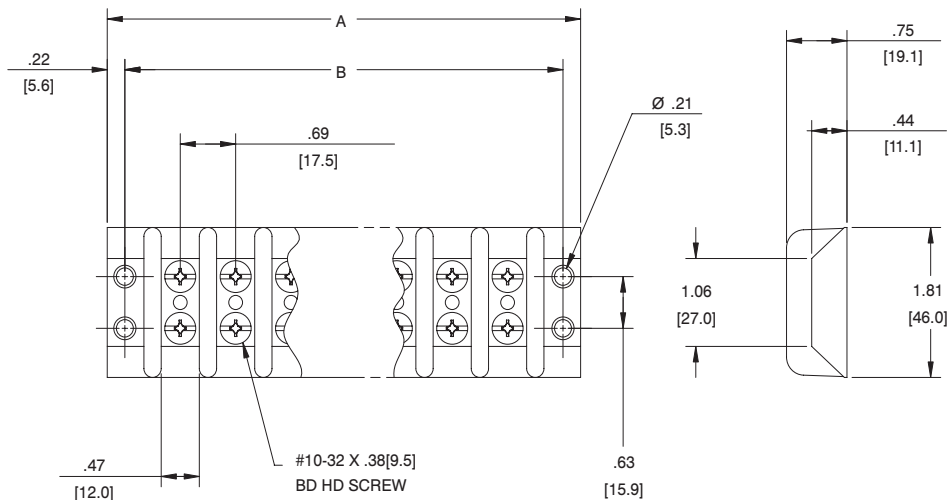
### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT67	Full Quick Connect (0° Flat)	See page 73
KT68	Full Quick Connect (45° Bend)	
KT69	Full Quick Connect (90° Bend)	
KT64	Half Quick Connect (0° Flat)	
KT65	Half Quick Connect (45° Bend)	
KT66	Half Quick Connect (90° Bend)	
J 603	Line-to-Line Jumper	See page 74
SPSE	SEMS Pressure Saddle Screw <sup>1</sup>	Consult C/S
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"

<sup>1</sup> Bare wire Range with SEMS screw of #10-22 AWG, Stranded Copper Only



# Double Row Terminal Blocks

## 410 GP Series

### Specifications:

- A Kulka® Brand
- 5 amps
- 300 volts AC/DC, Class B
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, brass, #2-56 phil-slot
- Open back design (insulator strip required for voltage rating - see page 112)
- 1-23 poles at 1/4" centers
- Accepts lugs w/max width of .19"
- Bare wire range #18-#20 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



410 GP 06 PSB

Catalog #	# of Poles	Dimensions	
		A	B
410 GP 01 PSB	1	0.75	0.50
410 GP 02 PSB	2	1.00	0.75
410 GP 03 PSB	3	1.25	1.00
410 GP 04 PSB	4	1.50	1.25
410 GP 05 PSB	5	1.75	1.50
410 GP 06 PSB	6	2.00	1.75
410 GP 07 PSB	7	2.25	2.00
410 GP 08 PSB	8	2.50	2.25
410 GP 09 PSB	9	2.75	2.50
410 GP 10 PSB	10	3.00	2.75
410 GP 11 PSB	11	3.25	3.00
410 GP 12 PSB	12	3.50	3.25
410 GP 13 PSB	13	3.75	3.50
410 GP 14 PSB	14	4.00	3.75
410 GP 15 PSB	15	4.25	4.00
410 GP 16 PSB	16	4.50	4.25
410 GP 17 PSB	17	4.75	4.50
410 GP 18 PSB	18	5.00	4.75
410 GP 19 PSB	19	5.25	5.00
410 GP 20 PSB	20	5.50	5.25
410 GP 21 PSB	21	5.75	5.50
410 GP 22 PSB	22	6.00	5.75
410 GP 23 PSB	23	6.25	6.00

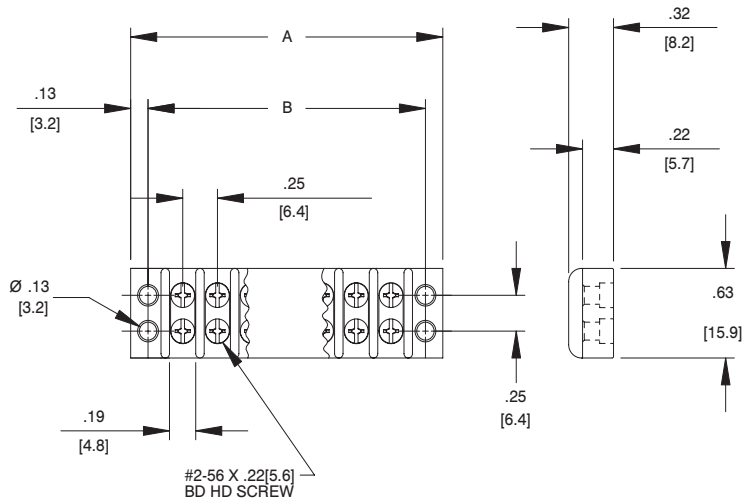
mm=dim X 25.4

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
ST	Full Solder	See page 77
3/4 ST	Half Solder	
Y	Feed Thru Solder (.437)	
J 410	Line-to-Line Jumper	See page 74
1921	Printed Circuit Pin (.109)	Consult C/S

Quick Connects: .020" x .110"



BARRIER  
TERMINAL BLOCKS

# Double Row Terminal Blocks

## 600 GP Series

### Specifications:

- A Kulka® Brand
- 15 amps
- 300 volts AC/DC, Class B/C
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, brass, #5-40 phil-slot
- Open Back Design (insulator strip required for voltage rating - see page 68)
- 1-22 poles at 3/8" centers
- Accepts lugs w/max width of .30"
- Bare wire range #14-#22 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



600 GP 07 PSB

Catalog #	# of Poles	Dimensions	
		A	B
600 GP 01 PSB	1	1.03	0.75
600 GP 02 PSB	2	1.41	1.13
600 GP 03 PSB	3	1.78	1.50
600 GP 04 PSB	4	2.16	1.88
600 GP 05 PSB	5	2.53	2.25
600 GP 06 PSB	6	2.91	2.63
600 GP 07 PSB	7	3.28	3.00
600 GP 08 PSB	8	3.66	3.38
600 GP 09 PSB	9	4.03	3.75
600 GP 10 PSB	10	4.41	4.13
600 GP 11 PSB	11	4.78	4.50
600 GP 12 PSB	12	5.16	4.88
600 GP 13 PSB	13	5.53	5.25
600 GP 14 PSB	14	5.91	5.63
600 GP 15 PSB	15	6.28	6.00
600 GP 16 PSB	16	6.66	6.38
600 GP 17 PSB	17	7.03	6.75
600 GP 18 PSB	18	7.41	7.13
600 GP 19 PSB	19	7.78	7.50
600 GP 20 PSB	20	8.16	7.88
600 GP 21 PSB	21	8.53	8.25
600 GP 22 PSB	22	8.91	8.63

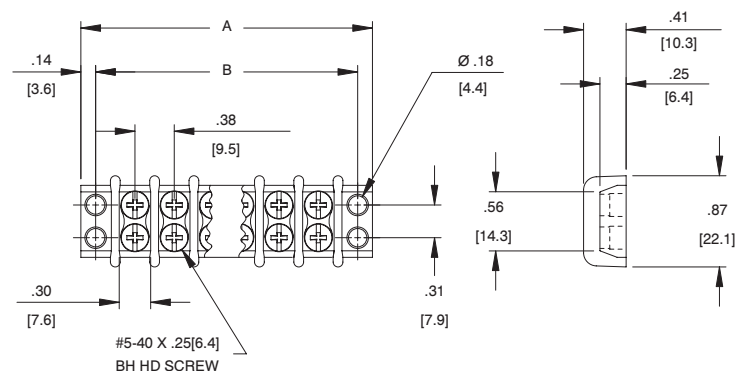
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### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT19	Full Quick Connect (0° Flat)	See Page 73
KT20	Full Quick Connect (45° Bend)	
KT21	Full Quick Connect (90° Bend)	
KT25	Half Quick Connect (0° Flat)	
KT26	Half Quick Connect (45° Bend)	
KT27	Half Quick Connect (90° Bend)	
ST	Full Solder	See Page 77
3/4 ST	Half Solder	
Y	Feed Thru Solder (.312)	
YSY	Feed Thru Solder (.500)	
Z	Lug Over the Side (.625)	
J 600	Line-to-Line Jumper	See Page 74
600 RJ(S)	Multiple Position Jumper	
2004	Feed Thru Solder	See Page 75

Quick Connects: .020" x .187"



# Double Row Terminal Blocks

## 600A GP Series

### Specifications:

- A Kulka® Brand
- 15 amps
- 300 volts AC/DC, Class B/C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #6-32 Phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-22 poles at 3/8" centers
- Accepts lugs w/max width of .30"
- Bare wire range #12-#22 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



600A GP 06

Catalog #	# of Poles	Dimensions	
		A	B
600A GP 01	1	1.03	0.75
600A GP 02	2	1.41	1.13
600A GP 03	3	1.78	1.50
600A GP 04	4	2.16	1.88
600A GP 05	5	2.53	2.25
600A GP 06	6	2.91	2.63
600A GP 07	7	3.28	3.00
600A GP 08	8	3.66	3.38
600A GP 09	9	4.03	3.75
600A GP 10	10	4.41	4.13
600A GP 11	11	4.78	4.50
600A GP 12	12	5.16	4.88
600A GP 13	13	5.53	5.25
600A GP 14	14	5.91	5.63
600A GP 15	15	6.28	6.00
600A GP 16	16	6.66	6.38
600A GP 17	17	7.03	6.75
600A GP 18	18	7.41	7.13
600A GP 19	19	7.78	7.50
600A GP 20	20	8.16	7.88
600A GP 21	21	8.53	8.25
600A GP 22	22	8.91	8.63

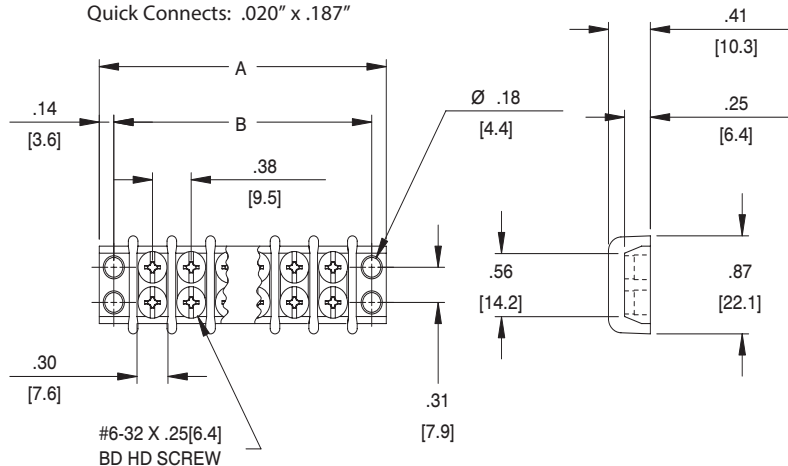
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### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT19	Full Quick Connect (0° Flat)	See Page 73
KT20	Full Quick Connect (45° Bend)	
KT21	Full Quick Connect (90° Bend)	
KT25	Half Quick Connect (0° Flat)	
KT26	Half Quick Connect (45° Bend)	
KT27	Half Quick Connect (90° Bend)	
ST	Full Solder	See Page 77
3/4 ST	Half Solder	
Y	Feed Thru Solder (.312)	
YSY	Feed Thru Solder (.500)	
Z	Lug Over the Side (.625)	See Page 74
J 600	Line-to-Line Jumper	
600 RJ(S)	Multiple Position Jumper	
3860	Wire Clamp Screw, Brass	
3865	Wire Clamp Screw	See Page 75
2002	Stud	
PSB	Phil-Slot Brass Screw	

Quick Connects: .020" x .187"



BARRIER  
TERMINAL BLOCKS

# Double Row Terminal Blocks

## 601 / 801 GP Series

### Specifications:

- A Kulka® Brand
- 20 amps
- 300 volts AC/DC, Class B/C
- 801 series (riveted construction) 150 volts AC/DC, class-C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #6-32 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-23 poles at 7/16" centers
- Accepts lugs w/max width of .34"
- Bare wire range #12-#22 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



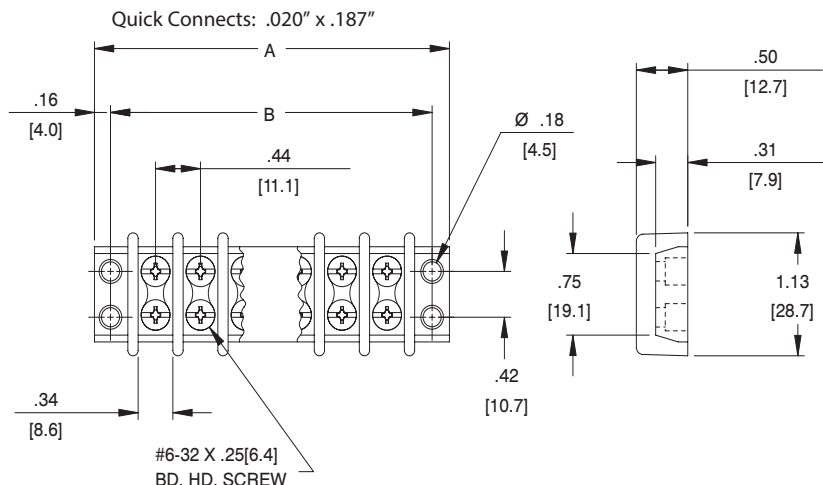
Catalog #	# of Poles	Dimensions	
		A	B
601 GP 01	1	1.19	0.88
601 GP 02	2	1.62	1.31
601 GP 03	3	2.06	1.75
601 GP 04	4	2.50	2.19
601 GP 05	5	2.94	2.63
601 GP 06	6	3.37	3.06
601 GP 07	7	3.81	3.50
601 GP 08	8	4.25	3.94
601 GP 09	9	4.69	4.38
601 GP 10	10	5.12	4.81
601 GP 11	11	5.56	5.25
601 GP 12	12	6.00	5.69
601 GP 13	13	6.44	6.13
601 GP 14	14	6.87	6.56
601 GP 15	15	7.31	7.00
601 GP 16	16	7.75	7.44
601 GP 17	17	8.19	7.88
601 GP 18	18	8.62	8.31
601 GP 19	19	9.06	8.75
601 GP 20	20	9.50	9.19
601 GP 21	21	9.94	9.63
601 GP 22	22	10.37	10.06
601 GP 23	23	10.81	10.50

mm=dim X 25.4

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT37	Full Quick Connect (0° Flat)	See Page 73
KT38	Full Quick Connect (45° Bend)	
KT39	Full Quick Connect (90° Bend)	
KT43	Half Quick Connect (0° Flat)	
KT44	Half Quick Connect (45° Bend)	See Page 77
KT45	Half Quick Connect (90° Bend)	
ST	Full Solder	
3/4 ST	Half Solder	See Page 74
Y	Feed Thru Solder (.422)	
YSY	Feed Thru Solder (.687)	
J 601	Line-to-Line Jumper	See Page 75
601 RJ(S)	Multiple Position Jumper	
3765	Wire Clamp Screw	
3760	Wire Clamp Screw	
2102	Stud	Consult C/S
2104	Feed Thru Solder	
2108	Individual Screw Terminals	
PSB	Phil-Slot Brass Screw	



# Double Row Terminal Blocks

## 602 / 802 GP Series

### Specifications:

- A Kulka® Brand
- 30 amps
- 300 volts AC/DC, Class B/C
- 802 series (riveted construction), 150 volts AC/DC, Class-C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #8-32 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-26 poles at 9/16" centers
- Accepts lugs w/max width of .44"
- Bare wire range #10-#18 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



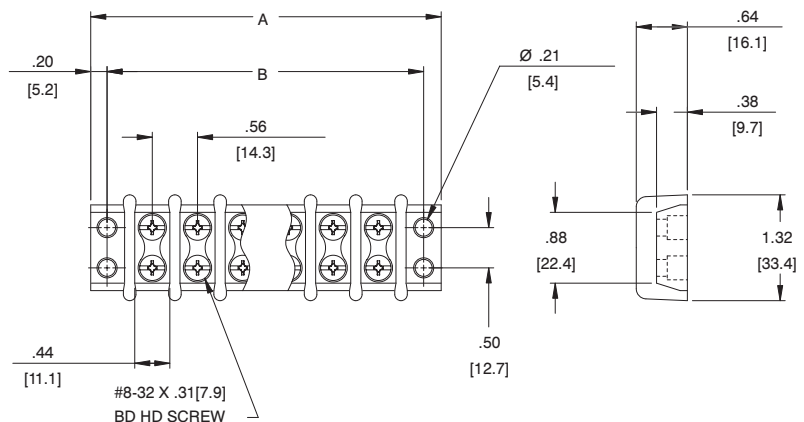
602 GP 06

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT55	Full Quick Connect (0° Flat)	See Page 73
KT56	Full Quick Connect (45° Bend)	
KT57	Full Quick Connect (90° Bend)	
KT61	Half Quick Connect (0° Flat)	
KT62	Half Quick Connect (45° Bend)	
KT63	Half Quick Connect (90° Bend)	
ST	Full Solder	See Page 77
3/4 ST	Half Solder	
Y	Feed Thru Solder (.500)	
YSY	Feed Thru Solder (.672)	
Z	Lug over the Side (.609)	See Page 74
J 602	Line-to-Line Jumper	
3786	Wire Clamp Screw	See Page 75
2202	Stud	
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"



Catalog #	# of Poles	Dimensions	
		A	B
602 GP 01	1	1.54	1.13
602 GP 02	2	2.10	1.69
602 GP 03	3	2.66	2.25
602 GP 04	4	3.22	2.81
602 GP 05	5	3.79	3.38
602 GP 06	6	4.35	3.94
602 GP 07	7	4.91	4.50
602 GP 08	8	5.47	5.06
602 GP 09	9	6.04	5.63
602 GP 10	10	6.60	6.19
602 GP 11	11	7.16	6.75
602 GP 12	12	7.72	7.31
602 GP 13	13	8.29	7.88
602 GP 14	14	8.85	8.44
602 GP 15	15	9.41	9.00
602 GP 16	16	9.97	9.56
602 GP 17	17	10.54	10.13
602 GP 18	18	11.10	10.69
602 GP 19	19	11.66	11.25
602 GP 20	20	12.22	11.81
602 GP 21	21	12.79	12.38
602 GP 22	22	13.35	12.94
602 GP 23	23	13.91	13.50
602 GP 24	24	14.47	14.06
602 GP 25	25	15.04	14.63
602 GP 26	26	15.60	15.19

mm=dim X 25.4

BARRIER  
TERMINAL BLOCKS



# Double Row Terminal Blocks

## 603 GP Series

### Specifications:

- A Kulka® Brand
- 50 amps
- 600 volts AC/DC, Class B/C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #10-32 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-12 poles at 11/16" centers
- Accepts lugs w/max width of .47"
- Bare wire range #10-#16 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



603 GP 06

Catalog #	# of Poles	Dimensions	
		A	B
603 GP 01	1	1.81	1.38
603 GP 02	2	2.50	2.06
603 GP 03	3	3.19	2.75
603 GP 04	4	3.88	3.44
603 GP 05	5	4.56	4.12
603 GP 06	6	5.25	4.81
603 GP 07	7	5.94	5.50
603 GP 08	8	6.62	6.19
603 GP 09	9	7.31	6.88
603 GP 10	10	8.00	7.56
603 GP 11	11	8.68	8.25
603 GP 12	12	9.37	8.94

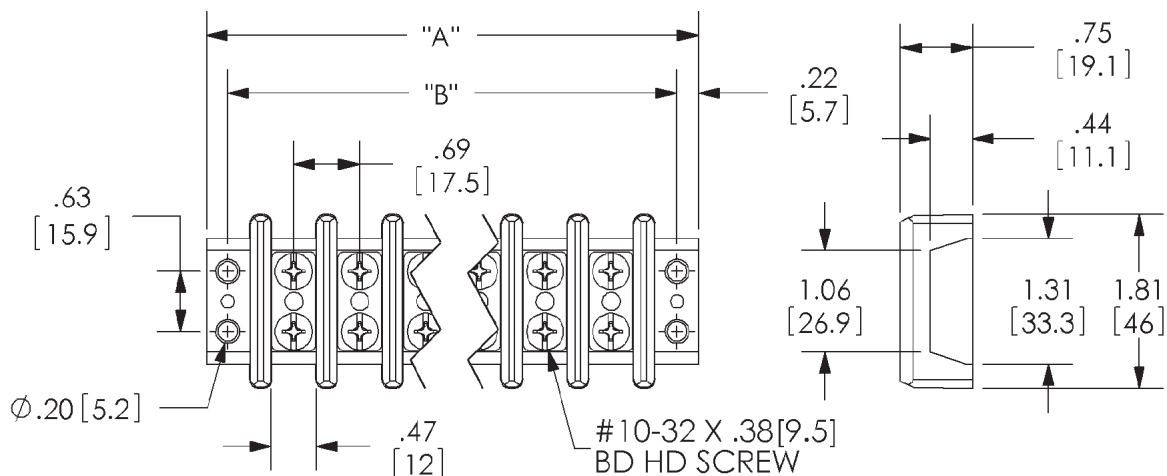
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### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT67	Full Quick Connect (0° Flat)	See Page 73
KT68	Full Quick Connect (45° Bend)	
KT69	Full Quick Connect (90° Bend)	
KT64	Half Quick Connect (0° Flat)	
KT65	Half Quick Connect (45° Bend)	
KT66	Half Quick Connect (90° Bend)	
Y	Feed Thru Solder (.60)	See Page 77
J 603	Line-to-Line Jumper	See Page 74
2302	Stud	See Page 75
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"



BARRIER  
TERMINAL BLOCKS

# Single Row Terminal Blocks

## General Information:

Single Row Terminal Blocks are available in four basic line to line molding sizes. Some are available in either open or feed thru/printed circuit designs. The basic material is phenolic. Modifications are also provided on most terminal blocks, including marking strips.

## Ratings and Standards:

The voltage ratings of terminal blocks are based upon the minimum spacing between electrically conductive parts line to line through air and over surface and line to ground through air and over surface.

### Class A

Service equipment including deadfront switchboards, panel boards and service entrance devices.

### Class B

Commercial appliances including business equipment and electronic data processing equipment.

### Class C

Industrial, general

Spacing Requirements (inches)			
	Voltage	Thru Air	Over Surface
Class A	51-150	0.500	0.750
	151-300	0.750	1.250
	301-600	1.000	2.000
Class B	51-150	0.063	0.063
	151-300	0.094	0.094
	301-600	0.375	0.500
Class C	51-150	0.125	0.250
	151-300	0.250	0.375
	301-600	0.375	0.500

## Reference Chart:

Amps	Voltage Rating <sup>1</sup>		Series	Catalog Page #	Base Material	Bare Wire Range <sup>2</sup>	Screw Size	Inches L to L	# of Lines	Features
	Class B	Class C								
5	300	n/a	411	58	Phenolic	#18-20	2-56	.250	1-23	Open Back
15	300	150	599	59	Phenolic	#16-22	5-40	.375	1-30	Open Back
15	n/a	150	799	59	Phenolic	#14	5-40	.375	1-30	Open Back
20	300	150	699	60	Phenolic	#14-20	6-32	.437	1-23	Open Back
20	n/a	150	899	60	Phenolic	#14	6-32	.437	1-23	Open Back
30	600	600	812	61	Phenolic	#12-14	8-32	.562	1-18	Open Back
30	n/a	300	912	61	Phenolic	#10	8-32	.562	1-18	Open Back
20	300	300	1690	62	Phenolic	#14-20	6-32	.437	1-25	Feed Thru
15	300	150	2590	64	Phenolic	#16-22	6-32	.375	1-25	Printed Circuit
20	300	300	2690	65	Phenolic	#14-20	6-32/8-32	.437	1-25	Printed Circuit

<sup>1</sup> Open back terminal blocks require an insulator strip to achieve voltage rating.

<sup>2</sup> Wire Range for Bare (unprepared) only. Prepared wire range (used with crimp type ring, fork or spade terminals) is dependent on the size of the crimp terminal applied and must not exceed the Amp rating specified.

# Single Row Terminal Blocks

## 411 GP Series

### Specifications:

- A Kulka® Brand
- 5 amps
- 300 volts AC/DC, Class B
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #2-56 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-23 poles at 1/4" centers
- Accepts lugs w/max width of .19"
- Bare wire range #18-#20 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



411 GP 06 PSB

411 GP 06 KT11 KT12

Catalog #	# of Poles	Dimensions	
		A	B
411 GP 01 PSB	1	0.75	0.50
411 GP 02 PSB	2	1.00	0.75
411 GP 03 PSB	3	1.25	1.00
411 GP 04 PSB	4	1.50	1.25
411 GP 05 PSB	5	1.75	1.50
411 GP 06 PSB	6	2.00	1.75
411 GP 07 PSB	7	2.25	2.00
411 GP 08 PSB	8	2.50	2.25
411 GP 09 PSB	9	2.75	2.50
411 GP 10 PSB	10	3.00	2.75
411 GP 11 PSB	11	3.25	3.00
411 GP 12 PSB	12	3.50	3.25
411 GP 13 PSB	13	3.75	3.50
411 GP 14 PSB	14	4.00	3.75
411 GP 15 PSB	15	4.25	4.00
411 GP 16 PSB	16	4.50	4.25
411 GP 17 PSB	17	4.75	4.50
411 GP 18 PSB	18	5.00	4.75
411 GP 19 PSB	19	5.25	5.00
411 GP 20 PSB	20	5.50	5.25
411 GP 21 PSB	21	5.75	5.50
411 GP 22 PSB	22	6.00	5.75
411 GP 23 PSB	23	6.25	6.00

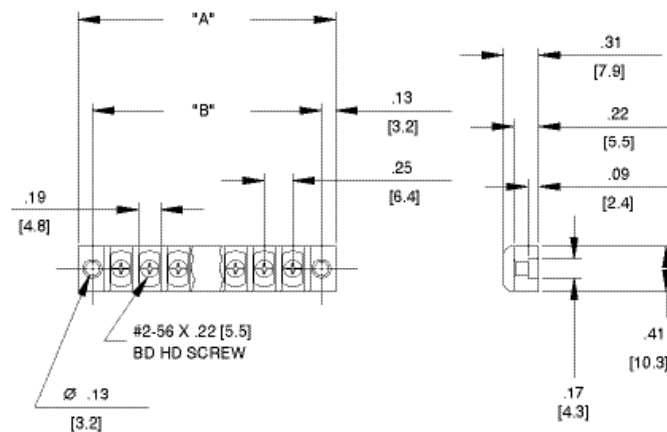
mm = dim X 25.4

### Hardware Options:

(Hardware options may affect ratings - consult customer Service)

Catalog #	Product Description	Page Reference
KT10	Full Quick Connect (0° Flat)	See page 72
KT11	Full Quick Connect (45° Bend)	
KT12	Full Quick Connect (90° Bend)	
KT16	Half Quick Connect (0° Flat)	
KT17	Half Quick Connect (45° Bend)	
KT18	Half Quick Connect (90° Bend)	
ST	Full Solder	See page 77
3/4 ST	Half Solder	
Z	Lug over the Side (.312)	Consult C/S
J 410	Line-to-Line Jumper	See page 74
1921	Printed Circuit Pin (.125) (Over the Side)	Consult C/S
1904	Feed Thru Solder	Consult C/S

Quick Connects: .020" x .110"



BARRIER  
TERMINAL BLOCKS

# Single Row Terminal Blocks

## 599/799 GP Series

### Specifications:

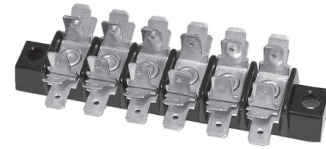
- A Kulka® Brand
- 15 amps
- 300 volts AC/DC, Class B
- 150 volts AC/DC, Class C
- 799 series (riveted construction) 150 Volts AC/DC, Class-C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #5-40 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-30 poles at 3/8" centers
- Accepts lugs w/max width of .30"
- Bare wire range #16-#22 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



599 GP 06 PSB



799 Series

### Hardware Options:

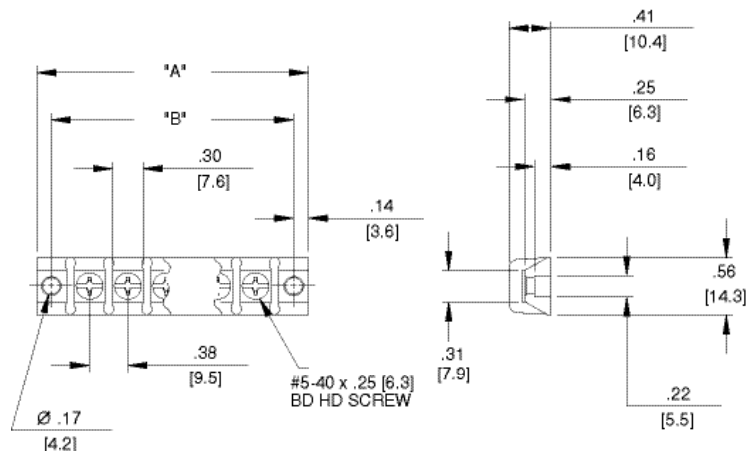
(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT28	Full Quick Connect (0° Flat)	See page 72
KT29	Full Quick Connect (45° Bend)	
KT30	Full Quick Connect (90° Bend)	
KT34	Half Quick Connect (0° Flat)	
KT35	Half Quick Connect (45° Bend)	
KT36	Half Quick Connect (90° Bend)	
3/4 ST	Half Solder	See page 77
Z	Lug over the Side (.312)	Consult C/S
J 600	Line-to-Line Jumper	See page 74
600 RJ(S)	Multiple Position Jumper	
2002	Stud	See page 75
2004	Feed Thru Solder	
2020	Solder Pin	
2021	Solder Pin (Slotted Screw)	

Quick Connects: .020" x .187"

Catalog #	# of Poles	Dimensions	
		A	B
599 GP 01 PSB	1	1.03	0.75
599 GP 02 PSB	2	1.41	1.12
599 GP 03 PSB	3	1.78	1.50
599 GP 04 PSB	4	2.16	1.88
599 GP 05 PSB	5	2.53	2.25
599 GP 06 PSB	6	2.91	2.63
599 GP 07 PSB	7	3.28	3.00
599 GP 08 PSB	8	3.66	3.38
599 GP 09 PSB	9	4.03	3.75
599 GP 10 PSB	10	4.41	4.13
599 GP 11 PSB	11	4.78	4.50
599 GP 12 PSB	12	5.16	4.88
599 GP 13 PSB	13	5.53	5.25
599 GP 14 PSB	14	5.91	5.63
599 GP 15 PSB	15	6.28	6.00
599 GP 16 PSB	16	6.66	6.38
599 GP 17 PSB	17	7.03	6.75
599 GP 18 PSB	18	7.41	7.13
599 GP 19 PSB	19	7.78	7.50
599 GP 20 PSB	20	8.16	7.88
599 GP 21 PSB	21	8.53	8.25
599 GP 22 PSB	22	8.91	8.63
599 GP 23 PSB	23	9.28	9.00
599 GP 24 PSB	24	9.66	9.38
599 GP 25 PSB	25	10.03	9.75
599 GP 26 PSB	26	10.41	10.13
599 GP 27 PSB	27	10.78	10.50
599 GP 28 PSB	28	11.16	10.88
599 GP 29 PSB	29	11.53	11.25
599 GP 30 PSB	30	11.91	11.63

mm = dim X 25.4



BARRIER  
TERMINAL BLOCKS

# Single Row Terminal Blocks

## 699/899 GP Series

### Specifications:

- A Kulka<sup>®</sup> Brand
- 20 amps
- 300 volts AC/DC, Class B
- 150 volts AC/DC, Class C
- 899 series (riveted construction)  
150 volts AC/DC, Class-C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #6-32 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-23 poles at 7/16" centers
- Accepts lugs w/max width of .33"
- Bare wire range #14-#20 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



699 GP 06



899 Series

Catalog #	# of Poles	Dimensions	
		A	B
699 GP 01	1	1.19	0.88
699 GP 02	2	1.63	1.31
699 GP 03	3	2.06	1.75
699 GP 04	4	2.50	2.19
699 GP 05	5	2.94	2.63
699 GP 06	6	3.38	3.06
699 GP 07	7	3.81	3.50
699 GP 08	8	4.25	3.94
699 GP 09	9	4.69	4.38
699 GP 10	10	5.12	4.81
699 GP 11	11	5.56	5.25
699 GP 12	12	6.00	5.69
699 GP 13	13	6.44	6.13
699 GP 14	14	6.87	6.56
699 GP 15	15	7.31	7.00
699 GP 16	16	7.75	7.44
699 GP 17	17	8.19	7.88
699 GP 18	18	8.62	8.31
699 GP 19	19	9.06	8.75
699 GP 20	20	9.50	9.19
699 GP 21	21	9.94	9.63
699 GP 22	22	10.37	10.06
699 GP 23	23	10.81	10.50

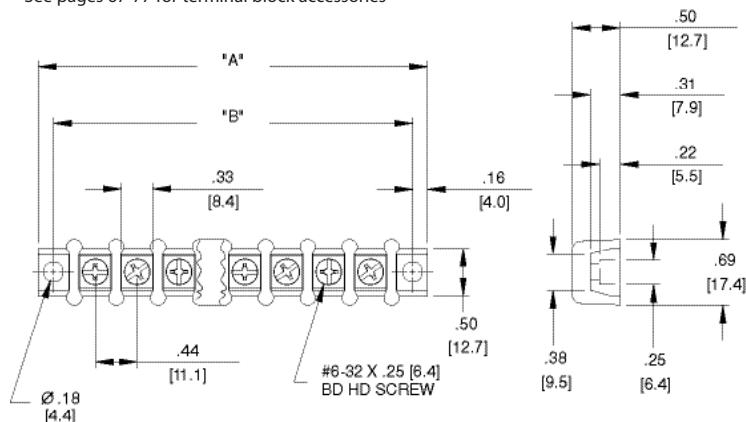
mm = dim X 25.4

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT46	Full Quick Connect (0° Flat)	See page 72
KT47	Full Quick Connect (45° Bend)	
KT48	Full Quick Connect (90° Bend)	
KT52	Half Quick Connect (0° Flat)	
KT53	Half Quick Connect (45° Bend)	
KT54	Half Quick Connect (90° Bend)	
3/4 ST	Half Solder	See page 77
Z	Lug over the Side (.437)	Consult C/S
J 601	Line-to-Line Jumper	See page 74
601 RJ(S)	Multiple Position Jumper	
2102	Stud	See page 75
2104	Feed Thru Solder	
2120	Solder Pin	
2121	Solder Pin	
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .250"  
See pages 67-77 for terminal block accessories



# Single Row Terminal Blocks

## 812/912 GP Series

### Specifications:

- A Kulka® Brand
- 30 amps
- 600 volts AC/DC, Class B/C
- 912 series (riveted construction) 300 volts AC/DC, Class-C
- Base, phenolic, 150°C (UL RTI)
- JJ (GDI-30F) material available
- Terminals, plated brass
- Screws, steel, #8-32 phil-slot
- Open back design (insulator strip required for voltage rating - see page 68)
- 1-18 poles at 9/16" centers
- Accepts lugs w/max width of .41"
- Bare wire range #12-#14 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



812 GP 06



912 Series

Catalog #	# of Poles	Dimensions	
		A	B
812 GP 01	1	1.53	1.13
812 GP 02	2	2.09	1.69
812 GP 03	3	2.66	2.25
812 GP 04	4	3.22	2.81
812 GP 05	5	3.78	3.38
812 GP 06	6	4.34	3.94
812 GP 07	7	4.91	4.50
812 GP 08	8	5.47	5.06
812 GP 09	9	6.03	5.63
812 GP 10	10	6.59	6.19
812 GP 11	11	7.16	6.75
812 GP 12	12	7.72	7.31
812 GP 13	13	8.28	7.88
812 GP 14	14	8.84	8.44
812 GP 15	15	9.41	9.00
812 GP 16	16	9.97	9.56
812 GP 17	17	10.53	10.13
812 GP 18	18	11.09	10.69

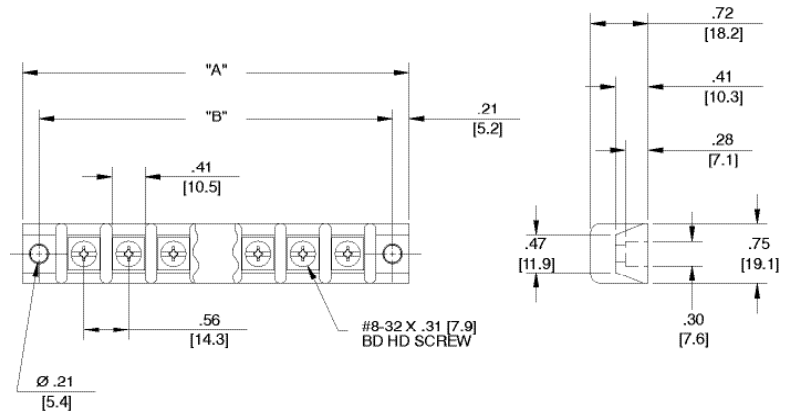
mm = dim X 25.4

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT73	Full Quick Connect (0° Flat)	See page 72
KT74	Full Quick Connect (45° Bend)	
KT75	Full Quick Connect (90° Bend)	
KT79	Half Quick Connect (0° Flat)	
KT80	Half Quick Connect (45° Bend)	
KT81	Half Quick Connect (90° Bend)	
3/4 ST	Half Solder	See page 77
Z	Lug over the Side (.641)	Consult C/S
J 602	Line-to-Line Jumper	See page 74
2202	Stud	See page 75
2204	Feed Thru Solder	
PSB	Phil-Slot Brass Screw	Consult C/S

Quick Connects: .032" x .150"



BARRIER  
TERMINAL BLOCKS



# Single Row Terminal Blocks

## 1690 GP Series

### Specifications:

- A Kulka® Brand
- 20 amps
- 300 volts AC/DC, Class B
- 150 volts AC/DC, Class C
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, brass, #6-32 phil-slot
- Two speed-nuts supplied per part
- 1-25 poles at 7/16" centers
- Accepts lugs w/max width of .34"
- Bare wire range #14-20 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



Top to bottom: 1694 GP 04 PSB, 1691 GP 06 PSB

TERMINAL BLOCK SERIES

# of Poles	1691 GP 1692 GP 1693 GP		1694 GP 1695 GP 1696 GP		1697 GP 1698 GP 1699 GP	
	Dimensions		Dimensions		Dimensions	
	A	B	A	B	A	B
1	0.34	--	1.22	0.88	0.53	--
2	0.78	0.44	1.66	1.31	0.97	0.44
3	1.22	0.88	2.09	1.75	1.41	0.88
4	1.66	1.31	2.53	2.19	1.84	1.31
5	2.09	1.75	2.97	2.63	2.28	1.75
6	2.53	2.19	3.41	3.06	2.72	2.19
7	2.97	2.63	3.84	3.50	3.16	2.63
8	3.41	3.06	4.28	3.94	3.59	3.06
9	3.84	3.50	4.72	4.38	4.03	3.50
10	4.28	3.94	5.16	4.81	4.47	3.94
11	4.72	4.38	5.59	5.25	4.91	4.38
12	5.16	4.81	6.03	5.69	5.34	4.81
13	5.59	5.25	6.47	6.13	5.78	5.25
14	6.03	5.69	6.91	6.56	6.22	5.69
15	6.47	6.13	7.34	7.00	6.66	6.13
16	6.91	6.56	7.78	7.44	7.09	6.56
17	7.34	7.00	8.22	7.88	7.53	7.00
18	7.78	7.44	8.66	8.31	7.97	7.44
19	8.22	7.88	9.09	8.75	8.41	7.88
20	8.66	8.31	9.53	9.19	8.84	8.31
21	9.09	8.75	9.97	9.63	9.28	8.75
22	9.53	9.19	10.41	10.06	9.72	9.19
23	9.97	9.63	10.84	10.50	10.16	9.63
24	10.41	10.06	--	--	--	--
25	10.84	10.50	--	--	--	--

mm = dim X 25.4

Include "PSB" after part # when ordering (169X GP XX PSB)

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT46	Full Quick Connect (0° Flat)	See page 72
KT47	Full Quick Connect (45° Bend)	
KT48	Full Quick Connect (90° Bend)	
KT52	Half Quick Connect (0° Flat)	
KT53	Half Quick Connect (45° Bend)	
KT54	Half Quick Connect (90° Bend)	See page 77
3/4 ST	Half Solder	
J 601	Line-to-Line Jumper	
601 RJ(S)	Multiple Position Jumper	See page 74

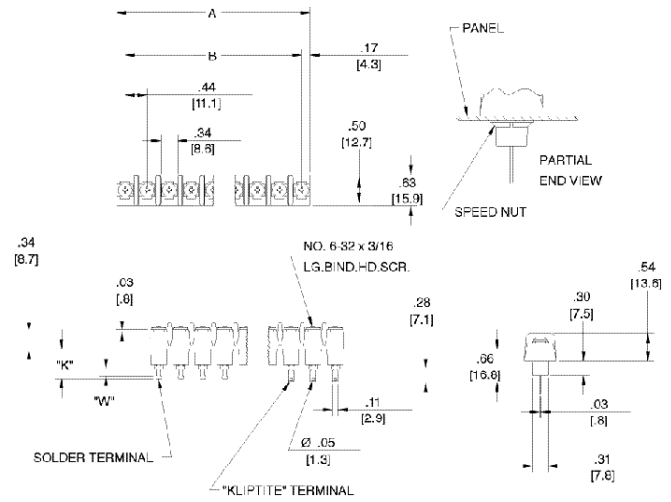
Quick Connects: .032" x .250"

# Single Row Terminal Blocks

## 1690 GP Series (cont.)

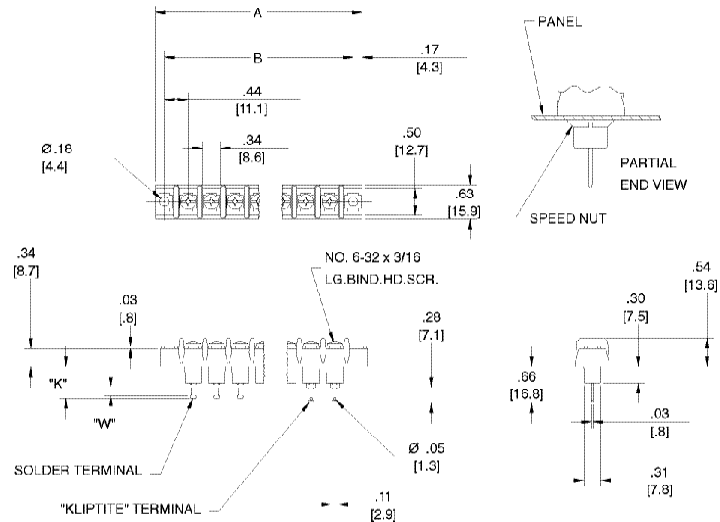
### TERMINAL BLOCK SERIES 1691 GP / 1692 GP / 1693 GP

- 1691 GP Series Solder terminal  
K = .52 [13.10]; W = .06 [1.59]
- 1692 GP Series Kliptite terminal
- 1693 GP Series Solder terminal  
K = .58 [14.68]; W = .13 [3.18]



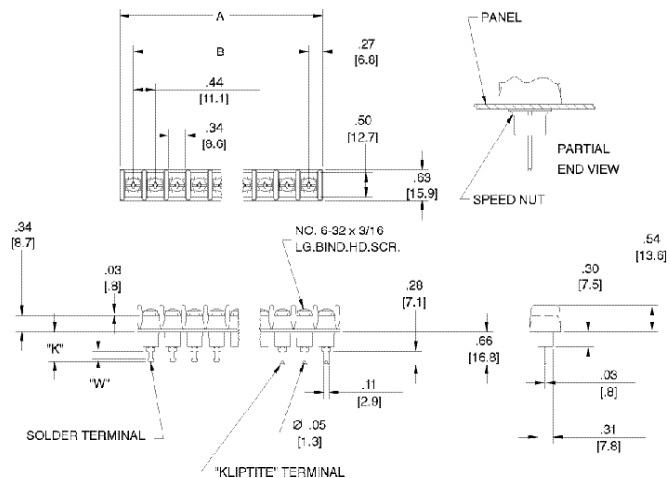
### TERMINAL BLOCK SERIES 1694 GP / 1695 GP / 1696 GP

- 1694 GP Series Solder terminal  
K = .52 [13.10]; W = .06 [1.59]
- 1695 GP Series Kliptite terminal
- 1696 GP Series Solder terminal  
K = .58 [14.68]; W = .13 [3.18]



### TERMINAL BLOCK SERIES 1697 GP / 1698 GP / 1699 GP

- 1697 GP Series Solder terminal  
K = .52 [13.10]; W = .06 [1.59]
- 1698 GP Series Kliptite terminal
- 1699 GP Series Solder terminal  
K = .58 [14.68]; W = .13 [3.18]



BARRIER  
TERMINAL BLOCKS

# Single Row Terminal Blocks

## 2590 GP Series

### Specifications:

- A Kulka® Brand
- 15 amps
- 300 volts AC/DC, Class B
- 150 volts AC/DC, Class C
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, brass, #6-32 slotted
- 1-25 poles at 3/8" centers
- Accepts lugs w/max width of .30"
- Bare wire range #16-22 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant

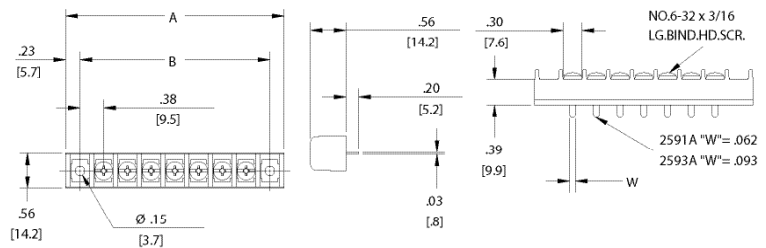


2599A GP 04 PSB

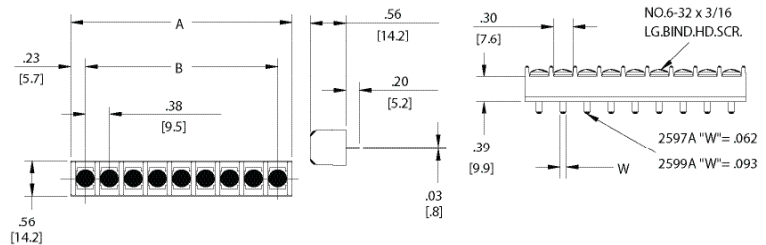
TERMINAL BLOCK SERIES				
# of Poles	2591A GP 2593A GP		2597A GP 2599A GP	
	Dimensions		Dimensions	
	A	B	A	B
1	1.19	0.75	0.44	--
2	1.56	1.13	0.81	0.38
3	1.94	1.50	1.19	0.75
4	2.31	1.88	1.56	1.13
5	2.69	2.25	1.94	1.50
6	3.06	2.63	2.31	1.88
7	3.44	3.00	2.69	2.25
8	3.81	3.38	3.06	2.63
9	4.19	3.75	3.44	3.00
10	4.56	4.13	3.81	3.38
11	4.94	4.50	4.19	3.75
12	5.31	4.88	4.56	4.13
13	5.69	5.25	4.94	4.50
14	6.06	5.63	5.31	4.88
15	6.44	6.00	5.69	5.25
16	6.81	6.38	6.06	5.63
17	7.19	6.75	6.44	6.00
18	7.56	7.13	6.81	6.38
19	7.94	7.50	7.19	6.75
20	8.31	7.88	7.56	7.13
21	8.69	8.25	7.94	7.50
22	9.06	8.63	8.31	7.88
23	9.44	9.00	8.69	8.25
24	--	--	9.06	8.63
25	--	--	9.44	9.00

mm = dim X 25.4

### Series 2591A GP / 2593A GP



### Series 2597A GP / 2599A GP



### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference
KT28	Full Quick Connect (0° Flat)	See page 72
KT29	Full Quick Connect (45° Bend)	
KT30	Full Quick Connect (90° Bend)	
KT34	Half Quick Connect (0° Flat)	
KT35	Half Quick Connect (45° Bend)	
KT36	Half Quick Connect (90° Bend)	
3/4 ST	Half Solder	See page 77
Y	Lug Over the Side (.359)	
Z	Lug Over the Side (.172)	
J 600	Line-to-Line Jumper	See page 74
600 RJ(S)	Multiple Position Jumper	
3000	Wire Wrap Lug (.641)	

Quick Connects: .032" x .250"

# Single Row Terminal Blocks

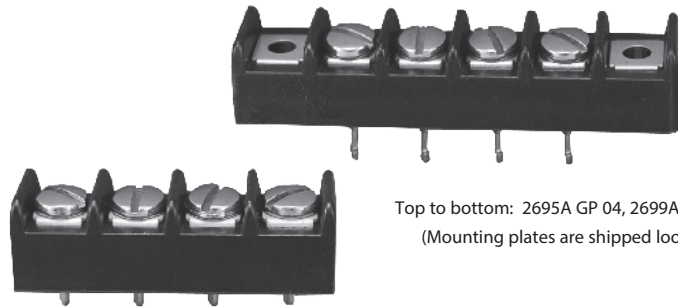
## 2690 GP Series

### Specifications:

- A Kulka® Brand
- 20 amps
- 300 volts AC/DC, Class B
- 150 volts AC/DC, Class C
- Base, phenolic, 150°C (UL RTI)
- Terminals, plated brass
- Screws, brass, #6-32 or #8-32 slotted
- 1-24 poles at 7/16" centers
- Accepts lugs w/max width of .34"
- Bare wire range #14-#20 AWG

### Standards:

- UL recognized, file no. XCFR2.E47811
- CSA certified, file no. LR19766
- CE compliant (IEC 60947-7-1)
- RoHS compliant



Top to bottom: 2695A GP 04, 2699A GP 04  
(Mounting plates are shipped loose)

# of Poles	2694GP / 2694AGP 2695GP / 2695AGP 2696GP / 2696AGP		2697GP / 2697AGP 2698GP / 2698AGP 2699GP / 2699AGP	
	Dimensions		Dimensions	
	A	B	A	B
1	1.41	0.88	0.53	--
2	1.84	1.31	0.97	0.44
3	2.28	1.75	1.41	0.88
4	2.72	2.19	1.84	1.31
5	3.16	2.63	2.28	1.75
6	3.59	3.06	2.72	2.19
7	4.03	3.50	3.16	2.63
8	4.47	3.94	3.59	3.06
9	4.91	4.38	4.03	3.50
10	5.34	4.81	4.47	3.94
11	5.78	5.25	4.91	4.38
12	6.22	5.69	5.34	4.81
13	6.66	6.13	5.78	5.25
14	7.09	6.56	6.22	5.69
15	7.53	7.00	6.66	6.13
16	7.97	7.44	7.09	6.56
17	8.41	7.88	7.53	7.00
18	8.84	8.31	7.97	7.44
19	9.28	8.75	8.41	7.88
20	9.72	9.19	8.84	8.31
21	10.16	9.63	9.28	8.75
22	10.59	10.06	9.72	9.19
23	11.03	10.50	10.16	9.63
24	-	-	10.59	10.06
25	-	-	11.03	10.50

See page 66 for 2690 Series Terminal block dimensions.  
mm = dim X 25.4

### Hardware Options:

(Hardware options may affect ratings - consult Customer Service)

Catalog #	Product Description	Page Reference	
KT28	Full Quick Connect (0° Flat)	See page 72	
KT29	Full Quick Connect (45° Bend)		
KT30	Full Quick Connect (90° Bend)		
KT34	Half Quick Connect (0° Flat)		
KT35	Half Quick Connect (45° Bend)		
KT36	Half Quick Connect (90° Bend)		
KT46	Full Quick Connect (0° Flat)		
KT47	Full Quick Connect (45° Bend)		
KT48	Full Quick Connect (90° Bend)		
KT52	Half Quick Connect (0° Flat)		
KT53	Half Quick Connect (45° Bend)		
KT54	Half Quick Connect (90° Bend)		
3/4 ST	Half Solder		See page 77
Y	Lug Over the Side (.609)		
Z	Lug Over the Side (.344)		
J 601	Line-to-Line Jumper	See page 74	
601 RJ(S)	Multiple Position Jumper		

Quick Connects (KT28-36): .020" x .187" - Quick Connects (KT46-54): .032" x .250"

# Single Row Terminal Blocks

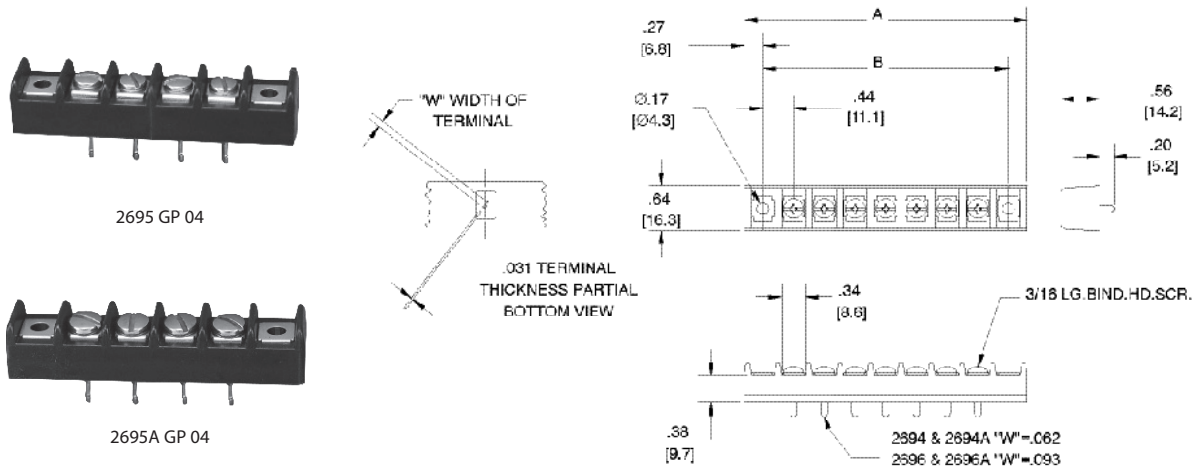
## 2690 GP Series (cont.)

### TERMINAL BLOCK SERIES: 2694 GP / 2694A GP / 2695 GP 2695A GP / 2696 GP / 2696A GP

DEFINITION BARRIER ENDS:

2694 GP #6-32 Brass Screw, Printed Circuit Width = .062  
 2695 GP #6-32 Brass Screw, Solder Turret (not shown)  
 2696 GP #6-32 Brass Screw, Printed Circuit Width = .093

2694A GP #8-32 Brass Screw, Printed Circuit Width = .062  
 2695A GP #8-32 Brass Screw, Solder Turret (not shown)  
 2696A GP #8-32 Brass Screw, Printed Circuit Width = .093



(Mounting plates are shipped loose)

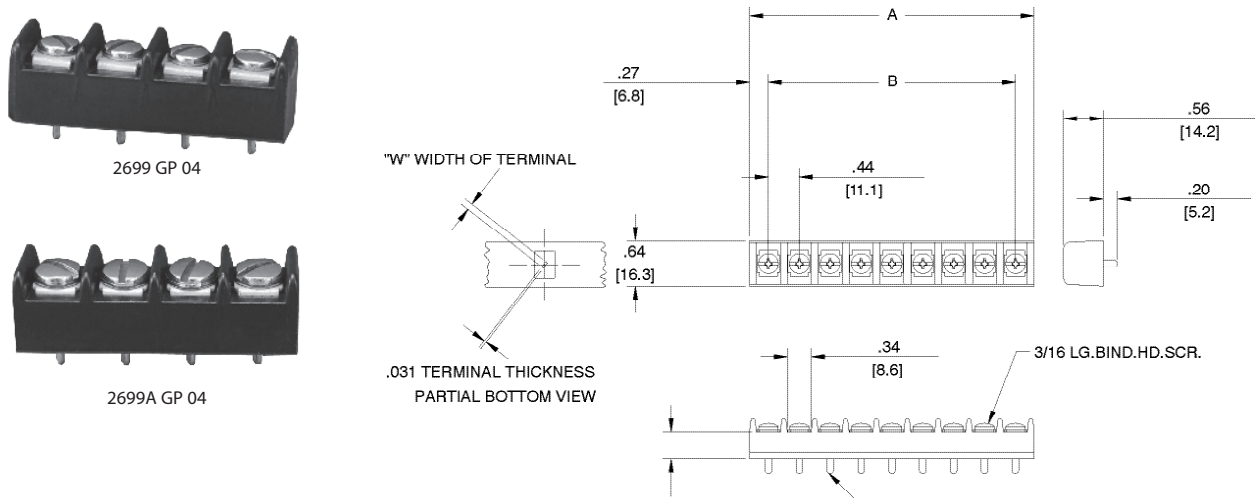
BARRIER  
TERMINAL BLOCKS

### TERMINAL BLOCK SERIES: 2697 GP / 2698 GP / 2699 GP 2697A GP / 2698A GP / 2699A GP

DEFINITION BARRIER ENDS:

2697 GP #6-32 Brass Screw, Printed Circuit Width = .062  
 2698 GP #6-32 Brass Screw, Solder Turret (not shown)  
 2699 GP #6-32 Brass Screw, Printed Circuit Width = .093

2697A GP #8-32 Brass Screw, Printed Circuit Width = .062  
 2698A GP #8-32 Brass Screw, Solder Turret (not shown)  
 2699A GP #8-32 Brass Screw, Printed Circuit Width = .093



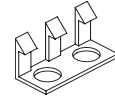
# Terminal Block Accessories

## Marking Strips and Covers; Top-Mounted - Double Row

### Specifications:

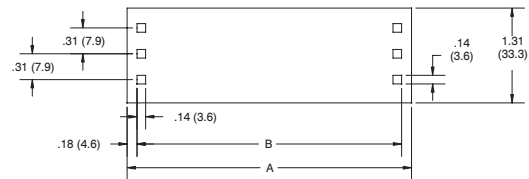
- White vinyl material, 0.03" thick
- Two nylon spring clips for mounting provided
- Marking strips: printed on center line with letters or numbers for circuit identification
- Covers: printed on top, bottom or center line with letters or numbers for circuit identification
- Printing character size is 1/8 inch
- Unless otherwise specified, the marking goes down the center of the cover for print styles 01A, 01B, 01C, 01D
- Marking goes down the 2 sides of the cover for print styles 07A, 07B, 07C, 07D

NYLON  
SPRING CLIP

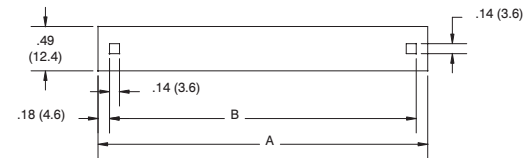


# of Terminals	Series 1 100/670A GP, 600 GP, 600A GP, 670A RZ		Series 2 200/671 GP, 601 GP, 621 RZ, 671 RZ		Series 3 300/672GP 602 GP, 672 RZ	
	A	B	A	B	A	B
1	0.91	0.55	1.01	0.65	1.16	0.80
2	1.29	0.93	1.44	1.08	1.73	1.37
3	1.66	1.30	1.88	1.52	2.29	1.93
4	2.04	1.68	2.32	1.96	2.85	2.49
5	2.41	2.05	2.76	2.40	3.42	3.06
6	2.79	2.43	3.19	2.83	3.98	3.62
7	3.16	2.80	3.63	3.27	4.54	4.18
8	3.56	3.20	4.07	3.71	5.10	4.74
9	3.91	3.55	4.50	4.14	5.67	5.31
10	4.29	3.93	4.94	4.58	6.23	5.87
11	4.66	4.30	5.38	5.02	6.79	6.43
12	5.04	4.68	5.81	5.45	7.36	7.00
13	5.41	5.05	6.25	5.89	7.92	7.56
14	5.79	5.43	6.69	6.33	8.48	8.12
15	6.16	5.80	7.13	6.77	9.05	8.69
16	6.54	6.18	7.56	7.20	9.61	9.25
17	6.91	6.55	8.00	7.64	10.17	9.81
18	7.29	6.93	8.44	8.08	10.73	10.37
19	7.66	7.30	8.87	8.51	11.30	10.94
20	8.04	7.68	9.31	8.95	11.86	11.50
21	8.41	8.05	9.75	9.39	12.42	12.06
22	8.79	8.43	10.18	9.82	12.99	12.63
23	9.16	8.80	10.62	10.26	13.55	13.19
24	9.54	9.18	11.06	10.70	14.11	13.75
25	9.91	9.55	11.50	11.14	--	--
26	10.29	9.93	11.93	11.57	--	--
27	10.66	10.30	12.37	12.01	--	--
28	11.04	10.68	12.81	12.45	--	--
29	11.41	11.05	13.24	12.88	--	--
30	11.79	11.43	13.68	13.32	--	--
31	12.16	11.80	--	--	--	--
32	12.54	12.18	--	--	--	--
33	12.91	12.55	--	--	--	--
34	13.29	12.93	--	--	--	--
35	13.66	13.30	--	--	--	--
36	14.04	13.68	--	--	--	--

COVER



MARKING STRIP



### Print Styles

01A	1 2 3 4 5 6 7	01C	1 2 3 4 5 6 7
01B	7 6 5 4 3 2 1	01D	7 6 5 4 3 2 1
07A	7 6 5 4 3 2 1 1 2 3 4 5 6 7	07C	1 2 3 4 5 6 7 1 2 3 4 5 6 7
07B	1 2 3 4 5 6 7 7 6 5 4 3 2 1	07D	7 6 5 4 3 2 1 7 6 5 4 3 2 1
01X	BLANK - no printing		

### Ordering Codes

COVER	SERIES	NO. OF TERMINALS	PRINT STYLE
CW	2	05	01A
CB (Black) CW (White) CC (Clear)	1/2/3 or 621		
MARKING STRIP	SERIES	NO. OF TERMINALS	PRINT STYLE
SW	2	05	01A
SW (White)	1/2/3 or 621		

Print styles 07A/B/C/D not available

BARRIER  
TERMINAL BLOCKS



# Terminal Block Accessories

## Marking and Insulator Strips; Sub-Mounted - Single Row & Double Row

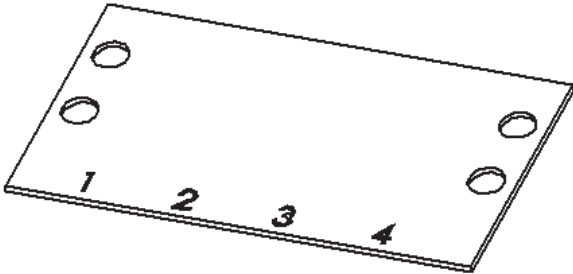
Marking strips serve as insulation between terminal blocks and chassis, as well as providing a marking surface for terminal identification. When specified, they can be printed to show terminal designations by numbers, letters, symbols or any combination thereof. Insulator strips offer the same properties, but do not provide space for terminal identification. Both marking and insulator strips can be supplied pre-mounted on the back of each block thereby simplifying assembly and inventory control.

**Order Information:**  
FEED-THRU STYLE: For feed-thru terminal blocks, see styles 2, 3, 5, 6, 8, & 9 on page 70. Insert applicable feed-thru style designation in ordering code, i.e. Y, YSY, XY, 1904, 1921, 2000, 2004, 2020, 2021, 2104, 2120, 3000.

**AVAILABILITY:** Marking and insulator strips are available to fit most Terminal Blocks. See SERIES reference numbers on page 69 for a complete listing. If not listed, consult Customer Service for availability. Designate appropriate prefix (MS for marking strips or IS for insulator strip) in front of the SERIES number when ordering. Available materials: XP (general purpose laminate), XXXPFR (flame retardant), GME (glass cloth melamine), GEE (glass cloth epoxy).

**Ordering Code:**

Descriptions:	Strip Type	Series	Material	Feed Thru (if applicable)	Number of Terminals	Print Style
Example:	MS	671	XP	Y	16	01A
MS = Marking Strip		410	XP	Y	---	See
IS = Insulator Strip		411	XXPFR	(Blank)		Printing
		599 (799)	GME			Style
		600 (800)	GEE			Selection
		601 (801)				
		602 (802)				
		603				
		604				
		605				
		621				
		670 (100)				
		671 (200)				
		672 (300)				
		699 (899)				
		812 (912)				



MS-xxx-XP-04-01A

BARRIER  
TERMINAL BLOCKS

# Terminal Block Accessories

## Marking Strip Dimensions - Double & Single Row

Series	Print Style	C*	D	E	F	X (dia)	Text Height	Figure
410	1-6	0.75	0.25	0.19	0.12	0.13	0.06	1
	7, 8, 9	1.13		0.44				
411	1, 2, 4, 5	0.56	n/a	0.19	0.13	0.13	0.06	2
	7, 8	0.88		0.44				
599 (799)	1, 2, 4, 5	0.81	n/a	0.28	0.14	0.16	0.13	2
	7, 8	1.13		0.56				
600 (800)	1-6	1.13	0.31	0.29	0.14	0.16	0.13	1
	7, 8, 9	1.38		0.53				
601 (801)	1-6	1.31	0.42	0.34	0.16	0.18	0.13	1
	7, 8, 9	1.50		0.55				
602 (802)	1-6	1.50	0.50	0.41	0.20	0.21	0.13	1
	7, 8, 9	1.75		0.63				
603	1-6	1.88	0.63	0.59	0.22	0.23	0.13	1
	7, 8, 9	2.13		0.75				
604	1, 4	2.13	0.75	0.63	0.27	0.23	0.13	1
	7	2.50		0.88				
605	1, 4	2.69	0.88	0.81	0.31	0.27	0.13	1
	7	2.81		0.97				
621	1, 4	1.75	0.42	0.51	0.16	0.18	0.13	1
670 (100)	1-6	1.19	0.31	0.28	0.14	0.16	0.13	1
	7, 8, 9	1.50		0.59				
671 (200)	1-6	1.50	0.42	0.34	0.16	0.18	0.13	1
	7, 8, 9	1.75		0.67				
672 (300)	1-6	1.63	0.50	0.41	0.20	0.21	0.13	1
	7, 8, 9	1.94		0.72				
699 (899)	1, 2, 4, 5	0.88	n/a	0.56	0.16	0.18	0.13	2
	7, 8	1.13		0.34				
812 (912)	1, 2, 4, 5	0.94	n/a	0.37	0.20	0.21	0.06	2
	7, 8	1.31		0.66			0.13	

Figure-1

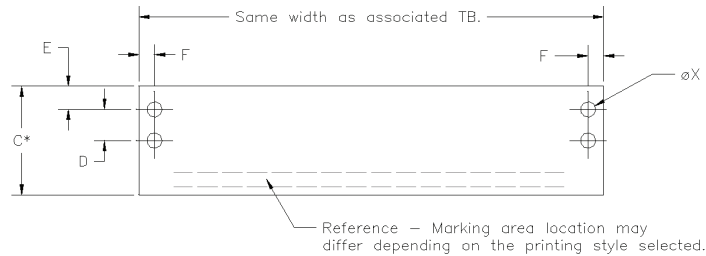
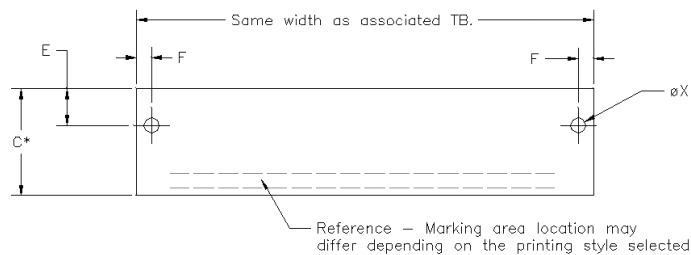


Figure-2



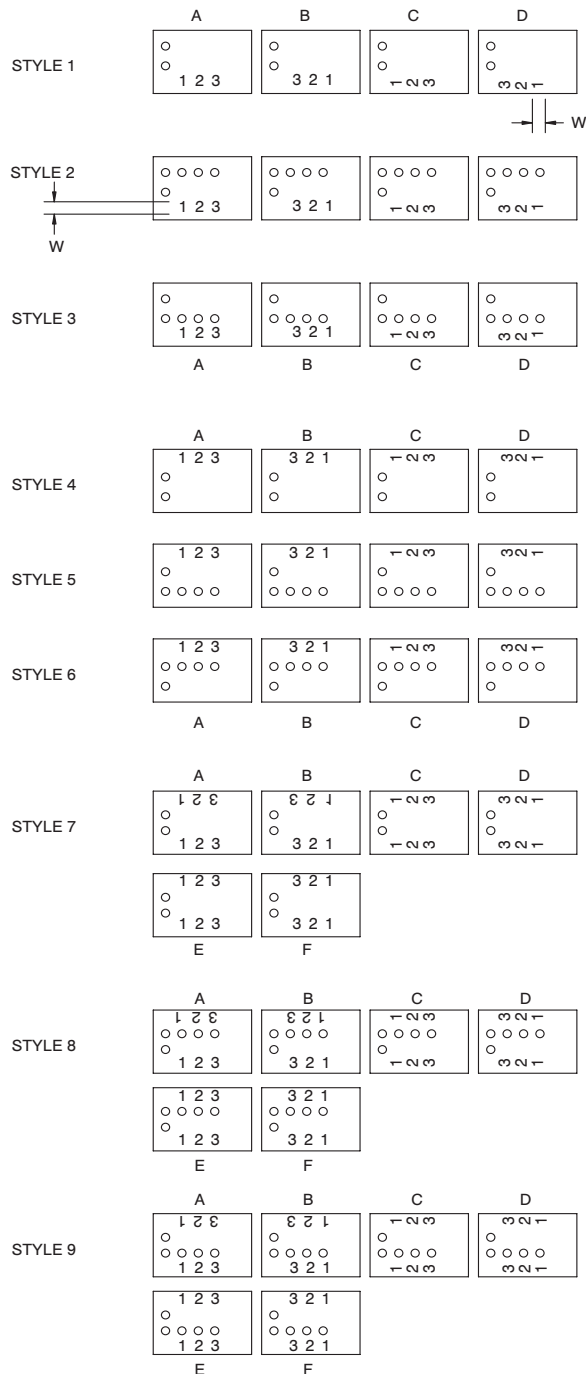
# Terminal Block Accessories

## Marking Strip Printing Styles - Double & Single Row

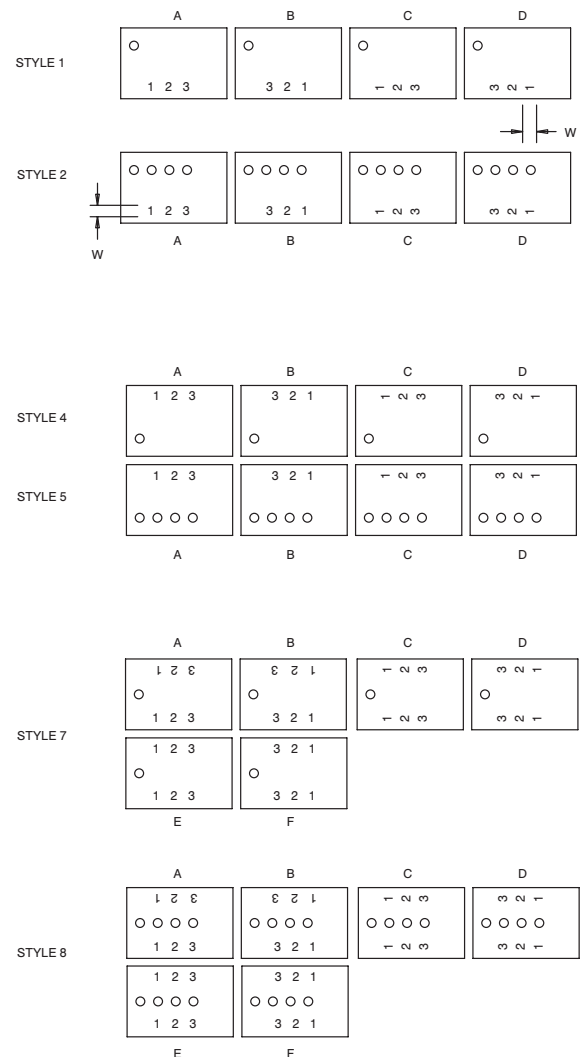
### Printing:

- Maximum number of characters is two.
- If unprinted marking strips are desired, insert the letter "X" in the print style order code.
- Printing color is black on white surfaces, and silver on black surfaces.
- Fungus proof coatings can be supplied per request per MIL-V-173A. State on order: "Coat after printing with MIL-V-173A varnish."

### Double Row



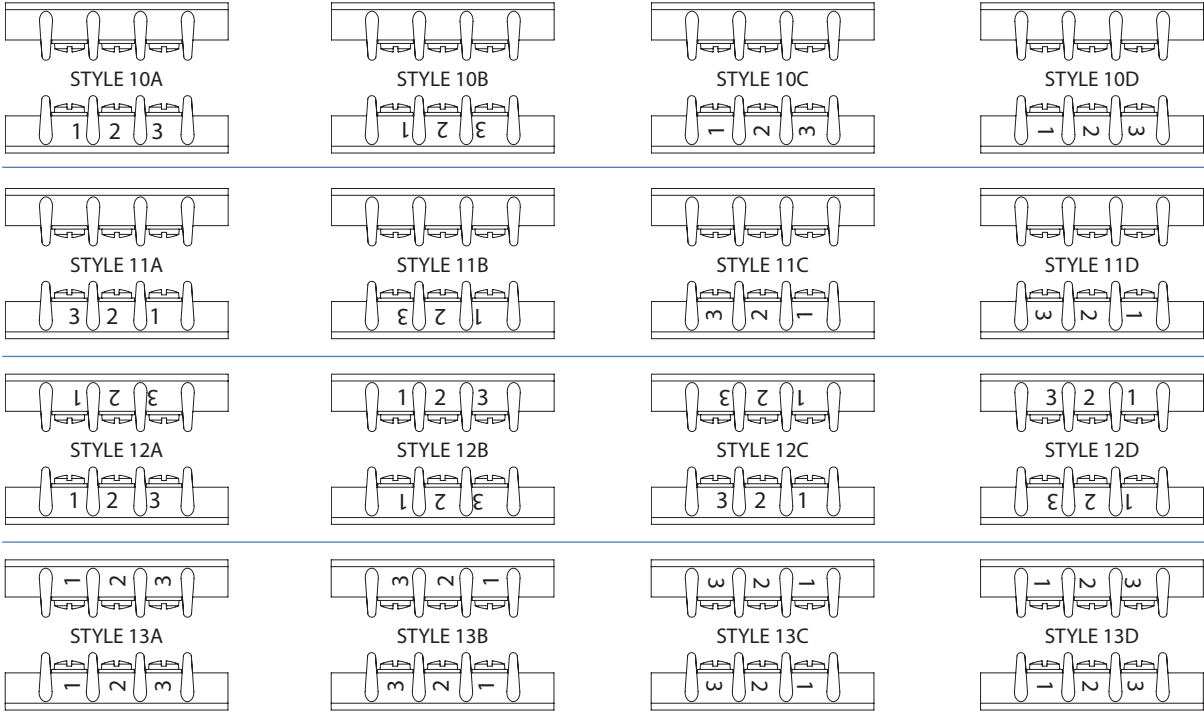
### Single Row



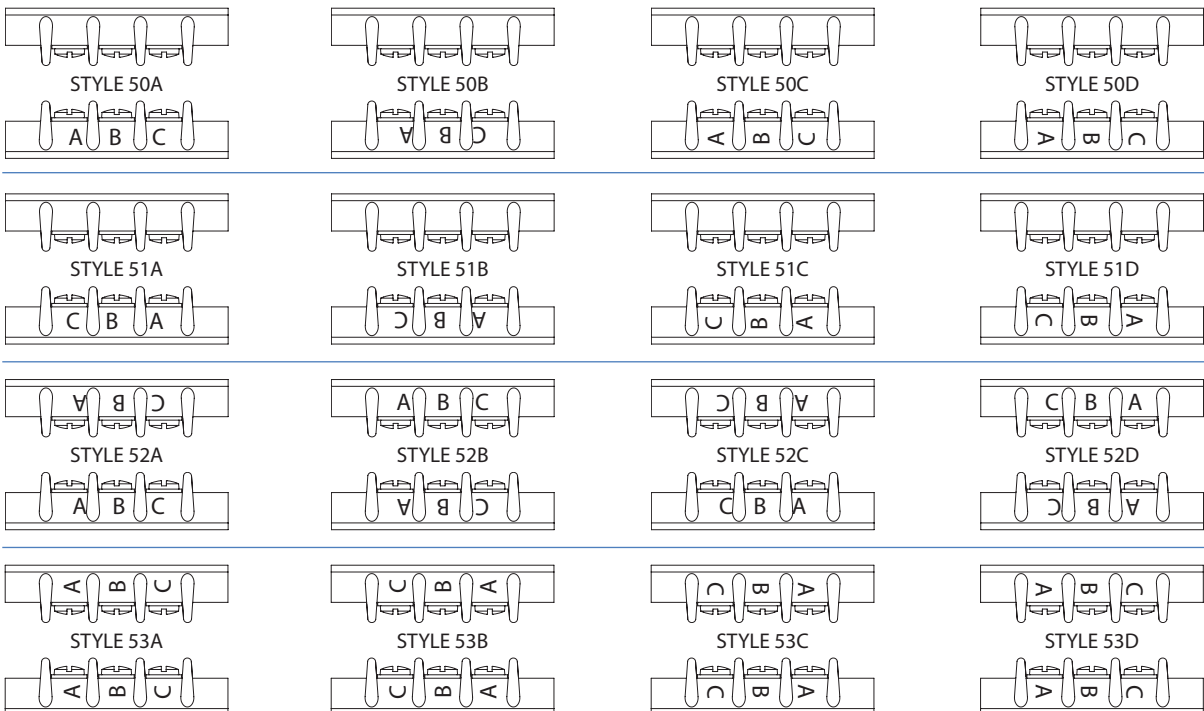
# Terminal Block Accessories

## Terminal Block Printing

### Numeric Print Styles



### Alpha Print Styles



BARRIER  
TERMINAL BLOCKS

# Terminal Block Accessories

## Kliptite (Quick Connect) - Single Row

### Specifications:

Kliptite (Quick Connect) accept standard female wire terminals. These Kliptites are ideal for applications that require a positive, yet quick disconnect termination. Kliptites are assembled to the block with screws or, in some applications, riveted to the block.

Kliptites are available in 0°, 45° or 90° bends; one side or two side.

Material: Brass

Finish: Tin

Screw Construction	Rivet Construction	Tab Width	Tab Thickness	(2) 0° tabs	(2) 45° tabs	(2) 90° tabs	(1) 0° tab	(1) 45° tab	(1) 90° tab
411 Series		0.110	0.020	KT10	KT11	KT12	KT16	KT17	KT18
599 Series	799 Series	0.187	0.020	KT28	KT29	KT30	KT34	KT35	KT36
699 Series	899 Series	0.250	0.032	KT46	KT47	KT48	KT52	KT53	KT54
812 Series	912 Series	0.250	0.032	KT73	KT74	KT75	KT79	KT80	KT81
1690 Series <sup>1</sup>		0.250	0.032	KT46	KT47	KT48	KT52	KT53	KT54
2590 Series <sup>2</sup>		0.187	0.020	KT28	KT29	KT30	KT34	KT35	KT36
2690 Series <sup>3</sup>		0.250	0.032	KT46	KT47	KT48	KT52	KT53	KT54

1) 1690 Series insulated feed-thru blocks use the 699 Series Kliptites

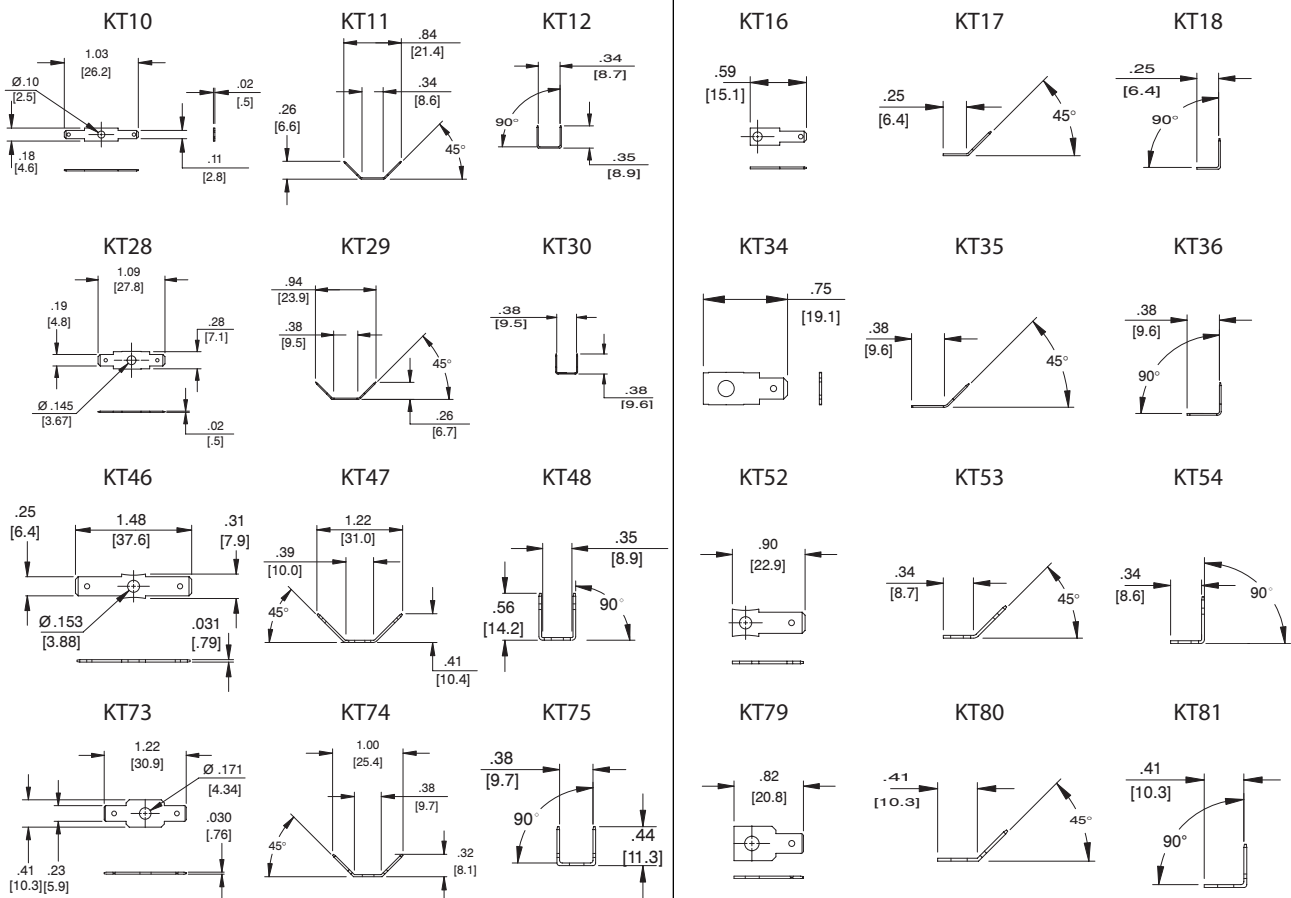
2) 2590 Series use the 599 Series Kliptites

3) 2690 Series PC block use the 699 Kliptites

BARRIER  
TERMINAL BLOCKS







### TWO SIDE TABS

### ONE SIDE TABS



# Terminal Block Accessories

## Kliptite (Quick Connect) - Double Row

Series	Rivet Construction	Tab Width	Tab Thickness	(2) 0° tabs	(2) 45° tabs	(2) 90° tabs	(1) 0° tab	(1) 45° tab	(1) 90° tab
									
400		0.250	0.032	KT67	KT68	KT69	KT64	KT65	KT66
600 GP (600A)		0.187	0.020	KT19	KT20	KT21	KT25	KT26	KT27
601		0.250	0.032	KT37	KT38	KT39	KT43	KT44	KT45
602		0.250	0.032	KT55	KT56	KT57	KT61	KT62	KT63
603		0.250	0.032	KT67	KT68	KT69	KT64	KT65	KT66
621 RZ <sup>5</sup>		0.250	0.032	KT37	KT38	KT39	KT43	KT44	KT45
670A GP (100)		0.187	0.020	KT19	KT20	KT21	KT25	KT26	KT27
670A RZ Series <sup>4</sup>	801 Series	0.187	0.020	KT19	KT20	KT21	KT25	KT26	KT27
671 GP (200)	802 Series	0.250	0.032	KT37	KT38	KT39	KT43	KT44	KT45
671 RZ Series <sup>5</sup>		0.250	0.032	KT37	KT38	KT39	KT43	KT44	KT45
672 GP (300)		0.250	0.032	KT55	KT56	KT57	KT61	KT62	KT63
672 RZ Series <sup>6</sup>		0.250	0.032	KT55	KT56	KT57	KT61	KT62	KT63

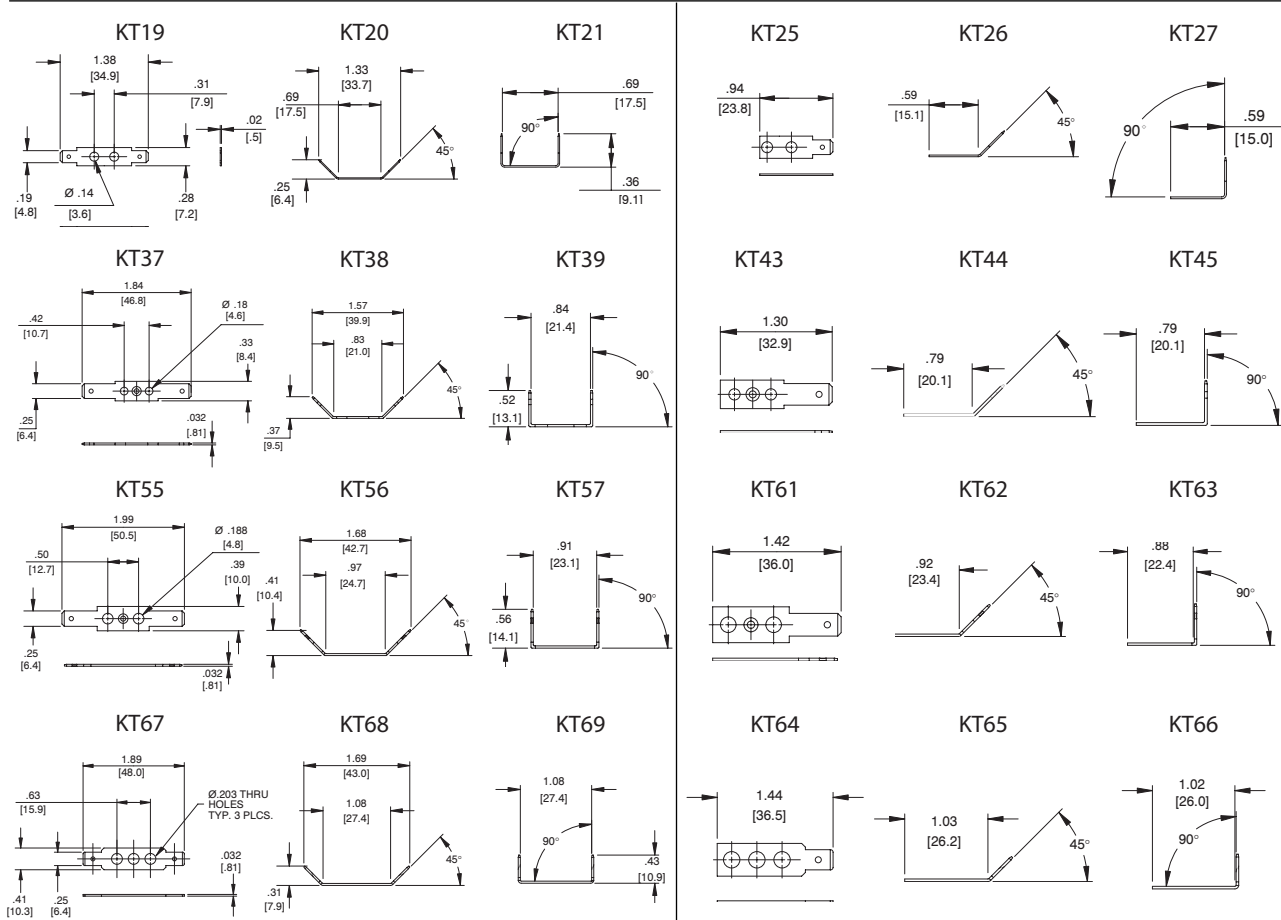
4) 100, 670A GP, 670A RZ Series use the 600 Series Kliptites  
 5) 200, 671 GP, 671 RZ, 621 RZ Series use the 601 Series Kliptites  
 6) 300, 672 GP, 672 RZ Series use the 602 Series Kliptites

MSP Catalog Designations:  
 2-SIDE TABS: F1 (0°), F2 (45°), F3 (90°)  
 1-SIDE TABS: HF1 (0°), HF2 (45°), HF3 (90°)

BARRIER  
TERMINAL BLOCKS

### TWO SIDE TABS

### ONE SIDE TABS





# Terminal Block Accessories

## J & JS Jumpers

Catalog #	A	B	C	D	E	F	G	H	J	K
J 410/J 411	0.41	0.25	0.19	0.09	0.10	0.04	0.010	0.094	0.08	NA
J 600	0.62	0.38	0.25	0.12	0.16	0.04	0.015	0.156	0.08	NA
J 601	0.71	0.45	0.31	0.15	0.19	0.06	0.015	0.166	0.11	NA
J 602	0.91	0.56	0.37	0.18	0.27	0.08	0.015	0.190	0.16	NA
J 603	1.13	0.69	0.43	0.21	0.25	0.12	0.031	0.201	0.24	NA
J 604	1.38	0.88	0.50	0.25	0.35	0.15	0.035	0.234	0.32	NA
J 605	1.75	1.13	0.62	0.31	0.39	0.24	0.035	0.266	0.54	NA
J 621	0.69	0.44	0.30	0.17	0.38	0.07	0.015	0.141	0.11	0.14
JS 600	0.62	0.38	0.25	0.12	0.16	0.04	0.015	0.156	0.08	0.16
JS 601	0.71	0.45	0.31	0.15	0.19	0.06	0.015	0.166	0.11	0.17
JS 602	0.91	0.56	0.37	0.18	0.27	0.08	0.015	0.190	0.16	0.14

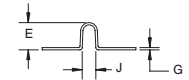
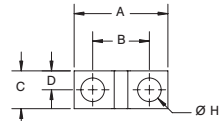
MSP Catalog Designations:

J 600 = LL 100  
J 601 = LL 200  
J 602 = LL 300  
J 603 = LL 400

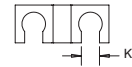
J Type Jumper

Material: Brass  
Finish: Nickel Plate

JS Type Jumper  
(per 55164/28B)



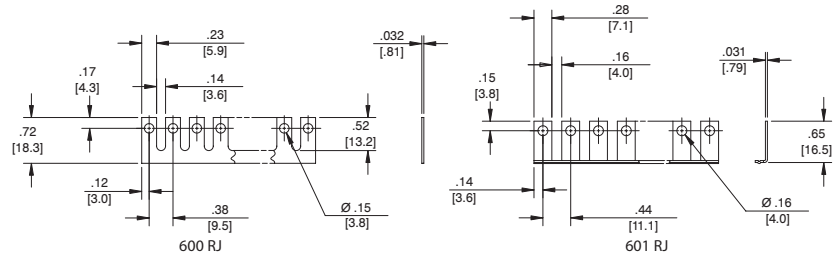
mm = dim X 25.4



NOTE 1: These parts are not necessarily supplied flat. The functioning of the part, however, will not be interfered.

NOTE 2: All dimensions are applicable after the bus (jumper) is torqued down into the associate terminal board.

## RJ Type Jumpers

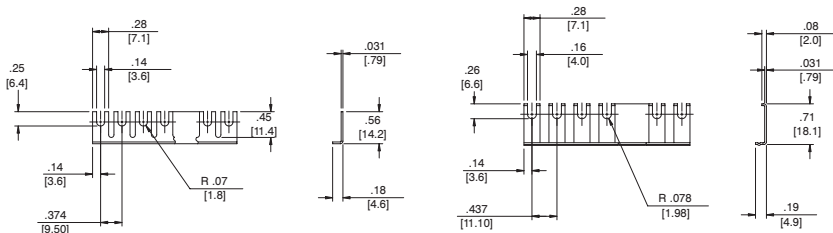


Material: Brass  
Finish: Nickel Plate

Max # of sections = 24  
Note: 670A RZ, 599 Series, use 600 RJ

Max # of sections = 24

## RJS Type Jumpers

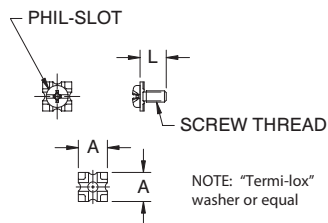


Material: Brass  
Finish: Nickel Plate

Max # of sections = 24  
Note: 670A RZ, 599 Series, use 600 RJ

Max # of sections = 24

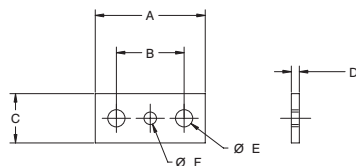
## Wire Clamp



Catalog #	Material	Finish	Screw Thread	L	A
3786	Steel	Nickel	8-32 UNC	0.38	0.41
3765			6-32 UNC	0.31	0.33
3780	Brass	Nickel	8-32 UNC	0.38	0.41
3760			6-32 UNC	0.31	0.33
3860	Brass	Nickel	6-32 UNC	0.30	0.29
3865	Steel	Nickel	6-32 UNC	0.30	0.29

mm = dim X 25.4

## Straddle Plate



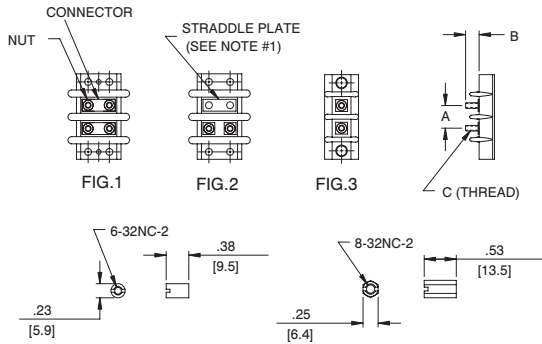
Catalog #	A	B	C	D	E	F	Material	Finish
SPB 600	0.56	0.31	0.30	0.032	0.144	N/A	Brass	Tin
SPB 601	0.71	0.42	0.30	0.031	0.148	N/A	Brass	Nickel
SPB 602	0.87	0.50	0.40	0.032	0.189	N/A	Brass	Nickel
SPB 603	1.03	0.62	0.45	0.063	0.190	0.143	Brass	Tin
SPB 604	1.21	0.75	0.54	0.087	0.187	0.138	Brass	Tin
SPB 605	1.46	0.87	0.63	0.116	0.220	0.138	Brass	Nickel

mm = dim X 25.4

# Terminal Block Accessories

## Stud and Turret Terminal Blocks

### Threaded Stud

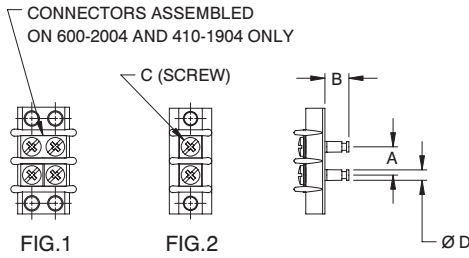


NOTE 1: Standard with block, but packed separately  
 NOTE 2: 604 and 605 nuts are part of the assembly. Additional nuts (one per stud) are supplied in bulk.

Catalog #	Figure #	A	B	C
599 GP 2002 XX	FIG 3	0.38	0.34	6-32 NC
600A GP 2002 XX	FIG 2	0.38	0.38	6-32 NC
601 GP 2102 XX	FIG 2	0.44	0.44	6-32 NC
602 GP 2202 XX	FIG 2	0.56	0.50	8-32 NC
603 GP 2302 XX	FIG 1	0.69	0.50	10-32 NF
604 GP 2402 XX	FIG 1	0.88	0.44	10-32 NF
605 GP 2502 XX	FIG 1	1.13	0.75	1/4-28 NF
699 GP 2102 XX	FIG 3	0.44	0.44	6-32 NC
812 GP 2202 XX	FIG 3	0.56	0.50	8-32 NC

XX = # of terminals

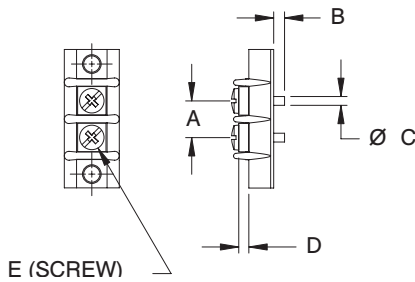
### Screw Terminal with Feed-Through Solder Terminal



Catalog #	Figure #	A	B	C	D
411 GP 1904 XX	FIG 2	0.25	0.28	2-56 NC X .19	0.11
599 GP 2004 XX	FIG 2	0.38	0.31	5-40 NC X .25	0.14
600 GP 2004 XX	FIG 1	0.38	0.31	5-40 NC X .25	0.14
601 GP 2104 XX	FIG 1	0.44	0.38	6-32 NC X .25	0.13
699 GP 2104 XX	FIG 2	0.44	0.38	6-32 NC X .25	0.13
812 GP 2204 XX	FIG 2	0.56	0.44	8-32 NC X .25	0.14

To ensure solderability, use within six (6) months. XX = # of terminals

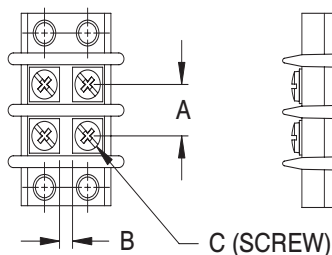
### Screw Terminal with Solder Pin for Printed Circuit Board Connection



Catalog #	A	B	C	D	E
599 GP 2020 XX	0.38	0.13	0.09	0.09	5-40 NC X .19
599 GP 2021 XX	0.38	0.13	0.09	0.03	5-40 NC X .19
699 GP 2120 XX	0.44	0.19	0.09	0.04	6-32 NC X .25
699 GP 2121 XX	0.44	0.20	0.06	0.04	6-32 NC X .25

To ensure solderability, use within six (6) months. XX = # of terminals

### Individual Screw Terminals



Catalog #	A	B	C
601 GP 2108 XX	0.44	0.09	6-32 NC X .25

XX = # of terminals

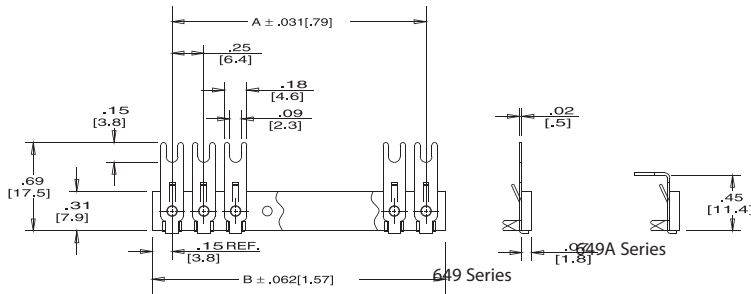
# Terminal Block Accessories

## Fanning Strips

- Terminals, Brass, Tin Plated
- Material: XP = Phenolic, Black  
GME = Glass Cloth Melamine  
Per MIL-M-14 Light Brown Term

### 649 Series

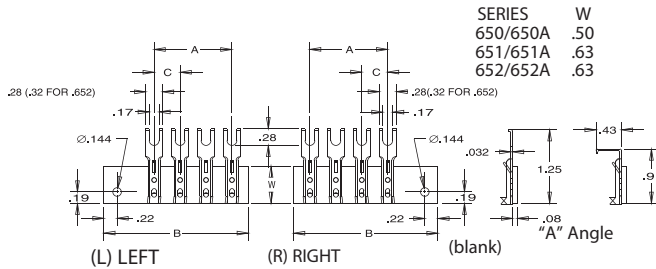
- For 410 and 411 Series Terminal Blocks
- Available in XP Phenolic Only



# of Term.	A	B	# of Term.	A	B
2	0.250	0.562	13	3.000	3.312
3	0.500	0.812	14	3.250	3.562
4	0.750	1.062	15	3.500	3.812
5	1.000	1.312	16	3.750	4.062
6	1.250	1.562	17	4.000	4.312
7	1.500	1.812	18	4.250	4.562
8	1.750	2.062	19	4.500	4.812
9	2.000	2.312	20	4.750	5.062
10	2.250	2.562	21	5.000	5.312
11	2.500	2.812	22	5.250	5.562
12	2.750	3.062			

### 650/651/652 Series

- 650 Series for 599, 600, and 670A RZ Series Terminal Blocks
- 651 Series for 601 and 699 Series Terminal Blocks
- 652 Series for 602 and 812 Series Terminal Blocks



SERIES	650 / 650A	651 / 651A	652 / 652A			
C	3/8 (.375)	7/16 (.4375)	9/16 (.5625)			
# of Term.	A	B	A	B	A	B
2	.375	1.435	.437	1.497	.562	1.622
3	.750	1.810	.875	1.935	1.125	2.185
4	1.125	2.185	1.312	2.372	1.687	2.747
5	1.500	2.560	1.750	2.610	2.250	3.310
6	1.875	2.935	2.187	3.247	2.812	3.872
7	2.250	3.310	2.625	3.685	3.375	4.435
8	2.265	3.685	3.062	4.122	3.937	4.997
9	3.000	4.060	3.500	4.560	4.500	5.560
10	3.375	4.435	3.937	4.997	5.062	6.122
11	3.750	4.810	4.375	5.435	5.625	6.685
12	4.125	5.165	4.812	5.872	6.187	7.247
13	4.500	5.560	5.250	6.310	6.750	7.810
14	4.875	5.935	5.687	6.747	7.312	8.372
15	5.250	6.310	6.125	7.185	7.875	8.935
16	5.625	6.685	6.562	7.622	8.437	9.497
17	6.000	7.060	7.000	8.060	9.000	10.060
18	6.375	7.435	7.437	8.497	9.562	10.622
19	6.750	7.810	7.875	8.935	10.125	11.185
20	7.125	8.186	8.312	9.372	10.687	11.747
21	7.500	8.560	8.750	9.810	11.250	12.310
22	7.875	8.935	9.187	10.247	11.812	12.872
23	--	--	9.625	10.685	12.375	13.435
24	--	--	--	--	12.937	13.997
25	--	--	--	--	13.500	14.560
26	--	--	--	--	14.062	15.122

## Ordering Code

For convenience and accuracy in ordering, please specify catalog numbers as shown:

- For Marking Strips, use an "MS" prefix on the series
- For Insulator Strips, use an "IS" prefix on the series

Series	Mat. Code	Angle	Position	# of Terminals
652	XP	A	L	5
651	GME	(or blank)	R	
650			(or Blank)	
649				

# Terminal Block Accessories

## Solder Terminal Lugs

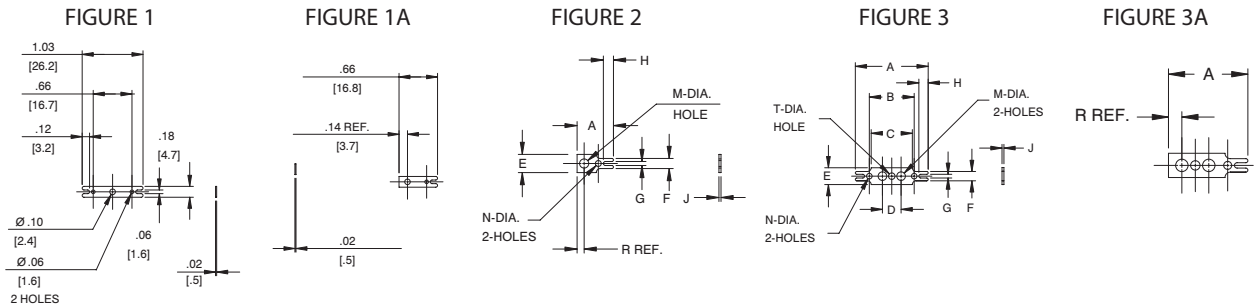
### ST and 3/4 ST Types

	Figure	A	B	C	D	E	F	G	H	J	M	N	R	T	Also used on:
411 ST	See Figure 1														Also used on:
411 3/4ST	See Figure 1A														
599 3/4ST	FIG 2	0.56	--	--	--	0.28	0.16	0.06	0.16	0.032	0.144	0.093	0.11	--	2590, 2590A
600 ST	FIG 3	1.22	0.75	0.69	0.31	0.28	0.16	0.06	0.16	0.032	0.144	0.093	--	--	600A, 670A GP
600 3/4ST	FIG 3A	0.92	--	--	0.31	0.28	0.16	0.06	0.16	0.032	0.144	0.093	0.15	--	
601 ST	FIG 3	1.58	0.94	0.84	0.42	0.31	0.21	0.06	0.21	0.036	0.148	0.125	--	--	621 RZ
601 3/4ST	FIG 3A	1.17	--	--	0.42	0.31	0.21	0.06	0.21	0.036	0.148	0.125	0.17	--	
602 ST	FIG 3	1.85	1.06	0.94	0.50	0.41	0.28	0.09	0.28	0.036	0.177	0.125	--	--	672 GP
602 3/4ST	FIG 3A	1.37	--	--	0.50	0.41	0.28	0.09	0.28	0.036	0.177	0.125	0.20	--	
699 3/4ST	FIG 2	0.70	--	--	--	0.31	0.21	0.06	0.21	0.032	0.146	0.125	0.13	--	1690, 2690
812 3/4ST	FIG 2	0.88	--	--	--	0.41	0.28	0.09	0.28	0.037	0.177	0.125	0.19	--	

mm = dim x 25.4

MSP Catalog Designations: ST = S 3/4ST = HS

To ensure solderability, use within six (6) months.



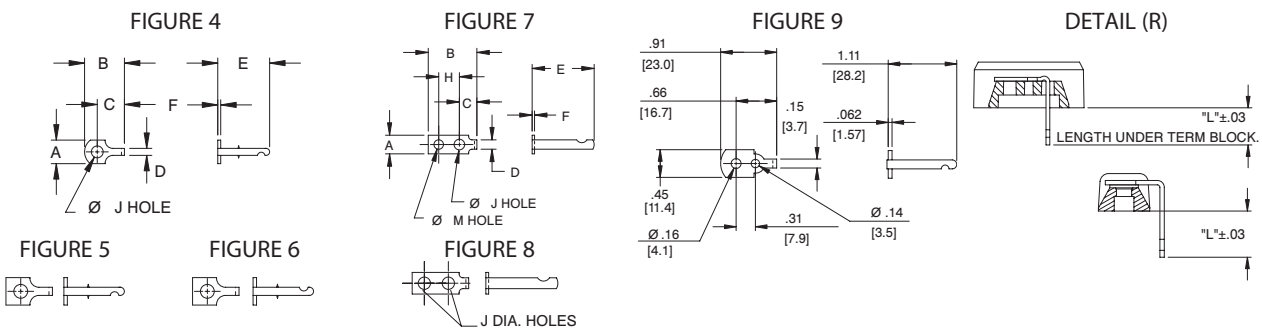
### Y, YSY and Z Types (Material: Brass Finish Electro-Tin Plated)

	Figure	A	B	C	D	E	F	H	J	M	L (see detail R)	Also used On:	
599Z, 600Y	FIG 6	0.28	0.48	0.33	0.085	0.63	0.036	NA	0.144	NA	599Z=0.31, 600Y=0.31	670A RZ	
600YSY	FIG 6	0.28	0.48	0.33	0.085	0.82	0.036	NA	0.144	NA	0.50	670A RZ	
600Z	FIG 7	0.28	0.73	0.25	0.140	0.94	0.036	0.31	0.160	0.143	0.62	670A RZ	
699Z, 601Y	FIG 4	0.31	0.63	0.44	0.099	0.80	0.036	NA	0.148	NA	699Z=0.42, 601Y=0.42		
601YSY	FIG 5	0.31	0.63	0.44	0.099	1.07	0.040	NA	0.148	NA	0.69		
602Y	FIG 4	0.43	0.75	0.52	0.125	0.95	0.040	NA	0.177	NA	0.49		
812Z, 602YSY	FIG 5	0.40	0.70	0.52	0.125	1.13	0.040	NA	0.177	NA	812Z=0.64, 602YSY=0.67		
602Z	FIG 8	0.40	1.09	0.38	0.203	1.06	0.040	0.50	0.177	NA	0.60		
603Y	FIG 9	NOTE: For factory assembly only onto 603 Terminal Boards										0.60	
672 YSY	FIG 7	0.42	0.70	0.27	0.08	1.02	0.040	0.25	NA	0.14	0.56	300 series	

mm = dim x 25.4

MSP Catalog Designations: Y = L YSY = LSL

To ensure solderability, use within six (6) months.



Figures 5 & 6 same as Figure 4 except as shown

Same as Figure 7 except as shown

# Military Class

## (A-A-59125) / (MIL-T-55164)

### Military Class: Closed Back



37TB06F

These military blocks feature molded-in terminals in an improved Kulka® design for greater strength and flexibility. The mounting holes are covered with molded-in reinforcement straddle plates.

A-A-59125/ MIL-T-55164 Information		Terminal Type	Voltage		Current	Wire & Lug Information				
Class	Spec #	Description	Max Rated	Dielectric with Test	Max Rated	Screw Size	RECMD Max Wire Size	MS17143 Lug #	Max Lug Width	RECMD Torque Lb-In (N-M)
37 TB	/ 1	Double Screw	300 V RMS	3000 V RMS	15 Amp 60 Hz	#6	#16 AWG	-11	0.282" [7.2]	8-10 [0.9-1.1]
38 TB	/ 2	Double Screw	600 V RMS	3400 V RMS	20 Amp 60 Hz	#6	#14 AWG	-14	0.31" [7.9]	8-10 [0.9-1.1]
39 TB	/ 3	Double Screw	600 V RMS	4000 V RMS	30 Amp 60 Hz	#8	#10 AWG	-9	0.41" [10.4]	10-12 [1.1-1.4]
40 TB	/ 4	Single Screw Feed Thru	300 V RMS	3000 V RMS	7.5 Amp 60 Hz	#6	#18 AWG	-10	0.282" [7.2]	8-10 [0.9-1.1]
41 TB	/ 5	Single Screw Feed Thru	600 V RMS	3400 V RMS	10 Amp 60 Hz	#6	#16 AWG	-14	0.31" [7.9]	8-10 [0.9-1.1]
42 TB	/ 6	Single Screw Feed Thru	600 V RMS	4000 V RMS	15 Amp 60 Hz	#8	#14 AWG	-8	0.41" [10.4]	10-12 [1.1-1.4]

A-A-59125 superseded MIL-T-55164-C in 1997.

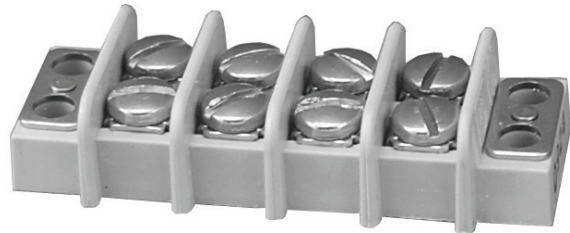
These terminal blocks are compliant to the A-A-59125 standard and are constructed to meet both standards.

# Military Class (A-A-59125)

## 37TB-B/40TB-B Series

**Specifications:**

- A Kulka® Brand
- 300 volts AC/DC
- Base, valox 420-SEO, grey color, 130°C
- Closed back design
- Screws, brass nickel plate, 6-32 binder head, slotted
- Terminals, brass nickel plate
- 3/8" centers
- Flammability rating 94 V-O
- Wire size #16
- 15 amps
- Parts are supplied with end plates
- RoHS compliant



37TB04B

Catalog #	# of Poles	Dimensions	
		A	B
37TB02B	2	1.41	1.12
37TB03B	3	1.78	1.50
37TB04B	4	2.16	1.88
37TB05B	5	2.53	2.25
37TB06B	6	2.91	2.62
37TB07B	7	3.28	3.00
37TB08B	8	3.66	3.38
37TB09B	9	4.03	3.75
37TB10B	10	4.41	4.12
37TB11B	11	4.78	4.50
37TB12B	12	5.16	4.88
37TB13B	13	5.53	5.25
37TB14B	14	5.91	5.62
37TB15B	15	6.28	6.00
37TB16B	16	6.66	6.38
37TB17B	17	7.03	6.75
37TB18B	18	7.41	7.12
37TB19B	19	7.78	7.50
37TB20B	20	8.16	7.88

**Hardware Options:**

Lug Types (Commercial):  
3/4 ST 600 = Half Solder  
ST600 = Full Solder

See Page 77  
See Page 77

**Feed-Thru Hardware Options:**

Long Feed-Thru Solder  
40TB B Only

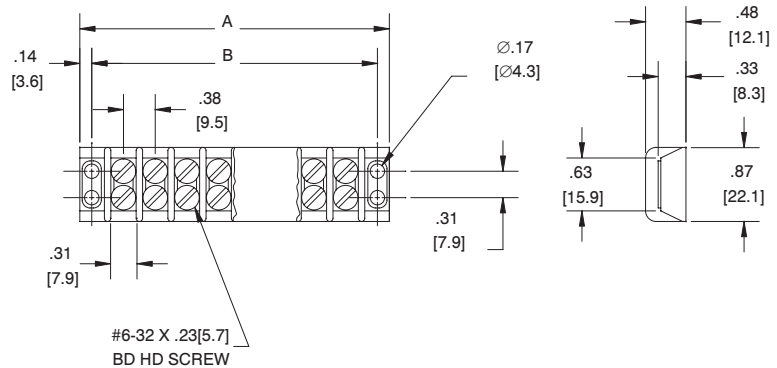
**Accessories: (Jumper Commercial Grade)**

Marking Strips = MSA, MSB, MSC  
Jumper = J600, 600RJ, 600RJ(S)

See Page 83  
See Page 74

**Service Options:**

Consult Customer Service



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TERMINAL BLOCKS



# Military Class

(A-A-59125) / (MIL-T-55164)

## 37TB-Military Class

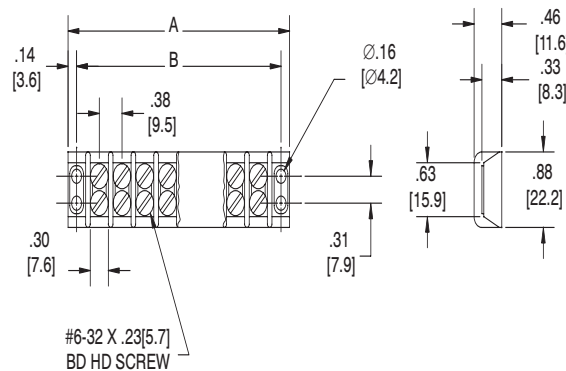
(A-A-59125/1)/(MIL-T-55164/1)

**Molded Material:**

- Plastic: grade F temperature rating 155°C per MIL-M-14
- Screws: Brass per QQ-W-321, nickel plated per QQ-N-290
- Terminal Plates: Brass per QQ-B-613, nickel plated per QQ-N-290

**Electrical Rating:**

- Rated voltage (maximum): 300 volts
- Current rating: 15 amps
- D.W.V.: 3000 volts RMS



Military Type Designation	# of Poles	Dimensions	
		A	B
37TB 02 F	2	1.360-1.453	1.109-1.156
37TB 03 F	3	1.735-1.828	1.484-1.531
37TB 04 F	4	2.110-2.203	1.859-1.906
37TB 05 F	5	2.500-2.593	2.234-2.281
37TB 06 F	6	2.876-2.969	2.609-2.656
37TB 07 F	7	3.250-3.343	2.984-3.031
37TB 08 F	8	3.626-3.719	3.359-3.406
37TB 09 F	9	4.000-4.093	3.734-3.781
37TB 10 F	10	4.376-4.469	4.109-4.156
37TB 11 F	11	4.750-4.843	4.484-4.531
37TB 12 F	12	5.126-5.219	4.859-4.906
37TB 13 F	13	5.500-5.593	5.234-5.281
37TB 14 F	14	5.876-5.969	5.609-5.656
37TB 15 F	15	6.250-6.365	5.969-6.047
37TB 16 F	16	6.626-6.735	6.344-6.422
37TB 17 F	17	7.000-7.109	6.719-6.797
37TB 18 F	18	7.376-7.485	7.094-7.172
37TB 19 F	19	7.752-7.812	7.469-7.547
37TB 20 F	20	8.127-8.187	7.844-7.922
37TB 21 F	21	8.502-8.562	8.219-8.297
37TB 22 F	22	8.877-8.937	8.594-8.672
37TB 23 F	23	9.252-9.312	8.969-9.047
37TB 24 F	24	9.627-9.687	9.344-9.422
37TB 25 F	25	10.002-10.062	9.719-9.797
37TB 26 F	26	10.377-10.437	10.094-10.172
37TB 27 F	27	10.752-10.812	10.469-10.547
37TB 28 F	28	11.127-11.187	10.844-10.922
37TB 29 F	29	11.502-11.562	11.219-11.297
37TB 30 F	30	11.877-11.937	11.594-11.672
37TB 31 F	31	12.252-12.312	11.969-12.047

## 38TB-Military Class

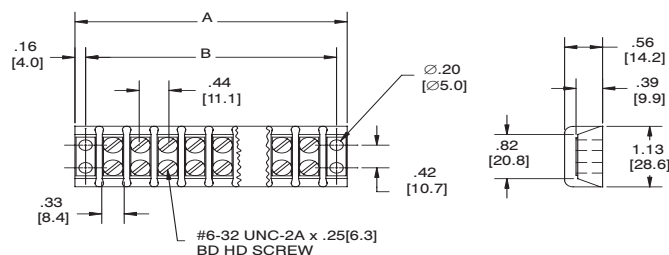
(A-A-59125/2)/(MIL-T-55164/2)

**Molded Material:**

- Plastic: grade F temperature rating 155°C per MIL-M-14
- Screws: brass per QQ-W-321, nickel plated per QQ-N-290
- Terminal plates: brass per QQ-B-613, nickel plated per QQ-N-290

**Electrical Rating:**

- Rated voltage (maximum): 600 volts
- Current rating: 20 amps
- D.W.V.: 3400 volts RMS



Military Type Designation	# of Poles	Dimensions	
		A	B
38TB 02 F	2	1.579-1.672	1.296-1.343
38TB 03 F	3	2.016-2.109	1.734-1.781
38TB 04 F	4	2.454-2.547	2.172-2.219
38TB 05 F	5	2.891-2.984	2.609-2.656
38TB 06 F	6	3.329-3.422	3.046-3.093
38TB 07 F	7	3.766-3.859	3.484-3.531
38TB 08 F	8	4.204-4.297	3.937-3.984
38TB 09 F	9	4.641-4.734	4.375-4.422
38TB 10 F	10	5.079-5.172	4.812-4.859
38TB 11 F	11	5.532-5.625	5.250-5.297
38TB 12 F	12	5.969-6.078	5.687-5.734
38TB 13 F	13	6.407-6.516	6.110-6.188
38TB 14 F	14	6.844-6.953	6.547-6.625
38TB 15 F	15	7.282-7.391	6.985-7.063
38TB 16 F	16	7.719-7.828	7.422-7.500
38TB 17 F	17	8.157-8.266	7.860-7.938
38TB 18 F	18	8.594-8.703	8.297-8.375
38TB 19 F	19	9.079-9.156	8.750-8.828
38TB 20 F	20	9.517-9.594	9.188-9.266
38TB 21 F	21	9.954-10.031	9.625-9.703
38TB 22 F	22	10.392-10.469	10.063-10.141
38TB 23 F	23	10.829-10.906	10.500-10.578

# Military Class

## (A-A-59125) / (MIL-T-55164)

### 39TB-Military Class

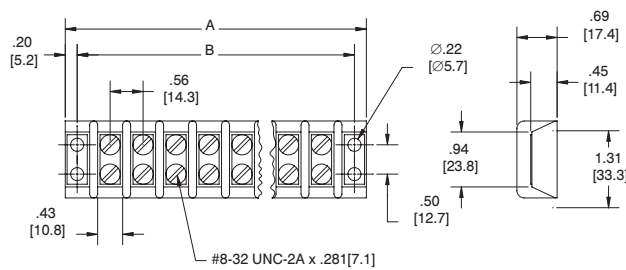
#### (A-A-59125/3)/(MIL-T-55164/3)

**Molded Material:**

- Plastic: Grade F temperature rating 155°C per MIL-M-14
- Screws: Brass per QQ-W-321, nickel plated per QQ-N-290
- Terminal Plates: Brass per QQ-B-613, nickel plated per QQ-N-290

**Electrical Rating:**

- Rated voltage (maximum): 600 volts
- Current rating: 30 Amps
- D.W.V.: 4000 volts RMS



Military Type Designation	# of Poles	Dimensions	
		A	B
39TB 02 F	2	2.047-2.140	1.672-1.719
39TB 03 F	3	2.626-2.719	2.234-2.281
39TB 04 F	4	3.188-3.281	2.796-2.843
39TB 05 F	5	3.750-3.843	3.359-3.406
39TB 06 F	6	4.313-4.406	3.922-3.969
39TB 07 F	7	4.876-4.969	4.484-4.531
39TB 08 F	8	5.438-5.531	5.046-5.093
39TB 09 F	9	6.000-6.109	5.625-5.672
39TB 10 F	10	6.563-6.672	6.172-6.250
39TB 11 F	11	7.126-7.235	6.719-6.797
39TB 12 F	12	7.688-7.797	7.297-7.375
39TB 13 F	13	8.250-8.359	7.860-7.938
39TB 14 F	14	8.813-8.922	8.422-8.500
39TB 15 F	15	9.376-9.485	8.985-9.063
39TB 16 F	16	9.938-10.047	9.547-9.625
39TB 17 F	17	10.500-10.609	10.110-10.188
39TB 18 F	18	11.079-11.188	10.672-10.750

### 40TB-Military Class

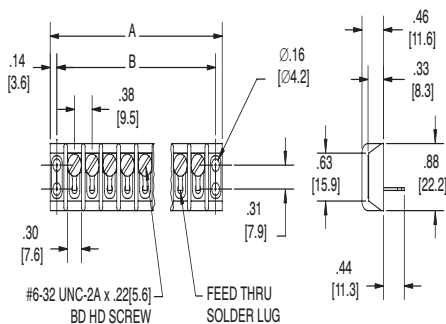
#### (A-A-59125/4)/(MIL-T-55164/4)

**Molded Material:**

- Same as 37 TB Class
- Hardware: lug, brass per QQ-B-613, tin plated

**Electrical Rating:**

- Rated voltage (maximum): 300 volts
- Current rating: 7.5 amps
- D.W.V.: 3000 volts RMS



Military Type Designation	# of Poles	Dimensions	
		A	B
40TB 02 F	2	1.360-1.453	1.109-1.156
40TB 03 F	3	1.735-1.828	1.484-1.531
40TB 04 F	4	2.110-2.203	1.859-1.906
40TB 05 F	5	2.500-2.593	2.234-2.281
40TB 06 F	6	2.876-2.969	2.609-2.656
40TB 07 F	7	3.250-3.343	2.984-3.031
40TB 08 F	8	3.626-3.719	3.359-3.406
40TB 09 F	9	4.000-4.093	3.734-3.781
40TB 10 F	10	4.376-4.469	4.109-4.156
40TB 11 F	11	4.750-4.843	4.484-4.531
40TB 12 F	12	5.126-5.219	4.859-4.906
40TB 13 F	13	5.500-5.593	5.234-5.281
40TB 14 F	14	5.876-5.969	5.609-5.656
40TB 15 F	15	6.250-6.365	5.969-6.047
40TB 16 F	16	6.626-6.735	6.344-6.422
40TB 17 F	17	7.000-7.109	6.719-6.797
40TB 18 F	18	7.376-7.485	7.094-7.172
40TB 19 F	19	7.752-7.812	7.469-7.547
40TB 20 F	20	8.127-8.187	7.844-7.922
40TB 21 F	21	8.502-8.562	8.219-8.297
40TB 22 F	22	8.877-8.937	8.594-8.672
40TB 23 F	23	9.252-9.312	8.969-9.047
40TB 24 F	24	9.627-9.687	9.344-9.422
40TB 25 F	25	10.002-10.062	9.719-9.797
40TB 26 F	26	10.377-10.437	10.094-10.172
40TB 27 F	27	10.752-10.812	10.469-10.547
40TB 28 F	28	11.127-11.187	10.844-10.922
40TB 29 F	29	11.502-11.562	11.219-11.297
40TB 30 F	30	11.877-11.937	11.594-11.672
40TB 31 F	31	12.252-12.312	11.969-12.047

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# Military Class

(A-A-59125) / (MIL-T-55164)

## 41TB-Military Class

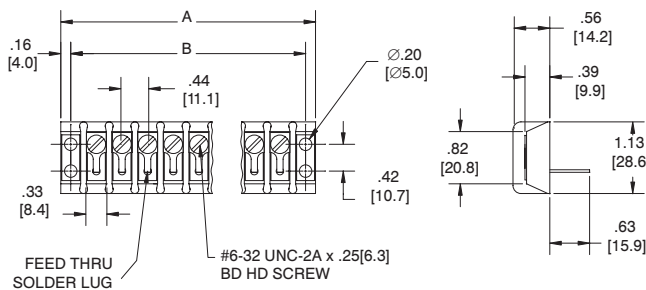
(A-A-59125/5)/(MIL-T-55164/5)

**Molded Material:**

- Same as 38TB Class
- Hardware: Lug, Brass per QQ-B-613, tin plated

**Electrical Rating:**

- Rated voltage (maximum): 600 volts
- Current rating: 10 Amps
- D.W.V.: 3400 volts RMS



Military Type Designation	# of Poles	Dimensions	
		A	B
41TB 02 F	2	1.579-1.672	1.296-1.343
41TB 03 F	3	2.016-2.109	1.734-1.781
41TB 04 F	4	2.454-2.547	2.172-2.219
41TB 05 F	5	2.891-2.984	2.609-2.656
41TB 06 F	6	3.329-3.422	3.046-3.093
41TB 07 F	7	3.766-3.859	3.484-3.531
41TB 08 F	8	4.204-4.297	3.937-3.984
41TB 09 F	9	4.641-4.734	4.375-4.422
41TB 10 F	10	5.079-5.172	4.812-4.859
41TB 11 F	11	5.532-5.625	5.250-5.297
41TB 12 F	12	5.969-6.078	5.687-5.734
41TB 13 F	13	6.407-6.516	6.110-6.188
41TB 14 F	14	6.844-6.953	6.547-6.625
41TB 15 F	15	7.282-7.391	6.985-7.063
41TB 16 F	16	7.719-7.828	7.422-7.500
41TB 17 F	17	8.157-8.266	7.860-7.938
41TB 18 F	18	8.594-8.703	8.297-8.375
41TB 19 F	19	9.079-9.156	8.750-8.828
41TB 20 F	20	9.517-9.594	9.188-9.266
41TB 21 F	21	9.954-10.031	9.625-9.703
41TB 22 F	22	10.392-10.469	10.063-10.141
41TB 23 F	23	10.829-10.906	10.500-10.578

## 42TB-Military Class

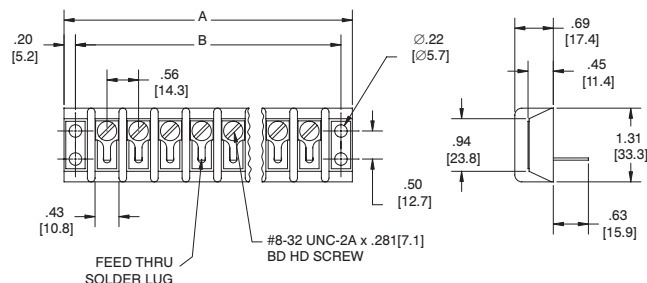
(A-A-59125/6)/(MIL-T-55164/6)

**Molded Material:**

- Same as 39TB Class
- Hardware: Lug, brass per QQ-B-613, tin plated

**Electrical Rating:**

- Rated voltage (maximum): 600 volts
- Current rating: 15 amps
- D.W.V.: 3400 volts RMS



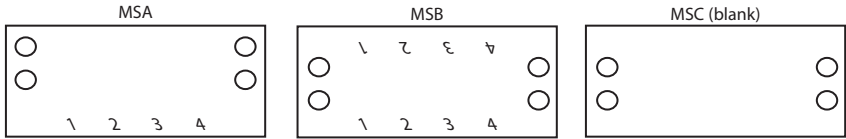
Military Type Designation	# of Poles	Dimensions	
		A	B
42TB 02 F	2	2.047-2.140	1.672-1.719
42TB 03 F	3	2.626-2.719	2.234-2.281
42TB 04 F	4	3.188-3.281	2.796-2.843
42TB 05 F	5	3.750-3.843	3.359-3.406
42TB 06 F	6	4.313-4.406	3.922-3.969
42TB 07 F	7	4.876-4.969	4.484-4.531
42TB 08 F	8	5.438-5.531	5.046-5.093
42TB 09 F	9	6.000-6.109	5.625-5.672
42TB 10 F	10	6.563-6.672	6.172-6.250
42TB 11 F	11	7.126-7.235	6.719-6.797
42TB 12 F	12	7.688-7.797	7.297-7.375
42TB 13 F	13	8.250-8.359	7.860-7.938
42TB 14 F	14	8.813-8.922	8.422-8.500
42TB 15 F	15	9.376-9.485	8.985-9.063
42TB 16 F	16	9.938-10.047	9.547-9.625
42TB 17 F	17	10.500-10.609	10.110-10.188
42TB 18 F	18	10.079-11.188	10.672-10.750

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# Military Class Marking Strips

## Marking Styles MSA, MSB, MSC

Top Surface of Marking Strip



Bottom Surface of Marking Strip



### Requirements:

- Type Mount: Bottom Only
- Dimensions: See Below
- Material: Type GME
- Marking: Marking Strips shall be Marked in Accordance with CID A-A-59125 (can be provided to MIL T55164)

A single letter shall be inserted in the above type designation to specify the marking style (A, B or C).

Both the front and the back of the marking strips shall be marked as indicated. The numbers shall be marked at a  $45 \pm 2^\circ$  angle with reference to the side of the marking strip, as indicated.

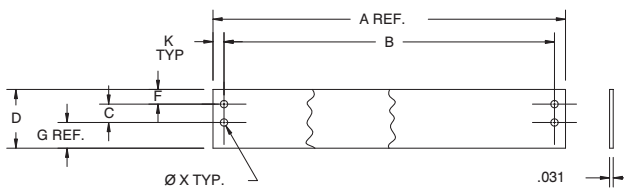
Type MSC37TB (blank single sided marking strip) shall have the same dimensions as type MSA.

Series	Style C	Dimensions							
		D	F	G	K	W	X	N*	
37TB	MSA, MSC MSB	0.31	1.19	0.28	0.60	0.14	0.13	0.16	0.88
40TB			1.50	0.59	--				
38TB		0.42	1.50	0.34	0.69	0.16	0.13	0.18	1.13
41TB			1.75	0.67	--				
39TB		0.50	1.63	0.41	0.75	0.20	0.13	0.21	1.31
42TB			2.00	0.69	--				

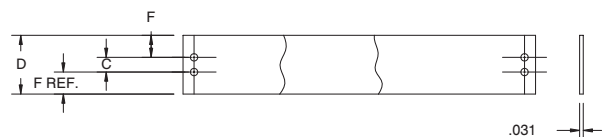
\*N dimension to replace D dimension for insulator strips  
\*\*Consult Customer Service on marking strips that are for terminal blocks with Z lugs.

For overall lengths, reference appropriate terminal block series A & B dimensions

Styles MSA & MSC:



Style MSB:



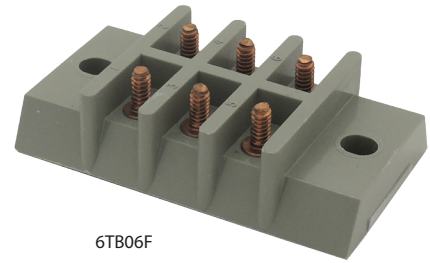
# Navy Class

## (A-A-59125) / (MIL-T-55164)

**Notes:**

Molded material is MAI-60 in accordance with MIL-M-14 (\*Molded material is GDI30F).

Nuts and connectors are provided when appropriate. They are unplated brass and shipped unassembled.



6TB06F

A-A-59125/MIL-T-55164 Information		Terminal Type	Voltage		Current	Wire & Lug Information				
Class	Spec #	Description	Max Rated	Dielectric with Test	Max Rated	Screw Size	RECMD Max Wire Size	MS17143 Lug #	Max Lug Width	RECMD Torque Lb-In (N-M)
3 TB	/9	Single Stud Single Row	600V RMS	2000V RMS	45 Amp 60 Hz	#8	#10 AWG	-3	0.395" [10.0]	16-18 [1.8-2.0]
4 TB	/10	Single Stud Double Row	600 V RMS	2200 V RMS	40 Amp 60 Hz	#8	#12 AWG	-3	0.395" [10.0]	16-18 [1.8-2.0]
5 TB	/11	Feed Thru Stud Single Row	600 V RMS	2200 V RMS	50 Amp 60 Hz	#8	#10 AWG	-3	0.395" [10.0]	16-18 [1.8-2.0]
6 TB	/12	Single Stud Double Row	600 V RMS	2200 V RMS	30 Amp 60 Hz	#6	#14 AWG	-5	0.307" [7.8]	10-12 [1.1-1.4]
7 TB	/13	Feed Thru Stud Single Row	600 V RMS	2200 V RMS	40 Amp 60 Hz	#6	#12 AWG	-6	0.307" [7.8]	10-12 [1.1-1.4]
8 TB	/14	Double Stud Double Row	300 V RMS	1500 V RMS	30 Amp 60 Hz	#5	#14 AWG	-11	0.282" [7.2]	8-10 [0.9-1.1]
9 TB	/15	Single Stud Single Row	300 V RMS	1500 V RMS	35 Amp 60 Hz	#6	#12 AWG	—	0.307" [7.8]	10-12 [1.1-1.4]
10 TB	/16	Single Stud Double Row	600 V RMS	2200 V RMS	30 Amp 60 Hz	#6	#14 AWG	—	0.242" [6.11]	10-12 [1.1-1.4]
11 TB	/17	Feed Thru Stud Single Row	600 V RMS	2200 V RMS	40 Amp 60 Hz	#6	#12 AWG	-15	0.242" [6.1]	10-12 [1.1-1.4]
15 TB	/19	Single Stud Double Row	600 V RMS	2200 V RMS	30 Amp 60 Hz	#8	#14 AWG	-8	0.307" [7.8]	16-18 [1.8-2.0]
16 TB	/20	Single Stud Double Row	1000 V RMS	3000 V RMS	40 Amp 60 Hz	#8	#12 AWG	-3	0.395" [10.0]	16-18 [1.8-2.0]
17 TB	/21	Double Stud Double Row	600 V RMS	2200 V RMS	40 Amp 60 Hz	#6	#12 AWG	-3	0.395" [10.0]	10-12 [1.1-1.4]
25 TB	/23	Single Stud Single Row	300 V RMS	1500 V RMS	25 Amp 60 Hz	#4	#14 AWG	-17	0.242" [6.1]	6-8 [0.7-0.9]
26 TB	/24	Double Stud Double Row	300 V RMS	1500 V RMS	20 Amp 60 Hz	#4	#16 AWG	-20	0.242" [6.1]	6-8 [0.7-0.9]

A-A-59125 superceeded MIL-T-55164-C in 1997.

These terminal blocks are compliant to the A-A-59125 standard and are constructed to meet both standards.

MILITARY  
TERMINAL BLOCKS

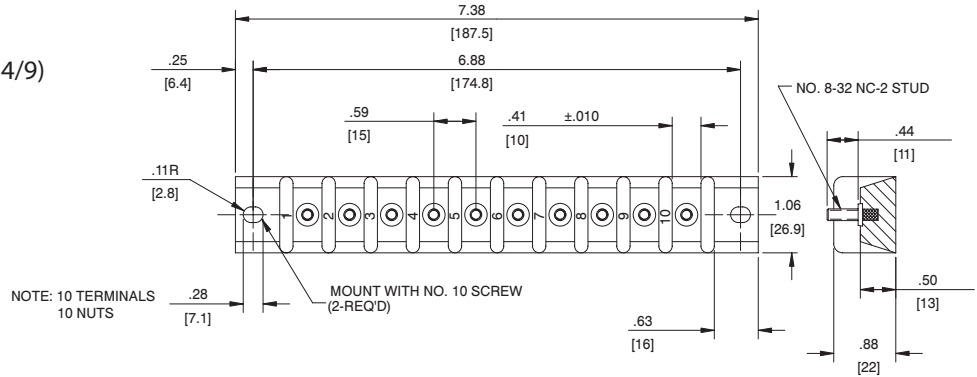
# Navy Class

(A-A-59125) / (MIL-T-55164)

## 3TB SERIES

(A-A-59125/9) / MIL-T-55164/9)

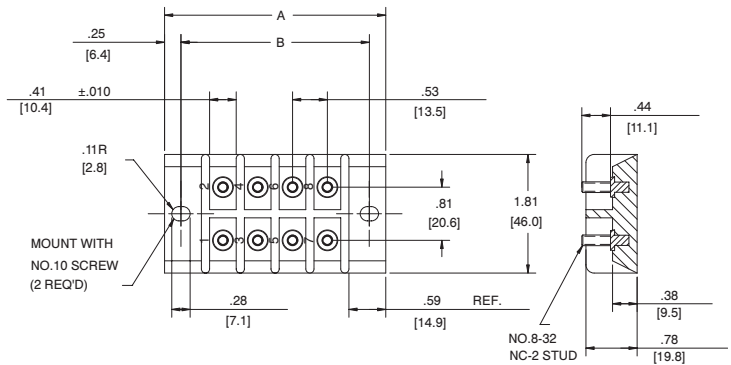
Catalog number: 3TB10F



## 4TB SERIES

(A-A-59125/10) / (MIL-T-55164/10)

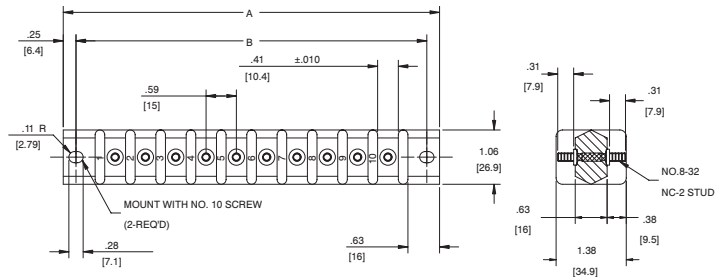
Double Row, Front Connection				
Type	# of Term	Dim A	Dim B	Nuts
4 TB 08F	8	3.38	2.88	8



## 5TB SERIES

(A-A-59125/11) / (MIL-T-55164/11)

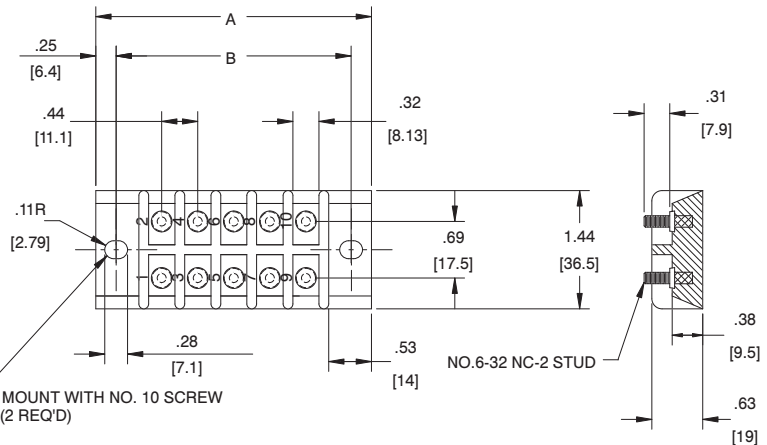
Single Row, Through Connection				
Type	# of Term	Dim A	Dim B	Nuts
5 TB 08F	8	6.13	5.63	16
5 TB 10F	10	7.38	6.88	20



## 6TB SERIES

(A-A-59125/12) / (MIL-T-55164/12)

Double Row, Front Connection				
Type	# of Term	Dim A	Dim B	Nuts
6 TB 06F	6	2.50	2.00	6
6 TB 10F	10	3.38	2.88	10
6 TB 24F	24	6.50	6.00	24



MILITARY  
TERMINAL BLOCKS



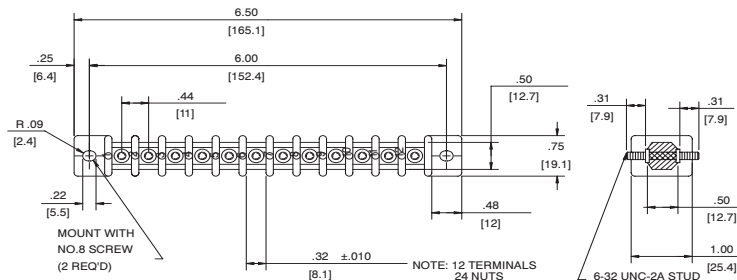
# Navy Class

## (A-A-59125) / (MIL-T-55164)

### 7TB SERIES

(A-A-59125/13) / (MIL-T-55164/13)

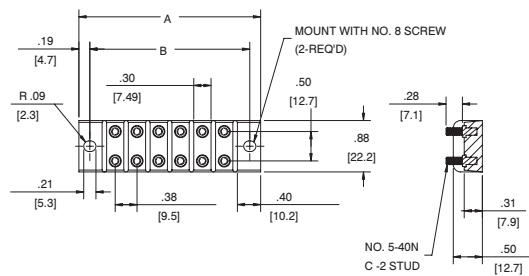
Catalog number: 7TB12F



### 8TB SERIES

(A-A-59125/14) / (MIL-T-55164/14)

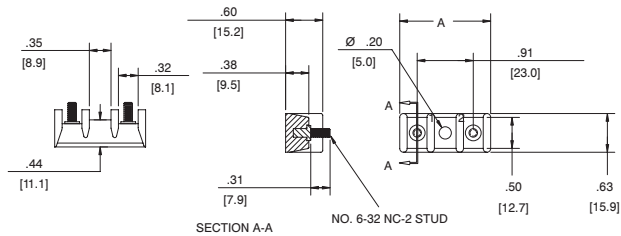
Double Row, Linked Front Connection					
Type	# of Term		Dim. A	Dim. B	Nuts
	w/stud connectors	w/ostud connectors			
8 TB 02F	2	4	1.63	1.25	4
8 TB 06F	6	12	3.13	2.75	12
8 TB 08F	8	16	3.88	3.50	16
8 TB 10F	10	20	4.63	4.25	20



### 9TB SERIES

(A-A-59125/15) / (MIL-T-55164/15)

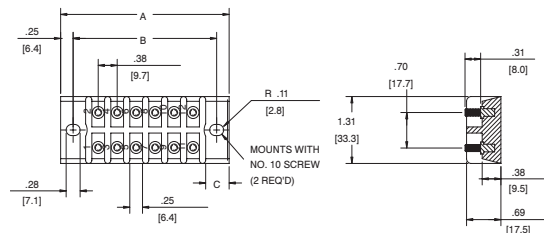
Single Row, Front Connection			
Type	# of Term	Dim. A	Nuts
9 TB 02F	2	1.48	2
9 TB 04F	4	2.37	4



### 10TB SERIES

(A-A-59125/16) / (MIL-T-55164/16)

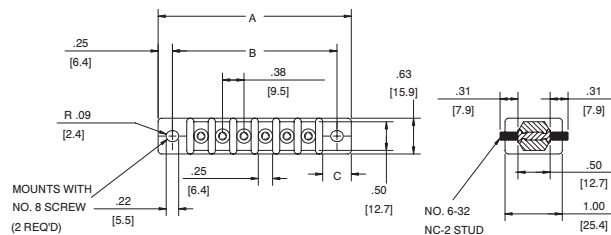
Double Row, Front Connection					
Type	# of Term	Dim. A	Dim. B	Dim. C	Nuts
10 TB 18F	18	4.63	4.13	0.56	18
10 TB 28F	28	6.50	6.00	0.56	28



### 11TB SERIES

(A-A-59125/17) / (MIL-T-55164/17)

Single Row, Through Connection					
Type	# of Term	Dim. A	Dim. B	Dim. C	Nuts
11 TB 04F	4	2.50	2.00	0.44	8
11 TB 06F	6	3.38	2.88	0.44	12
11 TB 14F	14	6.50	6.00	0.56	28



MILITARY  
TERMINAL BLOCKS

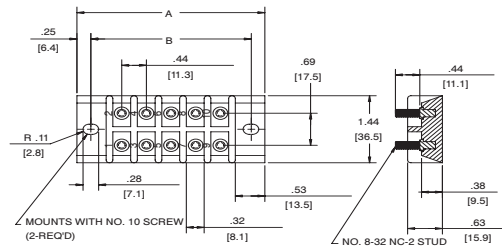
# Navy Class

## (A-A59125) / (MIL-T-55164)

### 15TB SERIES

(A-A-59125/19) / (MIL-T-55164/19)

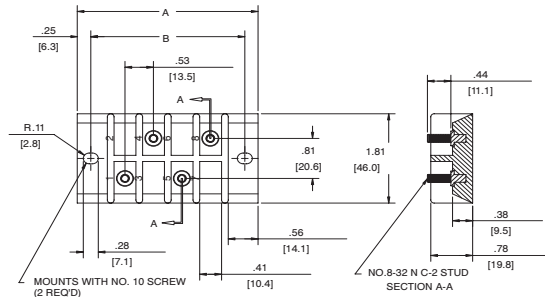
Double Row, Front Connection				
Type	# of Term	Dim. A	Dim. B	Nuts
15 TB 10F	10	3.38	2.88	10
15 TB 24F	24	6.50	6.00	24



### 16TB SERIES

(A-A-59125/20) / (MIL-T-55164/20)

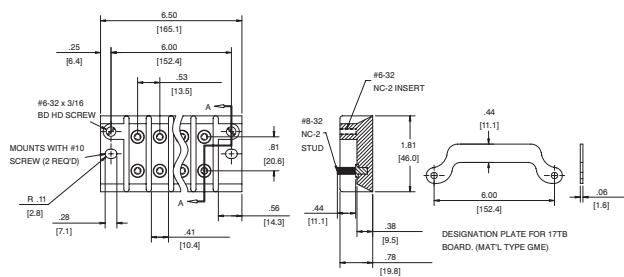
Double Row, Front Connection				
Type	# of Term	Dim. A	Dim. B	Nuts
16 TB 04F	4	3.38	2.88	4
16 TB 10F	10	6.50	6.00	10



### 17TB SERIES

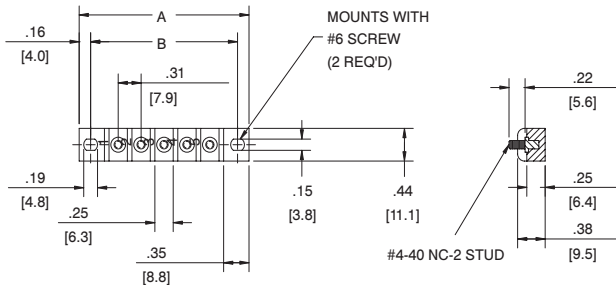
(A-A-59125/21) / (MIL-T-55164/21)

Double Row, Front Connection					
Type	# of Term		Dim. A	Dim. B	Nuts
	w/stud connectors	w/o stud connectors			
17 TB 10F	10	20	6.50	6.00	10



### 25TB SERIES

(A-A-59125/23) / (MIL-T-55164/23)

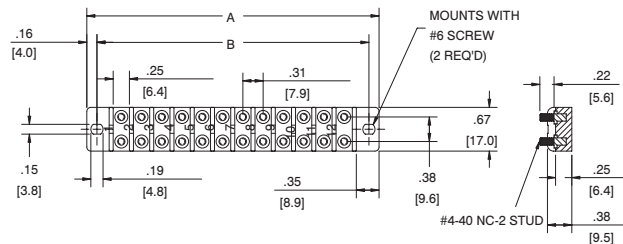


Single Row, Front Connection				
Type	# of Term	Dim. A	Dim. B	Nuts
25 TB 02F	2	1.38	1.06	2
25 TB 05F	5	2.31	2.00	5
25 TB 06F	6	2.63	2.31	6
25 TB 07F	7	2.94	2.63	7
25 TB 09F	9	3.56	3.25	9
25 TB 10F	10	3.88	3.56	10
25 TB 12F	12	4.50	4.19	12

### 26TB SERIES

(A-A-59125/24) / (MIL-T-55164/24)

Double Row, Linked Front Connection					
Type	# of Term		Dim. A	Dim. B	Nuts
	w/stud connectors	w/o stud connectors			
26 TB 06F	6	12	2.63	2.31	12
26 TB 08F	8	16	3.25	2.94	16
26 TB 10F	10	20	3.88	3.56	20
26 TB 12F	12	24	4.50	4.19	24



# Sectional Terminal Blocks

## General Information:

Sectionals are terminal blocks which are made up of individually molded units with electrically conductive members. Marathon offers barrier sectionals from 3/8" to 1/2" pitch, Euro style sectionals from 5mm to 12mm pitch with fusing, disconnection and grounding options. These sectionals will mount on either a standard 35mm DIN rail, channel rail, or panel (anchor directly).

## Ratings and Standards:

The voltage ratings of terminal blocks are based upon the minimum spacing between electrically conductive parts line-to-line through air and over surface and line-to-ground through air and over surface.

### Class A

Service equipment including deadfront switchboards, panel boards and service entrance devices.

### Class B

Commercial appliances including business equipment and electronic data processing equipment.

### Class C

General industrial and machine tool controls which can be further defined as equipment falling under UL 508.

## Spacing Requirements (in inches):

	Voltage	Thru Air	Over Surface
Class A	51-150	.500	.750
	151-300	.750	1.250
	301-600	1.000	2.000
Class B	51-150	.063	.063
	151-300	.094	.094
	301-600	.375	.500
Class C	51-150	.125	.250
	151-300	.250	.375
	301-600	.375	.500

## Applications:

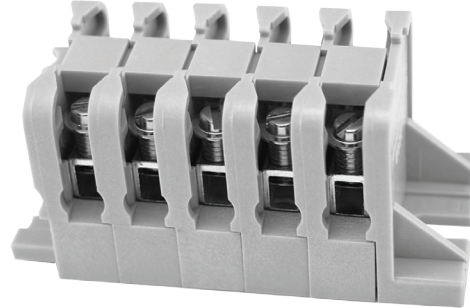
Designed for electrical termination of wire where flexibility of circuit design is necessary. Accepts single or multiple wire sizes for tubular screw and tubular clamp styles.

# Sectional Terminal Blocks

## 3/8" Sectional Channel (C), Flat (F), & DIN Mount

**Specifications:**

- 600 volts AC/DC
- 32 circuits per foot
- Meets IP20 touchproof requirement
- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant
- RoHS compliant



6G38 TS KK F

### 6G38 TS - Tubular Screw Connector

**Materials:**

- Base - grey thermoplastic, 125°C (UL RTI)
- Tubular screw connector- copper, tin plated
- Screw - #10-32 steel, nickel plated
- Wire termination torque 16 in-lb

**Wire Ranges:**

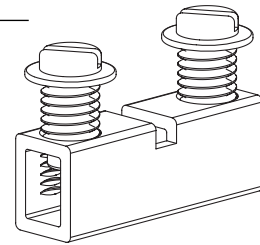
- 50 amps (40 Amps CSA)
- Single and multiple wire combinations:

Stranded CU

- (1) #8 - #18 AWG
- (1-3) #12 AWG
- (1-4) #14 AWG

Solid CU

- (1) #10 - #16 AWG
- (1-3) #12 AWG
- (1-4) #14 or #16 AWG



**Ordering Code:**

6G38 TS F	Flat mount block	Std pk 100	See Figure 2 On Page 90
6G38 TS C	Channel mount block	Std pk 100	See Figure 1 On Page 90
6G38 TS DIN	DIN mount block	Std pk 25	See Figure 3 On Page 90

### 6G38 TSKK - TS with Wire Protector Connector

**Materials:**

- Base - grey thermoplastic, 125°C (UL RTI)
- Kant Kut connector- copper, tin plated
- Screw - #10-32, nickel plated, pad - steel
- Wire termination torque 16 in-lb

**Wire Ranges:**

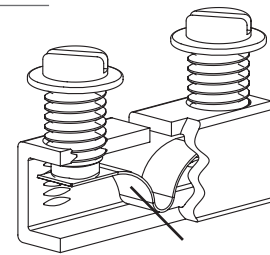
- 40 Amps
- Single and multiple wire combinations:

Stranded CU

- (1) #10-#22 AWG
- (1-2) #12 AWG
- (1-3) #14 AWG
- (1-4) #16 AWG
- (1-5) #18 or #22 AWG

Solid CU

- (1) #10 - #14 AWG
- (1-2) #12 or #14 AWG



WIRE PROTECTOR





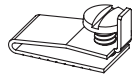

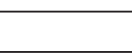


**Ordering Code:**

6G38 TSKK F	Flat mount block	Std pk 100	See Figure 2 On Page 90
6G38 TSKK C	Channel mount block	Std pk 100	See Figure 1 On Page 90
6G38 TSKK DIN	DIN mount block	Std pk 25	See Figure 3 On Page 90

SECTIONAL  
TERMINAL BLOCKS

# Sectional Terminal Blocks

## Sectional Terminal Block Accessories

Catalog #	Description		Std Pk	Catalog #	Description		Std Pk
J 38	Jumper for TS and TSKK		50	MSK35	End bracket for DIN mount base		25
MC	Mounting Clamp (For channel style only)		25	6G38 E C 6G38 E F 6G38 E DIN	End bracket for 6G38 versions		25
MS 2	Vinyl Marking Strip (1/2" x 2' white)		25	MPC-3 (3 ft channel) MPC-6 (6 ft channel)	Channel		1
MN35-2	DIN Rail, 35 x 7.5 mm 2 m long, slotted		25				

### Sectional Terminal Block Dimensions - 6G38 TS & TSKK

FIGURE 1:  
Channel Mount

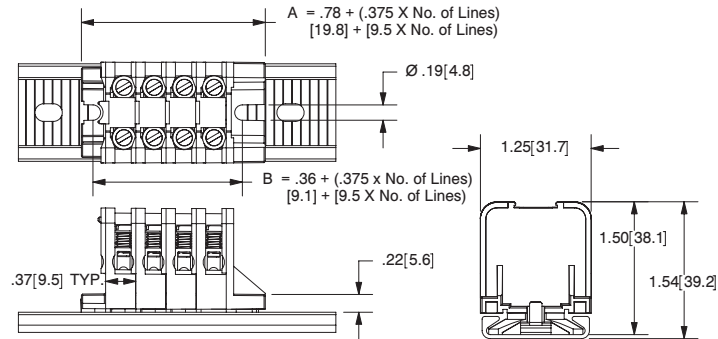


FIGURE 2:  
Flat Mount

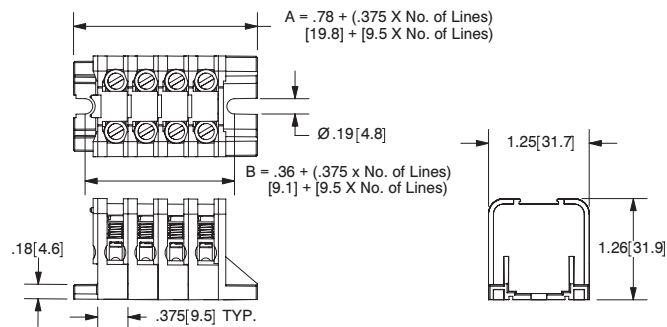
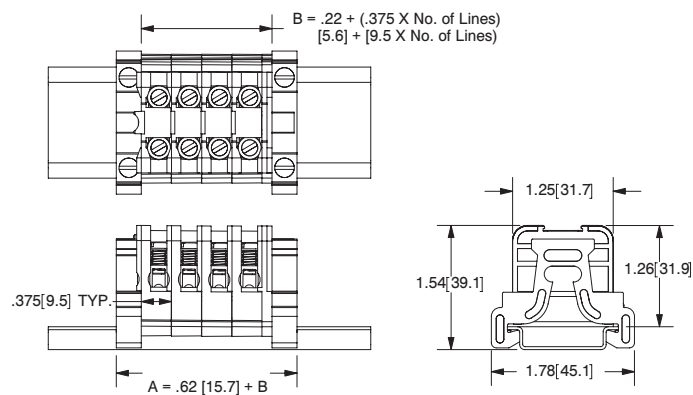


FIGURE 3:  
DIN Mount



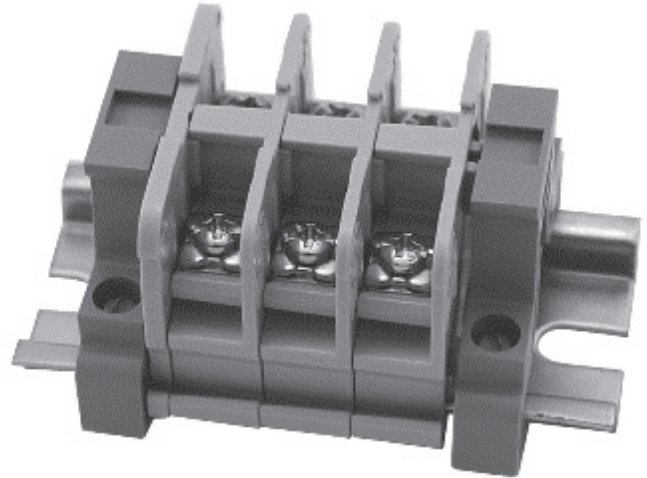
SECTIONAL  
TERMINAL BLOCKS

# Sectional Terminal Blocks

## 7/16" Sectional Terminal Block

**Specifications:**

- 600 volts AC/DC, 40 amp
- 65kA SCCR (see data sheet for details)
- 27 circuits per foot
- UL recognized file no. XCFR2.E62806, XCFR8.E62806
- CSA certified file no. LR19766
- CE compliant
- RoHS compliant



6G44 SP DIN

### 6G44 SP DIN - SEMS Pressure Connector, DIN Mounted

**Materials:**






- Base - grey thermoplastic, 125°C (UL RTI)
- Connector - brass, tin plated
- Screw - #6 with pad, steel, nickel plated

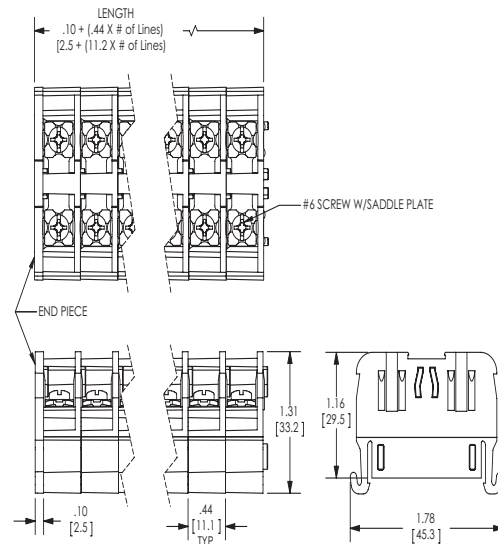
**Wire Ranges:**

- CU only, Str/Sol
- Base wire:  
(1) #12-#22 AWG  
(1-2) #22-12 AWG  
Classes B, C, G, H, I, K  
Wire termination torque 10 lb-in

Prepared wire (lug or spade):  
(1-2) #10-16 AWG

### Sectional Terminal Block Accessories

Catalog #	Description		Std Pk
6G44 E DIN	End Sections		25
MS 44	7/16 Marking strip (4' long, white)		6
601 RJS XX	Jumper (various lengths)		N/A
MSK35	End Bracket for DIN Rail		25
MN35-2	DIN Rail 35 x 7.5 mm 2m long, slotted		N/A



SECTIONAL  
TERMINAL BLOCKS

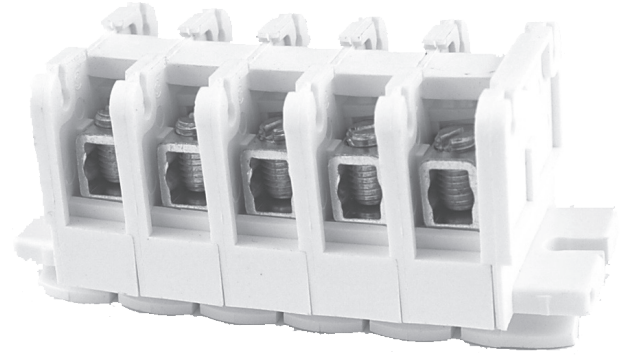


# Sectional Terminal Blocks


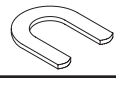

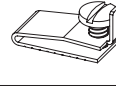



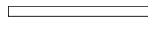
## 1/2" Sectional

### Specifications:

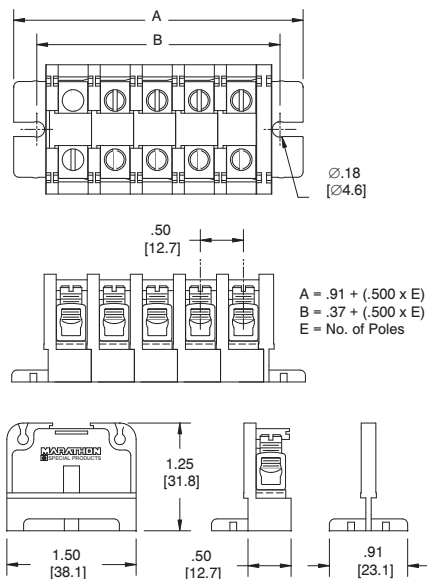
- 600 volts AC/DC
- 24 circuits per foot
- Base, white nylon - type 6/6 105°C
- Tubular screw (TSCU) copper, tin plated;  
Screw #1/4-28 steel, nickel plated
- Wire range #4-#16 AWG copper, 70 amps
- Torque 20 lb-in
- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR19766
- CE compliant
- RoHS compliant



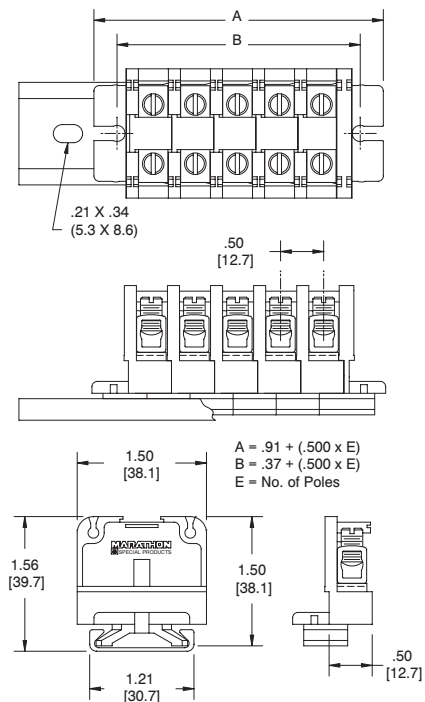
6H12 TSCU C

Catalog #	Description		Std Pk	Catalog #	Description		Std Pk
6H12 TSCU F For flat mount block	Tubular Screw		50	J 12	Jumper		50
6H12 TSCU C For channel mount block	Tubular Screw		50	MC	Mounting Clamp		25
6H12 E F For flat mount block	End Section		25	MPC-3 (3 ft channel) MPC-6 (6 ft channel)	Channel		--
6H12 E C For channel mount block	End Section		25	MS 2	Vinyl Marking Strip - 1/2" x 2'		25

### Flat Mount:



### Channel Mount:



SECTIONAL  
TERMINAL BLOCKS

# Sectional Terminal Blocks

## DIN (Euro-Style) Sectionals

### Specifications:

- Insulating material:
  - Nylon- 6/6, grey
  - UL 94V-2 flammability rating
  - 100°C / 212°F continuous, 170°C / 338°F intermittent & short exposure
- Connector, copper, nickel plated
- Screws, steel, zinc plated
- Integrated pressure plate to avoid wire damage
- For identification labels - see page 94

### Standards:

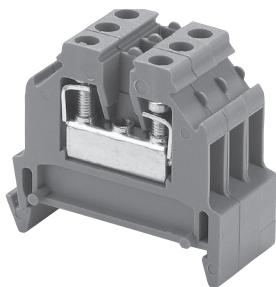
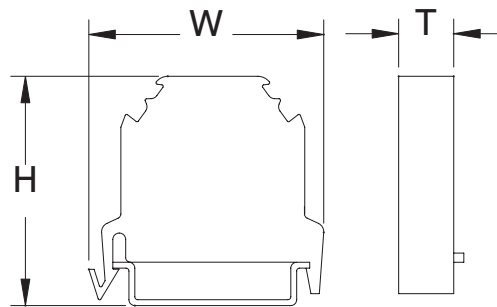
- UL recognized file no. XCFR2.E62806
- CSA certified file no. LR700930
- VDE
- CE compliant
- RoHS compliant

Catalog #	Wire Range	Amps			Volts	Dimensions (mm)			Terminals per foot	Terminal Torque	Description
		UL	CSA	VDE		T	W	H			
MIK3	#12-#22 AWG	20	25	26	600	5	42	36	60	5	Terminal
MIK5	#10-#22 AWG	30	25	24	600	6	42	38	50	13.3	Terminal
MIK10	#8-#22 AWG	50	50	61	600	8	42	44	38	13.3	Terminal
MIK16	#6-#22 AWG	65	68	82	600	10	42	44	30	18	Terminal
MIK25	#4-#8 AWG	85	70	108	600	12	50	48	25	53	Terminal
MIKTS4	#12-#22 AWG	20	20	16	300	6	42	53	50	-	Disconnect
MIKS15	#10-#20 AWG	10	-	6	300	8	60	47	38	-	Fused Terminal <sup>1</sup>
MIKE4	#10-#22 AWG	-	-	-	-	7	56	38	-	8.0	Grounding Lug <sup>2</sup>
MIKE10	#8 AWG	-	-	-	-	8	56	44	-	13.3	Grounding Lug <sup>2</sup>
MIKE16	#6 AWG	-	-	-	-	10	56	44	-	18	Grounding Lug <sup>2</sup>

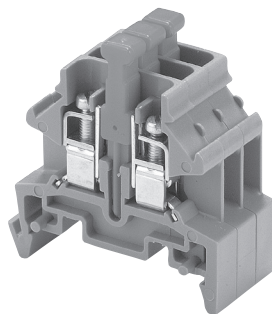
<sup>1</sup> UL File No. E35113, For Fuse Type - 5x20 or 5x25 mm

<sup>2</sup> Grounding Lugs are Green/Yellow Nylon

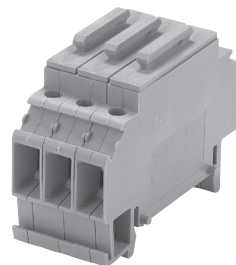
Dimensions:  
H = Height  
W = Width  
T = Thickness



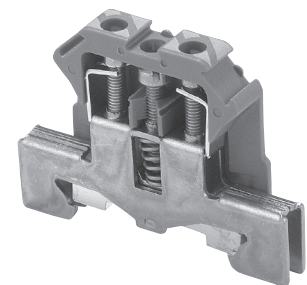
Terminal  
(MIK5)



Disconnect Terminal  
(MIKTS4)



Fused Terminal  
(MIKS15)



Grounding Lug  
(MIKE10)

# Sectional Terminal Blocks

## DIN (Euro-Style) Sectionals

### Hardware:

- Insulating end sections - cover the last terminal of an assembly
- Insulating partitions - for visual and electrical separation of terminals grouped on DIN rail
- 2-position jumpers - connect two adjacent terminals (middle portion snaps off to assemble)
- 12-position jumpers - connects up to 12 adjacent terminals (middle portion snaps off to assemble)
- Jumper can be easily cut to length to connect smaller assemblies
- Connecting strap - for linking two adjacent 12-pole jumpers
- Safety cover - cover with warning label for line terminals which cannot be disconnected
- End brackets - anchors on both ends of terminal assemblies to hold the assembly in place
- DIN rail - standard 35 x 7.5 mm DIN rail, cut in 2 meter lengths with slots for mounting (steel, zinc plated)

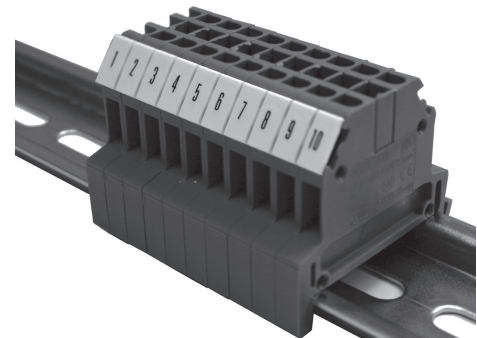
	MIK3	MIK5	MIK10	MIK16	MIK25	MIKTS4	MIKS15
<b>Hardware</b>							
Insulating End Sections	MIW2	MIW4	MIW16	MIW16	MIW50	MIW4	-
Insulating Partitions	MIW4	MIW16	MIW50	MIW50	MIW70	-	MIW50
2-Position Jumper	MVB2-2	MVB4-2	MVB6-2	MVB16-2	MVB25	-	-
12-Position Jumper	MVB2-12	MVB4-12	MVB6-12	MVB16-12	-	-	-
Connecting Strap	MVL2-2	MVL4-2	MVL6-2	MVL16-2	MVL25	-	-
Safety Cover	MKAW2		MKAW10	MKAW16	MKAW25	-	-
End Bracket/Anchor	MSK35						
DIN Rail	MN35-2						

MSK35 - End Bracket Securing Torque 7-9 lb-in (.8-1 N-m)

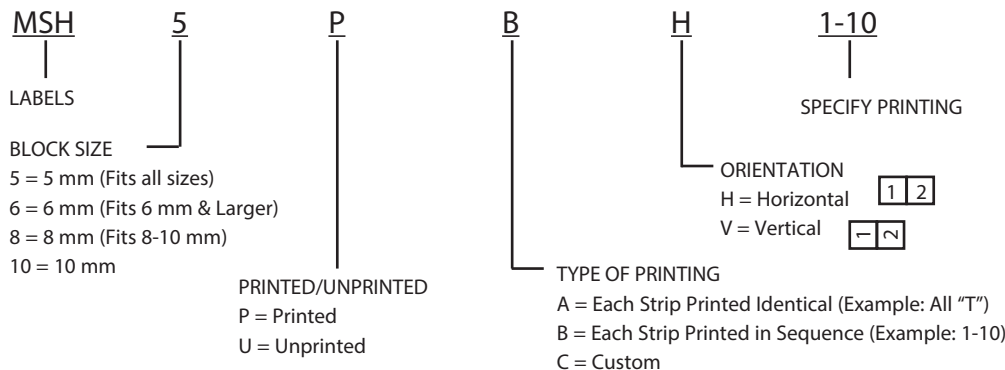
## Universal Identification Labels Type MSH

### Specifications:

- Available plain, with numbers, letters or symbols
- Can be labeled vertically or horizontally
- Single label MSH 5 can be used for all sizes
- MSH5 & 6 are sold in ten strips of ten, MSH8 & 10 are sold in ten strips of five
- RoHS compliant



### Ordering Code:



# Fuse Holders

Marathon Special Products provides many NEMA/barrier style fuse holders with different terminal options for the majority of North American fuses and several enclosed (European/IEC) styles.

Class	Page #	Styles	Applications	Amp/ Volt Range	Withstand/ SCCR
Photovoltaic	97	Enclosed	Designed for bus bar termination. Uniquely designed with terminals to accept standard stock bus bar eliminating the need for custom fabricated bus bar.	Up to 30A 1000 V	30,000
Midget (10x38)	98 - 100	Barrier	Supplemental fuses similar to the size of a CC, used in more general applications where current limitation requirements are lower.	30-60 A 600 V	See Data sheets
		Sectional			
		Enclosed			
CC Class	101	Barrier	For branch and small motor protection where high current limitation is required.	30-60 A 600 V	200,000
	102	Enclosed			
J Class	103	Barrier, Open	For maximum protection of motors, controllers or panels.	30-600 A 250-600 V	200,000
	104	Enclosed			
R Class	105	Barrier	For higher levels of protection at the same size of the H Class, where higher levels of fault current potential exists.	30-600 A 250-600 V	200,000
H Class	106	Barrier	For protection where frequent outages are common and low levels of available fault current are available.	30-600 A 250-600 V	10,000
	107 - 108	Panel- Board			
T Class	109	Barrier, Open	For a high degree of protection and half to a third the size of R Class fuses.	30-600 A 300-600 V	200,000
G Class	110	Barrier, Open	For use in branch circuits where higher performance and lower power levels are needed.	15-30 A 480-600 V	100,000
General Purpose (Semi- Cond.)	111 - 114	Stud, Stud / Terminal	Recognized fuse holders for semi-conductor, L Class or others with variable geometry and include bolt down mounting profiles.	100-1200 A 1000 V	See Data sheets
Accessories	115 - 116	Covers, DIN-Rail Adapters	H, R, J, CC & M styles.	N/A	N/A

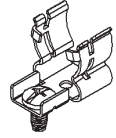
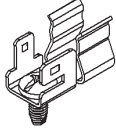
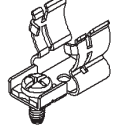
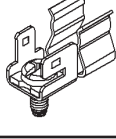
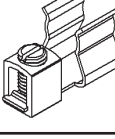
Go to [WWW.MARATHONSP.COM](http://WWW.MARATHONSP.COM) for:

- Product specific data sheets (includes detailed drawings & SCCR Ratings)
- Request 2D/3D CAD files
- Check distributor stock
- Request samples



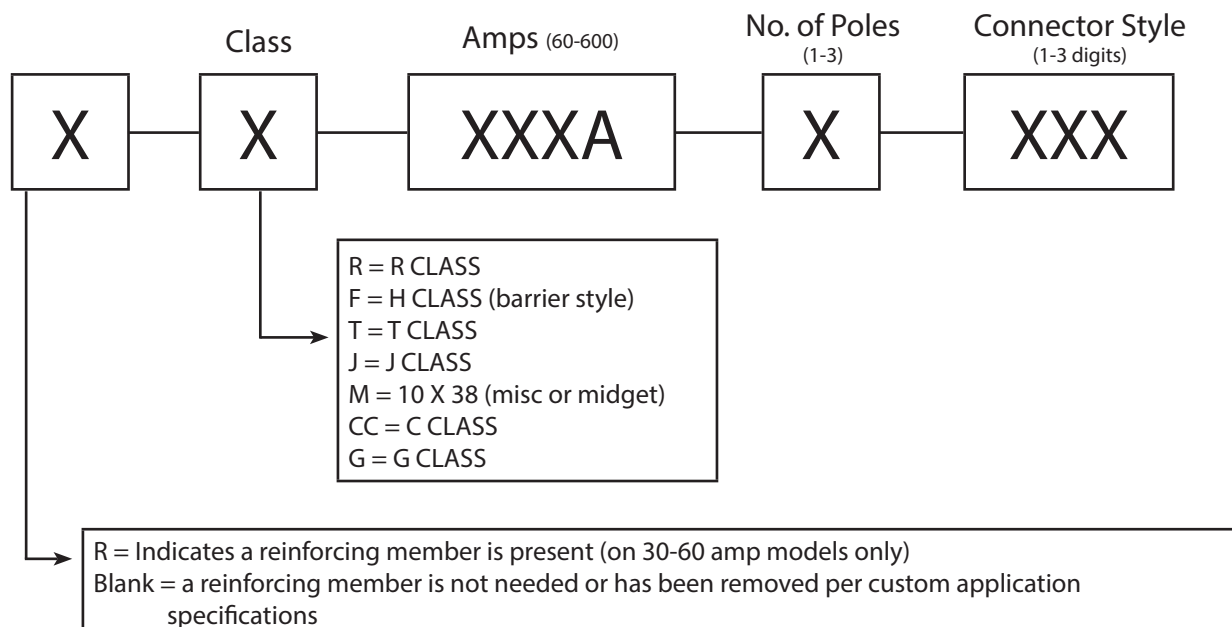
# Fuse Holders

## Wire Connector Styles

Hardware Options		Description	Illustration
S	Screw	Standard screw fastener primarily for ring/spade/fork terminals or small bare wire.	
SQ	Screw with Quick Connects	Screw terminal with additional 1/4" male quick-connect options.	
SP	SEMS Pressure Connector	Screw with a captive washer to provide more contact area for larger bare wire termination.	
SPQ	SEMS Pressure Connector w/ Quick Connects	SP option with additional 1/4" male quick-connect options.	
B	Box (or Compression) Terminals	Box connectors are ideal for large bare wire (up to 60A) termination.	

### CATALOG NUMBER NOMENCLATURE

-Excludes panel boards, enclosed and general purpose / recognized types.



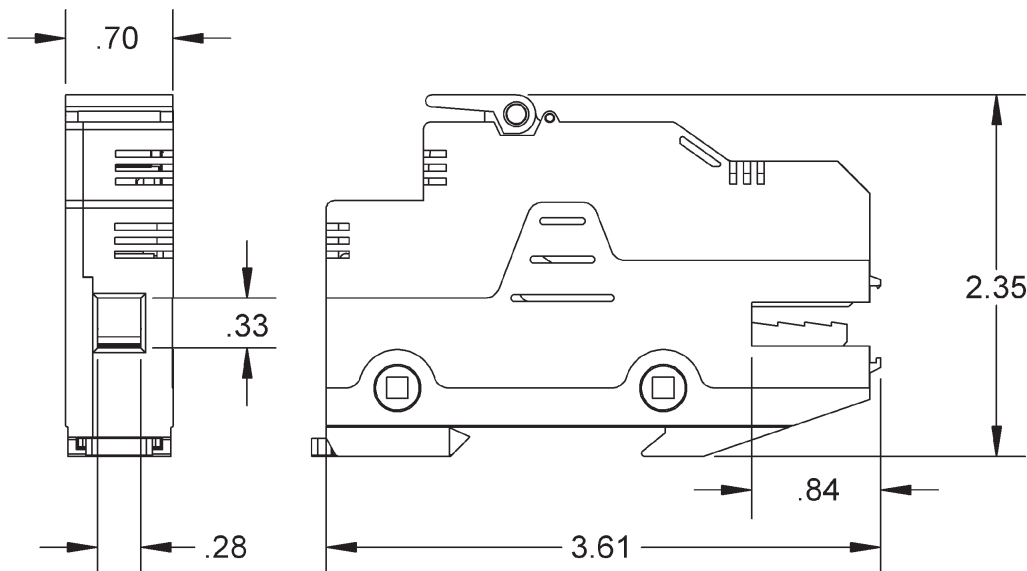
# Enclosed PV10BW Fuse Holders

**Specifications:**

- Up to 30 amps @ 1000 volts
- Evaluated for use with midjet 10x38mm fuses
- 30,000 amp SC withstand rating
- UL recognized UL4248-18
- CSA certified
- Bus bar terminal clamp (patent pending)
- Bare wire terminal for use with 90°C wire
- 94 V-2 flammability rating
- 130°C (266°F) UL RTI
- Gangable for multi-string configurations
- Has shown a 16% reduction in temperature over competitive models in high ambient testing



Catalog #	Description
PV10BW	Fuse Holder - midjet (10 x 38mm) PV fuses
PV10BWI	Fuse Holder with (red) blown fuse indicator - for PV fuse sized 10x38mm
MSH10	Marker Card - single white, snap-in labels 10mm wide for individual identification
EFH-MCCK C	Ganging Clips - used to group multiple fuse holders together as an assembly
MS 2	Front Cover - white 2' long strip to be cut to length and cover a set of holders
ECPVFH	End Cap - covers the end opening(s) of the bus bar terminal
MN35-2	Din Rail - 35 x 7.5 x 200mm long, slotted
MSK35	End Bracket - for anchoring in place on din rail





# Midget Barrier Fuse Holders

## Specifications:

- Available in 30 amp @ 600 volts
- Evaluated for use with midget 10x38mm fuses
- 100,000 amp SC withstand rating
- Copper box connectors available (add CU after catalog number)
- Clip, copper alloy, tin plated
- Quick connect standard with screw (S) or SEMS pressure (SP)
- UL recognized file no. IZLT2.E35113
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant



6M30A3SPQ

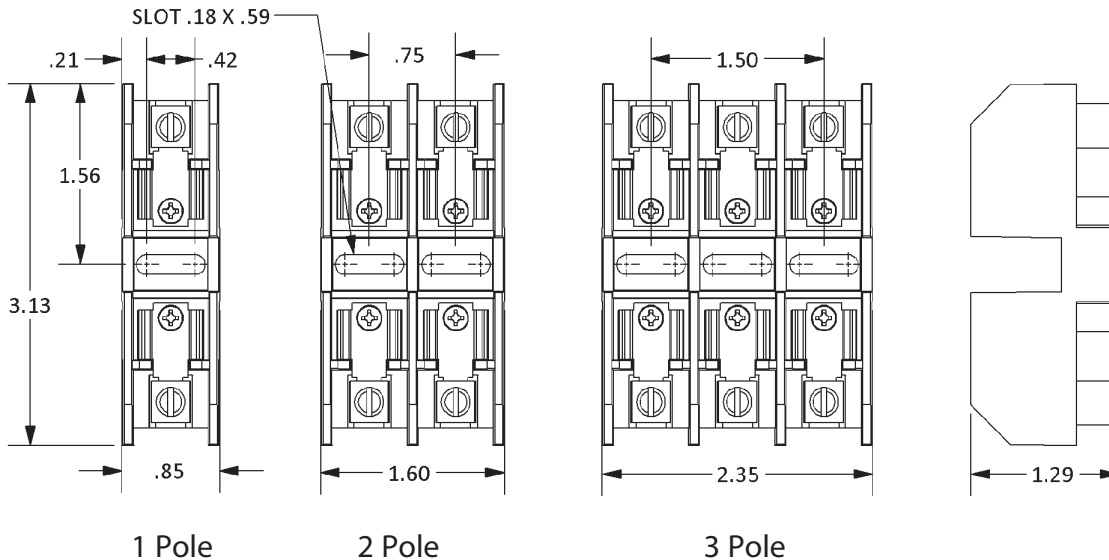
## 600 Volts

Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	6M30AxSQ	1/2/3	Thermoplastic	#10-#22 AWG CU
	6M30AxSPQ			#10-#14 AWG CU
	6M30AxB			#6-#14 AWG CU
	6M30AxBCU			

See page 115 for available covers  
See page 116 for DIN Rail Adapter



6M30A2SPQ



# Midget Enclosed Fuse Holders

**Specifications:**

- 30 amps @ 600/1000 volts
- Evaluated for use with midget 10x38mm fuses
- 200,000 amp SC withstand rating
- DIN rail mount (35mm)
- Touchsafe design IEC type IP20
- Handle allows quick easy fuse change
- Blown fuse indication available
- Indication light AC and DC 65 VAC, 90 VDC volts minimum
- Base Materials: thermoplastic
- UL recognized for US and Canada, IZLT2.E35113, IZLT8.E35113
- CE compliant
- RoHS compliant



Shown top to bottom (left to right): 6SM30A3I-C, 6SM30A1-C, 6SM30A1-C shown with fuse (fuse not included)

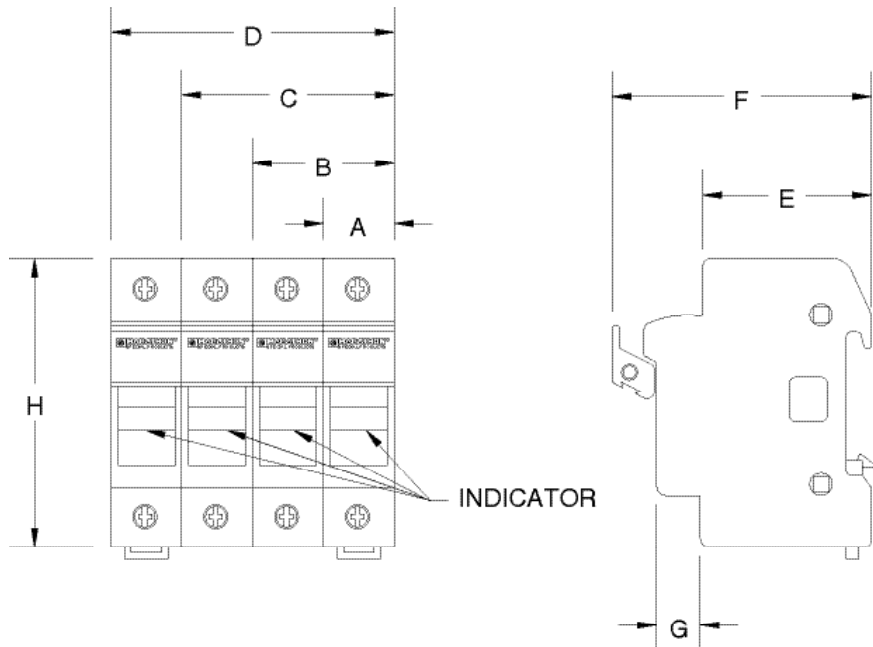


## 600/1000 Volts

Amps	Voltage (AC/DC)	Catalog # (replace "X" with # of poles)	Indicating	Poles (X)	Wire Range
30	1000	6SM30Ax-C	NO	1/2/3/4	(1) #6-#18 CU STRANDED
	600	6SM30AxI-C	YES		(1) #10-#18 SOLID (2) #10-#18 STRANDED

EFK-MCKK - Pin kit (used for ganging multiple poles) - includes 10 handle pins and 20 body clips, use one handle pin and two body clips per pole

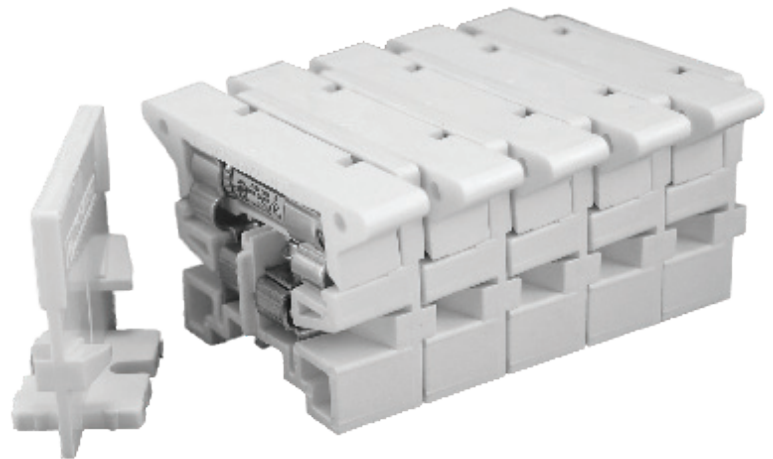
DIM	mm	Inches
A	17.8	0.70
B	35.6	1.40
C	53.3	2.10
D	71.1	2.80
E	43.2	1.70
F	59.7	2.35
G	12.2	0.48
H	79.2	3.12



# Midget Sectional Fuse Holders

## Specifications:

- 30 amps @ 600 volts
- Evaluated for use with midget 10x38mm fuses
- 10,000 amp SC withstand rating
- Base, white nylon - type 6/6, 105°C
- Connector box type
- Accepts up to #10 AWG wire, either terminated or non-terminated
- Clip, copper alloy, tin plated
- UL recognized file no. IZLT2.E35113
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant



6W30A1F with end piece (fuse not included)

## 600 Volts

Amps	Catalog # (replace "X" with # of poles)	Description	Standard Pack	Wire Range
30	6W30A1F	Flat Mount	10	#10-#14 AWG CU STRANDED
	6W30A1C	Channel Mount		
	6WEF	End Piece (Flat)		
	6WEC	End Piece (Channel)		
	MC	Mounting Clamp	25	
	MPC-6	6 Foot Channel	-	
	MPS-3	3 Foot Channel		
	GR-2	1/8" Diameter x 2' Long Nylon Rod		

### Flat Mount:

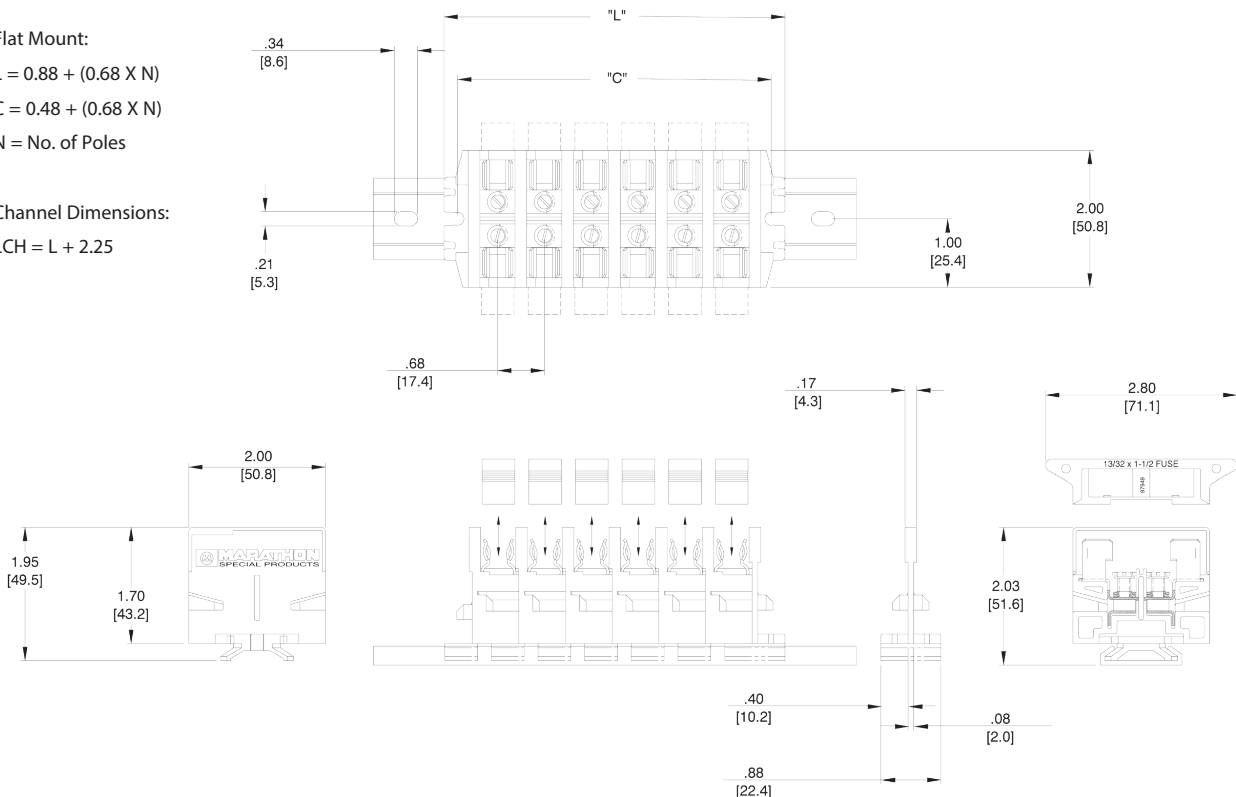
$$L = 0.88 + (0.68 \times N)$$

$$C = 0.48 + (0.68 \times N)$$

N = No. of Poles

### Channel Dimensions:

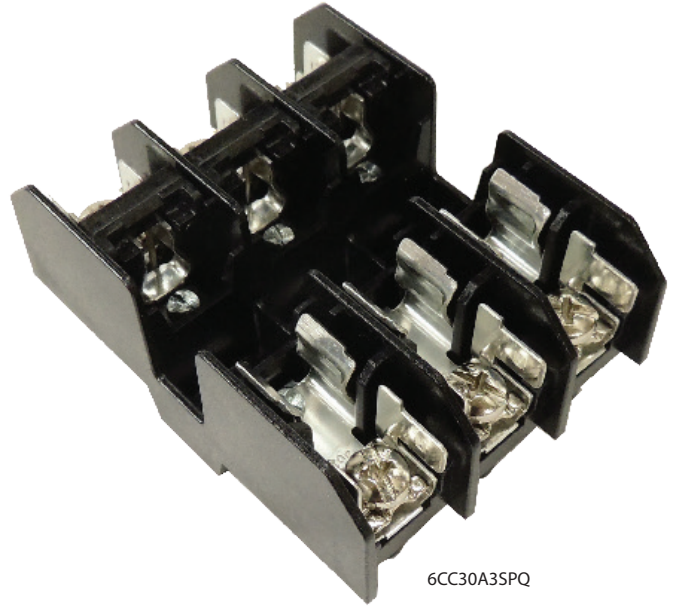
$$LCH = L + 2.25$$



# Class CC Fuse Holders

**Specifications:**

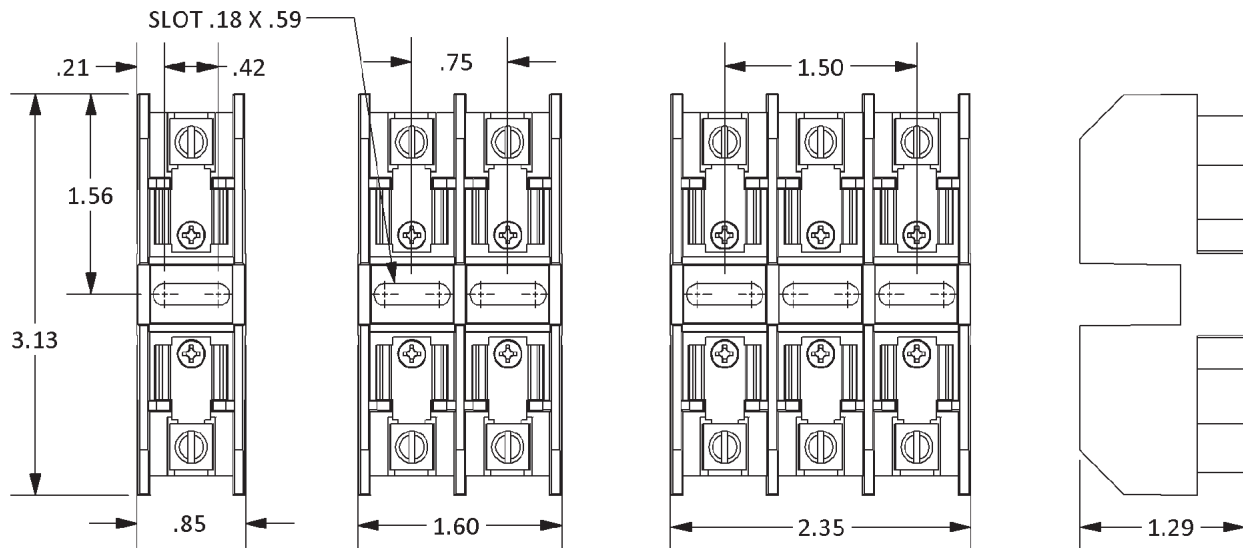
- Available in 30 and 60 amp @ 600 volts
- 200,000 amp SC withstand rating
- Copper box connectors available (add CU after catalog number)
- Clip, copper alloy, tin plated with patented reject member
- Expander block available
- Quick connect standard with screw (S) or SEMS pressure (SP)
- For box connectors, internal hex screw option is available
- 30 Amp - UL listed file no. IZLT.E35113
- 60 Amp - UL listed file no. IZLT.E35113, Class CD
- 30 Amp - CSA certified file no. LR21455
- 60 Amp - CSA certified file no. LR21455-91
- CE compliant
- RoHS compliant



6CC30A3SPQ

**600 Volts**

Amps	Catalog # (replace "X" with # of poles)	Poles (X) (E=expander)	Base Materials	Wire Range
30	6CC30AxSQ	1/2/3	Thermoplastic	#10-#22 AWG CU
	6CC30AxSPQ			#10-#14 AWG CU
	6CC30AxB			#6-#14 AWG CU
	6CC30AxBCU			
60	R6CC60AxB	1/2/3/E		#2-#14 AWG CU #2-#12 AWG AL



# Class CC Enclosed Fuse Holders

## Specifications:

- 30 amps @ 600 volts AC/DC
- 200,000 amp SC withstand rating
- DIN rail mount (35mm)
- Touchsafe design IEC type IP20
- Handle allows quick easy fuse change
- Blown fuse indication available
- Indication light AC and DC 65 VAC, 90 VDC volts minimum
- Base materials: thermoplastic
- UL listed for US file no. IZLT.E35113, UL certified for Canada file no. IZLT7.E35113
- CE compliant
- RoHS compliant



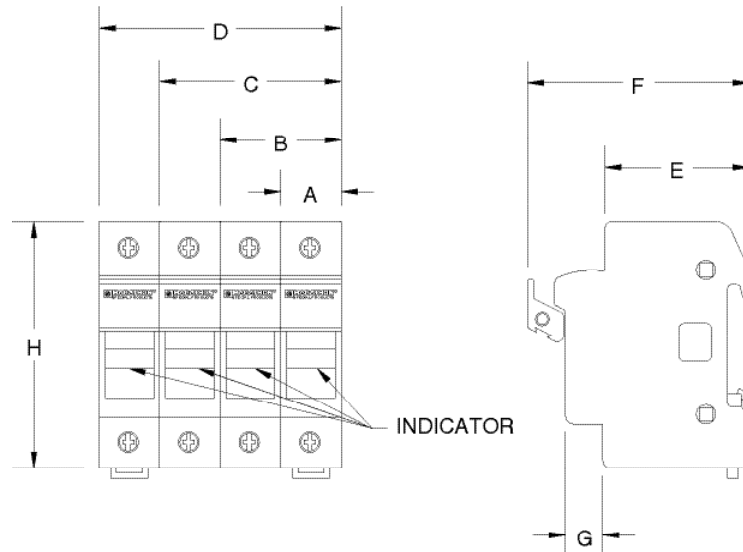
6SC30A C

## 600 Volts

Amps	Catalog # (Replace "X" with # of poles)	Indicating	Poles	Wire Range
30	6SC30Ax-C	No	1/2/3/4	1) #6-#18 CU Stranded
	6SC30AxI-C	Yes		1) #10-#18 Solid 2) #10-#18 Stranded

EFK-MCKK - Pin kit (used for ganging multiple poles) - includes 10 handle pins and 20 body clips, use one handle pin and two body clips per pole

DIM	mm	Inches
A	17.8	0.70
B	35.6	1.40
C	53.3	2.10
D	71.1	2.80
E	43.2	1.70
F	59.7	2.35
G	12.2	0.48
H	79.2	3.12



# Class J Fuse Holders

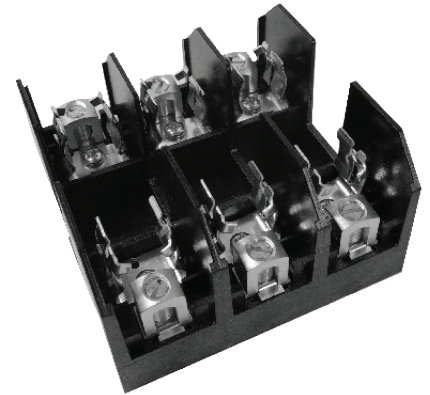
**Specifications:**

- Available in 30, 60, 100, 200, 400 & 600 amps @ 600 volts
- Copper box connectors available on 30 and 60 amp (add CU after catalog number)
- 200,000 amp SC withstand rating
- UL listed file no. IZLT.E35113 (6J200, 6J400 and 6J600 fuse holders, cUL file no. 1ZLT8.E35113)
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant
- Flexible stranded wire compliant - 100A, 200A, 400A and 600A models
- See data sheets for drawings

Amps	Catalog # (replace "X" with # of poles)	Poles (X) (E=expander)	Base Materials	Wire Range
30	R6J30AxS <sup>1</sup>	1/2/3/E	Thermoplastic	#10-#22 AWG CU
	R6J30AxSP <sup>1</sup>			#10-#14 AWG CU
	R6J30AxB <sup>1</sup>			#2-#14 AWG CU #2-#12 AWG AL
60	R6J60AxB <sup>1</sup>	1/2/3	Phenolic	2/0-#14 AWG CU 2/0-#12 AWG AL
100	R6J100AxB	1 3		250 kcmil #6 AWG CU AL
200	6J200AxBFBD	1/3	Phenolic	(1) 600-#2 kcmil (1) 350-#6 AWG CU AL
400	6J400AxBFBD			(2) 500 kcmil #6 AWG CU AL
600	6J600AxBFBD			

<sup>1</sup> For non-reinforced version, remove "R" in catalog number

See page 115 for available covers  
 See page 116 for DIN Rail Adapter  
 Contact Customer Service for Stud Options  
 Fuse mounting hardware supplied with fuse holder



R6J30A3B



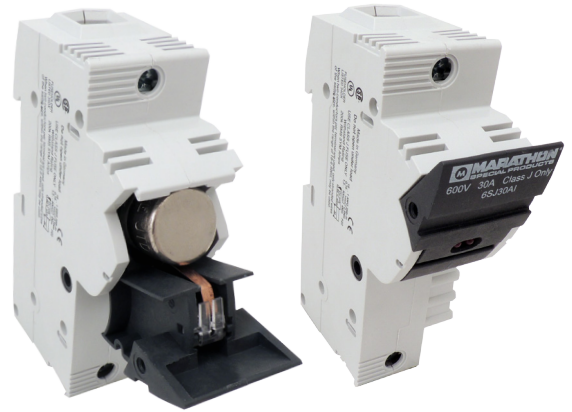
R6J60A3B



# Class J Enclosed Fuse Holders

## Specifications:

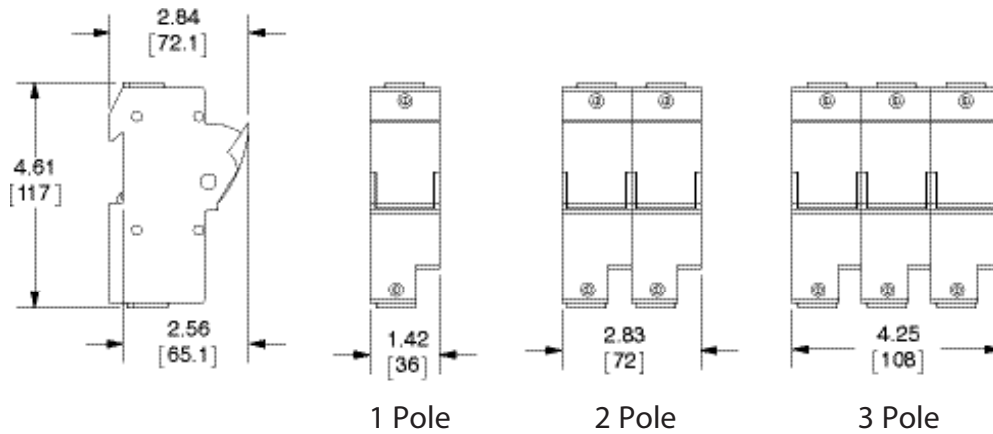
- Available in 30 & 60 amps @ 600 volts
- 200,000 amp SC withstand rating
- Touchsafe IEC type design (IP20)
- Blown fuse indicating type available (6SJ30AXI and 6SJ60AXI)
- Red dual LED indicator - range of operating voltage 110-600V AC/DC, use either polarity for DC application
- UL listed file no. IZLT.E35113
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant



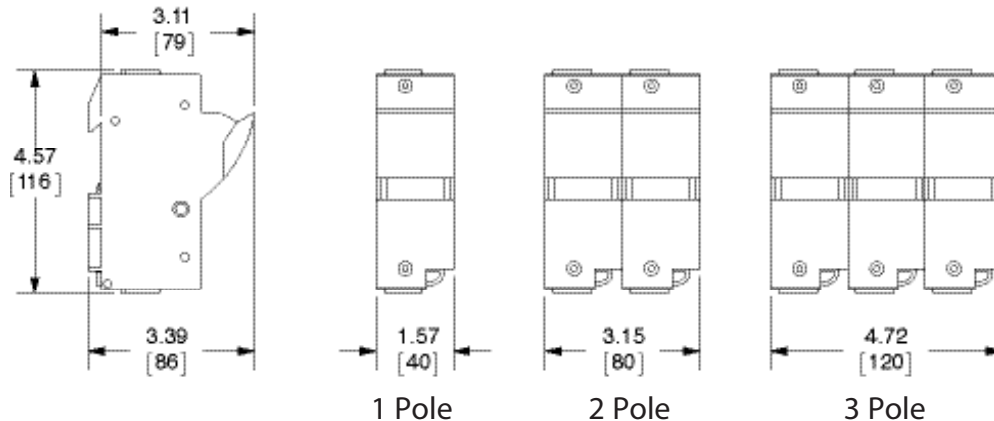
6SJ30A11 (shown with and without fuse; not included)

Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	6SJ30Ax	1/2/3	Thermoplastic	#1-#18 AWG
	6SJ30AxI			(2) #10-#12 AWG
60	6SJ60Ax			#1-#14 AWG
	6SJ60AxI			(2) #6-#14 AWG

### 30 AMPS:



### 60 AMPS:





# Class R Fuse Holders

## Specifications:

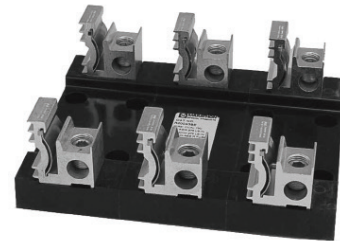
- Available in 30, 60, 100, 200, 400 & 600 amps @ 250/600 volts
- Copper box connectors available on 30 and 60 amp (add CU after catalog number)
- 200,000 amp SC withstand rating
- UL listed file no. IZLT.E35113
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant
- See data sheets for drawings



6R30A3SP

## 250 Volts

Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	R30AxS	1/2/3	Thermoplastic	#10-#22 AWG CU
	R30AxSP			#10-#14 AWG CU
	R30AxB			#6-#14 AWG CU
60	R60AxSQ *	1/2/3	Thermoplastic	#10-#22 AWG CU
	R60AxB			#2-#14 AWG CU #2-#12 AWG AL
100	R100AxB	1/2/3	Phenolic	2/0-#14 AWG CU 2/0-#12 AWG AL
200	R200AxBE	1/3	Polyester	250 kcmil #6 AWG CU AL
400	R400AxB		Phenolic	(2) 350 kcmil - 1/0 AWG CU AL
600	R600AxB		Phenolic	(2) 500 kcmil - 1/0 AWG CU AL



R200A3BE

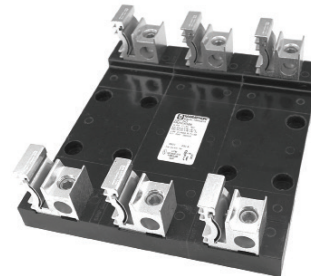
\*CSA Certified Only

## 600 Volts

Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	6R30AxS	1/2/3	Phenolic	#10-#22 AWG CU
	6R30AxSP			#10-#14 AWG CU
	6R30AxB			#6-#14 AWG CU
60	6R60AxB	1/2/3	Phenolic	#2-#14 AWG CU #2-#12 AWG AL
100	6R100AxB	1/2/3	Phenolic	2/0-#14 AWG CU 2/0-#12 AWG AL
200	6R200AxBE	1/3	Polyester	250 kcmil #6 AWG CU AL
400	6R400AxB		Phenolic	(2) 350 kcmil 1/0 AWG CU AL
600	6R600AxB		Phenolic	(2) 500 kcmil 1/0 AWG CU AL



6R30A3B



6R200A3BE

See page 115 for available covers  
See page 116 for DIN Rail Adapter  
Contact Customer Service for Stud Options

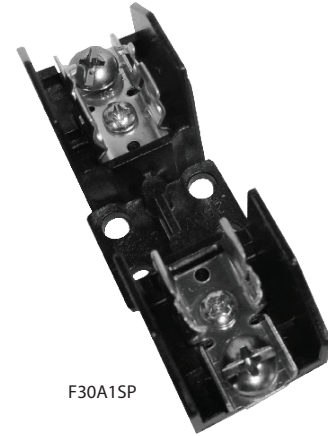
# Class H Fuse Holders

## Specifications:

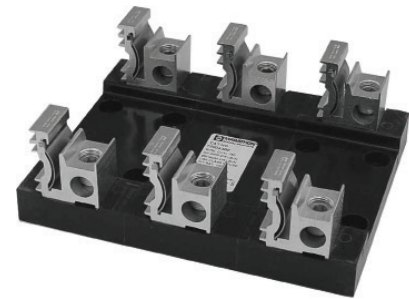
- Available in 30, 60, 100, 200, 400 & 600 amps @ 250/600 volts
- Copper box connectors available on 30 and 60 amp (add CU after catalog number)
- 10,000 amp SC withstand rating
- UL listed file no. IZLT.E35113
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant
- See data sheets for drawings

## 250 Volts

Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	RF30AxS <sup>1</sup>	1/2/3	Thermoplastic	#10-#22 AWG CU
	RF30AxSP <sup>1</sup>			#10-#14 AWG CU
	RF30AxB <sup>1</sup>			#6-#14 AWG CU
60	RF60AxSQ <sup>2</sup>	1/2/3	Thermoplastic	#10-#22 AWG CU
	RF60AxB			#2-#14 AWG CU #2-#12 AWG AL
100	RF100AxB	1/2/3	Phenolic	2/0-#14 AWG CU 2/0-#12 AWG AL
200	F200AxBE	1/3	Polyester	250 kcmil #6 AWG CU AL
400	RF400AxB		Phenolic	(2) 350 kcmil 1/0 AWG CU AL
600	F600AxB		Phenolic	(2) 500 kcmil 1/0 AWG CU AL



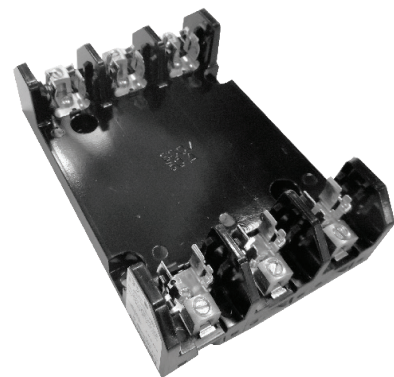
F30A1SP



F200A3BE

## 600 Volts

Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	R6F30AxS <sup>1</sup>	1/2/3	Phenolic	#10-#22 AWG CU
	R6F30AxSP <sup>1</sup>			#10-#14 AWG CU
	R6F30AxB <sup>1</sup>			#6-#14 AWG CU
60	R6F60AxB <sup>1</sup>	1/2/3	Phenolic	#2-#14 AWG CU #2-#12 AWG AL
100	R6F100AxB	1/2/3	Phenolic	2/0-#14 AWG CU 2/0-#12 AWG AL
200	6F200AxBE	1/3	Polyester	250 kcmil #6 AWG CU AL
400	R6F400AxB		Phenolic	(2) 350 kcmil 1/0 AWG CU AL
600	6F600AxB		Phenolic	(2) 500 kcmil 1/0 AWG CU AL



R6F30A3B

<sup>1</sup> For non-reinforced version, remove "R" in catalog number

<sup>2</sup> UL recognized File No. IZLT2.E35113

See page 115 for available covers

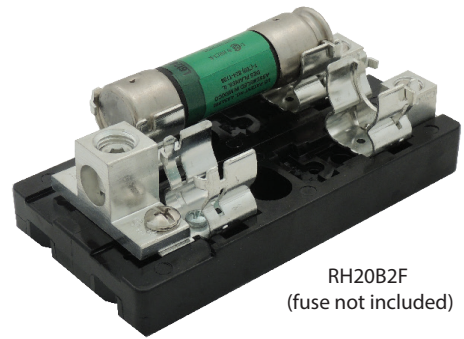
See page 116 for DIN Rail Adapter

Contact Customer Service for Stud Options

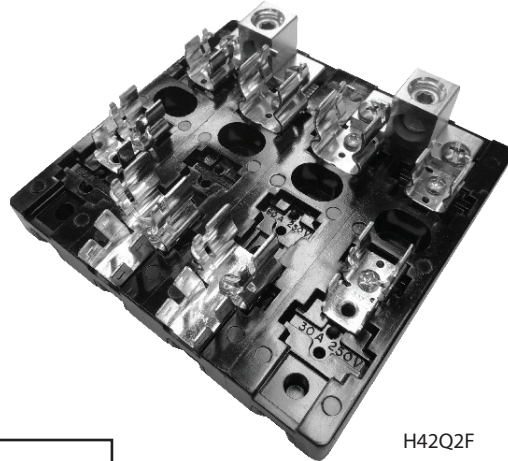
# Class H Fuse Panels

**Specifications:**

- 30 and 60 amps @ 250 volt base
- General purpose phenolic, 150°C (UL RTI)
- Clip, copper alloy, tin plated
- Reinforcing member available
- Bus bars are available with 2/0 - #14 AWG or 250 kcmil - #6 wire ranges
- Consult customer service for special requirements
- UL recognized file no. IZLT2.E35113
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant

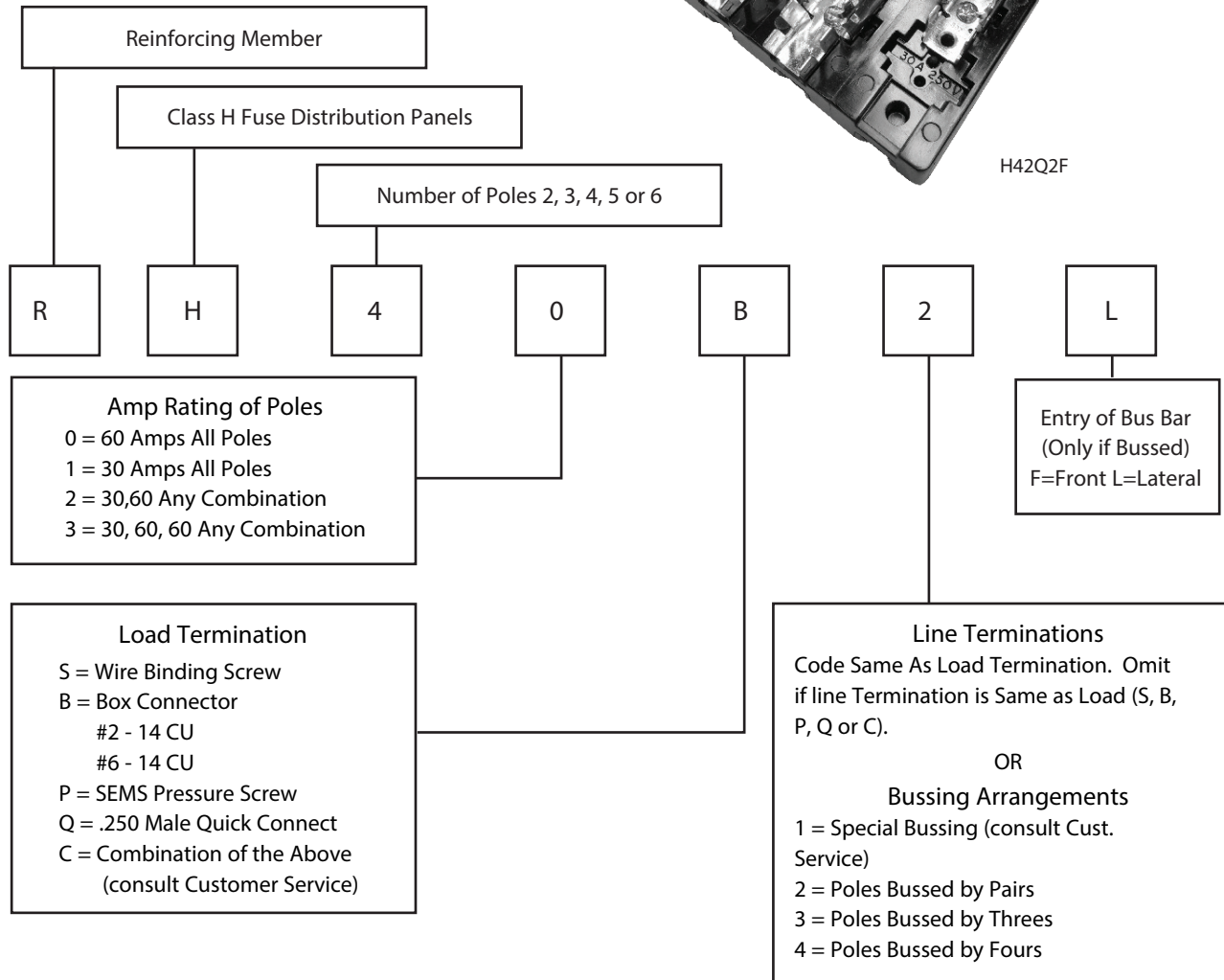


RH20B2F  
(fuse not included)

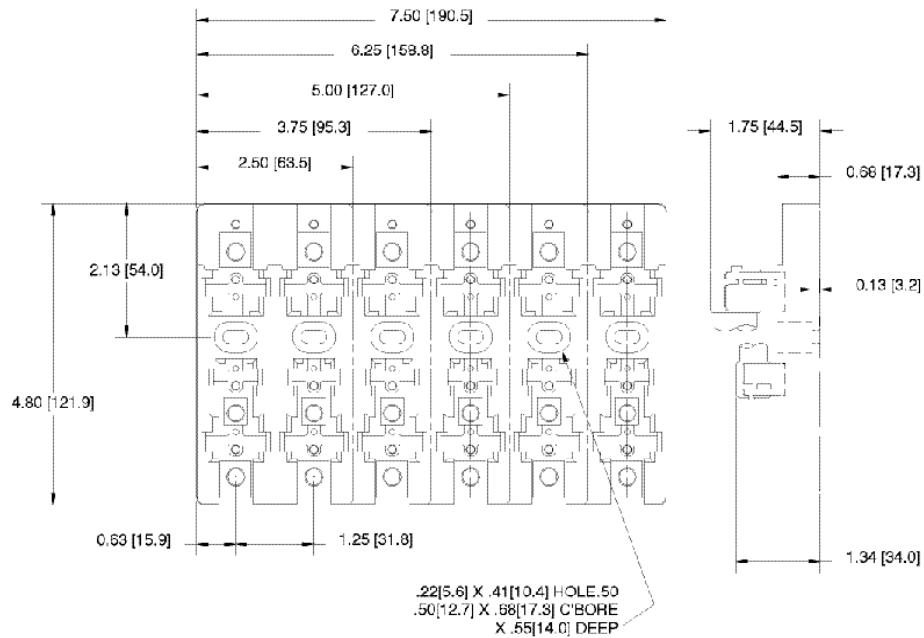


H42Q2F

**Ordering Code:**



# Class H Fuse Panels



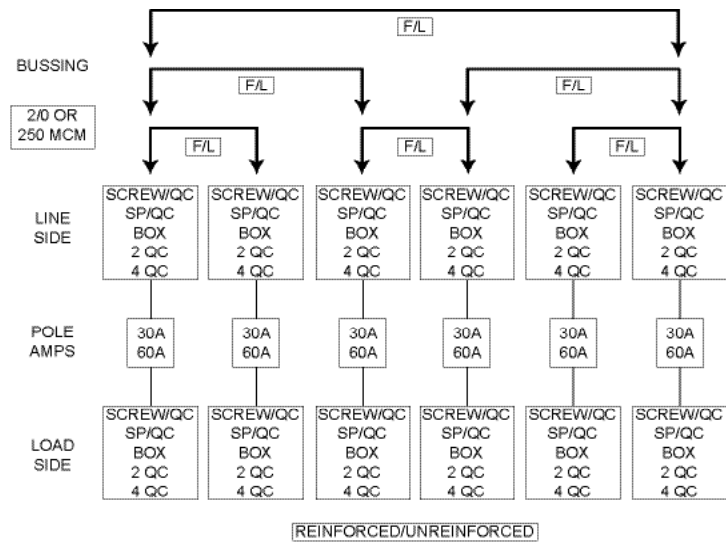
Poles	Dimensions (in) L	(mm)
2	2.50	63.5
3	3.75	95.25
4	5.00	127.0
5	6.25	158.8
6	7.50	190.5

## Fuse Distribution Panel Options

Circle/indicate one item per pole and number of poles. The items to be indicated are within the rectangles.

Bussing is only available on line side. If bussing, indicate lug size 2/0 or 250 kcmil (F = Front entry, L = Lateral entry)

Consult Customer Service for other modifications.



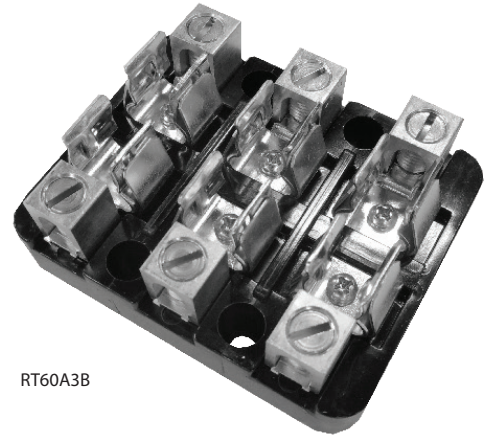
# Class T Fuse Holders

## Specifications:

- Available in 30, 60, 100, 200, 400 & 600 amps @ 300/600 volts
- Copper box connectors available on 30 and 60 amp (add CU after catalog number)
- 200,000 amp SC withstand rating
- UL listed file no. IZLT.E35113
- CSA certified file no. LR21455
- CE compliant
- RoHS compliant
- Flexible stranded wire compliant - 100A, 200A, 400A and 600A models
- See data sheets for drawings

## 300 Volts

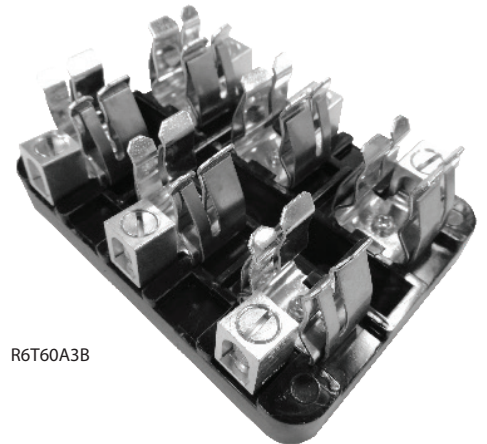
Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	RT30AxB	2/3	Phenolic	#2-#14 AWG CU #2-#12 AWG AL
60	RT60AxB			#2-#14 AWG CU 2/0-#12 AWG AL
100	T100AxB	1/3		250 kcmil #6 AWG CU AL
200	T200AxB			(2) 250 kcmil #6 AWG CU AL
400	T400AxB	1		(2) 500 kcmil #6 AWG CU AL
600	T600AxB			(2) 500 kcmil #6 AWG CU AL



RT60A3B

## 600 Volts

Amps	Catalog # (replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
30	R6T30AxS	2/3	Phenolic	#10-#22 AWG CU
	R6T30AxSP			#10-#14 AWG CU
	R6T30AxB			#2-#14 AWG CU #2-#12 AWG AL
60	R6T60AxB	1/3		2/0-#14 AWG CU 2/0-#12 AWG AL
100	6T100AxB			250 kcmil #6 AWG CU AL
200	6T200AxB	1		(2) 250 kcmil #6 AWG CU AL
400	6T400AxB		(2) 500 kcmil #6 AWG CU AL	
600	6T600AxB			



R6T60A3B



# Class G Fuse Holders

## Specifications:

- Available in 15, 20 & 30 amps @ 600/480 volts
- 100,000 amp SC withstand rating
- Clip, copper alloy, tin plated
- Quick connect standard with screw (S) or SEMS pressure (SP)
- Copper box connectors are available on 30 and 60 amp fuse holders (add CU after catalog #)
- For box connectors, internal hex screw option available
- UL listed file no. IZLT.E35113
- CSA certified file no. LR21455
- RoHS compliant

Amps	Catalog # (Replace "X" with # of poles)	Poles (X)	Base Materials	Wire Range
15 (600 VOLT)	RG15AxSQ	1/2/3	Thermoplastic	#10-#22 AWG CU
	RG15AxSPQ			#10-#14 AWG CU
	RG15AxB			#6-#14 AWG CU
	RG15AxBCU			
20 (600 VOLT)	RG20AxSQ			#10-#22 AWG CU
	RG20AxSPQ			#10-#14 AWG CU
	RG20AxB			#6-#14 AWG CU
30 (480 VOLT)	RG30AxSQ			#10-#22 AWG CU
	RG30AxSPQ			#10-#14 AWG CU
	RG30AxB			
	RG30AxBCU			#6-#14 AWG CU

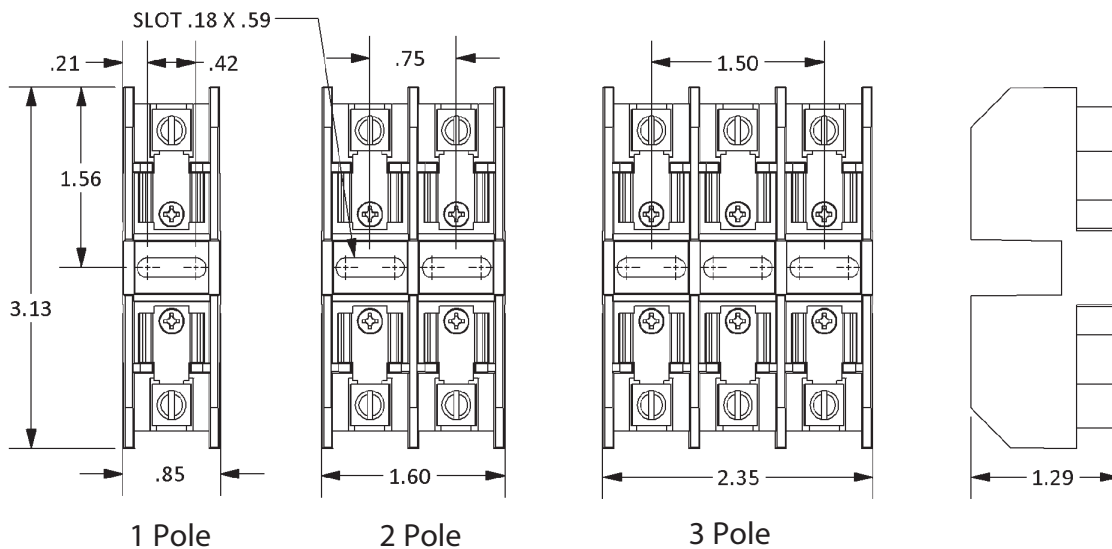
See page 115 for available covers  
See page 116 for DIN Rail Adapter



G15A3SPQ



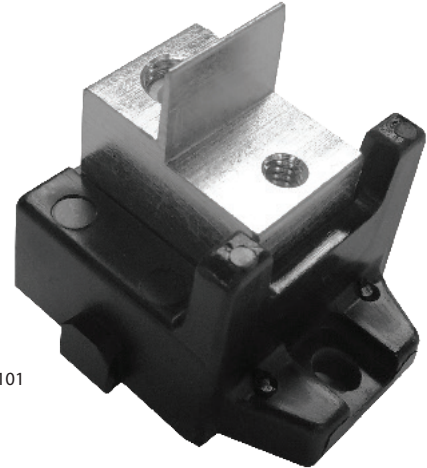
G30AXB



# General Purpose/Semi Conductor Fuse Holders

## Box Version - Specifications:

- 200,000 amp SC withstand rating
- Insulator base, general purpose phenolic, 150°C (UL RTI)
- Hex-head bolts and Belleville washers provided unassembled
- Connector - aluminum, tin plated
- Dove-tail interlocking feature on 1MS101
- Two-piece modular design
- UL recognized - UR file no. IZLT2.E35113, cUR file no. IZLT8.E35113
- CE compliant
- RoHS compliant

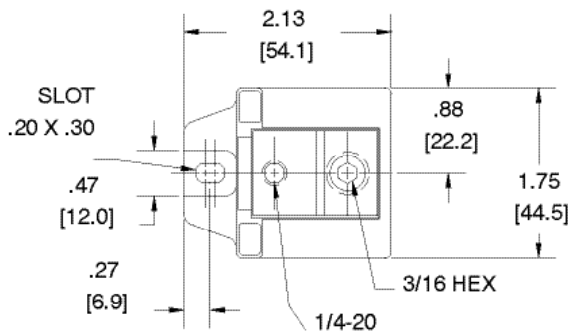


1MS101

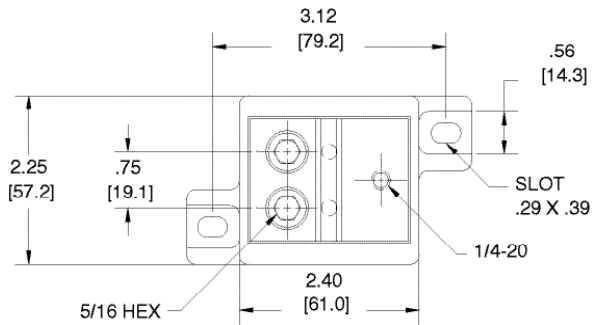
## 600 Volts

Max Amps	Catalog #	Wire Range	Tested At:	
			I <sup>2</sup> t	I <sub>p</sub>
100	1MS101	2/0 - #14	193kA	27.4kA
400	1MS102	(2) 250 kcmil - #6	3480 kA	69.5 kA
	1MS103	(2) 250 kcmil - #6	3480 kA	69.5 kA
600	1MS104	(2) 500 kcmil - #6	2840kA	50.8 kA

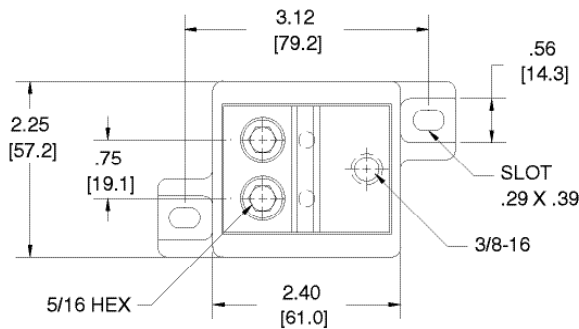
NOTE: Order two blocks per fuse



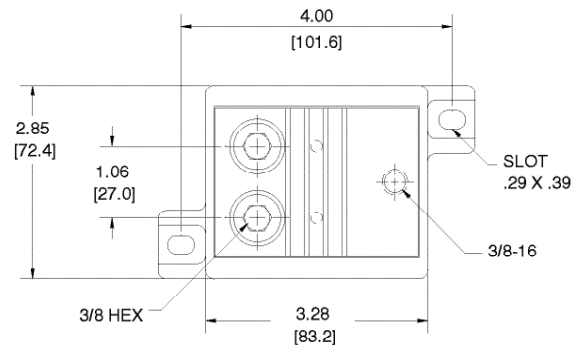
1MS101



1MS102



1MS103



1MS104



# General Purpose/Semi Conductor Fuse Holders

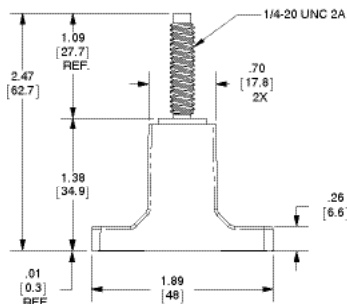
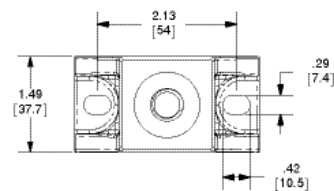
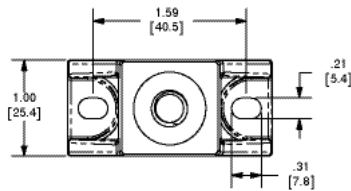
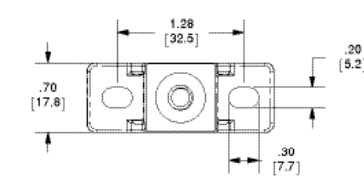
## Stud Version - Specifications:

- 1000 volt
- Insulator base, high strength thermoplastic
- Stud, nuts and Belleville washers: plated steel
- Maximum insulator base temperature rating 125°C (257°F) UL RTI (impact)
- Hardware provided unassembled
- Flammability rating of insulator UL 94 V-0
- Ideal for applications such as lithium-ion battery packs, inverters, industrial panels and other energy storage devices
- UL recognized - UR file no. IZLT2.E35113, cUR file no. IZLT8.E35113
- RoHS compliant

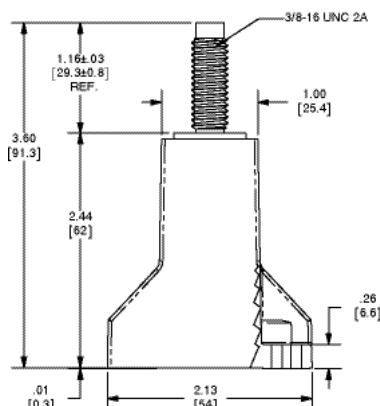


FSM50E

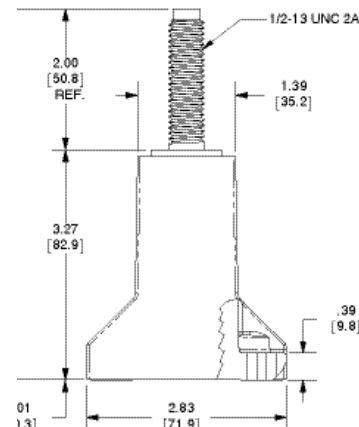
	Catalog #		
	FSM25E	FSM37E	FSM50E
Stud Sizes	1/4"-20 Stud	3/8"-16 Stud	1/2"-13 Stud
	Metric sizes (M6, M10, M12) available upon request - contact Customer Service for more information		
Electrical Ratings	400A, Up to 1000V AC/DC	800A, Up to 1000V AC/DC	1200A, Up to 1000V AC/DC
Application Torque	75 in-lbs	230 in-lbs	300 in-lbs
SC Withstand Rating	Approved for 200,000A, Tested at 111 kA <sup>2</sup> s (I <sup>2</sup> t) and 20.0 kA (I <sub>p</sub> )	Approved for 200,000A, Tested at 274 kA <sup>2</sup> s (I <sup>2</sup> t) and 26.2 kA (I <sub>p</sub> )	Approved for 200,000A, Tested at 465 kA <sup>2</sup> s (I <sup>2</sup> t) and 30.8 kA (I <sub>p</sub> )
Mounting	Mount with #10 fastener, torque to 25-30 in. lbs.	Mount with #10 fastener, torque to 25-30 in. lbs.	Mount with 1/4" fastener, torque to 25-30 in. lbs.



FSM25E



FSM37E



FSM50E

# Fuse Holders w/ Box Distribution Connectors

## Specifications:

- Available in 30 and 60 amp @ 250 / 600 volts
- Available on Class H, R and J fuse holders
- Connectors, high conductive aluminum, tin plated
- Reinforcing member available, standard on Class R
- UL recognized file no. IZLT2.E35113
- CSA certified file no. LR21455
- RoHS compliant
- See data sheet for drawings

## Class H and R Fuse Holders

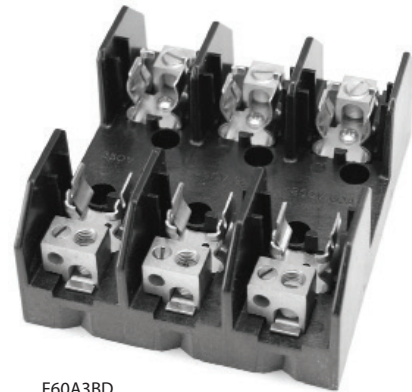
Amps	Volts	Catalog # (Replace "X" with # of poles)	Line Wire Range	Load Wire Range
60	250	F60AxBD	(1) #2-#10 AWG	(1) #2-#10 AWG (1) #6-#14 AWG
		R60AxBD		
		F60AxBD-D		
		R60AxBD-D		
30		6F30AxBD-D	(1) #6-#14 AWG	(1) #6-#14 AWG (2) #10-#18 AWG
		6R30AxBD-D		
60	600	6F60AxBD	(1) #2-#10 AWG	(1) #2-#10 AWG (1) #6-#14 AWG (1) #2-#10 AWG (2) #6-#14 AWG
		6R60AxBD		
		6F60AxBD-D		
		6R60AxBD-D		

Class R - No Agency Approval

## Class J Fuse Holders

Amps	Volts	Catalog # (Replace "X" with # of poles)	Line Wire Range	Load Wire Range
60	600	6J60AxBD	(1) #2-#10 AWG	(1) #2-#10 AWG (1) #6-#14 AWG (1) #2-#10 AWG (2) #6-#14 AWG
		6J60AxBD-D		

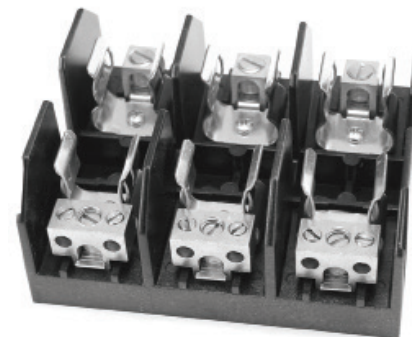
Class J - No Agency Approval



F60A3BD



6F30A3BDD



6J60A3BDD

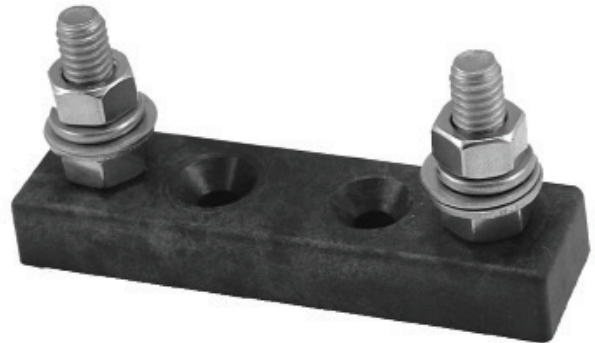
# STSF Forklift/Semi Conductor Fuse Holder

## Stud Version - Specifications:

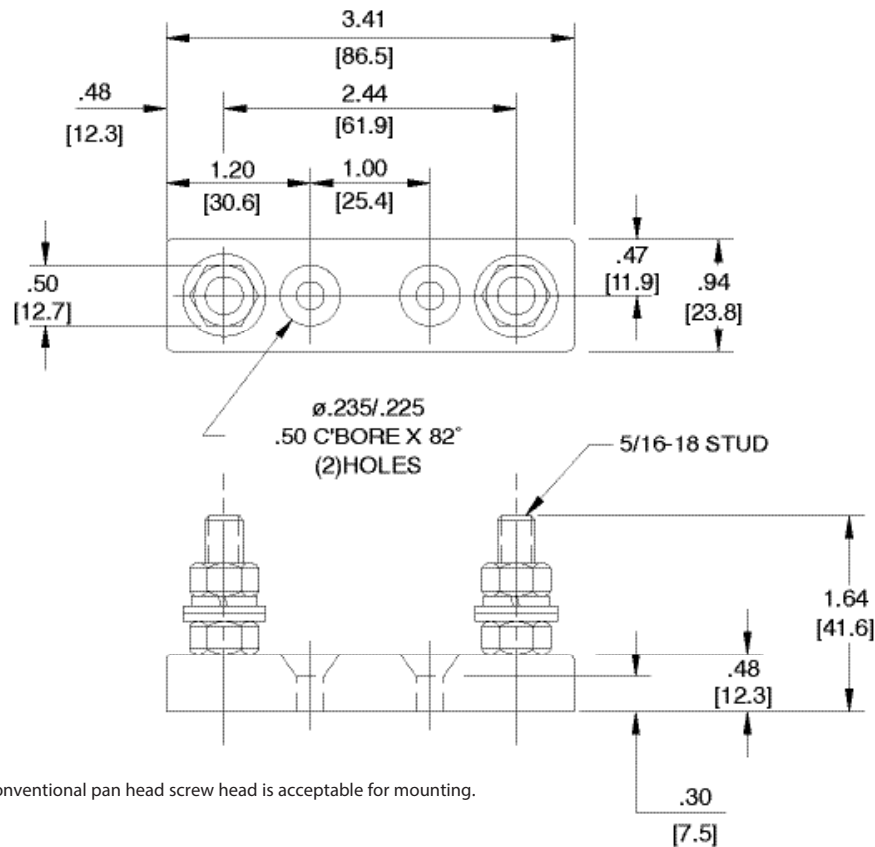
- Base, high strength thermoplastic
- Temperature rating of 170°C
- Studs, stainless steel (nuts and washers provided)
- 130 volt AC/DC, 1 to 400 Amps
- UL recognized file no. IZLT2.E35113
- RoHS compliant

## Applications:

This holder is used in direct current (DC) applications: forklifts, golf carts, electric vehicles, custom high-end car stereo systems, heavy equipment, marine aircraft, and similar applications.



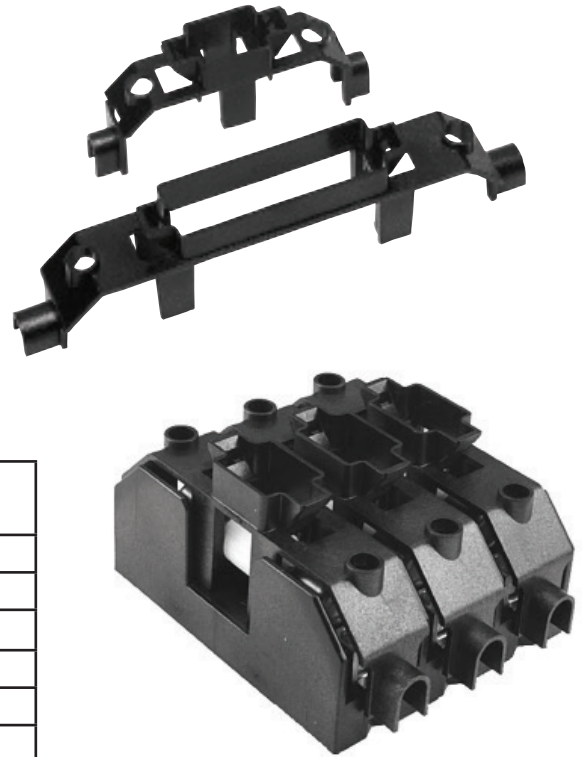
ST SF



# Fuse Holder Covers

## Specifications:

- Material, thermoplastic
- Thermal rating, 125°C (RTI, per UL 746)
- Flammability, VO (per UL 94)
- UL listed accessories under file no. JDVS2.E181825
- In application, protection is consistent with IEC standard 529, designation IP20 (Finger Safe)\* - except CJ6100-1, CJ6100-2, and CJ6100-3
- Opening allows view of self-indicating fuses
- Holes for test probes and re-tightening of wire terminations
- Covers fit most fuse holder brands
- RoHS compliant



Fuse Holder shown with Covers Attached

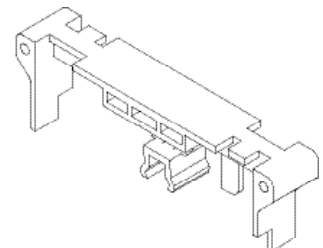
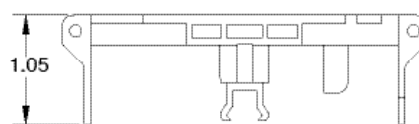
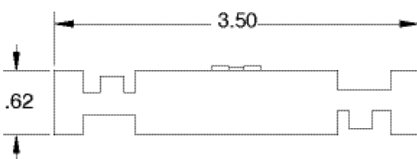
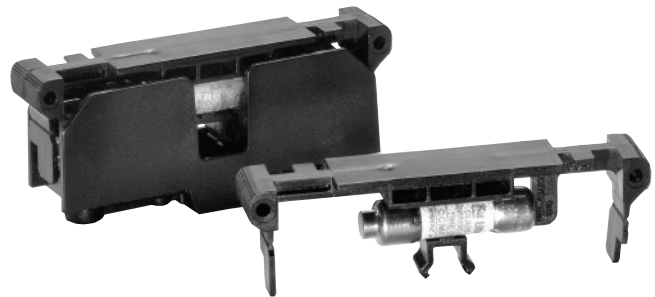
Fuse Type	Amps	Voltage	Catalog #	For use with Fuse Holder #
H/R	30	250	CHR230	F30A/R30A
	60		CHR260	F60A/R60A
	100		CHR2100	RF100A/R100A
	30	600	CHR630	6F30A/6R30A
	60		CHR660	6F60A/6R60A
	100		CHR6100	R6F100A/6R100A
J	30	600	CJ630	6J30A
	60		CJ660	6J60A
	100		CJ6100-1C	R6J100A
			CJ6100-2C	
			CJ6100-3C	
CC, G	30	CC630	6CC30A, Class J	
CD	60	CC660	R6CC60A	
MISC	30	CCM630**	6M30A/6CCM30A	

\*Applications involving fuse holders other than Marathon may not provide IP20 finger protection

\*\*Covers are recognized if used with recognized fuses

## Cover/Puller (Catalog # CVR-MCC)

Marathon's Cover/Puller was designed for use with the Class CC (30 Amp), Midget and Class G (15 & 20 Amp only) Fuse Holders. Once installed, the Cover/Puller provides an easy and safe way to remove fuses. In application, protection is consistent with IEC Standard 529, designation IP20 (finger safe).



# DIN Rail Adapters

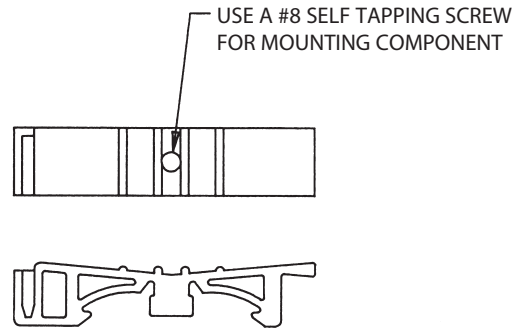
Catalog #	Std Pack Qty
DIN R 1	10

## DIN R 1:

- Accessory to secure surface mount devices on DIN rail
- Made of acetal resin material
- High mechanical strength and rigidity
- Good resilience and resistance to creep
- Excellent dimensional stability
- Excellent low temperature toughness
- Wide end-use temperature range
- Will work with 2 and 3 pole Class H (250 volt, 30 amp) and Class R fuse holders (250 volt, 30 amp), and 985, 1100, 1200, 1500, and 1600 series heavy duty terminal blocks
- RoHS compliant

### Assembly Method:

- Press adapter onto rail, fasten component with #8 self tapping screw (screw not supplied)
- Assembly locks firmly unto DIN rail



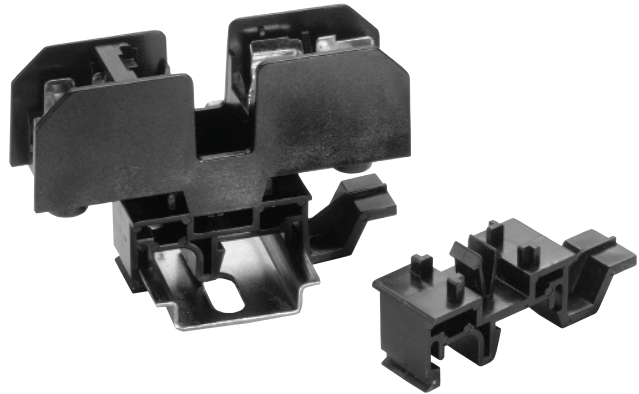
Catalog #	Std Pack Qty
DIN R 2	10

## DIN R 2:

- For use with Class CC (30 amp), midget, and Class G fuse holders.
- RoHS compliant

### Assembly Method:

- DIN R 2 snaps securely to the Marathon fuse holders and to DIN rails without tools, which permits the fuse holders to be mounted directly to standard and low profile 35mm symmetrical and 32mm asymmetrical DIN rails.
- May be removed by lifting the disconnect tab





# Terms & Conditions

ALL QUOTATIONS ARE OFFERED AND ALL PURCHASE ORDERS ARE ACCEPTED BY SELLER SUBJECT ONLY TO THESE TERMS AND CONDITIONS.

## 1. DEFINITIONS:

"Buyer" means the entity to which Seller is selling Products or Services under a Contract.

"Contract" means the agreement between Buyer and Seller governing the sale of Products and/or Services by Seller to Buyer. These Terms and Conditions, the Quotation (if one is issued by Seller), any purchase order acknowledgement (if one is issued by Seller), and Buyer's purchase order (except to the extent that it conflicts with these Terms and Conditions, the Quotation, and/or the order acknowledgement) constitute the Contract.

"Products" means the equipment, parts, materials, supplies, and other goods that Seller has agreed to supply under the Contract. References in these Terms and Conditions to the purchase and sale of Products may mean, where applicable, the licensing of Software loaded on or provided with the Products.

"Quotation" means Seller's statement identifying the Products and Services, together with any quantity, price, delivery schedule, and/or other terms and conditions (in addition to or different from these Terms and Conditions), offered by Seller for sale to Buyer. A Quotation that incorporates these Terms and Conditions by reference shall be deemed to include these Terms and Conditions, whether or not Seller provides a complete copy of these Terms and Conditions to Buyer with the Quotation, with a purchase order acknowledgement, or with an invoice. Where there is a conflict between these Terms and Conditions and other provisions of the Quotation, the latter shall control.

"Services" means the services that Seller has agreed to provide under the Contract.

"Software" means software loaded on or provided with the Products.

"Seller" means the Regal entity – whether Regal Beloit Corporation ("RBC") or an RBC subsidiary – supplying Products and/or providing Services under the Contract.

"Terms and Conditions" means these "Terms and Conditions of Sale."

2. CONTRACT FORMATION: No agreement or understanding, oral or written, purporting to modify these Terms and Conditions shall be binding on Seller unless it is made in writing, specifically stating that it is a modification of these Terms and Conditions and it is signed by Seller's authorized representative. No course of dealing, usage of trade, or course of performance shall be relevant to explain or supplement any of these Terms and Conditions. If these Terms and Conditions are deemed an offer, Buyer's acceptance of Seller's offer is expressly limited to acceptance of these Terms and Conditions. Fulfillment of Buyer's order does not constitute acceptance of any of Buyer's terms and conditions and does not modify or amend these Terms and Conditions. Buyer's purchase order for the purchase of Products and/or for the performance of Services shall constitute Buyer's assent to these Terms and Conditions. Any terms and conditions contained in Buyer's purchase order or other form of communication from Buyer that are additional to or different from these Terms and Conditions, shall be deemed rejected by Seller, unless expressly accepted in writing by Seller's authorized representative. Alternatively, if these Terms and Conditions are deemed to be a response to, an acceptance of, or a written confirmation of, Buyer's offer, whether provided in the form of a purchase order or otherwise, Seller's acceptance is expressly conditioned upon Buyer's assent to these Terms and Conditions. Buyer's acceptance of Products tendered to Buyer by Seller shall constitute Buyer's express assent to all of the terms and conditions contained in these Terms and Conditions. All proposals, negotiations and representations, if any, made prior to or with reference hereto are hereby superseded by these Terms and Conditions. References in this Section to "these Terms and Conditions" shall be deemed to mean these Terms and Conditions and Seller's Quotation, if Seller has issued a Quotation.

3. ACCEPTANCE OF PURCHASE ORDERS: No Buyer purchase order shall be binding on Seller until accepted in writing by Seller, and Seller shall have no liability to Buyer with respect to purchase orders that are not accepted. Shipment against a purchase order shall be deemed to constitute Seller's acceptance thereof, subject to these Terms and Conditions. All purchase orders shall be subject to these Terms and Conditions, whether or not the purchase orders so state. Purchase orders accepted by Seller may not be cancelled or modified by Buyer without the prior written consent of Seller.

4. QUOTATIONS: Quotations shall expire and shall be void thirty (30) days from date of the Quotation, unless otherwise specified in the Quotation. The Quotation may be modified or withdrawn by Seller at any time before Seller's receipt of Buyer's conforming acceptance.

## 5. PRICES; PRICE CHANGES:

(a) Products. The price of the Products sold pursuant to the Contract shall be as set forth in the Quotation. If price is not specified in the Quotation, price shall be based upon Seller's prices in effect at the time of shipment. Published prices are for Products of Seller's current standard design and constructed of standard materials. Variation from the standard design and/or materials requires special pricing. Seller reserves the right at any time, and without incurring any obligation, to discontinue the manufacture of any model, to withdraw products from sale, to make changes in design, and/or to add improvements to products. Price also shall be based on freight rates in effect at the time of shipment. Where applicable, in the event of an increase in the applicable freight rates before the shipment of Products, such changes will be for the account of Buyer. Price advances, discounts, extras and other terms and conditions are subject to change without notice. Unless otherwise provided in the Quotation, price is based on delivery in accordance with the "Delivery" section below. Prices include Seller's standard packing.

(b) Services. Services prices are based on normal business hours (8 AM to 5 PM Monday through Friday). Overtime and Saturday hours will be billed at one and one-half (1.5) times the normal business hour hourly rate. Sunday hours will be billed at two (2) times the normal business hours hourly rate; holiday hours will be billed at three (3) times the normal business hours hourly rate.

6. TAXES, DUTIES AND FEES: Seller shall be responsible for taxes measured on Seller's net income based upon performance of, or payment for, work under the Contract ("Seller Taxes"). Buyer shall be responsible for all other taxes, duties, fees or other charges of any kind (including, but not limited to any manufacturer's tax, retailer's occupation tax, use tax, sales tax, excise tax, duty, custom, inspection or testing fee, value added tax, or any other tax, fee or charge of any

nature whatsoever) imposed by any governmental authority against Buyer, Seller or Seller's suppliers, based upon the Contract between Seller and Buyer. In the event Seller is required to pay any such tax, fee or charge, regardless whether such tax, fee or charge is imposed before or after Seller's delivery of the Products and/or Buyer's payment under the Contract, Buyer shall reimburse Seller therefor. In lieu of such reimbursement, Buyer shall provide Seller, at the time the order is submitted, with an exemption certificate or other document acceptable to the authority imposing such tax, fee or charge. If Seller's prices include any taxes, duties or fees (other than Seller Taxes), any change in such taxes, duties and/or fees shall be the basis for a price adjustment.

## 7. TERMS OF PAYMENT:

(a) Terms. Terms of payment are cash in full, without set-off or discount, in U.S. dollars, and by wire transfer, no later than thirty (30) days from date of invoice.

(b) Payment Default. If Buyer defaults in any payment when due, or in the event that any voluntary or involuntary bankruptcy or insolvency proceedings involving Buyer are initiated by or against Buyer, then the whole Contract price shall immediately become due and payable upon demand, or Seller, at its option and without prejudice to its other lawful remedies, may defer delivery or cancel the Contract. Where delivery is deferred and Seller does not demand immediate payment of the full Contract price, pro-rata payments shall become due as shipments are made.

(c) Buyer Financial Condition. If, during the period of performance of the Contract, the financial condition of Buyer is determined by Seller not to justify the terms of payment specified, Seller may demand full or partial payment in advance before proceeding with the work, or satisfactory security or guarantees that invoices will be promptly paid when due, or, at its option, without prejudice to other lawful remedies, may defer delivery or cancel the Contract.

(d) Delay. If delivery is delayed by Buyer, which delay must be consented to by Seller, Seller may store the Products in accordance with subsection 8(e) "Storage" below and Seller may submit a new estimate of cost for completion based on prevailing conditions. Payments shall become due from the date on which Seller is prepared to deliver the Products and storage shall be the Buyer's risk and expense as provided in subsection 8(g) "Storage" below. If manufacture is delayed by Buyer for any cause, a partial payment based upon the proportion of the order completed shall become due from the date on which Seller is notified of the delay.

(e) Late Payment Charge. Buyer shall pay a late payment charge on all amounts not paid in full when due at the rate of one and one-half percent (1.5%) per month or at the maximum legally permissible rate, whichever is lower.

(f) Exceptions. Supplement A to these Terms and Conditions lists Seller business units for which payment terms vary from payment terms set forth in this Section 7.

## 8. DELIVERY; TITLE TRANSFER; RISK OF LOSS/DAMAGE:

(a) Delivery – U.S. Buyer. For sales in the U.S. that do not involve export from the U.S., Seller shall deliver Products to Buyer EXW Seller's U.S. point of shipment (Incoterms® 2010). The point of shipment shall be the shipping dock of Seller's factory, warehouse or other facility that Seller designates at its discretion as point of shipment from time to time.

(b) Sales Involving Exports from U.S.

(1) Delivery – U.S. Buyer; Subsequent Drop Shipment to Location Outside U.S. For sales, in the U.S. to a U.S. Buyer, which involve drop shipment at Buyer's request and/or on Buyer's behalf, to a location outside the U.S., Seller shall deliver the Products to Buyer EXW Seller's U.S. point of shipment (Incoterms® 2010). The point of shipment shall be the shipping dock of Seller's factory, warehouse or other facility that Seller designates at its discretion as its point of shipment from time to time. Buyer is responsible for all transportation charges incurred after delivery of the Products to the carrier or Buyer at the point of shipment and shall reimburse Seller for any transit insurance or freight pre-paid for the Products by Seller. Buyer shall bear the risk of loss and/or damage in transportation. Buyer is responsible for filing any export documents required for export from the U.S.

(2) Delivery – Non-U.S. Buyer; Routed Export Transactions. For sales in the U.S. to a non-U.S. Buyer, Seller shall deliver Products to Buyer's freight forwarder EXW Seller's U.S. point of shipment (Incoterms® 2010). The point of shipment shall be the shipping dock of Seller's factory, warehouse or other facility that Seller designates at its discretion as its point of shipment from time to time. In a "Routed Export Transaction," as defined in the U.S. Census regulations, 15 CFR Section 30.3, where Buyer is a non-U.S. entity, Buyer shall authorize Buyer's designated freight forwarder or Seller to facilitate the export of the Products from the U.S. and to prepare and file export documentation with respect to such export transaction (hereafter, to "Facilitate the Export"). If Buyer authorizes its designated freight forwarder to Facilitate the Export, Buyer's freight forwarder shall provide Seller with a copy of the final export documentation and proof of filing. If Buyer authorizes Seller to Facilitate the Export, Buyer shall cause Buyer's freight forwarder to provide Seller the information needed by Seller to Facilitate the Export. Buyer shall give timely notice to Seller identifying whom it has designated to Facilitate the Export.

(c) Delivery Dates. Delivery dates are approximate, are not guaranteed and are based upon prompt receipt by Seller from Buyer of all necessary shipping and other information. Seller may deliver in advance of the delivery schedule. Seller reserves the right to make delivery in installments, with all installments to be separately invoiced and paid for by Buyer when due per invoice, without regard to subsequent deliveries. Delivery of the Products to a commercial carrier at the shipping point shall constitute delivery to Buyer.

(d) Title Transfer. Title to Products shall pass to Buyer upon the earlier of delivery of the Products to the carrier or Buyer at the point of shipment in accordance with subsection (a) above, except that, for Routed Export Transactions, title shall transfer to Buyer upon delivery to Buyer's designated freight forwarder. Subject to applicable law, Seller, upon notice to Buyer, may retain title to the Products until such time as Seller receives payment in full from Buyer. Title to Software shall not pass to Buyer and is subject to the applicable license.

(e) Risk of Loss/Damage. Risk of loss and/or damage shall pass to Buyer upon delivery in accordance with subsection (a) above, except that, for Routed Export Transactions, risk of loss and/or damage shall pass upon delivery of the Products to Buyer's designated freight forwarder.

(f) Delivery by Seller's Carrier. Where the parties agree that delivery shall be made at a location other than Seller's point of shipment, where Seller will deliver using its carrier or Seller's privately owned or leased

trucks, unloading at the agreed location shall constitute delivery to Buyer. Freight and/or reloading charges by Seller may not reflect actual freight charges prepaid to the carrier by Seller due to incentive discounts earned by Seller based upon Seller's aggregate volume of freight tendered to a carrier or when a carrier must be used which charges a rate which is different than the rate upon which Seller's freight and handling charges were based. When shipments are delivered in Seller's privately owned or leased trucks, Buyer will be charged an amount approximating the prevailing common carrier rate.

(g) Storage. In the event that Buyer is unable to accept delivery of the Products at time of shipment, Seller shall invoice Buyer for the full purchase price as if shipment had been made and: (i) if Seller is able to store such Products in its own facilities, Buyer will pay Seller the reasonable handling and storage charges for the period of such storage, or (ii) if Seller is unable to store such goods at its own facility, Seller reserves the right to arrange handling and storage in a suitable bonded warehouse for Buyer at Buyer's expense. In cases where handling and storage become necessary, it shall be Buyer's responsibility to notify Seller when shipment is to be made. Seller will make necessary arrangements for shipment at Buyer's expense.

## 9. EXCUSABLE DELAYS; FORCE MAJEURE:

(a) Excuse of Performance. Seller shall not be liable for any ordinary, incidental, or consequential delay or damage as a result of Seller's delay in or failure of delivery, or installation of Products or performance of Services due to (i) any cause beyond Seller's reasonable control, (ii) an act of God, act of Buyer, embargo or other government act, (iii) any regulation or request, fire, theft, accident, strike, slowdown or other labor disturbance, war, armed conflict, act or threat of terrorism, riot, epidemic, delay in transportation, or (iii) inability to obtain necessary labor, materials, components, or facilities. Should any of the aforementioned events occur, Seller, at its option, may cancel Buyer's order with respect to any undelivered Products or incomplete Services or extend the delivery date for a period equal to the time lost because of delay. Notice of such election shall be given promptly to Buyer. In the event Seller elects to so cancel the Contract, Seller shall be released of and from all liability for failure to deliver the Products or to perform the Services, including, but not limited to, any and all claims on behalf of Buyer for lost profits, or any other claim of any nature which Buyer might have. If shipping or progress of the work is delayed or interrupted by Buyer, directly or indirectly, Buyer shall pay Seller for all additional charges resulting therefrom.

(b) Allocation. If Seller determines that its ability to meet the demand for products, including the Products, or to obtain labor, materials, components or facilities is hindered, limited or made impracticable due to causes set forth in subsection (a) above, Seller may allocate its available supply of products, including the Products, among itself and its purchasers on such basis as Seller determines to be equitable without liability for any failure of performance which may result therefrom.

## 10. LIMITED WARRANTY:

(a) Scope and Period.

(1) Products. Seller warrants that the Products shall be delivered free from defects in material, workmanship and title and shall conform to Seller's specification agreed upon in a written and signed agreement by Buyer and Seller, if applicable, for the Products. This warranty shall expire twelve (12) months from first use of the Product or eighteen (18) months from date of manufacture of the Product, whichever occurs first.

(2) Repaired and/or Replaced Products and/or Parts of Products. Seller warrants that the repaired or replaced Products or parts of Products shall be delivered free from defects in material, workmanship and title. In the case of repaired or replaced Products or parts of Products comprising warranty remedies for Products, this warranty shall expire upon expiration of the warranty period applicable to the Products originally supplied by Seller. In the case of other repaired or replaced Products or parts of Products, this warranty shall expire twelve (12) months from the date of repair or manufacture of the Products or parts of the Products.

(3) Services. Seller warrants that the Services shall be performed in a competent and diligent manner in accordance with any mutually agreed specification. This warranty shall expire ninety (90) days from the date of completion of such Services.

(4) Software. Seller warrants that the Software shall execute, at time of delivery, in accordance with the specification agreed upon in a written and signed agreement by Buyer (as licensee) and Seller (as licensor) when properly installed in the Products. The warranty shall expire six (6) months from date of manufacture of the first Product in which the Software is loaded.

(5) Applicability. This warranty shall apply to any Products and/or Software bought, acquired, and/or used by an entity that, or person who, acquires the Products and/or Software from Buyer (a "Transferee"), except that any claim made against Seller pursuant to this warranty shall be made by Buyer only. Seller shall not be bound by this Section 10 to satisfy a claim under this Section made against Seller by a Transferee, whether such Transferee is a direct or indirect Transferee of Buyer. Buyer shall provide any Transferee of a Product or Software written conspicuous notice of Sections 10 and 11 hereof.

(6) Exceptions. Supplement B to these Terms and Conditions lists Seller Products, parts, Services and Software for which Seller's warranties vary from the warranties set forth in this subsection 10(a).

(b) Remedies.

(1) Products. If, prior to expiration of the warranty period set forth in subsection 10(a)(1), above, any Products shall be proved to Seller's satisfaction to be defective or nonconforming with the warranty set forth therein, Seller will repair or replace such defective Products or components thereof, FCA Seller's factory, warehouse or other facility that Seller designates at its discretion as point of shipment from time to time (Incoterms® 2010), or will refund or provide Buyer with a credit in the amount of the purchase price paid therefor by Buyer, at Seller's sole option. Buyer's exclusive remedy and Seller's sole obligation under this warranty shall be limited to such repair or replacement, FCA factory, warehouse or other facility that Seller designates at its discretion as point of shipment from time to time (Incoterms® 2010), or refund or credit by Seller, and shall be conditioned upon Seller's receiving written notice of any defect and/or nonconformance within a reasonable period of time, but in no event more than thirty (30) days, after it was discovered by reasonable care should have been discovered. All claims not made in writing and received by Seller within such thirty (30) day period shall be deemed waived. In no event shall Seller's liability for such defective or nonconforming Products exceed the purchase price paid by Buyer for such Products. With prior approval from Seller, Buyer shall return the alleged defective Product or part, freight prepaid, for Seller's inspection, and no other Products shall be returned to any Seller office, factory, warehouse, authorized service center or other facility, without Seller's written consent.

(2) Repaired and/or Replacement Products and/or Parts of Products.



# Terms & Conditions

If prior to the expiration of the applicable warranty period set forth in subsection 10(a)(2) above, any replacement Products and/or parts of Products shall be proved to Seller's satisfaction to be defective or nonconforming with the warranty set forth therein, the remedy set forth in subsection 10(b)(1) above shall apply to such replacement Products and/or parts of Products.

(3) **Services.** If, prior to expiration of the warranty period set forth in subsection 10(a)(3), above, any Services shall be proved to Seller's satisfaction to be nonconforming with the warranty set forth therein, Seller will re-perform such nonconforming Services. If the Services cannot be re-performed, Seller, at its option, shall refund or credit monies paid by Buyer for such nonconforming Services.

(4) **Software.** If, prior to expiration of the warranty period set forth in subsection 10(a)(4) above, (i) Buyer provides, in writing, a complete description of the claimed nonconformance in the Software, and (ii) the Software is proven to Seller's satisfaction to be so nonconforming with the warranty set forth therein, Seller will correct the nonconformance by, at its option: (i) modifying or making available to Buyer instructions for modifying the program causing such nonconformance, or (ii) making available a corrected or replacement program FCA Seller's factory, warehouse or other facility that Seller designates at its discretion as point of shipment from time to time (Incoterms<sup>®</sup> 2010).

(c) **Exclusions -** The warranties set forth in this Section 10 do not cover:

(1) shipping expenses to and from Seller's office, factory, warehouse, authorized service center or other destination designated by Seller for repair or replacement of defective Products or any tax, duty, custom, inspection or testing fee, or any other charge of any nature related thereto;

(2) costs of removing defective Products from, and/or disassembling, equipment in which Products are assembled or reinstalling Products and/or reassembling such equipment, or testing repaired or replaced Products and/or the equipment;

(3) field service travel and living costs and expenses;

(4) Products subjected to abuse, neglect, negligence, misuse, misapplication, accident, damages by circumstances beyond Seller's control, improper installation (if by anyone other than Seller), improper operation (including, but not limited to, operation in excess of rated capacity or otherwise not in accordance with installation, maintenance, or operating instructions or requirements) improper maintenance, improper storage, and/or any other than normal use or service;

(5) Products maintained, serviced, repaired or altered by anyone other than Seller or Seller's authorized service agencies;

(6) Products and/or parts not manufactured by Seller; for Products furnished by Seller, but manufactured by others, Seller will assign to Buyer the written warranty, if any, of the manufacturer, if assignment is reasonably practicable; however, Seller does not adopt or guarantee or represent that the manufacturer will comply with any of the terms of the warranty of such manufacturer; but, in no event shall Seller's obligations be greater than those provided under Seller's warranty set forth in this Section 10; and/or

(7) failures of the Software to be interruption-free or error-free or to meet Buyer's or any other party's requirements; and, problems caused by use of the Software in conjunction with third-party software, hardware, or products.

(d) **DISCLAIMER: THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO SELLER IN SPECIFICATIONS, DRAWINGS, OR OTHERWISE AND WHETHER OR NOT SELLER'S PRODUCTS ARE SPECIALLY DESIGNED OR MANUFACTURED BY SELLER FOR BUYER'S USE OR PURPOSE. NO EMPLOYEE, REPRESENTATIVE, OR AGENT OF SELLER OTHER THAN AN OFFICER OF SELLER IS AUTHORIZED TO ALTER OR MODIFY ANY PROVISION OF THIS SECTION 10 OR TO MAKE ANY GUARANTEE, WARRANTY, OR REPRESENTATION, EXPRESS OR IMPLIED, ORALLY OR IN WRITING, WHICH IS CONTRARY TO THE FOREGOING.** Except where Buyer and Seller agree in a written and signed agreement upon the specifications applicable to the Products, Software, and/or Services, any description of the Products, Software, and/or Services, whether in writing or made orally by Seller or Seller's agents, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets or similar materials used in connection with Buyer's order are for the sole purpose of identifying the Products and shall not be construed as an express or implied warranty. Any suggestions by Seller or Seller's agents regarding use, application or suitability of the Products shall not be construed as an express or implied warranty unless confirmed to be such in writing by Seller's authorized officer.

## 11. LIMITATIONS OF REMEDY AND LIABILITY:

(a) **Breach of Warranty Claims.** Buyer's only remedy for breach of any warranty under the Contract, other than the warranty provided under Section 13 "Intellectual Property Indemnity," shall be the applicable remedy set forth in Section 10 "Limited Warranty" above. Seller's total liability for any and all breach of warranty claims under the Contract shall not exceed the purchase price allocable to the Product, Software or Service or part thereof which gives rise to the claim.

(b) **Other Claims.** Seller's liability for any claim other than a breach of warranty claim under Section 10 "Limited Warranty," whether in contract, negligence, tort, strict liability, indemnity or otherwise for any loss or damage arising out of, connected with, or resulting from the Contract or the performance or breach thereof, or from the design, manufacture, sale, delivery, resale, repair, replacement, installation, technical direction of installation, inspection, operation or use of any Products covered by or furnished under the Contract or from Services rendered under the Contract, shall in no case (except as provided in Section 13 "Intellectual Property Indemnity") exceed five percent (5%) of the purchase price allocable to the Products or part thereof or Services giving rise to the claim.

(c) **Consequential Damage Disclaimer.** SELLER SHALL NOT BE LIABLE FOR AND DISCLAIMS ALL CONSEQUENTIAL, INCIDENTAL, CONTINGENT, SPECIAL OR PUNITIVE DAMAGES WHATSOEVER. Seller shall not be liable for lost profits or revenues, loss of use of the Products, Software or any related equipment or systems, cost of capital, cost of substitute products, cost of facilities or services, business interruption, downtime, shutdown, or slowdown costs, any other types of economic loss, penalties, special or punitive damages, and claims of Buyer's customers for any such damages.

(d) **Expiration of Claims.** All claims against Seller arising out of or related to the Contract or the performance or breach thereof shall expire unless made and presented to Seller in writing by Buyer before expiration of the applicable warranty period.

(e) **Precedence.** The limitations of this Section shall apply regardless of whether a claim is based in contract, tort (including negligence), warranty, strict liability, intellectual property, or otherwise, and shall take precedence over any conflicting terms and conditions, except where the limitations of liability of such conflicting terms limit Seller's liability further.

## 12. INDEMNITY:

(a) **Third party claims.** Each of Buyer and Seller (each an "Indemnified Party" and an "Indemnifying Party") shall indemnify the other party from and against claims brought by a third party, for bodily injury or damage to the third party's tangible property, to the extent such injury and/or damage is caused by or concurrent negligence of Buyer and Seller, the loss or expense shall be borne by each party in proportion to its degree of negligence. For purposes of Seller's indemnity obligations hereunder, Products shall not be considered third party property and the facility in which a Product or Software is used and/or the Services are performed shall not be considered third party property.

(b) **Indemnity by Buyer for Third Party Warranty Claims.** If Buyer supplies Products or Services to a third party, uses Products or Services at a facility owned by a third party, and/or transfers Products and/or Software to a third party, Buyer shall indemnify and defend Seller from and against any and all claims by, and liability to, any such third party in excess of the limitations set forth in Sections 10 "Limited Warranty" and 11 "Limitations of Remedy and Liabilities." For purposes of this subsection (b), "Seller" means Seller, its affiliates, suppliers, contractors, licensors and their employees.

13. **INTELLECTUAL PROPERTY INDEMNITY.** Seller warrants that, to the best of its knowledge, Products, Services and/or Software furnished hereunder, and any part thereof, (each a "Delivered Item") shall be delivered free of any rightful claim of any third party not affiliated with Buyer for infringement of any U.S. patent, any trademark registered in the U.S. Patent and Trademark Office and/or any copyright registered in the U.S. Copyright Office. Seller will, at its own expense, defend or settle any such claim that may be instituted against Buyer for alleged infringement by the Delivered Item of any U.S. patent, any trademark registered in the U.S. Patent and Trademark Office and/or any copyright registered in the U.S. Copyright Office provided that: (a) such alleged infringement consists of the use of the Delivered Item for (i) any of the purposes for which Buyer informed Seller such Delivered Items would be used, or (ii) if Buyer did not so inform Seller, any of the purposes for which Buyer reasonably believed such Delivered Items would be used; (b) Buyer shall have made all payments for such Delivered Items then due hereunder; (c) Buyer shall give Seller immediate notice in writing of any such suit and transmit to Seller immediately upon receipt of all processes and papers served upon Buyer; (d) Buyer does not take any position adverse to Seller in connection with such claim; and (e) Buyer shall permit Seller through Seller's counsel, either in the name of Buyer or in the name of Seller, to defend such suit(s) and give all needed information, assistance and authority to enable Seller to do so.

In case of a final award of damages in any such suit, Seller will pay such award but will not be responsible for any compromise settlements made without its written consent. In case the Delivered Item itself is in such suit held to infringe any valid patent issued in the United States and/or a trademark and/or copyright registered in the United States, and its use is enjoined, or in the event of a settlement or compromise approved by Seller which shall preclude future use of the Delivered Item, Seller shall, at its own expense and at its sole option, either: (a) procure rights to continue using such Delivered Item; (b) modify the Delivered Item to render it non-infringing; (c) replace the Delivered Item with a non-infringing Product and/or Software; or (d) refund the purchase price paid by Buyer for the Delivered Item after return of the Delivered Item to Seller (less reasonable depreciation for any period of use). Notwithstanding the foregoing, Seller shall not be held responsible for claims of infringement of any patents covering the use of the Delivered Item in combination with other goods or materials not furnished by Seller.

The foregoing states the entire liability of Seller for intellectual property infringement and in NO EVENT SHALL SELLER BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES ATTRIBUTABLE TO AN INTELLECTUAL PROPERTY INFRINGEMENT. Buyer, at its own expense, shall defend Seller against, and/or settle, (a) any patent, trademark, copyright or other intellectual property infringement claim pertaining to a Delivered Item furnished by Seller to Buyer manufactured in accordance with designs, drawings or other descriptions proposed or furnished by Buyer; and (b) any claim against Seller of contributory infringement resulting from the use or resale by Buyer of a Delivered Item sold hereunder. Buyer shall indemnify Seller for any award against Seller or settlement by Seller regarding any such claims and attorneys' fees and defense costs incurred in defense of such claims.

## 14. SOFTWARE LICENSE:

(a) **License Grant:** Seller grants Buyer a nonexclusive, royalty-free, perpetual, limited license to use the Software in the U.S. and solely in conjunction with (a) the operation of the Products purchased and sold under the Contract and/or other product meeting Seller's specifications; and (b) any other purpose agreed upon in a written and signed agreement between Buyer and Seller.

(b) **Scope of License:** Upon Seller's prior written approval, Buyer may make a reasonable number of copies of Software as necessary for backup, configuration, installation, and restoration of the Products. Also, upon Seller's prior written approval, Buyer may authorize a third-party contractor or service provider to exercise these rights on Buyer's behalf and for Buyer's benefit. Buyer may transfer possession of Software and its media to another party only in conjunction with the transfer of the Products on which the Software is loaded and only upon agreement of the other party to the terms and conditions of the Contract. Upon such transfer, Buyer shall destroy all Buyer's copies of Software and related documentation. All licenses and grants pursuant to the Contract shall immediately terminate once Buyer no longer rightfully owns or possesses the Products. No other rights under this license are granted. Upon Seller's request, Buyer shall provide Seller with written notice of any such transfer providing the name, address, and contact information of the subsequent Buyer within 15 days of such transfer.

(c) **Use Restrictions:** Buyer shall not (a) copy, display, transfer, adapt, modify, or distribute in any form the Software except as set forth in the Contract, or in Seller documentation provided by Seller to Buyer with the Software; (b) reverse engineer, disassemble, decompile, or otherwise translate the Software's object code, unless expressly permitted by applicable law without the possibility of contractual waiver; or (c) sublicense or lease the Software or any copy thereof except with the transfer of the Products on which the Software is loaded. Except as provided under the terms of Seller's standard escrow agreement between Seller and Buyer, if applicable, Buyer shall not to make available to any party,

without prior written consent from Seller or its authorized agent, source code for the Software. Buyer shall not, directly or indirectly, export or re-export, or knowingly permit the export or re-export of, the Products, or any technical information about the Products, to any country for which the United States Export Administration Act, any regulation thereunder, or any similar United States law or regulation, requires an export license or other United States Government approval, unless Buyer obtains the appropriate export license and obtains written approval from Seller.

(d) **Maintenance and Support:** Seller may offer to Buyer the option to purchase from Seller annual Software maintenance and support services under the terms and conditions of Seller's then-standard maintenance and support agreement. Buyer may renew this maintenance term at Seller's then-current maintenance rates. In the event Buyer purchases additional Software licenses, maintenance fees for such licenses shall be prorated to be coterminous with Buyer's existing maintenance period. In no event shall Seller be responsible for providing maintenance services for a period during which maintenance coverage is lapsed.

15. **SECURITY AGREEMENT AND FINANCING STATEMENTS:** As security for payment of the purchase price under the Contract, Buyer hereby irrevocably grants Seller a security interest in the Products purchased by Buyer, together with all accessories, attachments and replacement parts and all substitutions, replacements and proceeds thereof to secure payment of the purchase price and of all monies which may be due under the Contract. Buyer hereby authorizes Seller to file all financing statements, any amendments and continuations thereof, or any other documents necessary or reasonably required, for the perfection and protection of a security interest under applicable law, and to deliver notice to prior holders of security interests, of Seller's security interest in the Products to protect its interest.

16. **INSURANCE:** Until payment in full of the purchase price, Buyer shall maintain insurance covering all Products sold by Seller to Buyer in such amounts and against such risks as is customary by companies engaged in the same or similar business and similarly located, and shall, upon Seller's request, furnish evidence of such insurance satisfactory to Seller.

17. **DRAWINGS; OTHER DESIGN DATA:** All specifications, drawings, designs, data, information, ideas, methods, product samples, tools, gauges, dies, fixtures, patterns and/or inventions made, conceived, developed or acquired by Seller in connection with procuring and/or executing the Contract will vest in and inure to Seller's sole benefit notwithstanding any charges therefor which may have been or may be imposed by Seller on Buyer. Buyer shall not give, loan, exhibit, sell or transfer to any person who is not a Buyer employee and authorized to receive such information, or to any organization or entity, any drawing, photograph, specification or product sample furnished by Seller or reproduction thereof which may enable such person, organization or entity to furnish similar products or parts thereof.

18. **RETURN OF PRODUCTS:** No Product or part shall be returned to Seller without written authorization and shipping instructions first having been obtained from Seller.

19. **ASSIGNMENT AND SUBCONTRACTING:** None of Buyer's rights under the Contract shall be assigned by Buyer to any other person, whether by operation of law or otherwise, without Seller's prior written approval. Seller may, without the necessity of obtaining Buyer's prior written consent, assign the Contract or subcontract the production of all or any portion of the Products and/or performance of the Services.

20. **CANCELLATION:** No purchase order submitted to Seller may be cancelled by Buyer without the prior written consent of Seller, which consent will at all times be conditioned on Buyer's agreement to pay Seller's cancellation charge. For a finished Product that, in Seller's judgment, is readily resalable to others, the cancellation charge shall be 15% of the invoice price of the Product. For all other cancellations, the cancellation charge shall amount to all cost and expenses incurred by Seller and arising out of or in connection with Buyer's purchase order plus reasonable profit. In no event shall the cancellation charge be less than 10% of the invoice price of the Product or more than the invoice price.

21. **HIGH RISK APPLICATION USE DISCLAIMER: PRODUCTS AND SERVICES SOLD BY SELLER ARE NOT INTENDED FOR USE IN CONNECTION WITH ANY NUCLEAR FACILITY OR ACTIVITY, CRITICAL SAFETY SYSTEM, MEDICAL DEVICE, MILITARY DEVICE, SATELLITE, AVIATION EQUIPMENT, AIR TRAFFIC CONTROL EQUIPMENT, OR OTHER HIGH RISK APPLICATIONS (COLLECTIVELY, "HIGH RISK APPLICATIONS"). SELLER SHALL NOT USE OR PERMIT OTHERS TO USE PRODUCTS OR SERVICES FOR SUCH HIGH RISK APPLICATIONS WITHOUT SELLER'S PRIOR WRITTEN CONSENT. IF SO USED WITHOUT SELLER'S PRIOR WRITTEN CONSENT, SELLER DISCLAIMS ALL LIABILITY FOR ANY DAMAGE, INJURY OR CONTAMINATION, AND BUYER SHALL INDEMNIFY AND HOLD SELLER, ITS OFFICERS, AGENTS, EMPLOYEES, SUCCESSORS, ASSIGNS AND CUSTOMERS HARMLESS FROM AND AGAINST ANY AND ALL SUCH LIABILITY. SELLER'S CONSENT, IF ANY, WILL BE CONDITIONED UPON ADDITIONAL TERMS AND CONDITIONS ACCEPTABLE TO SELLER.**

22. **GOVERNING LAW; VENUE:** These Terms and Conditions and the Contract shall be governed by and construed in accordance with the laws of the State of Wisconsin. Seller and Buyer irrevocably submit to the exclusive jurisdiction of the state courts located in Rock County, State of Wisconsin and the federal courts located in the State of Wisconsin, and Seller and Buyer waive any objection to venue or forum non conveniens, for the resolution of any dispute relating to these Terms and Conditions or the Contract. The rights and obligations of Seller and Buyer shall not be governed by the provisions of the United Nations Convention on Contracts for the Internal Sale of Goods.

23. **EXPORT/IMPORT:** Buyer shall comply, in the receipt and use of the Products and the Software, with all applicable import and export control laws, regulations, orders and requirements of the jurisdictions in which the Seller and Buyer are established or from which Products and Software are provided. Buyer shall not transfer, release, import, or export Products and/or Software in violation of such applicable laws, regulations or other legal requirements. Buyer shall provide a completed end-user certification in a form satisfactory to Seller upon Seller's request.

24. **ATTORNEYS' FEES:** Buyer agrees to pay all of Seller's costs and expenses of collection and related litigation, including but not limited to attorneys' fees and costs.

25. **SALVATORY CLAUSE:** The invalidity, in whole or in part, of any of the provisions of these Terms and Conditions, shall not affect the enforceability of any of the other provisions thereof.

26. **APPLICABILITY:** These Terms and Conditions as stated herein are applicable as of the date of this printing and until such time as changed by Seller.

Revised, April 2014

## IMPORTANT INFORMATION PLEASE READ CAREFULLY

The following DANGER, WARNING and CAUTION information is supplied to you for your protection and to provide you with many years of trouble free and safe operation of your Marathon Special Products components.

 **DANGER**

- Devices sold by Marathon Special Products provide for interconnection of electrical circuits and such are, or can be, points of live electrical contact. It is the responsibility of the Buyer or user to ensure through the use of enclosures, insulation, engineering controls, or other means in the application, that the wiring device is protected from intentional or accidental contact in an energized condition. Failure to do so can create the potential for electrical shock and associated serious injury.

 **WARNING**

- Only qualified personnel should install and troubleshoot electrical products due to the potential for serious injury related to electrical shock. Make certain that the power supply is disconnected and/or locked out before attempting to install, remove or service components.

 **CAUTION**

- Connection tightness is critical to electrical performance. Buyer, user, or installer must always ensure that the proper screw torque is applied and maintained.
- Buyer or user must ensure that proper clearances are maintained between energized electrical components and all other devices including but not limited to the enclosure and mounting mechanism.
- Install and ground per local and national code.
- Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. Buyer must ensure that the application of the device conforms to all standards, codes, policies or practices that govern or apply to their equipment or application. Marathon Special Products uses design parameters, materials, and construction methods intended to meet the standards noted in the engineering catalog, with specific suitability of use and restrictions as noted in the appropriate agency files. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
- Products in this catalog are tested and listed with various standards agencies. They will meet or exceed all performance guidelines as tested and qualified. Buyer or user must check that applications do not exceed rated capacities of voltage and amperage and that appropriate wiring practices are followed.
- Products are intended for use in an "as sold" condition. Modification of components can affect performance and ratings and subsequently the safety of the component system. Buyer or user assumes liability for component modification.
- Electrical products in this catalog are designed for use in appropriate enclosures. Buyer or user is responsible to ensure that appropriate environmental control is designed into the application.

In the event of the resale of any goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

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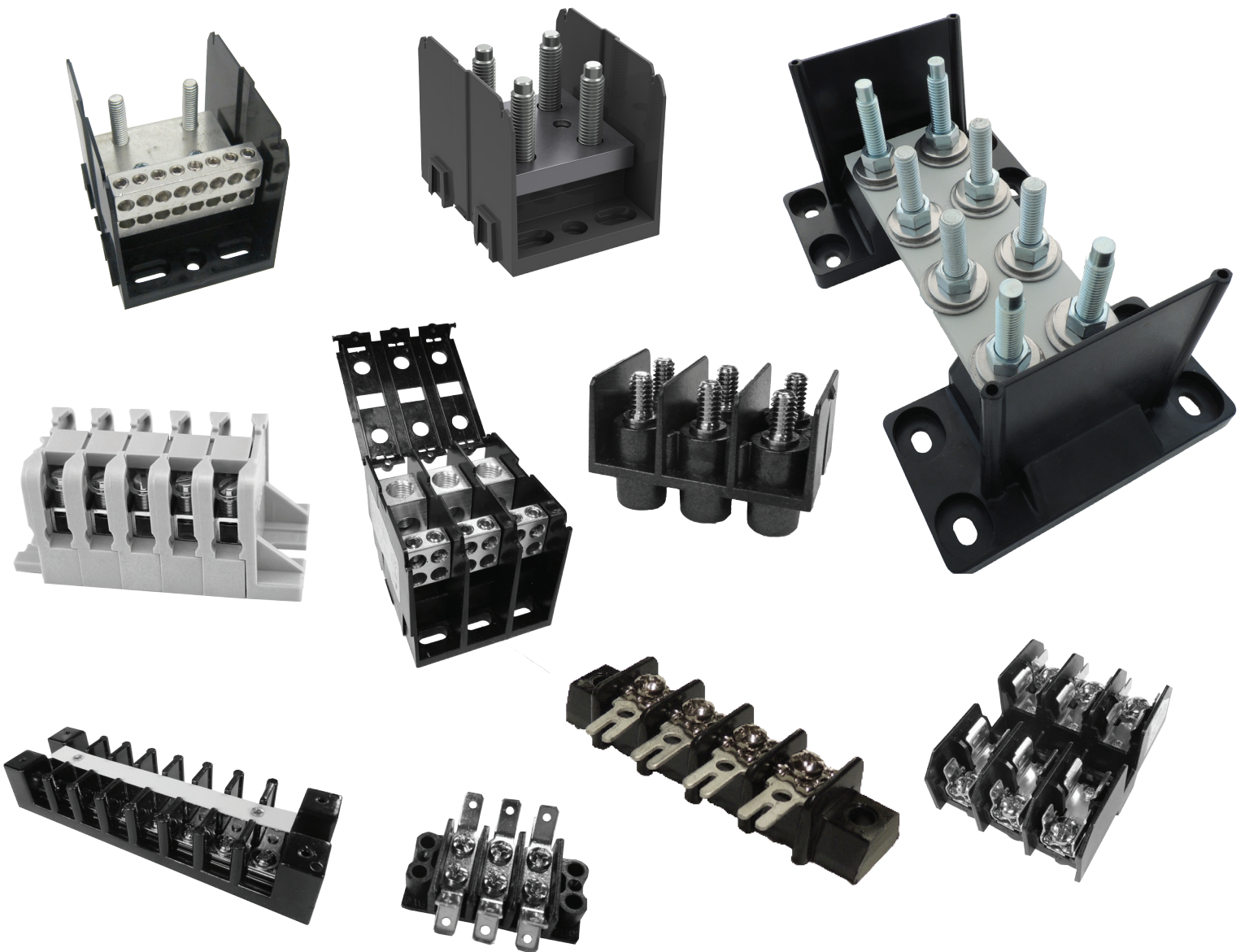


Marathon Special Products, a Regal Beloit Corporation, has served the electrical/electronic component industry since 1955. Our facility in Bowling Green, Ohio, USA, contains all manufacturing and warehousing operations including an extensive electrical test lab to design, engineer and manufacture products of only the highest quality. Our ability to mold, stamp and assemble all of our parts makes us unique in the industry.

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