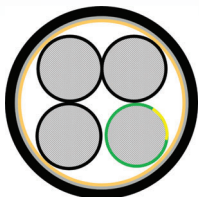


# VFD CABLES FOR AUTOMATION

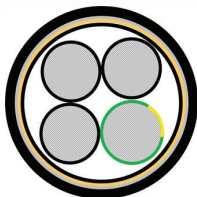
## THE RIGHT SOLUTION FOR EVERY APPLICATION



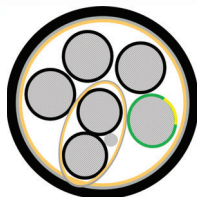
VFD Lean TR



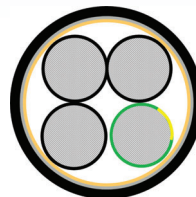
VFD XLPE Auto TR



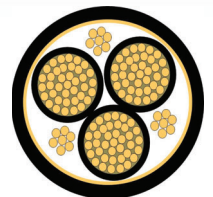
VFD Combo XLPE



VFD XLPE TR



VFD XLPE 2KV TR



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# VFD Lean TR: Reduced OD, oil resistant and flexible VFD cable

VFD Lean TR is an extremely flexible and oil resistant VFD cable. It is designed to perform in VFD applications where increases in voltage can occur due to spikes, harmonics, in-rush current and wave reflection. VFD Lean TR has a foil and tinned copper braid shield for 100% protection against EMI and RFI.



## TECHNICAL DATA:

Voltage:	UL/c(UL):	600 V
	UR/CSA AWM:	1000 V
	UL WTTTC:	1000 V
Temperature:	UR-AWM:	up to +105°C
	UL/C(UL)/CSA AWM:	up to +90°C
	static:	-25°C
Burning Characteristics:	UL / c(UL) FT4	
Color code:	black #d conductors with green/yellow ground	

## CONSTRUCTION:

Conductor:	Class 5 tinned copper stranding
Insulation:	specialty formulated PVC/nylon
Screen:	double shield, alu. foil and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

## OUTSTANDING FEATURES:

- ▶ Oil resistant meeting Oil Res 1
- ▶ Sun Res and Direct Burial approved
- ▶ Reduced OD for easier installation
- ▶ Tinned copper class 5 stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTTC & UR AWM
- ▶ c(UL) CIC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
		inch	mm		75°	90°	230V	460V	575V
8611804	18/4c	0.354	9.0	75		14	1	2	3
8611604	16/4c	0.382	9.7	91		18	2	3	5
8611404	14/4c	0.417	10.6	120	20	25	5	10	15
8611204	12/4c	0.472	12.0	177	25	30	7 1/2	15	20
8611004	10/4c	0.602	15.3	278	35	40	10	20	30
8610804	8/4c	0.764	19.4	430	50	55	15	30	40
8610604	6/4c	0.941	23.9	633	65	75	20	40	50
8610404	4/4c	1.118	28.4	916	85	95	25	50	60
8610204	2/4c	1.287	32.7	1283	115	130	40	75	100

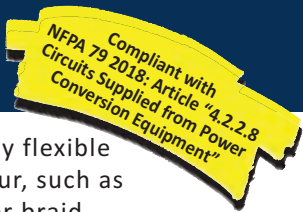
P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
8611804	EN2-1/2	EP2-13	EM2-20	EN4-1/2	EP4-13	EM4-20
8611604	EN2-1/2	EP2-13	EM2-20	EN4-1/2	EP4-13	EM4-20
8611404	EN2-1/2	EP2-13	EM2-20	EN4-1/2	EP4-13	EM4-20
8611204	EN2-1/2	EP2-16	EM2-25	EN4-1/2C	EP4-16	EM4-20
8611004	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
8610804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
8610604	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
8610404		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
8610204		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on no more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

\* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250

# VFD XLPE TR: XLPE insulated, oil resistant and flexible VFD cable



VFD XLPE TR has XLPE insulation for improved capacitance for longer installations and is extremely flexible and oil resistant. It is designed to perform in VFD applications where increases in voltage can occur, such as spikes in harmonics, in-rush current and wave reflection. VFD XLPE TR has a foil and tinned copper braid shield for 100% protection against EMI and RFI. Part numbers with “D” have a full size drain wire.



### TECHNICAL DATA:

Voltage:	UL/c(UL):	600 V
	CSA AWM:	1000 V
	UL WTTTC:	1000 V
Temperature:	UL/cUL/CSA AWM:	up to +90°C
	static:	-40°C/105°C
Burning Characteristics:	UL / c(UL) FT4	
Color code:	black #d conductors with green/yellow ground	

### CONSTRUCTION:

Conductor:	Class K tinned copper stranding
Insulation:	specially formulated XLPE
Screen:	double shield, AMA foil and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

### OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ Oil resistant meeting Oil Res 1 & 2
- ▶ Sun Res and Direct Burial approved
- ▶ Tinned copper class K stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTTC & UL Flexible Motor Supply Cable
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ Conductors rated for RHW-2
- ▶ RoHS & CE

P/N	AWG/C	Drain Wire AWG	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°	90°	230V	460V	575V
35681604	16/4c		0.477	12.1	125		18	2	3	5
35681404	14/4c		0.522	13.3	159	20	25	5	10	15
35681404D	14/4c	14	0.522	13.3	180	20	25	5	10	15
35681204	12/4c		0.592	15.0	214	25	30	7 1/2	15	20
35681204D	12/4c	12	0.592	15.0	237	25	30	7 1/2	15	20
35681004	10/4c		0.680	17.3	294	35	40	10	20	30
35681004D	10/4c	10	0.680	17.3	327	35	40	10	20	30
35680804	8/4c		0.886	22.5	556	50	55	15	30	40
35680804D	8/4c	4x14	0.886	22.5	550	50	55	15	30	40
35680604	6/4c		0.952	24.2	736	65	75	20	40	50
35680604D	6/4c	4x12	1.000	25.4	805	65	75	20	40	50
35680404	4/4c		1.090	27.7	1079	85	95	25	50	60
35680204	2/4c		1.247	31.7	1550	115	130	40	75	100

P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
35681604		EP2-16	EM2-25	EN4-1/2C	EP4-16	EM4-20
35681404	EN2-3/4	EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681404D	EN2-3/4	EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681204	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681204D	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681004	EN2-3/4	EP2-21	EM2-25C	EN4-1	EP4-29	EM4-32
35681004D	EN2-3/4	EP2-21	EM2-25C	EN4-1	EP4-29	EM4-32
35680804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35680804D	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35680604	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680604D	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680404		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680404D		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680204		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on no more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

\* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250

# VFD Combo DS: Flexible VFD cable with 1 or 2 pairs for brake

Servo VFD Combo DS is a flexible VFD cable with 1 or 2 pairs for a brake or temperature sensor when they are part of the motor. The pairs are individually shielded with a drain wire. Servo VFD Combo DS also has a foil and tinned copper braid shield for 100% protection against EMI and RFI.



## TECHNICAL DATA:

Voltage:	UL/c(UL):	600 V
	UR/CSA AWM:	1000 V
	UL WTTTC:	1000 V
Temperature:	UR-AWM:	up to +105°C
	UL/c(UL)/CSA AWM:	up to 90°C
	static:	-25°C
Burning Characteristics:	UL / c(UL) FT4	
Color code:	black #d conductors with green/yellow ground pairs: numbered 5/6 & 7/8	

## CONSTRUCTION:

Conductor:	Class 5 tinned copper stranding
Insulation:	specialty formulated PVC/nylon
Stranding:	signal conductors in pairs
Screen:	pairwise with alu foil, tinned copper drain wire 26 AWG and braided with tinned copper wires
Wrapping:	pairwise with PETP foil
Stranding:	screened signal pair(s) and power conductors in layers
Wrapping:	non-woven tape
Screen:	double shield, alu foil and tinned copper braiding
Jacket:	special sunlight and oil resistant black PVC

## OUTSTANDING FEATURES:

- ▶ Shielded pair(s) for a brake or temperature sensor all in one cable
- ▶ Oil resistant meeting Oil Res 1
- ▶ Sun Res and Direct Burial approved
- ▶ Tinned copper class 5 stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTTC & UR AWM
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ RoHS & CE

P/N	AWG/C	Pair	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°	90°	230V	460V	575V
08531604	16/4c	14/1pr	0.516	13.1	174		18		3	3
08531464	14/4c	18/2pr	0.693	17.6	262	20	25	3	7 1/2	10
08531414	14/4c	18/1pr	0.504	12.8	170	20	25	5	10	10
08531404	14/4c	14/1pr	0.555	14.1	207	20	25	5	10	10
08531264	12/4c	18/2pr	0.724	18.4	300	25	30	5	10	10
08531214	12/4c	18/1pr	0.563	14.3	224	25	30	5	10	15
08531204	12/4c	14/1pr	0.610	15.5	269	25	30	5	10	15
08531064	10/4c	18/2pr	0.756	19.2	371	35	40	7 1/2	15	20
08531004	10/4c	14/1pr	0.689	17.5	344	35	40	7 1/2	15	20
08530804	8/4c	14/1pr	0.878	22.3	520	50	55	10	25	30
08530604	6/4c	14/1pr	1.024	26.0	705	65	75	15	30	40

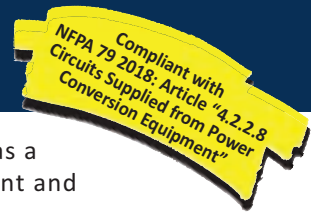
P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
08531604	EN2-3/4	EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
08531464	EN2-3/4	EP2-21	EM2-32C	EN4-1	EP4-29	EM4-32
08531414		EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
08531404	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
08531264	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
08530214	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
08531204	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
08531064	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
08531004	EN2-3/4	EP2-21	EM2-25C	EN4-1	EP4-29	EM4-32
08530804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
08530604		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure. Other dimensions available upon request

† Allowable ampacities are based on no more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

\* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250

# VFD Combo XLPE: XLPE insulation plus shielded pair for brake



VFD Combo XLPE has XLPE insulation for improved capacitance for longer installations. It also has a shielded pair(s) for temperature sensor or brake. VFD Combo XLPE is flexible and very oil resistant and has an overall foil and braid shield for 100% protection against EMI and RFI.



### TECHNICAL DATA:

Voltage:	UL/c(UL): 600 V
	CSA AWM: 1000 V
	UL WTTTC: 1000 V
Temperature:	UL/c(UL)/CSA AWM: up to 90°C
	static: -40°C/105°C
Burning Characteristics:	UL / c(UL) FT4
Color code:	black #d conductors with green/yellow ground

### CONSTRUCTION:

Conductor:	Class K tinned copper stranding
Insulation:	specialty formulated XLPE
Screen:	
pair:	aluminum foil and drain wire (drain wire same size as pair)
overall:	double shield, AMA foil and tinned copper braiding
Jacket:	special sunlight and oil resistant black PVC

### OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ Shielded pair for temperature sensor or brake
- ▶ Oil resistant meeting Oil Res 1& 2
- ▶ Sun Res and Direct Burial approved
- ▶ UL TC-ER, UL MTW, UL WTTTC & UL Flexible Motor Supply Cable
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ Conductors rated for RHW-2
- ▶ RoHS & CE

P/N	AWG/C	Pair	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°	90°	230V	460V	575V
35691614	16/4c	18/1pr	0.573	14.6	144		18		3	3
35691414	14/4c	18/1pr	0.616	15.6	175	20	25	5	10	10
35691404	14/4c	14/1pr	0.628	16.0	213	20	25	5	10	10
35691464	14/4c	18/2pr	0.662	16.8	254	20	25	5	10	10
35691214	12/4c	18/1pr	0.654	16.6	231	25	30	5	10	15
35691204	12/4c	14/1pr	0.667	16.9	277	25	30	5	10	15
35691264	12/4c	18/2pr	0.698	17.7	299	25	30	5	10	15
35691004	10/4c	14/1pr	0.736	18.7	354	35	40	7 1/2	15	20
35690804	8/4c	14/1pr	0.960	24.4	536	50	55	10	25	30
35690604	6/4c	14/1pr	1.030	26.2	726	65	75	15	30	40
35690404	4/4c	14/1pr	1.140	29.0	1011	85	95	20	40	50
35690204	2/4c	14/1pr	1.280	32.5	1401	115	130	30	60	75

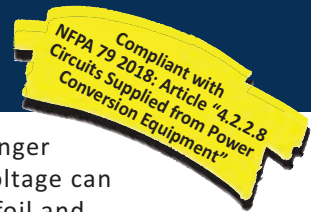
P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
35691614	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691414	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691404	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691464	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691214	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691204	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691264	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35691004	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35690804	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35690604		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35690404		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35690404		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on no more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

\* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250

# VFD XLPE Auto TR: Continuous flex and oil resistant VFD cable



VFD XLPE Auto TR is a continuous flex cable with XLPE insulation for improved capacitance for longer installations and oil resistant. It is designed to perform in VFD applications where increases in voltage can occur, such as spikes in harmonics, in-rush current and wave reflection. VFD XLPE Auto TR has a foil and tinned copper braid shield for 100% protection against EMI and RFI.



### TECHNICAL DATA:

Voltage:	UL/c(UL): 600 V
	CSA AWM: 1000 V
	UL WTTTC: 1000 V
Temperature:	UL/c(UL)/CSA AWM: up to 90°C
	static: -40°C/105°C
Burning Characteristics:	UL / c(UL) FT4
Color code:	black #d conductors with green/yellow ground

### CONSTRUCTION:

Conductor:	Class M tinned copper stranding
Insulation:	specially formulated XLPE
Screen:	double shield, AMA foil and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

### OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ Oil resistant meeting Oil Res 1& 2
- ▶ Sun Res and Direct Burial approved
- ▶ Class M stranding for continuous flexing
- ▶ UL TC-ER, UL MTW, UL WTTTC & UL Flexible Motor Supply Cable
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ Conductors rated for RHW-2
- ▶ RoHS & CE

P/N	AWG/C	nominal OD-Ø		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
		inch	mm		75°	90°	230V	460V	575V
35781604	16/4c	0.512	13.0	129		18	2	3	5
35781404	14/4c	0.569	14.5	164	20	25	5	10	15
35781204	12/4c	0.646	16.4	220	25	30	7 1/2	15	20
35781004	10/4c	0.704	17.9	303	35	40	10	20	30
35780804	8/4c	0.909	23.1	567	50	55	15	30	40
35780604	6/4c	0.988	25.1	758	65	75	20	40	50
35780404	4/4c	1.173	29.8	1111	85	95	25	50	60

P/N	EMC-2 EMC connector			EMC-4 EMC connector		
	NPT	PG	Metric	NPT	PG	Metric
35781604	EN2-3/4	EP2-16	EM2-25	EN4-1/2C	EP4-16	EM4-20C
35781404	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35781204	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35781004	EN2-3/4	EP2-21	EM2-32C	EN4-3/4	EP4-21	EM4-25
35780804	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35780604		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35780404		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages at the end of this brochure.

† Allowable ampacities are based on no more than three current carrying conductors in a raceway, cable, or direct buried and an ambient temperature of 30°C (2011 NEC Table 310.15(B)(16))

\* Maximum Horse Power rating represents the largest HP motor the AWG is recommended for based on horse power (HP) and the full load current (FLC) x 125% per NEC Art. 430-122 (A). Amperes (FLC) were determined from NEC Art. 430-250

# VFD Symmetrical XLPE TR: Flexible VFD cable with 3 symmetrical grounds

Compliant with NFPA 79 2018: Article "4.2.2.8 Circuits Supplied from Power Conversion Equipment"



(UL) TC-ER 90C UL MTW 600V/1000V

### TECHNICAL DATA:

Voltage:	UL/c(UL):	600 V
	CSA AWM:	1000 V
	UL WTTTC:	1000 V
Temperature:	UL/c(UL)/	up to 90°C
	CSA AWM:	
	static:	-40/105°C
Burning Characteristics:	UL / c(UL) FT4	
Color code:	black #d conductors with consecutive white numbers	

### CONSTRUCTION:

Conductor:	Class K tinned copper stranding
Insulation:	specialty formulated XLPE
Stranding:	in layers with 3 tinned ground wires in the interstices
Screen:	double shield with AMA foil and tinned copper braiding (85% coverage)
Jacket:	special sunlight and oil resistant black PVC

### OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ Oil resistant meeting Oil Res 1& 2
- ▶ 3 symmetrical grounds for CMC
- ▶ Tinned Class K stranding for improved flexibility
- ▶ UL TC-ER, UL MTW, UL WTTTC & UL Flexible Motor Supply Cable
- ▶ c(UL) CIC-TC, CSA AWM FT 4
- ▶ Conductors rated for RHW-2
- ▶ RoHS & CE

P/N	AWG/C	Ground	nominal OD-φ		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°	90°	230V	460V	575V
35681403	14/3c	3 x 18	0.501	12.7	170		25	5	10	15
35681203	12/3c	3 x 16	0.570	14.5	230	25	30	7 1/2	15	20
35681003	10/3c	3 x 14	0.642	16.3	312	35	40	10	20	30
35680803	8/3c	3 x 14	0.811	20.6	465	50	55	15	30	40
35680603	6/3c	3 x 12	0.954	24.2	674	65	75	20	40	50
35680403	4/3c	3 x 12	1.062	27.0	877	85	95	25	50	60
35680203	2/3c	3 x 10	1.226	31.1	1266	115	130	40	75	100

see cord grip suggestion on next page

# VFD XLPE 2KV TR: Shielded VFD cable 2KV with 3 symmetrical grounds

Compliant with NFPA 79 2018: Article "4.2.2.8 Circuits Supplied from Power Conversion Equipment"



4/0 AWG 3C Type TC-ER RHH or RHW-2 CDRS

### TECHNICAL DATA:

Voltage:	UL:	2000 V
Temperature:	UL:	up to 90°C
	static:	-25°C
Burning Characteristics:	UL FT4	
Color code:	black #d conductors with three bare copper symmetrical grounds	

### CONSTRUCTION:

Conductor:	Class B bare copper stranding
Insulation:	specialty formulated XLPE
Stranding:	in layers with three uninsulated bare ground wires in the filler
Screen:	uncoated 5 mil copper tape shield with 50% overlap
Jacket:	special sunlight and oil resistant black PVC

### OUTSTANDING FEATURES:

- ▶ XLPE insulation for excellent capacitance values
- ▶ 3 symmetrical grounds for better common mode current flow
- ▶ Sun Res and Direct Burial approved
- ▶ Copper tape shield (50% overlap) for premium EMI & RFI protection
- ▶ UL TC-ER
- ▶ Conductors rated for RHW-2
- ▶ RoHS & CE

P/N	AWG/C	Ground	nominal OD-φ		Cable weight lbs/mft	Amperage†		Maximum Horse Power Rating*		
			inch	mm		75°	90°	230V	460V	575V
8690203	1/3c	3 x 8	1.266	32.2	1465	130	150	40	75	100
8691103	1/0-3c	3 x 6	1.384	35.2	1822	150	170	50	100	125
8692103	2/0-3c	3 x 6	1.476	37.5	2130	175	195	60	125	150
8693103	3/0-3c	3 x 5	1.582	40.2	2650	200	225	60	150	150
8694103	4/0-3c	3 x 4	1.800	45.7	3251	230	260	75	150	200
8692513	250-3c	3 x 4	1.835	46.6	3720	255	290	75	150	200
8693503	350-3c	3 x 2	2.130	54.1	5025	310	350	100	200	250
8695003	500-3c	3 x 1	2.402	61.0	6805	380	430	125	250	350

see cord grip suggestion on next page

# Suggested Cord Grips

## Technical Information

VFD Lean TR



VFD XLPE TR



Part Number	Capacitance (pF/ft)		Impedance (Ohms)		Cord Grips	
	Mutual	Ground*	Mutual	Ground*	EMC-2	EMC-4
8611804	10.7	67.7	154	42	EP2-13	EP4-13
8611604	11.6	70.4	148	42	EP2-13	EP4-13
8611404	15.2	88.7	129	37	EP2-13	EP4-13
8611204	18.3	103.9	112	32	EP2-16	EP4-16
8611004	16.2	96.3	121	35	EP2-21	EP4-21
8610804	14.6	100.0	126	34	EP2-29	EP4-29
8610604	17.4	113.4	113	31	EP2-36	EP4-36
8610404	14.3	96.0	124	34	EP2-36	EP4-36
8610204	20.7	146.0	107	29	EP2-42	EP4-42
35681604	15.0	27.0	104	57	EP2-16	EP4-21
35681404	18.0	32.0	86	48	EP2-16	EP4-21
35681404D	18.0	32.0	86	48	EP2-16	EP4-21
35681204	20.0	35.0	79	43	EP2-21	EP4-21
35681204D	20.0	35.0	79	43	EP2-21	EP4-21
35681004	24.0	42.0	66	36	EP2-21	EP4-29
35681004D	24.0	42.0	66	36	EP2-21	EP4-29
35680804	24.0	42.0	66	36	EP2-29	EP4-29
35680804D	24.0	42.0	66	36	EP2-29	EP4-29
35680604	26.0	47.0	59	32	EP2-36	EP4-36
35680604D	26.0	47.0	59	32	EP2-36	EP4-36
35680404	29.0	53.0	53	29	EP2-36	EP4-36
35680204	33.0	60.0	46	25	EP2-42	EP4-42

\*for VFD Lean TR, value is conductor to screen

## Corresponding Cord Grips

VFD Symmetrical XLPE TR



VFD XLPE 2KV TR



Part Number	EMC-2 grounding connector			EMC-4 grounding connector		
	NPT	PG	Metric	NPT	PG	Metric
35681403		EP2-16	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681203	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35681003	EN2-3/4	EP2-21	EM2-25C	EN4-3/4	EP4-21	EM4-25
35680803	EN2-1	EP2-29	EM2-32C	EN4-1	EP4-29	EM4-32
35680603	EN2-1	EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680403		EP2-36	EM2-40C	EN4-1 1/4	EP4-36	EM4-40
35680203		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50
8690203		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50
8691103		EP2-42	EM2-50C	EN4-1 1/2	EP4-42	EM4-50
8692103		EP2-48	EM2-63	EN4-2	EP4-48	EM4-63
8693103		EP2-48	EM2-63	EN4-2	EP4-48	EM4-63
8694103						EM4-63C
8692513						EM4-63C
8693503						EM2-75-EX
8695003						EM2-75-EX

EMC-2



EMC-4



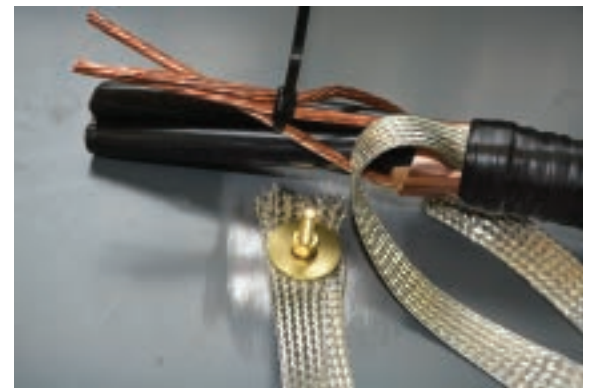


# VFD Termination Kit: 14 AWG to 500 KCMIL VFD Cables



VFD Termination Kits are used to ground the shield of VFD cables to a metal enclosure. It is an effective way to remove noise associated with VFD motors and drives. Improve the effectiveness by also using a SAB EMC grounding gland where the cable enters the enclosure.

Kit P/N	Kit Components	Quantity
VFD GRD KIT 14-1	1/4" flat Tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 1ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs
VFD GRD KIT 1-4/0	3/4" flat Tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 2ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs
VFD GRD KIT 250-500	1" flat Tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 2ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs



Installation Prep Photo



Attach to Enclosure

Bolt assembly	
brass bolt 1/4"-20 x 1-1/4"	2 pcs
brass nut 1/4"-20	2 pcs
bronze locking washer 1/4"-20	2 pcs
brass washer 1/4"-20 x 9/16" OD	2 pcs
brass washer 1/4"-20 x 1 1/4" OD	2 pcs

# CMG EMC-2: grounding gland, Metric, PG, & NPT Thread

EMC-2 is a nickel plated brass strain relief with integral grounding springs in the gland. It has an IP 68 protection class for excellent protection against dust and water spray. EMC-2 comes in metric, PG and NPT thread.



## TECHNICAL DATA:

<b>Material:</b>	Brass, Nickel Plated
<b>Contact spring:</b>	Special Copper Alloy
<b>Clamping insert:</b>	Polyamide 6 V2
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection class:</b>	IP 68 - 5 Bar
<b>Temperature range</b>	
<i>permanent:</i>	-20°C to +100°C
<i>intermittent:</i>	-40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	
<i>Metric:</i>	DNV-GL, CE
<i>NPT, PG</i>	cURus, cULus, DNV-GL, CE

P/N	Thread Type	Clamping Range Ø min-max		Shield Diameter (Ø min)		Wrenching Flats Cap (SW1)		Thread Diameter (TD)	Thread Length (TL)	Height (H)	UL
		inches	mm	inches	mm	inches	mm				
<b>NPT</b>											
EN2-3/8	NPT 3/8	.196 - .394	5.0 - 10.0	0.157	4.0	0.787	20	17.1	11.5	29.5	UR
EN2-1/2	NPT 1/2	.236 - .472	6.0 - 12.0	0.196	5.0	0.866	22	21.3	13.0	25.5	UL
EN2-3/4	NPT 3/4	.512 - .709	13.0 - 18.0	0.433	11.0	1.181	30	26.7	13.0	35.5	UL
EN2-1	NPT 1	.709 - .984	18.0 - 25.0	0.629	16.0	1.574	40	33.4	13.0	43.0	UL
<b>PG</b>											
EP2-7	PG 7	.118 - .256	3.0 - 6.5	0.098	2.5	0.551	14	12.5	6.0	22.0	UR
EP2-9	PG 9	.157 - .315	4.0 - 8.0	0.118	3.0	0.669	17	15.2	6.0	23.2	UR
EP2-11	PG 11	.197 - .394	5.0 - 10.0	0.157	4.0	0.787	20	18.6	6.0	26.0	UR
EP2-13	PG 13.5	.236 - .473	6.0 - 12.0	0.197	5.0	0.866	22	20.4	6.5	24.5	UR
EP2-16	PG 16	.394 - .551	10.0 - 14.0	0.335	8.5	0.945	24	22.5	6.5	28.0	UL
EP2-21	PG 21	.512 - .709	13.0 - 18.0	0.433	11.0	1.181	30	28.3	7.2	32.5	UL
EP2-29	PG 29	.709 - .984	18.0 - 25.0	0.630	16.0	1.575	40	37.0	8.0	38.0	UL
EP2-36	PG 36	.866 - 1.260	22.0 - 32.0	0.787	20.0	1.969	50	47.0	9.0	48.0	UL
EP2-42	PG 42	1.181 - 1.497	30.0 - 38.0	1.102	28.0	2.283	58	54.0	12.0	48.0	UL
EP2-48	PG 48	1.339 - 1.732	34.0 - 44.0	1.220	31.0	2.520	64	59.3	14.0	52.4	UL
<b>Metric</b>											
EM2-12	M12x1.5	.118 - .256	3.0 - 6.5	0.098	2.5	0.551	14	12	6	22.0	UR
EM2-16	M16x1.5	.158 - .315	4.0 - 8.0	0.118	3.0	0.669	17	16	7	23.0	UR
EM2-16C	M16x1.5	.177 - .394	4.5 - 10.0	0.138	3.5	0.787	20	16	6.5	29.0	UR
EM2-20	M20x1.5	.236 - .472	6.0 - 12.0	0.177	4.5	0.866	22	20	8	24.5	UR
EM2-25	M25x1.5	.394 - .551	10.0 - 14.0	0.335	8.5	0.945	24	25	8	28.0	UL
EM2-25C	M25x1.5	.512 - .709	13.0 - 18.0	0.413	10.5	1.181	30	25	8	37.5	UL
EM2-32	M32x1.5	.512 - .709	13.0 - 18.0	0.433	11.0	1.181	30	32	9	32.5	UL
EM2-32C	M32x1.5	.709 - .984	18.0 - 25.0	0.551	14.0	1.575	40	32	9	44.0	UL
EM2-40	M40x1.5	.709 - .984	18.0 - 25.0	0.630	16.0	1.575	40	40	9	38.0	UL
EM2-40C	M40x1.5	.866 - 1.261	22.0 - 32.0	0.787	20.0	1.969	50	40	9	52.5	UL
EM2-50	M50x1.5	.866 - 1.261	22.0 - 32.0	0.787	20.0	1.969	50	50	9	48.0	UL
EM2-50C	M50x1.5	1.063 - 1.734	27.0 - 44.0	1.024	26.0	2.520	64	50	9	54.0	-
EM2-63	M63x1.5	1.340 - 1.734	34.0 - 44.0	1.220	31.0	2.520	64	63	14	53.0	UL

# CMG EMC-4: grounding gland with vibration proof grounding springs

## TECHNICAL DATA:

<b>Material:</b>	Brass, Nickel Plated
<b>Contact spring:</b>	Special Copper Alloy
<b>Clamping insert:</b>	Polyamide 6 V2
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection class:</b>	IP 68 - 5 Bar
<b>Temperature range</b>	
<i>permanent:</i>	-20°C to +100°C
<i>intermittent:</i>	-40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, DNV-GL, CE



EMC-4 is a nickel plated brass strain relief with integral grounding springs in the gland that will allow the cable to move without damage to the shield. A cable can be installed from either direction as well. It has an IP 68 protection class for excellent protection against dust and water spray.



P/N	Thread Type	Clamping Range Ø min-max		Shield Diameter (Ø min)		Wrenching Flats Cap (SW1)		Thread Diameter (TD) mm	Thread Length (TL) mm	Height (H) mm	UL
		inches	mm	inches	mm	inches	mm				
<b>NPT</b>											
EN4-1/4	NPT 1/4	.118 - .256	3.0 - 6.5	.079 - .197	2.0 - 5.0	0.551	14	13.7	6.0	28.0	-
EN4-3/8	NPT 3/8	.197 - .394	5.0 - 10.0	.138 - .315	3.5 - 8.0	0.787	20	17.1	6.0	33.0	-
EN4-1/2	NPT 1/2	.236 - .472	6.0 - 12.0	.177 - .394	4.5 - 10.0	0.866	22	21.3	8.0	37.5	-
EN4-1/2C	NPT 1/2	.295 - .551	7.5 - 14.0	.217 - .453	5.5 - 11.5	0.945	24	21.3	8.0	39.5	-
EN4-3/4	NPT 3/4	.394 - .709	10.0 - 18.0	.276 - .551	7.0 - 14.0	1.181	30	26.7	8.0	42.5	-
EN4-1	NPT 1	.630 - .984	16.0 - 25.0	.472 - .787	12.0 - 20.0	1.575	40	33.4	9.0	52.5	-
EN4-1 1/4	NPT 1 1/4	.866 - 1.260	22.0 - 32.0	.709 - 1.063	18.0 - 27.0	1.969	50	42.2	9.0	62.0	-
EN4-1 1/2	NPT 1 1/2	1.181 - 1.496	30.0 - 38.0	1.024 - 1.339	26.0 - 34.0	2.283	58	48.3	9.0	72.0	-
EN4-2	NPT 2	1.339 - 1.732	34.0 - 44.0	1.181 - 1.575	30.0 - 40.0	2.519	68	60.3	14.0	71.5	-
<b>PG</b>											
EP4-7	PG 7	.118 - .256	3.0 - 6.5	.079 - .197	2.0 - 5.0	0.551	14	12.5	6.0	28.0	-
EP4-11	PG 11	.197 - .394	5.0 - 10.0	.138 - .315	3.5 - 8.0	0.787	20	18.6	6.0	33.0	-
EP4-13	PG 13.5	.236 - .472	6.0 - 12.0	.177 - .394	4.5 - 10.0	0.866	22	20.4	6.5	31.5	-
EP4-16	PG 16	.295 - .551	7.5 - 14.0	.217 - .453	5.5 - 11.5	0.945	24	22.5	6.5	39.5	-
EP4-21	PG 21	.394 - .709	10.0 - 18.0	.276 - .551	7.0 - 14.0	1.260	32	28.3	7.0	42.5	-
EP4-29	PG 29	.630 - .984	16.0 - 25.0	.472 - .787	12.0 - 20.0	1.575	40	37.0	9.0	52.5	-
EP4-36	PG 36	.866 - 1.260	22.0 - 32.0	.709 - 1.063	18.0 - 27.0	1.969	50	47.0	9.0	60.5	-
EP4-42	PG 42	1.181 - 1.496	30.0 - 38.0	1.024 - 1.339	26.0 - 34.0	2.283	58	54.0	12.0	72.5	-
EP4-48	PG 48	1.339 - 1.732	34.0 - 44.0	1.181 - 1.575	30.0 - 40.0	2.520	64	59.3	14.0	58.5	-
<b>Metric</b>											
EM4-12	M12x1.5	.118 - .256	3.0 - 6.5	.079 - .197	2.0 - 5.0	0.551	14	12.0	6.0	28.0	UR
EM4-16	M16x1.5	.197 - .394	5.0 - 10.0	.138 - .315	3.5 - 8.0	0.787	20	16.0	6.0	33.0	UR
EM4-20	M20x1.5	.236 - .472	6.0 - 12.0	.177 - .394	4.5 - 10.0	0.866	22	20.0	6.0	32.0	UL
EM4-20C	M20x1.5	.295 - .551	7.5 - 14.0	.217 - .453	5.5 - 11.5	0.945	24	20.0	8.0	40.0	UL
EM4-25	M25x1.5	.394 - .709	10.0 - 18.0	.276 - .551	7.0 - 14.0	1.181	30	25.0	8.0	43.0	UL
EM4-32	M32x1.5	.630 - .984	16.0 - 25.0	.472 - .787	12.0 - 20.0	1.575	40	32.0	9.0	53.0	UL
EM4-40	M40x1.5	.866 - 1.260	22.0 - 32.0	.709 - 1.063	18.0 - 27.0	1.969	50	40.0	9.0	60.5	UL
EM4-50	M50x1.5	1.181 - 1.496	30.0 - 38.0	1.024 - 1.339	26.0 - 34.0	2.283	58	50.0	9.0	73.0	UL
EM4-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	1.181 - 1.575	30.0 - 40.0	2.520	64	63.0	14.0	59.0	UL
EM4-63C	M63x1.5	1.457 - 2.087	37.0 - 53.0	1.299 - 1.929	33.0 - 49.0	2.953	75	63.0	10.0	75.0	UL



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