

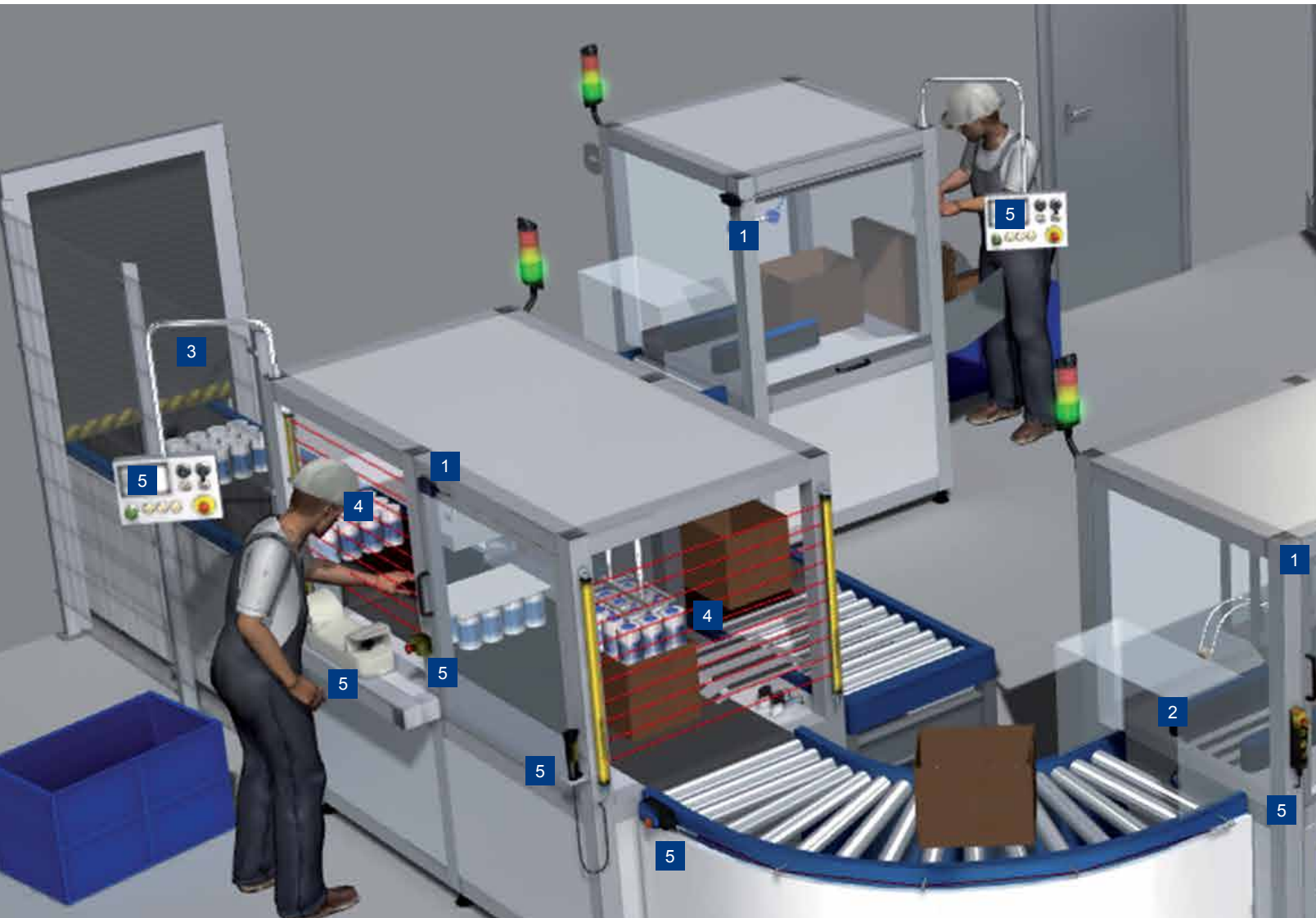
Machine Guarding Safety Products

GK-C: Product line overview



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Safe solutions for your industry

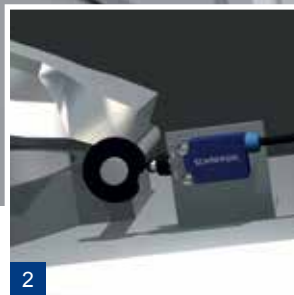
Application Finder



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Guard Door Monitoring

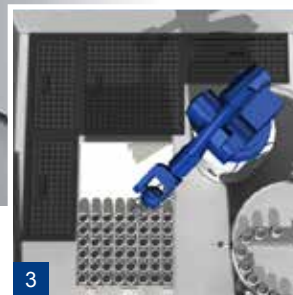
Keyed Interlocks
Solenoid Locks
Electronic Locks
Electronic Safety Sensors
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Safety Limit Switches

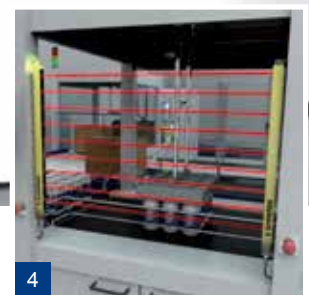
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Optoelectronic Safety Devices

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Download the free Application Finder app for iPad or Android tablets



Control Devices with Safety Function

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Safety Controllers

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Differentiated Input
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Key Transfer System

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Safe Solutions for Your Industry

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Keyed Interlocks



Series	AZ15	AZ16	AZ17	TZG	AZ3350	AZ415	AZ200
Housing	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Die-Cast Aluminum	Die-Cast Aluminum	Thermoplastic
IP Rating	IP67	IP67	IP67	IP67	IP67	IP67	IP67
Dimensions	2" 3" 1.25"	2" 3.5" 1.25"	1.25" 2.5" 1.25"	2" 3.75" 1.75"	1.75" 4.5" 1.5"	3.5" 4" 1.75"	1.57" 8.66" 1.96"
Connections	Screw terminals Quick Connect	Screw terminals Quick Connect	IDC connection Quick Connect	Screw terminals	Screw terminals	Screw terminals	Screw terminals Cage clamps Quick Connect
Contact Options	1 NC	1 NO & 1 NC 2 NC 1 NO & 2 NC 3 NC	1 NO & 1 NC 2 NC	1 NO & 1 NC 2 NC	1 NO & 2 NC 3 NC	2 NC / 1NO,1NC 2 NC / 2 NC 2 NC / 2 NO 1NO,1NC/1NO,1NC	1P2P SD2P
Features	4 key entries	Individual coding STS Door handle 4 key entries	Individual coding B25 Door handle 2 key entries	Rotatable head	Rotatable head STS Door handle	STS Door handle Adjustable Ball latch (up to 400N)	Pulse Echo Sensor Door handle
Special Version		 					

Solenoid Interlocks



Series	AZM161	AZM170	TZF/TZM	AZM190	AZM415
Housing	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Die-Cast Aluminum
IP Rating	IP67	IP67	IP67	IP67	IP67
Dimensions	3.5" 5.125" 1.25"	2.5" 5" 1.25"	4" 5" 1.5"	2" 7" 1.75"	5" 5.5" 2"
Connections	Screw terminals Cage clamps Quick Connect	IDC Connection Screw terminals Quick Connect	Screw terminals	Screw terminals	Screw terminals Quick Connect
Contact Options	1NO & 1NC / 3 NC 1NO & 1NC / 1NO & 2NC 1NO & 2NC / 3 NC 1NO & 2NC / 1NO & 1NC 1NO & 2NC / 1NO & 2NC	1NO & 1NC 2NC 1NO & 1NC / 1NO & 1NC 1NO & 1NC / 2NC 2NC / 1NC 2NC / 1NO 1NO & 2NC / 0NO & 0NC 1NO & 2NC / 1NO & 1NC 1NO & 2NC / 2NC	2 NC / 1 NO 2 NC / 2 NO	1NO & 1NC / 1NC 1NO & 1NC / 1NO 2NC / 1NC 2NC / 1NO	1NO & 1NC / 1NO & 1NC 1NO & 1NC / 2NC 1NO & 1NC / 2NO 2NC / 1NO & 1NC 2NC / 2NC 2NC / 2NO
Features	STS Door handle Emergency Exit	Individual coding B25 Door handle	Rotatable head	Rotatable head	STS Door handle Emergency Exit
Special Version	 	 			

Electronic Safety Sensors



Series	CSS180	CSS30S	CSS34	RSS260	RSS36	RSS16
Technology	Pulse Echo	Pulse Echo	Pulse Echo	RFID	RFID	RFID
Housing	Thermoplastic	Stainless Steel	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
IP Rating	IP67	IP69K	IP67	IP67	IP67	IP67
Dimensions	0.7" dia 3.6"	1.18" dia 3.5"	1" 4" 1"	1.5" 1.25" 0.7"	1" 4.2" 1"	2" 3.5" 1.25"
Connections	Quick Connect Prewired cable	Quick Connect	Quick Connect Prewired cable	Quick Connect	Quick Connect Prewired cable	Screw terminals Cage clamps Quick Connect
Contact Options	1P2P	1P2P SD2P	1P2P SD2P	1P2P SD2P	1P2P SD2P	1P2P SD2P
Features	Flush mounting Integrated LED	Concealed mounting Integrated LED	Actuation from end or side EDM Version Integrated LED	Individual coding Integrated LED	Individual coding Magnetic latching version (18N) with door stop Integrated LED	Individual coding Magnetic latching version (40/60N) with door stop Integrated LED
Special Version						

Electronic Locking Devices



Series	AZM200	MZM100	AZM300
Technology	Pulse Echo	Pulse Echo	RFID
Locking	Solenoid	Electromagnet	Solenoid
Housing	Thermoplastic	Thermoplastic	Thermoplastic
IP Rating	IP67	IP67	IP69K
Dimensions	1.57" 8.66" 1.96"	1.75" 7.25" 1.75"	3.4" 4" 1.33"
Connections	Screw terminals Cage clamps Quick Connect	Quick Connect	Quick Connect
Contact Options	1P2P SD2P	1P2P SD2P	1P2P SD2P
Features	Door handle Lockout device Emergency Exit	Door stop Magnetic latching	Door Stop Adjustable latching Emergency Exit
Special Version			

Serial Diagnostic Gateway



SD-I-U-

For the series-wiring of the diagnostic signals from safety switching components with Integrated Serial Diagnostic interface.

Comprehensive status and diagnostic data from the Serial Diagnostic components are transmitted to the control system through field bus interface:

PROFIBUS	CANopen
EitherNet IP	Mobius/TCP
DeviceNet	ProfiNetIO
CC-Link	EtherCAT



CSS-Y-8P	CSS-Y-A-8P
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Y adapter for series connections

Terminal adapter for series connections

Coded Magnet Sensors



Series	BNS260	BNS36	BNS40S	BNS16	BNS333	BNS30/300/303	BNS-B20
Housing	Thermoplastic	Thermoplastic	Stainless Steel	Thermoplastic	Thermoplastic	Thermoplastic Metal (BNS30)	Thermoplastic
IP Rating	IP67	IP67	IP69K	IP69K	IP65	IP65	IP67
Dimensions	1" 1.4" 0.5"	1" 3.5" 0.5"	1" 3.5" 0.5"	2" 3.5" 1.25"	1.7" 4.5" 1.7"	1.18" dia 3.07"	
Connections	Quick Connect Prewired cable	Quick Connect Prewired cable	Prewired cable	Screw Terminals Quick Connect	Screw Terminals	Quick Connect Prewired cable	Quick Connect Prewired cable
Contact Options	1 NO & 1 NC 2 NC 1 NO & 2 NC 3 NC	1 NO & 1 NC 2 NC 1 NO & 2 NC 3 NC	1 NO & 2 NC	1 NO & 2 NC	1 NC	30/300: 1 NC 303: 1 NO & 1 NC 2 NC 1 NO & 2 NC 3 NC	1 NO & 1 NC 2 NC 1 NO & 2 NC
Features	Optional LED	Optional LED	Rear side mounting Optional LED	Double actuation version	5 actuation planes	Optional LED	Door handle Optional LED
Special Version						(303)	

Key Transfer System



Series	SHGV	SHGV/ESS21S2	SVE	SVM
Type	Guard Locking Device	Key Selector Switch	Multikey Interlock	Key Distribution Station
Housing	Metal	Metal/Thermoplastic	Thermoplastic	Aluminum (box) Stainless Steel (plate)
IP Rating	IP65	IP65	IP65	IP65 / IP40
Connection	N/A	Screw Terminals	Screw Terminals	N/A
Contact Options	N/A	1NO & 1NC	Maget: 1NO & 1NC Selector: 1NO & 1NC 1NO & 2NC	N/A
Features	1 or 2 locking barrels	Additional contacts Colored key grips	1, 2 or 3 selector switches	6 or 10 keys
Special Version				

Accessories



Connector Cables

Available for all quick connect models, various lengths and options



Mounting plates

Available for most models, ordered separately



TFA / TFI

Guard alignment aid

Safety Rated Limit Switches



Series	PS116	T/Z235	T/Z236	T/Z335	T/Z336
Housing	Metal head Thermoplastic body	Metal	Thermoplastic	Metal	Thermoplastic
IP Rating	IP66, IP67	IP67	IP67	IP67	IP67
Dimensions	1.22" 2.24" 0.62"	1.25" 1.25" 2.5"	1.25" 1.25" 2.5"	1.5" 1.25" 3"	1.5" 1.25" 3"
Connections	Quick Connect Prewired cable	Screw terminals Quick Connect	Screw terminals Quick Connect	Screw terminals Quick Connect	Screw terminals Quick Connect
Contact Options	1 NO & 1 NC 2 NO & 1 NC 1 NO & 2 NC 2 NC	1 NO & 1 NC 2 NO 2 NC	1 NO & 1 NC 2 NO 2 NC	1 NO & 1 NC 2 NO 2 NC 1 NO & 2 NC 3 NC	1 NO & 1 NC 2 NO 2 NC
Features	10 Actuation heads Rotatable heads 45° steps	15 Actuation heads Rotatable heads 90° steps	15 Actuation heads Rotatable heads 90° steps	8 Actuation heads Rotatable heads 90° steps	8 Actuation heads Rotatable heads 90° steps
Special Version					

Hinged Safety Switches



Series	T.C235	T.C236	TV.S335	TESZ	TESF
Type	Limit Switch	Limit Switch	Axial Limit Switch	Hinge replacement	Hinge replacement
Housing	Metal	Thermoplastic	Metal	Thermoplastic	Metal
Max rotation	180°	180°	360°	135°	180°
Opening Angle	4.5° (preset for left, right or swing doors)	4.5° (preset for left, right or swing doors)	2°	4°	3° (Adjustable or preset @ 0° or 180°)
IP Rating	IP67	IP67	IP67	IP65	IP65
Dimensions	1.25" 1.25" 2.5"	1.25" 1.25" 2.5"	1.5" 1.25" 3"	3" 2.4" 1.4"	3.5" 4.5" 0.9"
Connections	Screw Terminals	Screw Terminals	Screw Terminals Quick connector	Screw Terminals	Screw Terminals Quick connector
Contact Options	1 NO & 1 NC 2 NC 1 NC	1 NO & 1 NC 2 NC 1 NC	1 NO & 1 NC 2 NC 1 NO & 2 NC 3 NC	1 NO & 2 NC 3 NC	1 NO & 2 NC 2 NO & 2 NC
Features	Rotatable head 90° steps	Rotatable head 90° steps	Universal joint Rotatable head 90° steps	Additional matching hinge	Additional matching hinge. Inside or surface mounting
Special Version					

Safety Edges



Series	SE 40	SE 70
Dimensions	1" wide, 1.5" high	1.18" wide, 2.3" high
Length	SE-P40-1250 = 1,250 mm SE-P40-2500 = 2,500 mm SE-P40-5000 = 5,000 mm SE-P40-10000 = 10,000 mm	SE-P70-1250 = 1,250 mm SE-P70-2500 = 2,500 mm SE-P70-5000 = 5,000 mm SE-P70-10000 = 10,000 mm
Mounting rails	SE-AL10-1250 SE-AL12-1250	SE-AL20-1250 SE-AL22-1250
Additional Components	SE-T.40 end cap	SE-T.70 end cap
	SE-SET sensor set SE-100C Safety Controller SE-304C Safety Controller SE-400C Safety Controller	

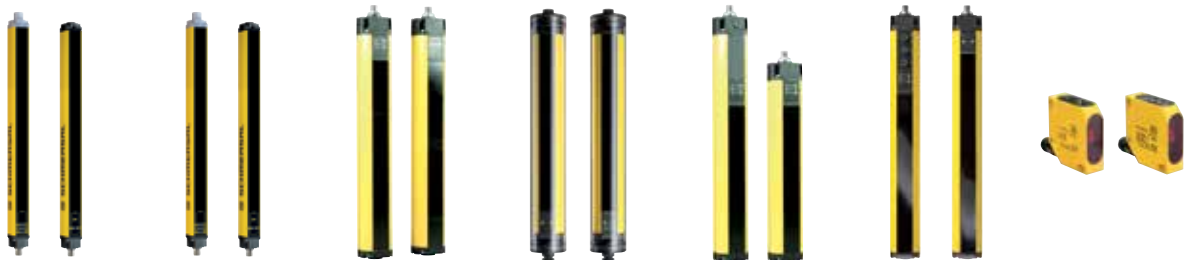
Safety Mats



Series	SMS4	SMS5
Dimensions	250 mm x 500 mm 500 mm x 500 mm 500 mm x 1000 mm 750 mm x 1000 mm 1000 mm x 1000 mm 1000 mm x 1500 mm	250 mm x 500 mm 500 mm x 500 mm 500 mm x 1000 mm 750 mm x 1000 mm 1000 mm x 1000 mm 1000 mm x 1500 mm
Mounting ramp edge	Separate	Integrated
Accessories	Precut trim kits: SMS4-RS-250-500 SMS4-RS-500-500 SMS4-RS-500-1000 SMS4-RS-750-1000 SMS4-RS-1000-1000 SMS4-RS-1000-1500	----
	SRB301HC Safety Controller	

Custom sizes, colors, and tread pattern are available.

Optoelectronic Safety Devices



Series	SLC440	SLC445	SLC420	SLC420 69K	SLC421	SLC425	SLB400
Profile	1" 1.30"	1" 1.30"	2" Dia	2.3" Dia	2" Dia	2" Dia	0.6" 1.9" 2.5"
Resolution	14 mm, 30 mm	14 mm, 30 mm	14 mm, 30 mm, 50 mm	14 mm, 30 mm	14 mm, 30 mm	14 mm, 30 mm	----
Protection heights	170 mm ... 1770 mm	170 mm ... 1770 mm	170 mm ... 1770 mm	170 mm ... 1450 mm	170 mm ... 1770 mm	170 mm ... 1770 mm	----
Range	0.3 mm ... 10 m	0.3 mm ... 10 m	0.3 mm ... 18 m	0.3 mm ... 10 m	0.3 mm ... 10 m	0.3 mm ... 10 m	15 m
Functions	Blanking Contactor control Beam Coding Start interlock Double reset	Muting Cyclic function Multiscan + all SLC440 functions	Blanking Contactor control Beam Coding Start interlock	Blanking Contactor control Beam Coding Start interlock IP69K Rated	Cyclic function Contactor control Beam Coding Start interlock	Muting Contactor control Beam Coding Start interlock	Single beam
Type 2 Version	----	----	SLC220	SLC220 69K	----	----	SLB200
Light Grid Version	SLG440 2, 3, or 4 beam	SLG445 2, 3, or 4 beam	SLG420 2, 3, or 4 beam	SLG420 69K 2, 3, or 4 beam	SLG421 2, 3, or 4 beam	SLG425 2, 3, or 4 beam	----
Special Version							

Emergency Cable Pulls



Series	ZQ700	ZQ900	T3Z068
Housing	Thermoplastic	Metal	Metal
IP Rating	IP67	IP65, IP67	IP65
Dimensions	1.6" 1.6" 6.3"	2.8" 8.6" 3.8"	7.1" 7" 4.5"
Connections	Screw Terminals	Screw Terminals	Screw Terminals
Contact Options	1 NO & 1 NC 2 NC	1 NO & 1 NC 1 NO & 2 NC 1 NO & 3 NC 2 NC, 4 NC	1 NO & 1 NC 2 NO & 2 NC 3 NO & 3 NC
Max cable length	10 meters	75 meters	50 meters (both directions)
Features	Reset button	Reset button Optional E-stop button	Bi-Directional Pull ring or key reset
Special Version			

Accessories (complete custom kits or order installation components separately)



E-Stop Buttons



EDRRZ40RT	EDRRS40RT
Metal button	Metal button, key reset



KDRRKZ40RT	ADRR40RT
Thermoplastic button	Thermoplastic button



NDRZ50RT	RDRZ45RT
IP69K rated, thermoplastic	Rugged metal button

Control Devices with Safety Function



Series	BDF200	BDF100	ZSD	TFH	SEPK	SEPG
Type	Control Panel	Control Panel	Enabling Device	Safety Foot Switch	Two Hand Control	Two Hand Control
Features	4 machine controls Compact thermoplastic housing Wide variety of control elements	Single operator housing Compact thermoplastic housing Wide variety of control elements	Handheld device Off-On-Off switch position Available with optional top button	Foot pedal Off-On-Off switch position Hooded housing to prevent accidental actuation 2 pedal version available Reset button	Requires simultaneous actuation of pushbuttons Occupies operator's hands Plastic housing Custom versions available Stands available	Requires simultaneous actuation of pushbuttons Occupies operator's hands Metal housing Custom versions available Stands available
Special Version						

Programmable Safety Controller



Module	Single channel inputs				Single channel outputs			
	Standard signals with dry contacts	Safe			Standard signals with dry contacts 0.3 A**	Safe		
		Dry	Non-Floating	Selectable*		Transistor	Relay	
					0.5 A**	0.3 A**	4 A**	
PSC-CPU-MON	—	4	—	4	—	6	—	—
PSC-SUB-MON	—	4	—	4	—	6	—	—
PSC-S-STP-E	—	4	—	2	—	4	—	—
PSC-S-STP-LC	—	—	4	2	—	4	—	—
PSC-S-STP-ELC	—	2	2	2	—	4	—	—
PSC-S-Relay	—	—	—	—	—	—	—	2 × 2
PSC-S-IN-E	—	16	—	—	—	—	—	—
PSC-S-IN-LC	—	—	16	—	—	—	—	—
PSC-S-OUT	—	—	—	—	—	—	16	—
PSC-NS-IN	16	—	—	—	—	—	—	—
PSC-NS-OUT	—	—	—	—	16	—	—	—

* The dry or non-floating information refers to the technical properties of the input signals:

- Dry-contacts input signals, e.g. from emergency stop control devices, safety switches, interlocking devices, safety solenoid switches and similar.
- Non-floating input signals, e.g. PNP outputs from optoelectronic protective devices such as safety light curtains, laser scanners etc., but also from safety sensors from Schmersal CSS or AZM200 ranges.
- Selectable, input signals are monitored without cross short recognition. Outputs from optoelectronic protective devices can be directly connected, or dry contacts can be monitored up to a PLd.

** Maximum current per output with resistive load.

Safe Speed Monitoring



Series	AZS 2305	FWS1205	FWS2505	DN3PS2	DNDS
Type	Timer	Standstill	Standstill	Senorless Standstill	Standstill/Safe motion
Operating Voltage	24V DC, 110V AC, 230V AC	24V DC	24-230V AC/DC	24V DC	24V DC
Input types	Dry Contacts	2 impulse sensors	2 impulse sensors	Back EMF	Encoders, Resolvers, Proximity Sensors
Enabling circuits	3	2	4	2	Varies, dependent on selected components
Auxiliary outputs	2 PNP	2 PNP	1 NC, 2 PNP	None	Varies, dependent on selected components

Safety Controllers



Model	Operating Voltage (UB)	Types of Inputs Monitored	No. of Devices Monitored	No. of Safety Outputs	No. of Aux. Outputs	Feedback Monitoring	Type of Reset	Cross-short Monitoring
SRB 201 ZH	24V DC	Two-hand control (dry contacts)	2	2	1 NC	Yes	Automatic	Yes
SRB 301 HC/R	24V AC/DC or 48-230V AC	Two-hand control Safety Mats	2	3	1 NC	Yes	Monitored-manual	Yes
SRB 301 HC/T	24V AC/DC or 48-230V AC	Safety Mats	1	3	1 NC	Yes	Monitored-manual or Automatic	Yes
SRB 202 MSL	24V DC	Muting module	2	2	2	Yes	Automatic	Yes
SRB 206 ST	24V AC/DC or 48-230V AC	Dry contacts	6	2	6 PNP	Yes	Monitored-manual or Automatic	No
SRB 206 SQ	24V AC/DC or 48-230V AC	Dry contacts	6	2	6 PNP	Yes	Monitored-manual or Automatic	Yes
SRB 211 AN	24V AC/DC	Dry contacts	1	2 (stop 0) 1 (stop 1)	1 PNP	Yes	Monitored-manual or Automatic	Yes (selectable)
SRB 211 ST	24V AC/DC	Dry contacts or PNP-type outputs	1	2 (stop 0) 1 (stop 1)	1 PNP	Yes	Monitored-manual or Automatic	Yes (selectable)
SRB 301 LC or SRB 301 LCI	24V AC/DC	Dry contacts	1	3	1 NC	Yes	Manual or Automatic	Yes (selectable)
SRB 301 LCB	24V AC/DC	Dry contacts or PNP-type outputs	1	3	1 NC	Yes	Manual or Automatic	No
SRB 301 MC	24V AC/DC	Dry contacts or PNP-type outputs	1	3	1 NC	Yes	Manual or Automatic	Yes
SRB 301 MA	24V AC/DC	Dry contacts or PNP-type outputs	1	3	1 NC	Yes	Monitored-manual	Yes (selectable)
SRB 301 ST	24V AC/DC	Dry contacts or PNP-type outputs	1	3	1 NC	Yes	Monitored-manual or Automatic	Yes (selectable)
SRB 301 ST-230V	48V-230V AC	Dry contacts	1	3	1 NC	Yes	Monitored-manual or Automatic	No
SRB 301 SQ-230V	48V-230V AC	Dry contacts	1	3	1 NC	Yes	Monitored-manual or Automatic	Yes
SRB 324ST	24V AC/DC	Dry contacts or PNP-type outputs	1	3 (stop 0) 2 (stop 1)	1 N.C. plus 3 PNP		Monitored-manual or Automatic	Yes
SRB 401 LC	24V AC/DC	Dry contacts	1	4	1 NC	Yes	Manual or Automatic	Yes
SRB 504 ST	24V AC/DC	Dry contacts or PNP-type outputs	1	5	1 N.C. plus 3 PNP	Yes	Monitored-manual or Automatic	Yes
SRB 100 DR	24V AC/DC	Dry contacts	2	1	None	N/A	Monitored-manual DOUBLE RESET	N/A

Differentiated-Output Safety Controllers

SRB 202 C	24V DC	Dry Contacts	2	2	2 NC	Yes	Depends upon model	Depends upon model
SRB 400 C	24V DC	Dry Contacts	2	4	None	Yes	Depends upon model	Depends upon model

Safety Output Expansion Module

SRB 402 EM	24V AC/DC	N/A	N/A	4	2 NC	Yes	Automatic	N/A
SRB 401 EM	115V AC	N/A	N/A	4	1 NC	Yes	Automatic	N/A

Input Expansion Module

Protect-IE	24V DC	Dry contacts	4	N/A	4 PNP	N/A	N/A	Yes
Protect-PE	24V DC	Dry/PNP contacts	4	N/A	5 PNP	N/A	N/A	Yes

Safe solutions for your industry

<http://www.schmersal.com/en/industry/>

Schmersal presents a series of guides featuring a selection of Schmersal safety products which are suitable to meet the unique challenges presented in various industries. Check our website or contact your local Schmersal representative for more information on Industry Solutions.

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