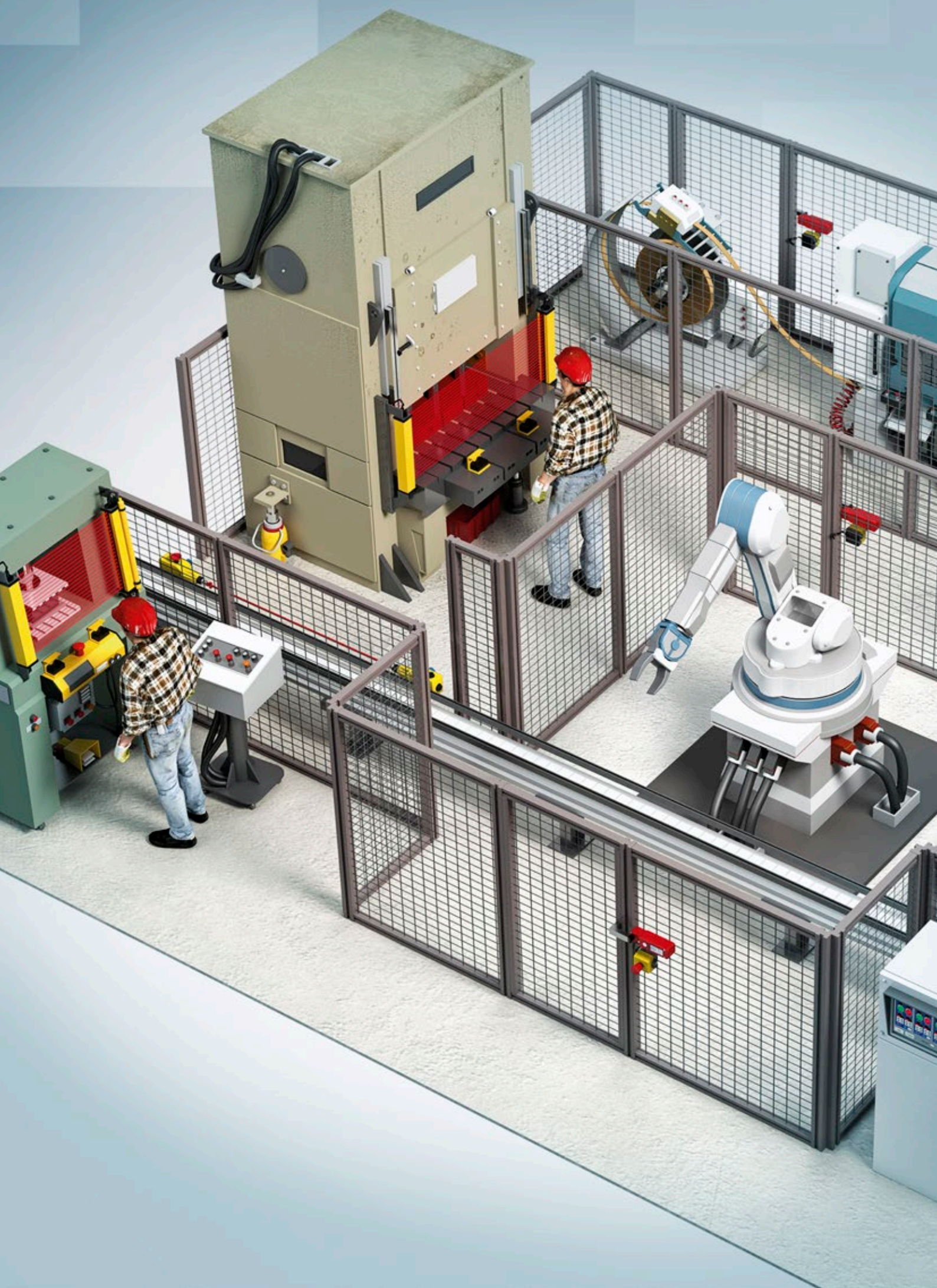


Automation Safety Solutions





Safety Solutions

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THE COMPLETE SOLUTION FOR OPERATING SAFETY OF MACHINERY AND EQUIPMENT

Investing in machinery and equipment safety is essential to increase the industry efficiency and productivity. Rely on WEG Safety Line products to help with that process.

Especially developed to comply with national and international safety standards, the Safety Line offers standalone solutions or solutions that are integrated to safety systems, reducing accident risks and ensuring protection for operators and machines, which increases the reliability of your production processes.





Benefits



Guaranteed safety



Simple use



International certification

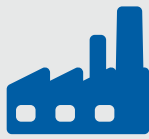


Flexibility

Applications



Conformation to safety standards



Wide range of industrial applications



Safety light screens



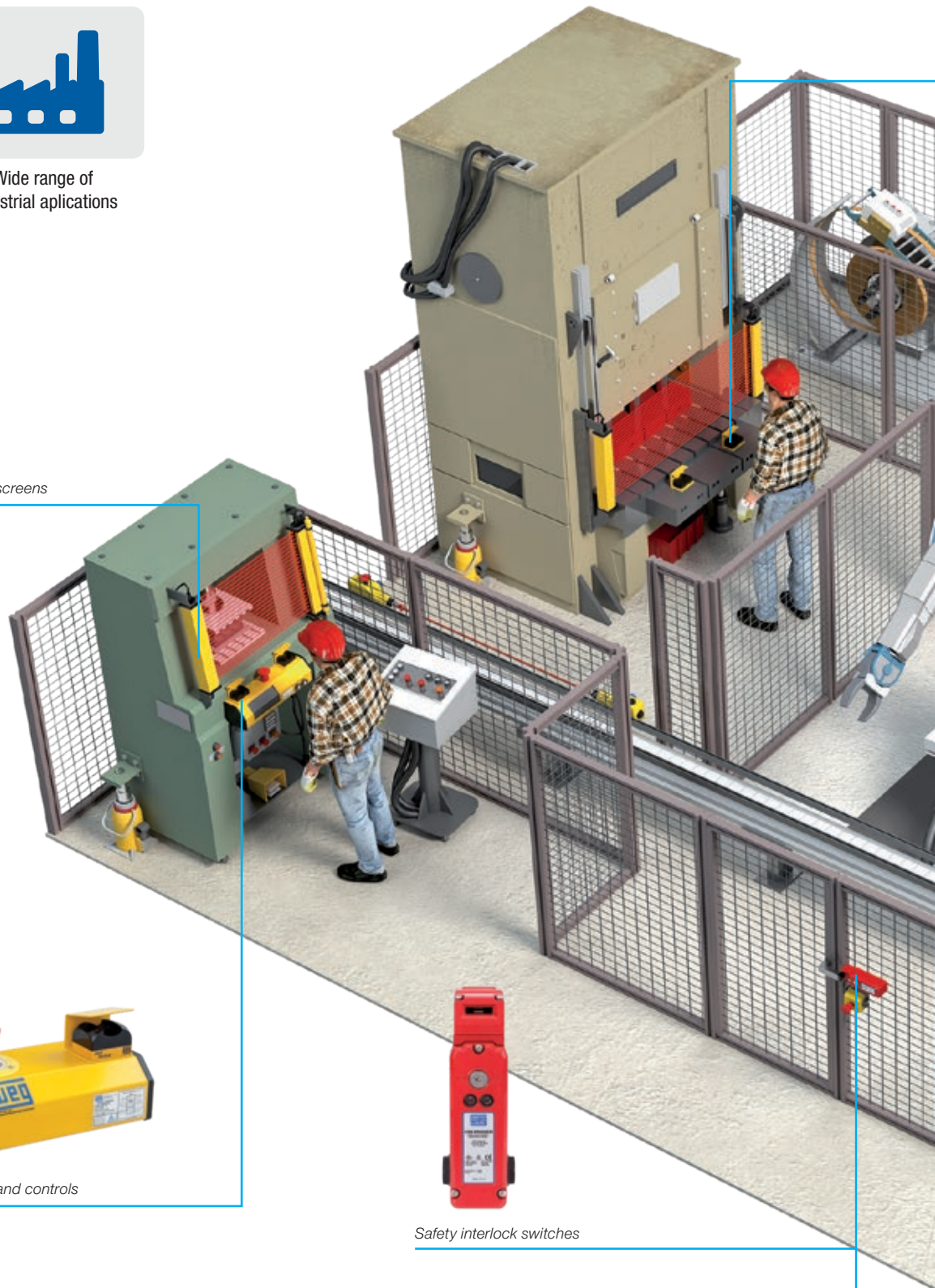
Two-hand controls



Safety interlock switches



Emergency push-button with monitored contact





Zero-force electronic pushbuttons



Magnetic sensors with safety function



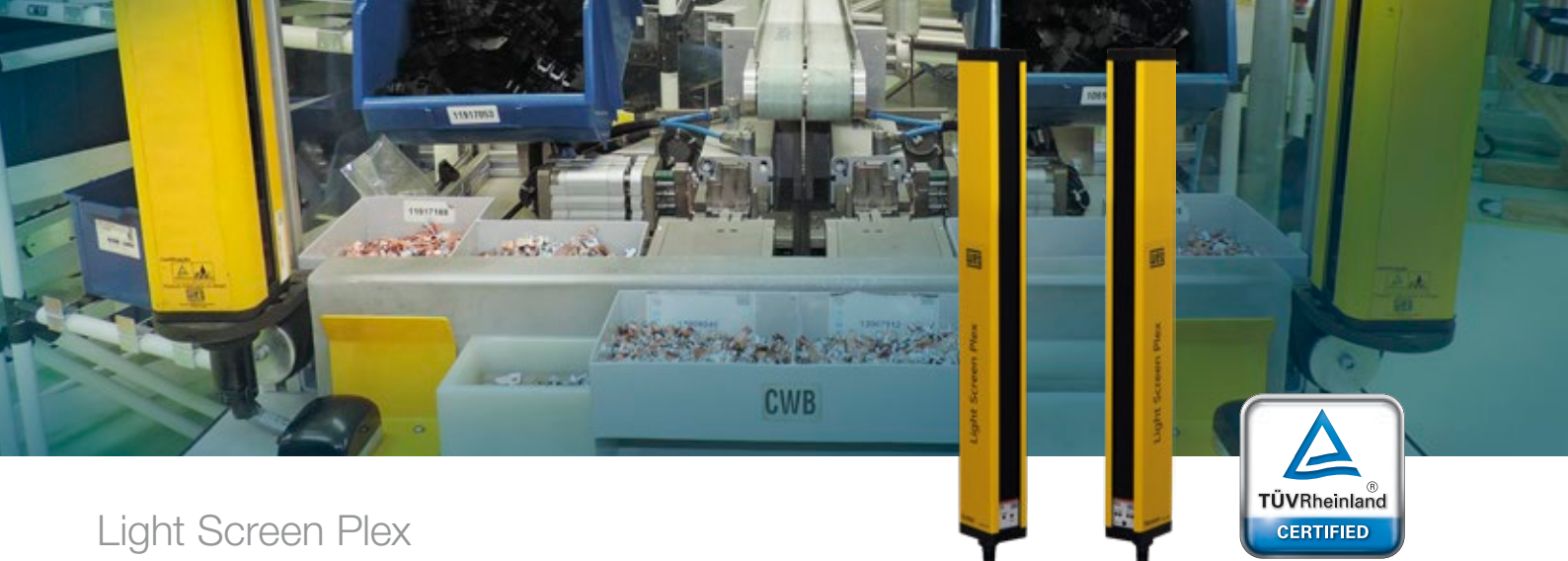
Pull-cord emergency-stop switches



Safety relays



Contactors for safety applications



Light Screen Plex

Plex safety light screens incorporate into their electronics redundant microcontrollers able to perform their functions and all the self-diagnoses simultaneously in real time, ensuring safe operation and compliance with international standards, in addition to the RoHS European directive.

With high resolution to detect fingers and hands, the LSP also has floating and fixed blank programmable functions, being basically composed of an infrared light transmitter and receiver assembled in compact and robust units, offering easy installation and safe operation.

Technical Data

Mounting	With angle bracket	
Vibration damping	With special butyl rubber pads	
Defined area height	200 to 1,600 mm (100 mm expansion module)	
Operating range	LSP14 xxx	0.2 ~ 5 m
	LSP29 xxx	0.2 ~ 7 m
Beams spacing	10 mm - LSP14 / 20 mm LSP29	
Minimum object detection size	14 mm - LSP14 / 29 mm LSP29	
Ambient light immunity	1,500 lux (IEC 61496-2)	
Eletromagnetic compatibility standards (EMC)	EN 61000-4-2 - Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 2: Eletrostatic discharge immunity test EN 61000-4-3 - Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 3: Radiated, radio-frequency, electromagnetic field immunity test EN 61000-4-4 - Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 4: Electrical fast transient/burst immunity test EN 61000-4-5 - Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 5: Surge immunity test EN 61000-4-6 - Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 6: Immunity to conducted disturbances, induced by radio-frequency fields	
Safety category	SIL 3 (IEC 61508) / PL _e (ISO 13849-1) / Type 4 (IEC 61496-1/ IEC 61496-2)	
Power supply	24 V dc (-10% / +15%) SELV/PELV	
Maximum power consumption	2.5 W	
Output signal switching devices	Two PNP (NC)	
Maximum output current	150 mA	
Maximum OFF STATE voltage	1.5 V	
Maximum OFF STATE current	1.5 mA	
Light indication	Power supply	(Green)
	Synchronism	(Yellow)
	Output state	ON STATE (Green)
		OFF STATE (Red)
		FAULT (Flashing Red)
	Programming	Blue
	Off	Default operating mode
	Solid ON	Programming in progress
	Flashing	Blanking programmed
The number of flashes indicates the number of programmed beams (1, 2 or 3)		
Operating temperature	-10 °C...+50 °C and 95% of humidity. IEC 61496-1	
Storage temperature	-20 °C...+70 °C and 95% of humidity. IEC 61496-1	
Environmental rating	IP65 IEC 60529	
Applicable standards	Directives	Low Voltage Directive (LVD) 2014/35/EC
		Electromagnetic Compatibility (EMC) Directive 2014/30/EU
		Machinery Directive 2006/42/EU
	Standards	RoHS II Directive 2011/65/EU
		IEC 61508 - Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 1: General requirements ISO 13849-1 - Safety of machinery -- Safety-related parts of control systems - Part 1: General principles for design IEC 61496-1 - Safety of machinery - Electro-sensitive protective equipment - Part 1: General requirements and tests IEC 61496-2 - Safety of machinery - Electro-sensitive protective equipment - Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs)
Expected lifespan	10 years	

Composition

Transmitter and Receiver

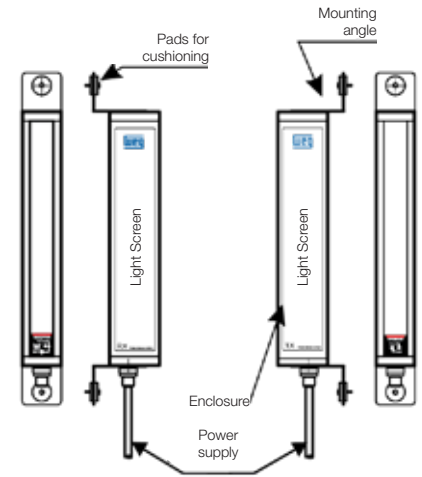
Profiles and corner in aluminum with epoxy paint coating, caps injected nylon with fiberglass for greater mechanical resistance.

Pads for Cushioning

They are mounted on the angle brackets and isolate the enclosures from blows and vibrations.

Coding

Light Screen Plex	Resolution (mm) 14; 29	Defined area height 200 to 800 - 14 mm resolution 200 to 1,600 - 29 mm resolution
LSP	14	200



Specifications

Reference	Defined area height (mm)	Power supply	Resolution (mm)
LSP14-200	200	24 V dc	14
LSP14-300	300		
LSP14-400	400		
LSP14-500	500		
LSP14-600	600		
LSP14-700	700		
LSP14-800	800		
LSP29-200	200	24 V dc	29
LSP29-300	300		
LSP29-400	400		
LSP29-500	500		
LSP29-600	600		
LSP29-700	700		
LSP29-800	800		
LSP29-900	900		
LSP29-1000	1,000		
LSP29-1100	1,100		
LSP29-1200	1,200		
LSP29-1300	1,300		
LSP29-1400	1,400		
LSP29-1500	1,500		
LSP29-1600	1,600		

Notes: wait for the sales release.

Cables

Function	Length (m)	Function
M12-5V/5	5	Transmitter/receiver cable
M12-5V/10	10	

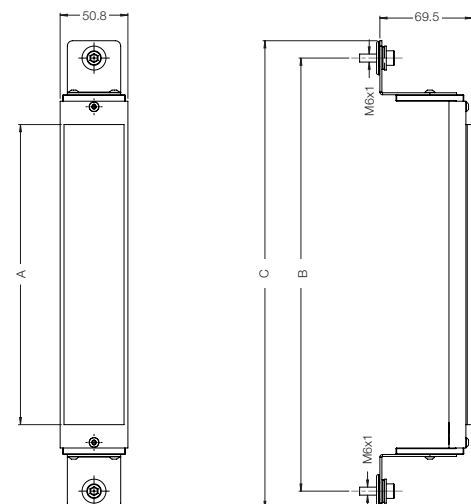
Notes: included in the LSP14 or LSP29 reference: one pair of safety light screen. The transmitter and receiver cables and the safety relay are not included.
For each pair of LSP14/LSP29 light screen, two 5-way cables (one for the transmitter and one for the receiver) + one CPLS-D301 safety relay are required.

Accessories

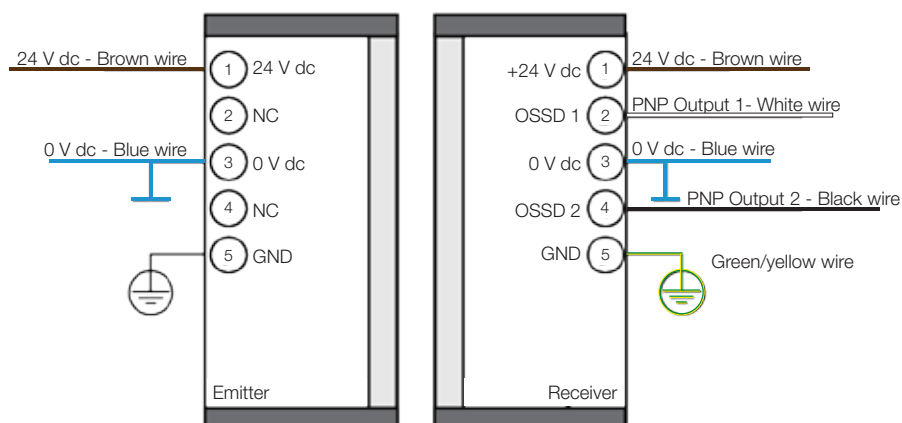
Mirrors

Reference	Light screen plex ¹⁾	Dimensions (mm)		
		A	B	C
LSPM-200	LSP14/29-200	225	325	350
LSPM-300	LSP14/29-300	325	425	450
LSPM-400	LSP14/29-400	425	525	550
LSPM-500	LSP14/29-500	525	625	650
LSPM-600	LSP14/29-600	625	725	750
LSPM-700	LSP14/29-700	725	825	850
LSPM-800	LSP14/29-800	825	925	950
LSPM-900	LSP29-900	925	1025	1050
LSPM-1000	LSP29-1000	1025	1125	1150
LSPM-1100	LSP29-1100	1125	1225	1250
LSPM-1200	LSP29-1200	1225	1325	1350
LSPM-1300	LSP29-1300	1325	1425	1450
LSPM-1400	LSP29-1400	1425	1525	1550
LSPM-1500	LSP29-1500	1525	1625	1650
LSPM-1600	LSP29-1600	1625	1725	1750

Note: 1) Exclusive to LSP light screen.

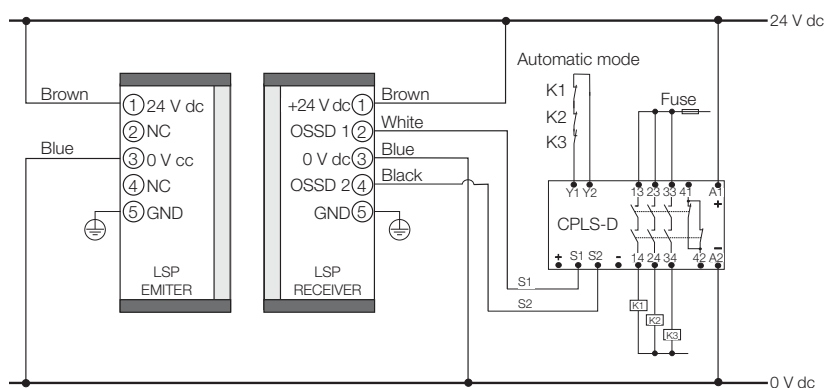


Typical Wiring Diagrams

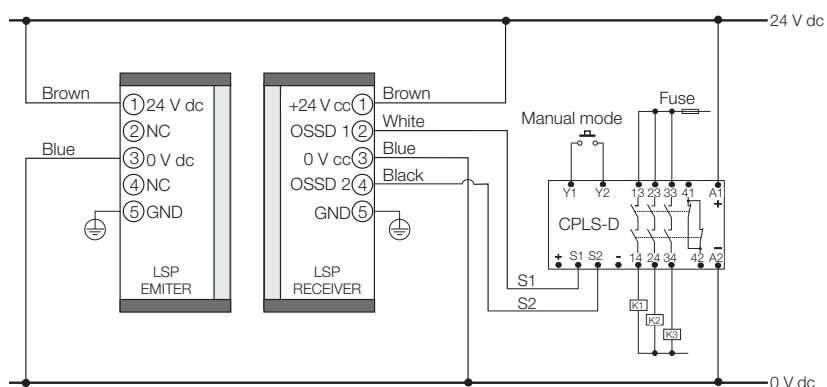


Example of LSP Connection with CPLS-D Safety Relay

Automatic Mode

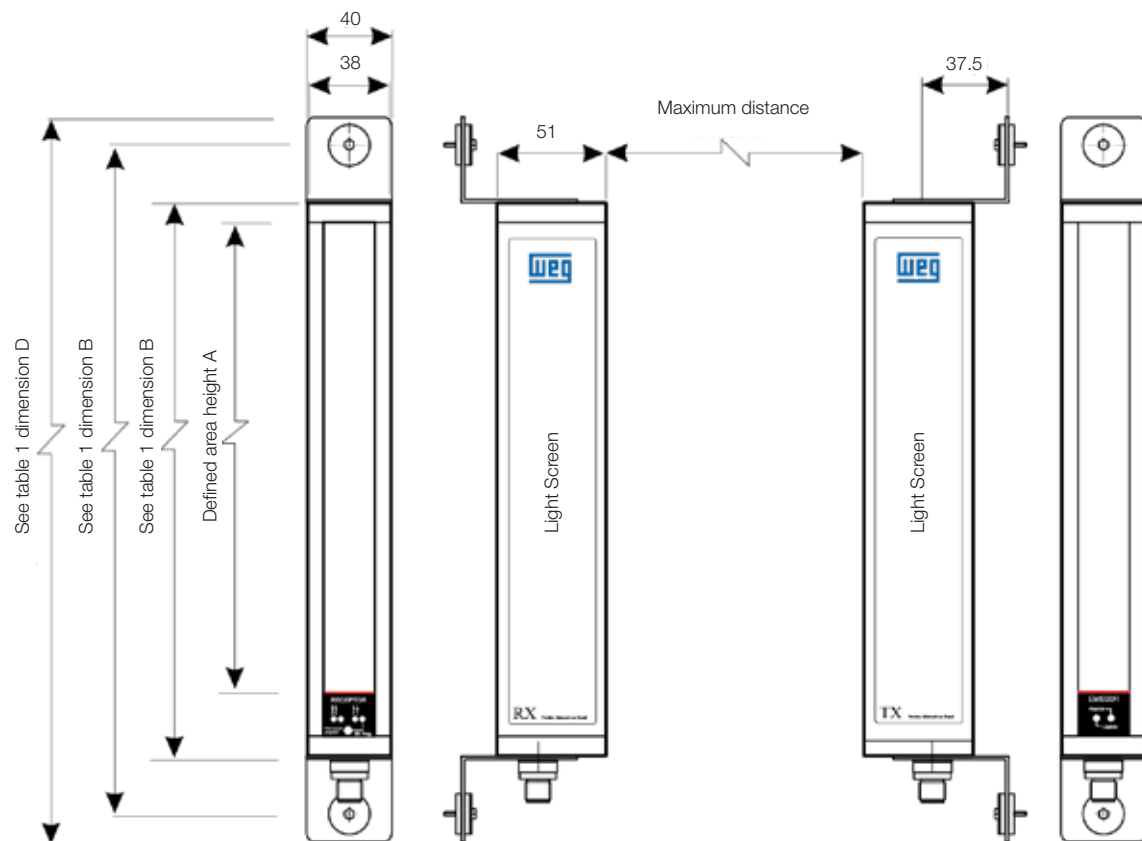


Manual Mode



Note: dimensions in mm.

Dimensions



Model	Dimension A	Dimension B	Dimension C	Dimension D
LSPXX-200	200	245	300	326
LSPXX-300	300	345	400	426
LSPXX-400	400	445	500	526
LSPXX-500	500	545	600	626
LSPXX-600	600	645	700	726
LSPXX-700	700	745	800	826
LSPXX-800	800	845	900	926
LSPXX-900	900	945	1,000	1,026
LSPXX-1000	1,000	1,045	1,100	1,126
LSPXX-1100	1,100	1,145	1,200	1,226
LSPXX-1200	1,200	1,245	1,300	1,326
LSPXX-1300	1,300	1,345	1,400	1,426
LSPXX-1400	1,400	1,445	1,500	1,526
LSPXX-1500	1,500	1,545	1,600	1,626
LSPXX-1600	1,600	1,645	1,700	1,726

Note: XX is the LSP resolution, which can be 14 mm or 29 mm.



Programmable Safety Controller

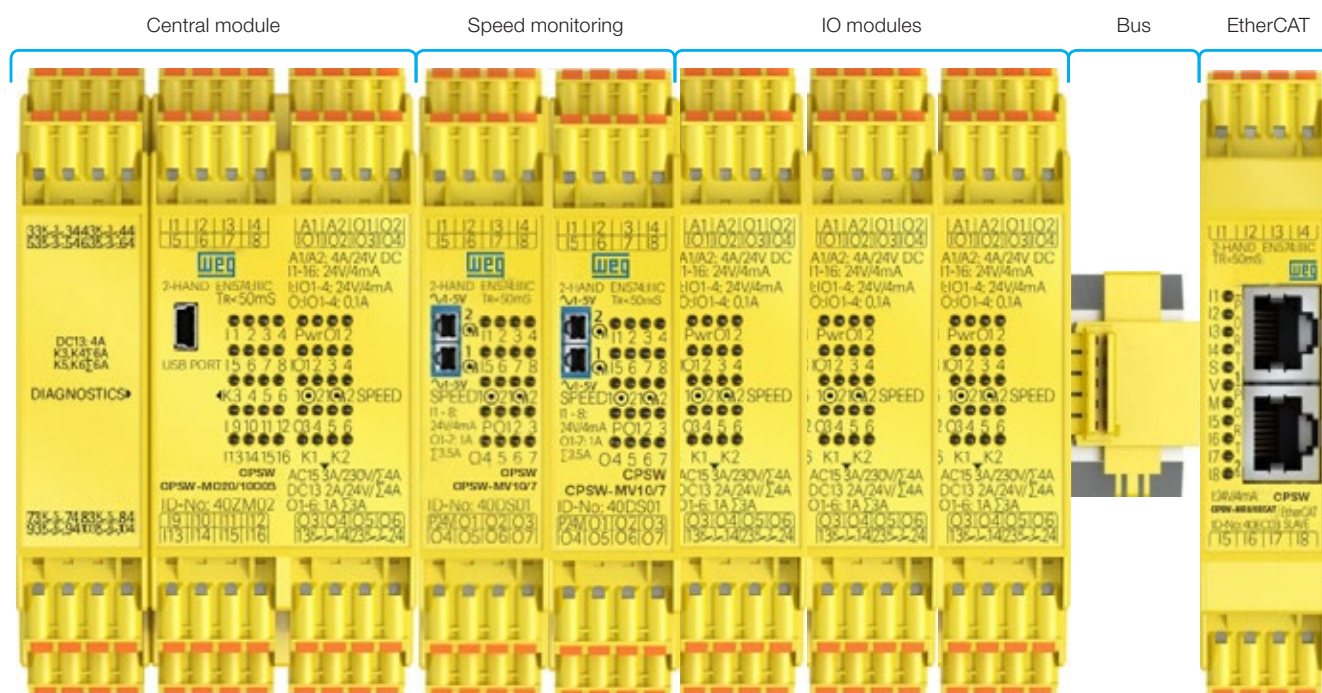
The CPSW safety programmable controller offers, in a simple and intelligent way, the ideal solution to implant machine and equipment safety systems.

Due to the flexible modular structure, it is suitable to meet the requirements of different applications, enabling the user to easily design solutions capable to integrate several safety devices.



Hardware

- It is necessary at least one central module to configure an application. The number of functional modules depends on the requirement.



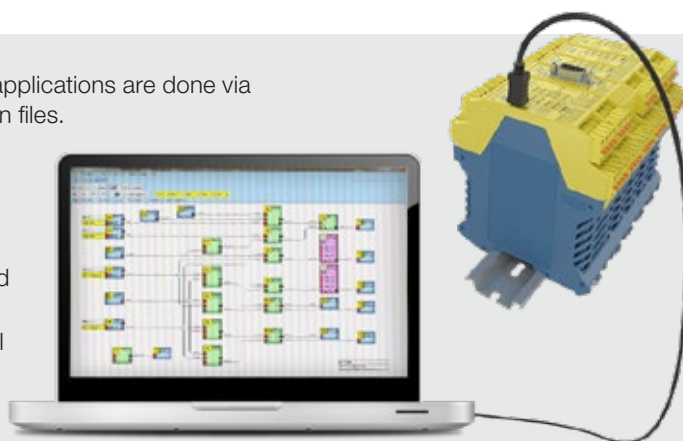
Main Characteristics

- Compact modular system
- Configurable up to 15 modules
- Central modules with 20 inputs and 12 or 6 outputs
- Expansion modules with different functions (safety input and output expansion, speed monitoring and network communication)
- Push-in terminals
- Online diagnostics and monitoring via software
- Offline simulation of the application
- 24 V dc Power supply
- Programming via USB port
- Free programming software
- Safety category: SIL3 / PLe / Cat4
- Certifications: CE and DGUV Test

Programming Software

The configuration, programming and documentation of the applications are done via CPSW Designer software, allowing the project to be stored in files.

- Free software in Portuguese, English and German.
- Programming through block diagram.
- Blocks with all the safety functions can be selected and easily adjusted to meet the application requirements.
- Monitoring of the application, which allows fast diagnostics and reduction of machine downtime.
- Simulation of the program operation without requiring a central module connected to the computer.
- Communication through USB port.
- Available for download on: www.weg.net.



Network Communication

The CPSW line provides network communication modules to support the main protocols used in the global market.

Reference	Code	Protocol	Description
CPSW-MR8/OCAN	13806370	CANopen	Modules with 08 safety digital inputs and a network communication port.
CPSW-MR8/ODPV1	13806371	Profibus-DP	
CPSW-MR8/OECAT	13806369	EtherCAT	
CPSW-MR8/OPNET	13806267	PROFINET	
CPSW-MR8/OMBUS	13980284	Modbus-TCP	
CPSW-MR8/OENET	13980285	EtherNet	

Standards

- EN 55011: 2009+A1 2010 (class A), EN 61326-1: 2006-05 SIL3, EN 61000-6-2: 2006-05, EN 62061: 2005, EN 61326-3-1: 2008, EN 61000-4-11: 2004;
- DIN EN 60947-5-1: Low-voltage panel and control devices; part 5.1: Control circuit devices and switching elements - electromechanical control circuit devices;
- DIN EN ISO 13849-1: Parts related to the safety of control systems; Part 1: General principles for project category 4, PLe;
- DIN EN ISO 13849-2: Parts related to the safety of control systems; Part 1: Validation;
- DIN EN 62061: Functional safety of electrical, electronic and programmable electronic control systems SIL CL3;
- GS-ET-20: Basic principles for testing and certifying safety switching devices.

Certifications



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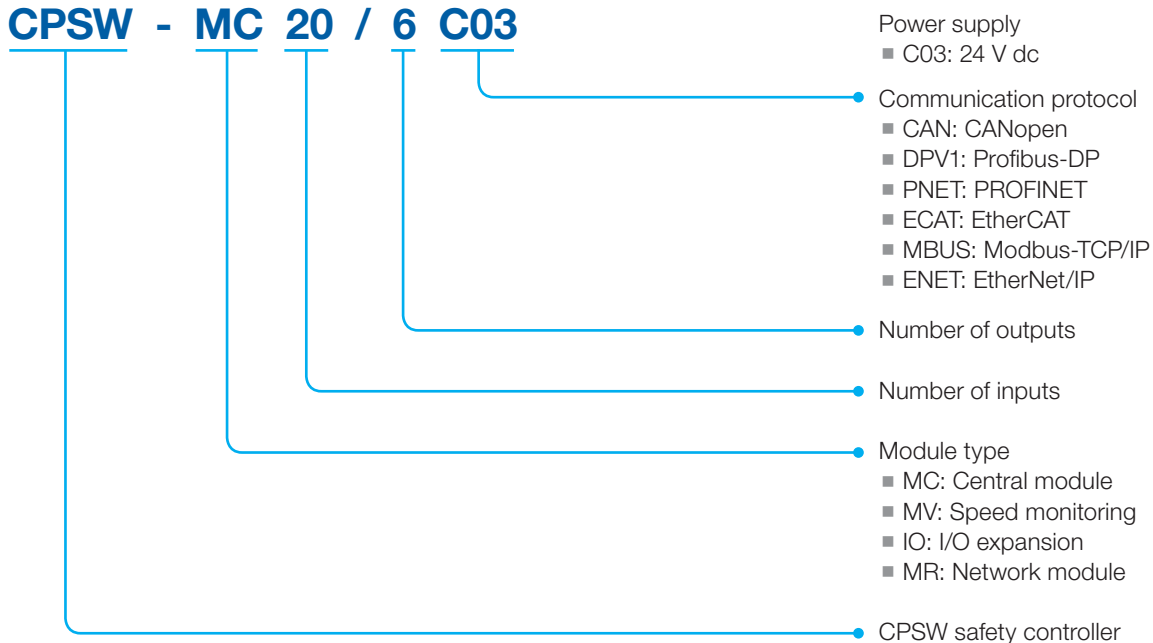
Product rated as safety device according to: EN ISO 13849-1: 2008-12, category 4, PLe; EN 62061: 2005-10, SIL CL 3.

Reliability Data

Module	MTTFd (years)	PL	DC	SFF	PFHd	TM (years)
CPSW-MC20/6C03	79	e	high	99%	$3,0 \times 10^{-8}$	20
CPSW-MC20/12C03	141	e	high	99%	$1,6 \times 10^{-8}$	20
CPSW-MV10/7	97	e	high	96%	$2,5 \times 10^{-8}$	20
CPSW-IO12/4	238	e	high	95%	$1,4 \times 10^{-8}$	20
CPSW-IO8/7	97	e	high	96%	$2,5 \times 10^{-8}$	20
CPSW-IO8/2	91	e	high	98%	$2,5 \times 10^{-8}$	20
CPSW-MR8/OPNET	305	e	high	95%	$8,0 \times 10^{-9}$	20
CPSW-MR8/ODPV1	305	e	high	95%	$8,0 \times 10^{-9}$	20
CPSW-MR8/OECAT	305	e	high	95%	$8,0 \times 10^{-9}$	20
CPSW-MR8/OCAN	305	e	high	95%	$8,0 \times 10^{-9}$	20
CPSW-MR8/OMBUS	305	e	high	95%	$8,0 \times 10^{-9}$	20
CPSW-MR8/OENET	305	e	high	95%	$8,0 \times 10^{-9}$	20

Coding

CPSW - MC 20 / 6 C03



Specifications

Central Modules

Reference	Description	Code
CPSW - MC20/6C03	Main module, 24 V dc (-15%/+10%) power supply, with 8 safety digital/analog inputs, 8 safety digital inputs (four of these inputs can be used for monitoring speed sensor 24 V dc), 4 safety transistor digital inputs/outputs, 6 safety transistor digital outputs, USB port.	13806259
CPSW - MC20/12C03	Main module, 24 V dc (-15%/+10%) power supply, with 8 safety digital/analog inputs, 8 safety digital inputs (four of these inputs can be used for monitoring speed sensor 24 V dc), 4 safety transistor digital inputs/outputs, 2 speed monitoring inputs, 6 safety transistor digital outputs, 6 relay digital outputs with safety contacts, USB port.	13806023

Speed Monitoring Module

Reference	Description	Code
CPSW - MV10/7	Speed monitoring module, 2 reading points (encoder/sensor). Speed up to 500 kHz. 8 safety digital inputs, 2 transistor digital/pulse outputs, 5 safety transistor digital outputs.	13806024

Input/Output Expansion Modules

Reference	Description	Code
CPSW - IO8/7	Expansion module with 8 safety digital inputs and 7 safety transistor digital outputs.	13806022
CPSW - IO12/4	Expansion module with 12 safety digital inputs and 4 safety digital inputs/outputs.	13806025
CPSW - IO8/2	Expansion module with 8 safety digital inputs and 2 safety relay digital outputs.	13806266

Network Communication Modules

Reference	Description	Code
CPSW - MR8/ODPV1	Profibus-DP network communication module and 8 safety digital inputs.	13806371
CPSW - MR8/OPNET	PROFINET network communication module and 8 safety digital inputs.	13806267
CPSW - MR8/OCAN	CANopen network communication module and 8 safety digital inputs.	13806370
CPSW - MR8/OECAT	EtherCAT network communication module and 8 safety digital inputs.	13806369
CPSW - MR8/OMBUS	Modbus-TCP/IP network communication module and 8 safety digital inputs.	13980284
CPSW - MR8/ENET	EtherNet/IP network communication module and 8 safety digital inputs.	13980285

Specifications

Accessories - Cables

Reference	Description	Code
CPSW - AC/15/8	DB15/RJ45 adapter cable to connect CNC, CLP, Encoder/CPSW - DB15 Connector (Male: CNC/CLP; Female: Encoder) with RJ45 output: CPSW.	13808709
CPSW - AC/25/8	DB25/RJ45 adapter cable to connect CNC, CLP, Encoder/CPSW - DB25 Connector (Male: CNC/CLP; Female: Encoder) with RJ45 output: CPSW.	13807108
CPSW - AC/45/T	Standard 2.5 m cable to connect incremental or sinusoidal encoder/output 5 V dc (TTL) with RJ45 connector - free end.	13861639
CPSW - AC/45/H	Standard 2.5 m cable to connect incremental encoder/output 24 V dc with RJ45 connector - free end.	13861597
CPSW - AC/45/H/10	Standard 10 m cable to connect incremental encoder/output 24 V dc with RJ45 connector - free end.	13863164

Note: 1) Maximum configuration: up to 15 modules (1 main module + expansion modules).

Technical Data

Characteristics						
Operating voltage via A1, A2 on CPSW-MC20/6C03, CPSW-MC20/12C03			24 V dc, -15% +10% for all modules, ≤10% Ripple			
Input current in A1			≤4 A/internal fuse: 6 A			
Reference	CPSW-MC20/12C03	CPSW-MV10/7	CPSW-IO12/4	CPSW-IO8/7	CPSW-IO8/2	Fieldbus
Code	13806023	13806024	13806025	13806022	13806266	40xx01
Consumption	7.7 W	2.5 W	1.7 W	2.2 W	4.8 W	1 W
Operating temperature			-10 +55 °C			
Storage temperature			-40 +85 °C			
Vibration resistance in 3 axes			Sine 10-55 Hz, 0.35 mm, 10 cycles, 1 octave/min			
Shock resistance in 3 axes for output relay			≤5 g, 11ms			
Maximum cross section of the terminal cable			1 x (0.2-1.0 mm ²) with cable and terminal			
Terminal type			Push-in			
Connection wire			Only copper 60/75 °C			
Housing Material			Reinforced polyamide			
Protection rating			Installation in closed cabinet of class > IP54			
Voltage on the inputs to turn off the mat			I1 up to I8: 9.5 to 14 V, 11.5 V with 24 V trip voltage on the mat			
Mat tripping response time			<20ms			
Voltage on the inputs			24 V dc -15%, +10%			
Max. current consumption on the input			4 mA			
Input voltage terminal (P) in CPSW-MV10/7, CPSW-IO8/7			24 V dc -15% +10%			
Input current terminal (P) in CPSW-MV10/7, CPSW-IO8/7			≤4 A			
Input frequency on I9 - I12 in the central module			≤1,200 Hz HTL signals via, for example, proximity sensor			
Input frequency on I9 - I16 in the central module			≤50 kHz HTL signals via incremental measurement system			
Input frequency Encoder 1 and 2 on CPSW-MV10/7			≤500 kHz signals of Sin/Cos 1 Vpp or TTL			
Accuracy of analog inputs			+ 3% of maximum input value between -10 and +60 °C			
Input impedance of the analog inputs			500 Ω for signal 4-20 mA and >5 kΩ for signal 0-10 V			

Note: the current inputs (4-20 mA) may be damaged with input voltage > 12 V.



Semiconductor outputs technical data	CPSW-MC20/6C03 / CPSW-MC20/12C03		CPSW-MV10/7		CPSW-IO12/4	CPSW-IO8/7
Outputs	IO1 - IO4	01 - 06	01, 02	03 - 07	IO1 - IO4	01 - 07
Output scheme						
Switching and direct current Ω/L	0.1 A	1 A	0.25 A	1 A	100 mA	1 A
Sum of the switching and direct currents Ω/L	0.4 A	3 A	0.4 A	2.5 A	0.4 A	3.5 A
Minimum switching current Ω/L	1 mA	1 mA	1 mA	1 mA	1 mA	1 mA

The power supply of semiconductor outputs will be disconnected if terminal (A2) is not connected to 0 V. Therefore, residual voltage on the output loads is not possible. All semiconductor outputs are short-circuit and overload proof. Each output has a recovery diode.

Technical data of the contact outputs	CPSW-MC20/6C03	CPSW-MC20/12C03	CPSW-IO8/2
Outputs	K1, K2	K3 - K6	K1, K2
Output scheme, performance level: PLe			
Minimum switching current	10 mA	10 mA	10 mA
Switching current, 0.1 Hz cycles according to	DC1: 24 V / 6 A	DC1: 24 V / 6 A	DC1: 24 V / 6 A
DIN EN 60947-4-1/ EN 60947-5-1	DC13: 24 V / 2 A	DC13: 24 V / 5 A	DC13: 24 V / 4 A
Switching current according to DIN EN 60947-4-1/ EN 60947-5-1	AC1: 250 V / 6 A AC15: 230 V / 3 A	-	AC1: 250 V / 6 A AC15: 230 V / 3 A
Sum of the switching and direct currents	≤4 A	K3, K4: ≤6 A, K5, K6: ≤6 A	K1: ≤4 A, K2: ≤4 A
Electrical lifespan DC13: 24 V / 1 A	1.5x10 ⁵	1x10 ⁵	9x10 ⁵
Electrical lifespan DC13: 24 V / 4 A	10 ⁴	4x10 ⁴	7x10 ⁴
Electrical lifespan AC15: 230 V / 1 A	2x10 ⁵	-	7x10 ⁵
Electrical lifespan AC15: 230 V / 2 A	-	-	5x10 ⁵
Mechanical lifespan	>50x10 ⁶	>10 ⁷	>40x10 ⁶
Max. switching cycles DC13: 4 A	Max. switching cycles DC13: 4 A	360 cycles/h	360 cycles/h
Max. switching cycles AC15: 3 A	360 cycles/h	-	360 cycles/h
Contact protection fuse (gL/gG)	6 A	6 A	6 A
Resistance to short circuit Automatic	200 A / B6	-	200 A / B6
gG safety fuse	800 A / 6AgG	1000A SCPD 6A	800 A / 6AgG
Rated insulation voltage	250 V ac	-	250 V
Rated AC impulse withstand voltage	-	-	-
Use in an environment with pollution degree 2	4 kV	-	4 kV
Response time, tripping time	15ms / 12ms	10ms / 3ms	10ms

Notes: AC1: switching of resistive or low-inductive load, AC voltage.

AC15: switching of inductive load, AC voltage.

DC1: switching of resistive or low-inductive load, DC voltage.

DC13: switching of inductive load, DC voltage.

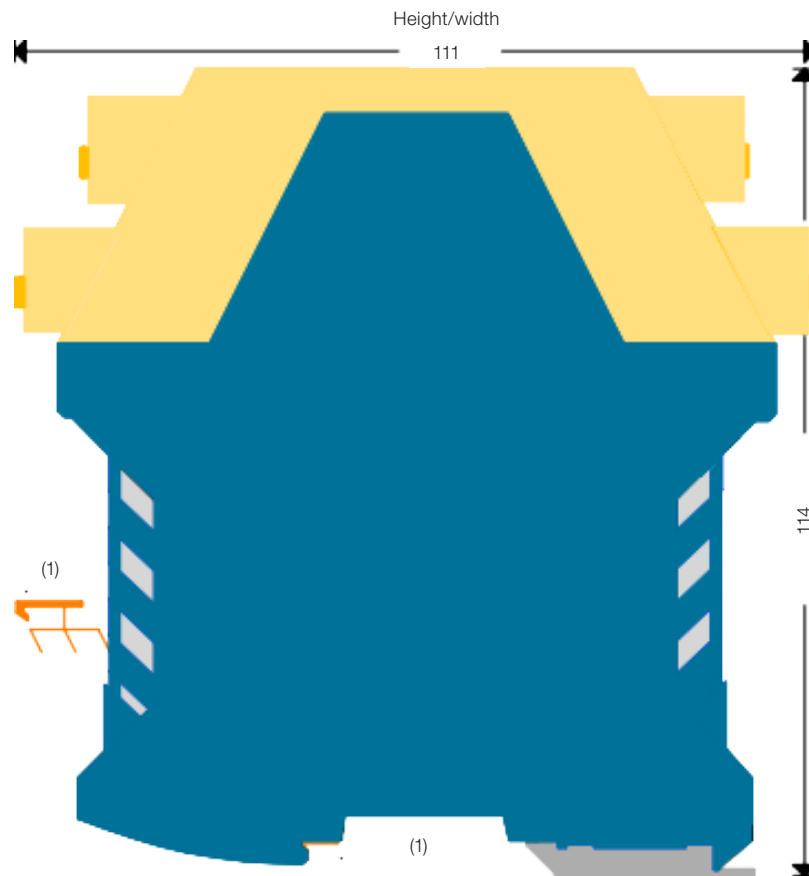
Electrical lifespan of Contact Outputs

260 working days / year, 8h / day, 24 V dc switching voltage.

Module	CPSW-MC20/6C03, CPSW-MC20/12C03: K1, K2					CPSW-MC20/12C03: K3, K4, K5, K6					CPSW-IO8/2: K1, K2					Years
Load	DC1	DC13	DC1	DC13	DC1	DC1	DC13	DC1	DC13	DC1	DC1	DC13	DC1	DC13	DC1	
Switching current	1 A	1 A	4 A	4 A	6 A	1 A	1 A	4 A	4 A	6 A	1 A	1 A	4 A	4 A	6 A	5
Switching cycles	384	15	192	1	153	144	15	36	5	29	769	91	192	67	96	10
Switching cycles	192	7	96	0.5	76	77	7	17	2	14	384	45	96	33	48	20
Switching cycles	96	3.6	48	0.25	38	38	3.6	8	1	7	192	23	48	17	24	

Note: in the case of service activities, the safety function for electromechanical parts must request PLd at least once a year (8760h) and PLe at least once a month (720h).

Dimensions



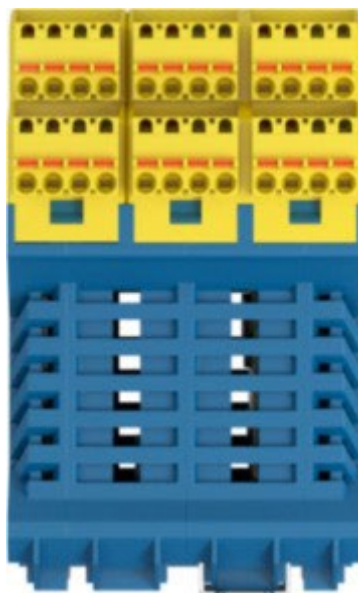
CPSW-MC20/6C03

45 mm



CPSW-MC17/12C03

67,5 mm



Others

22,5 mm



22,5 mm





Zero-Force Electronic Pushbuttons

Developed to replace mechanical pushbuttons commonly used in machine tools, the zero-force electronic switches can be easily installed in the place of the mechanical version.

In addition, they have the same types of contacts with normally open (NO) or normally closed (NC) relay output; therefore, they can be used in simultaneity systems.



SS - Soft Switch

- 24 V dc power supply
- Operating temperature 0 °C...50 °C
- Reduced size
- Connection by cable, terminal or connector
- Applicable to category 4 systems



PALM - Palm Switch

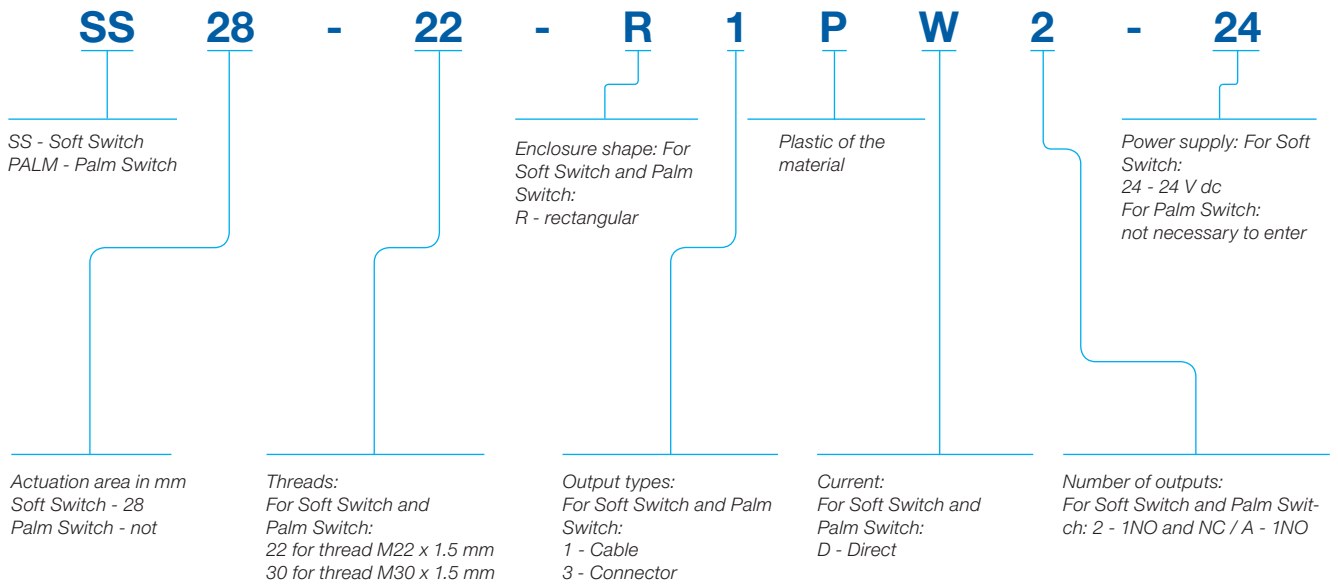
- 24 V dc power supply
- Operating temperature 0 °C...50 °C
- Reduced size
- Connection by cable, terminal or connector
- Applicable to category 4 systems

Main Characteristics

- No force required for activation
- Reduction of the stress caused by the repeated effort required by conventional buttons
- They can be used with simultaneity control safety relays of the Safety Line

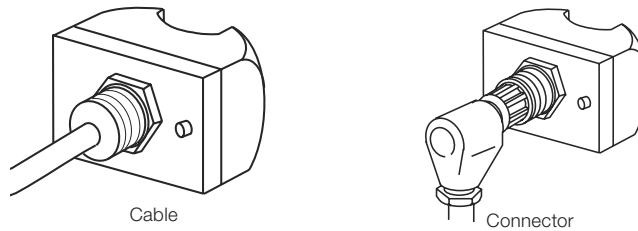
- Reduction of the causes of professional diseases, such as inflammation in the fingers, wrists and shoulders, promoting the operators' wellbeing
- Resistant to liquids, dust, oils and mechanical vibrations
- Protection rating IP67

Coding



Specifications

Soft Switch and Palm Switch pushbuttons offer two types of outputs, cable and connector, as shown below:




Specifications

SS - Soft Switch Electronic Pushbuttons

Power supply	Thread	Switching distance	Output	Connection type	Reference	Technical specifications
24 V dc	M22 x 1.5 mm	"Touch"	1NO + 1NC	Cable	SS28-22R1PD2/24	
			1NO	Connector	SS28-22R3PDA/24	
24 V dc	M30 x 1.5 mm	"Touch"	1NO + 1NC	Cable	SS28-30R1PD2/24	<p>Power supply 24 V dc ($\pm 10\%$)</p> <p>Number of beams 1</p> <p>Minimum object detection size $\varnothing 10 \times 20$ mm</p> <p>Max. switching current 3 A (24 V dc $\pm 10\%$)</p> <p>Max. consumption current</p> <p>24 V dc power supply 60 mA</p> <p>Maximum response time 20ms</p> <p>Output logic NO + NC, NO, NPN, PNP</p> <p>Emitter element GaAlAs Diode</p> <p>Receiver element PIN Diode</p> <p>Transmission frequency 2,800 Hz</p> <p>Wavelength 900 nm</p> <p>Operating temperature 0 °C a 50 °C</p> <p>Protection rating IP67</p> <p>Cable 2 m</p> <p>Enclosure Optical filter in injected black polyamide, yellow polyamide base</p> <p>Optical immunity 100,000 lux</p> <p>Technical standards IEC 61000-4-2 (2001); 4-3 (2008); 4-4 (2002); 4-5 (2005); 4-6 (2006); 4-11 (2004)</p> <p>Certification TÜV Rheinland</p>
			1NO	Connector	SS28-30R3PDA/24	

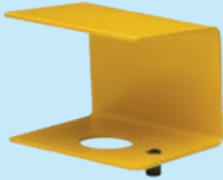
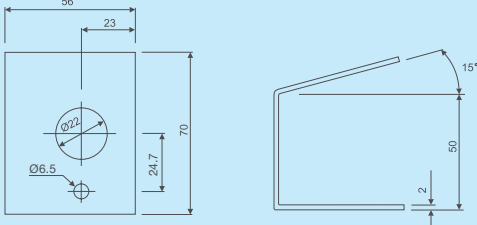
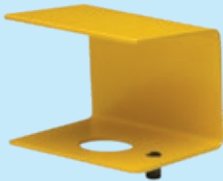
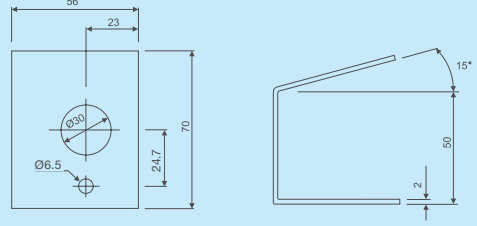
PS - Palm Switch Electronic Pushbuttons

Power supply	Thread	Switching distance	Output	Connection type	Reference	Technical specifications
24 V dc	M22 x 1.5 mm	"Touch"	1NO + 1NC	Cable	PALM-22R1PD2	
			1NO	Connector	PALM-22R3PDA	
24 V dc	M30 x 1.5 mm	"Touch"	1NO + 1NC	Cable	PALM-30R1PD2	<p>Power supply 24 V dc ($\pm 10\%$)</p> <p>Max. switching current 3 A (24 V dc $\pm 10\%$)</p> <p>Max. consumption current</p> <p>Power supply 24 V dc 60 mA</p> <p>Maximum response time 0.5ms</p> <p>Output logic NO + NC or NO or NPN or PNP</p> <p>Operating temperature 0 °C a 50 °C</p> <p>Protection rating IP67</p> <p>Cable 2 m</p> <p>Enclosure polyamide Injected in: black and yellow</p> <p>Technical standards IEC 61000-4-2 (2001); 4-3 (2008); 4-4 (2002); 4-5 (2005); 4-6 (2006); 4-11 (2004)</p> <p>Certification TÜV Rheinland</p>
			1NO	Connector	PALM-30R3PDA	

Accessories

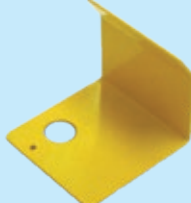
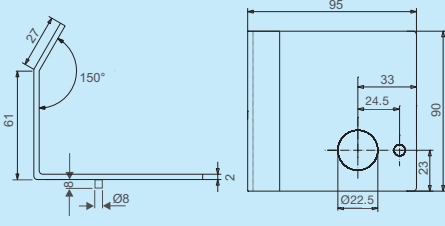
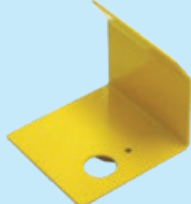
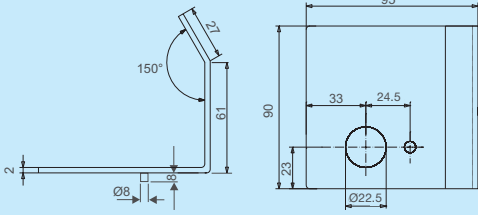
Guards for Electronic Pushbuttons

Soft Switch, Palm Switch or Soft Touch

	Reference	Description	Dimensions (mm)
	PROT-22	Guard for pushbutton Soft Switch, 22.5 mm, SAE 1045 steel	
	PROT-30	Guard for pushbutton Soft Switch, 30 mm, SAE 1045 steel	

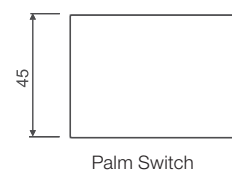
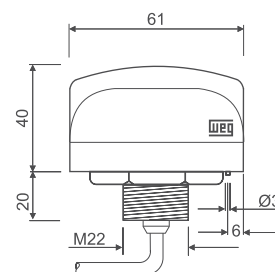
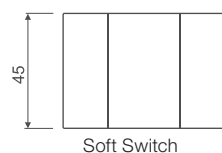
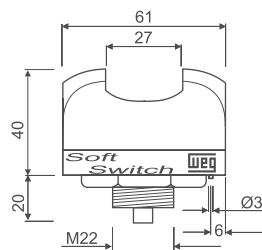
Note: they can be used in any model of electronic pushbuttons. Dimensions in mm.

Palm Switch

	Reference	Description	Dimensions (mm)
	PROT-PALM22E	Guard for Palm Switch pushbutton, left 22.5 mm SAE 1045 steel	
	PROT-PALM22D	Guard for Palm Switch pushbutton, right, SAE 1045 steel	

Note: they can only be used in the Palm Switch model. Dimensions in mm.

Dimensions (mm)

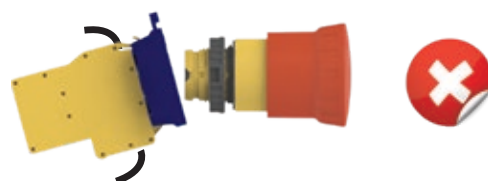




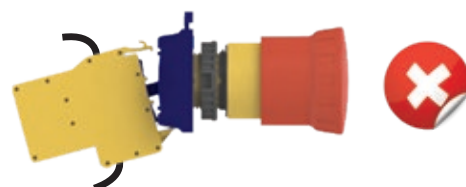
Pushbuttons and Pilot Lights - CSW Line - IP66

Monitoring of Emergency-Stop Pushbuttons

- Emergency-stop pushbuttons are one of the most common and important devices to actuate the emergency stop and indicate dangerous situations on machine and equipment panels. However, if this device is not properly installed, its function will be compromised, and it may put users at risk.
- The BCM01-CSW monitoring block was developed so as to ensure greater safety to those applications. Its application with the emergency-stop pushbuttons of the BESG/ P/Y line ensures proper installation and provides greater reliability for emergency stop systems.
- Developed according to international IEC 60947-5-5 and UL 508 standards. Combined with the other collective protective equipment (CPE), it ensures greater safety to your application.



Flange **NOT** properly assembled on the pushbutton.



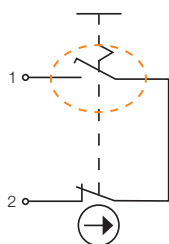
Block **NOT** properly assembled on the flange.



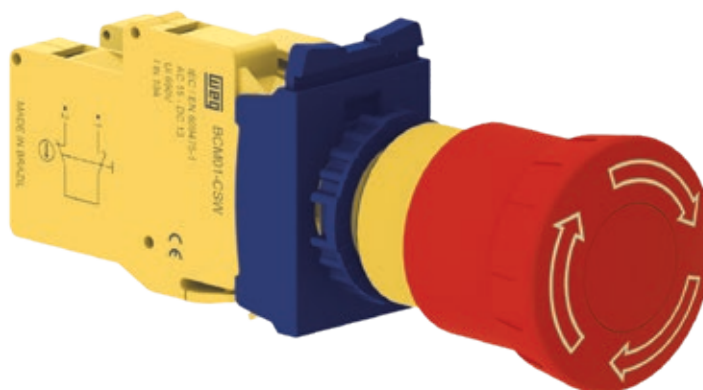
Correct assembly.



Electrical Diagram




NO contact only closes when the mechanical assembly is correct.



Specifications

Supply: Only Frontal Part

Emergency Stop - ISO 13850 (EN 418) and IEC 60947-5-5 - External Diameter: Ø42 mm

Illustrative picture	Description	Indication	Color		Reference
	Pull Release	-		Red	CSW-BESP WH
	Twist Release	-		Red	CSW-BESG WH
	Key Release ¹⁾	-		Red	CSW-BESY WH
	Pull Release	Side		Red	CSW-BESPS WH
	Twist Release	Side		Red	CSW-BESGS WH
	Key Release ¹⁾	Side		Red	CSW-BESYS WH
	Pull Release with round engraving EMERGENCY	-		Red	CSW-BESP46 WH
	Twist Release with round engraving EMERGENCY	-		Red	CSW-BESG46 WH

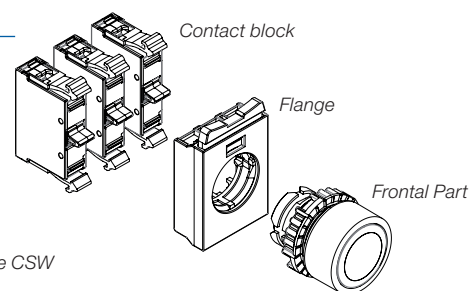
How to order

- Frontal Part
- + Flange
- + Contact block

Notes: 1) Keys with different combinations only on request;


2) It does not allow the use of contact blocks in the center of the flange;

3) Check the maximum configurations of contact blocks recommended for each frontal part in the CSW Pushbuttons and Pilot Lights line general catalog available on the website www.weg.net.




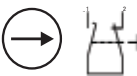
Specifications

Individual¹⁾

Illustrative picture	Description	Standard package	Reference
	Mounting flange with 3 positions for blocks on the frontal part Front-back assembly system	1 piece	AF3F
		10 pieces	AF3FX10

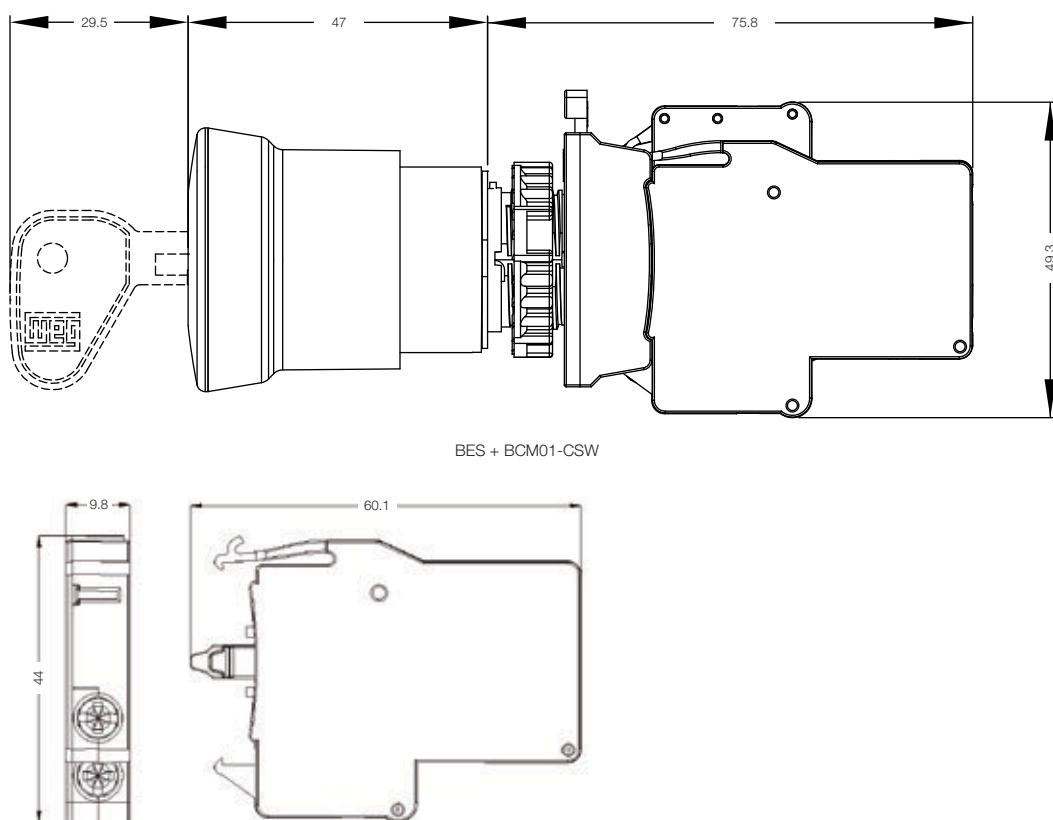
Note: 1) Not compatible with the PBS control stations.

Contact Block to Monitor Emergency-Stop Pushbuttons CSW-BES¹⁾²⁾³⁾

Illustrative picture	Contacts	Diagram	Standard package	Compatible flange	Reference
	1NC		1 piece	AF3F	BCM01F-CSW

Notes: 1) Not compatible with the PBS control stations;
2) NO auxiliary contact checks mechanical assembly;
3) It does not allow front-back assembly.

Dimensions



Note: dimensions in millimeters (mm).

**"Front-Back"
System**

**"Front-Back"
System**



Pushbuttons and Pilot Lights - CSW IP66 Line with Monitoring

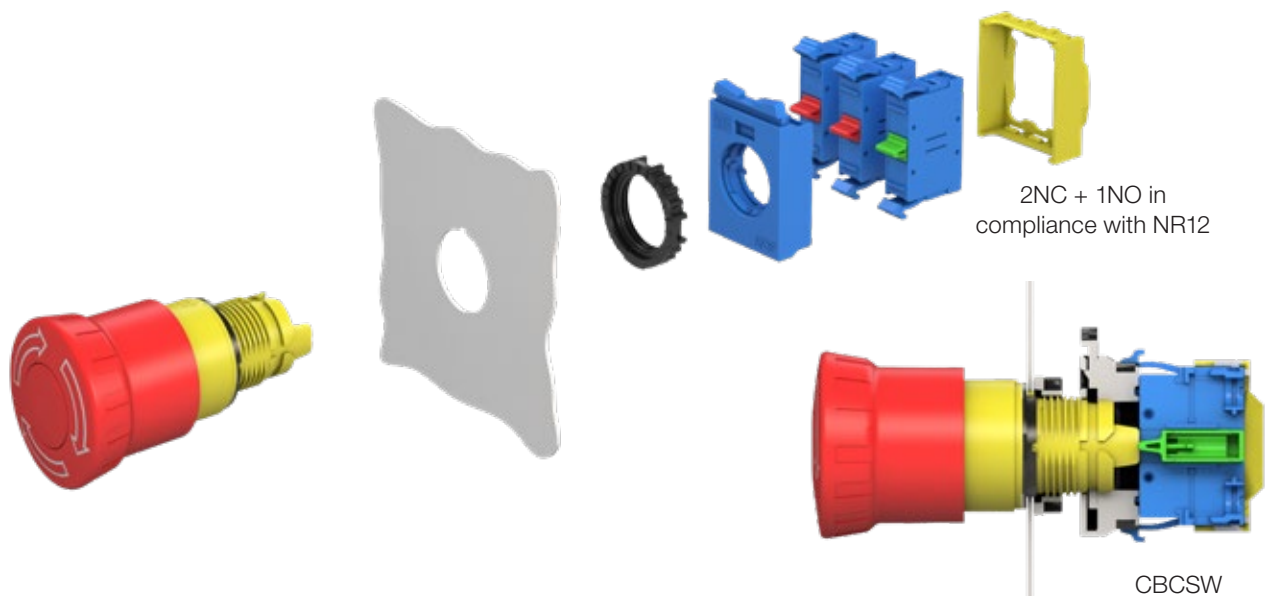
Monitoring of Emergency-Stop Pushbuttons

BESGM, BESPM and BESYM emergency-stop pushbuttons allow monitoring the mechanical assembly using single-contact blocks in flange or PBW control station assemblies. The CBCSW contact block tie enables turning all the items into a single set, ensuring greater safety and reducing the possibility of operation fault.



Projection allows self-monitoring
mechanical assembly

Flange Mount with Front-back System



PBW Control Stations for Assembly of Decentralized Control Stations and Emergency Stop

With a compact design, the PBW control stations meet the requirements of a great variety of the severest industrial applications. Manufactured with high-end materials, they ensure excellent performance to applications that require great resistance against impacts and bad weather. Their use with frontal parts of the CSW Pushbuttons and Pilot Lights line enables different functions, such as emergency stop, signaling, starts, stops, among others.

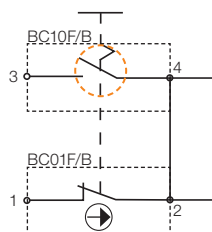


Assembly in PBW Control Stations



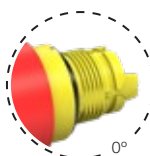
Electric Diagram

NO contact closes when the mechanical assembly is correct

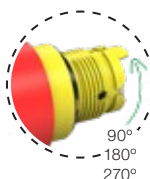


Assembly

Monitored



Not Monitored





According to the emergency-stop pushbutton installation, it is possible to choose the monitoring of the mechanical assembly

Specifications

Supply: Only Frontal Part

Monitored Emergency Stop - ISO 13850 (EN 418) and IEC 60947-5-5 - External Diameter: Ø42 mm

Illustrative picture	Description	Indication	Color		Reference
	Pull Release	-		Red	CSW-BESPM WH
	Twist Release	-		Red	CSW-BESGM WH
	Key Release ¹⁾	-		Red	CSW-BESYM WH
	Pull Release	Side		Red	CSW-BESPSM WH
	Twist Release	Side		Red	CSW-BESGSM WH
	Key Release ¹⁾	Side		Red	CSW-BESYSM WH

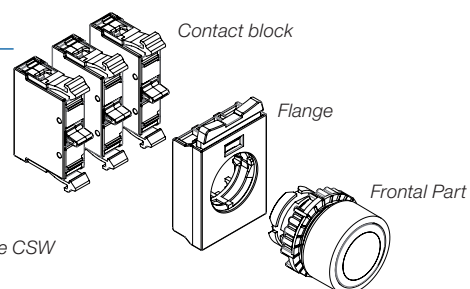
How to order

- Frontal Part
- + Flange
- + Contact block

Notes: 1) Keys with different combinations only on request;


2) It does not allow the use of contact blocks in the center of the flange;

3) Check the maximum configurations of contact blocks recommended for each frontal part in the CSW Pushbuttons and Pilot Lights line general catalog available on the website www.weg.net.








Specifications

Individual Flange¹⁾


Illustrative picture	Description	Standard package	Reference
	Mounting flange with 3 positions for blocks on the frontal part Front-back assembly system	1 piece	AF3F
		10 pieces	AF3FX10

Note: 1) Not compatible with the PBS control stations.


Single Contact Blocks¹⁾

Illustrative picture	Contacts	Diagram	Standard package	Compatible flange	Reference
	1NO		1 piece	AF3F	BC10F-CSW
			10 pieces		BC10F-CSWX10
	1NO		1 piece		BC01F-CSW
			10 pieces		BC01F-CSWX10
	1NOa (early make)		1 piece		BCA10F-CSW
	1NCr (late break)		1 piece		BCR01F-CSW

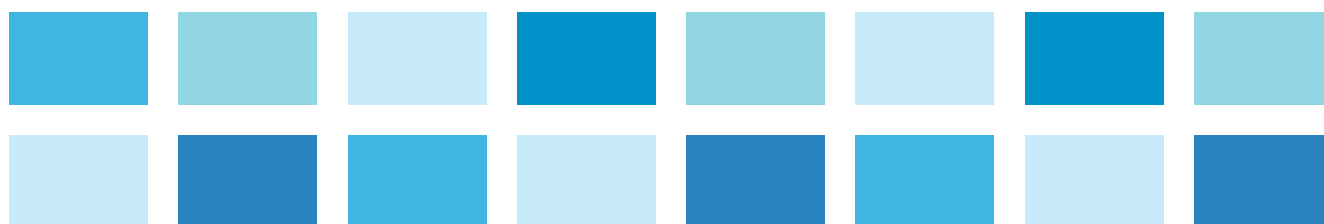
Individual Tie

Illustrative picture	Description	Standard package	Compatible blocks	Reference
	<p>Contact block tie for monitoring the mechanical assembly together with CSW-BESGM, CSW-BESPM and CSW-BESYM pushbuttons.</p> <p>Maximum number of contact blocks: 3 BC_F/BC_B blocks</p> <p>Note: - In does not allow overlapping the contacts</p>	1 piece	BC10F BC01F BC10B BC01B	CBCSW

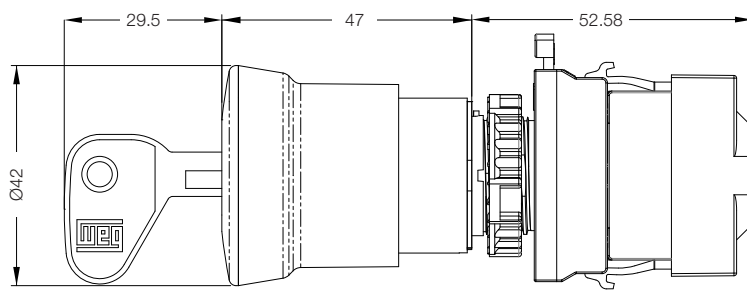
Emergency-Stop Pushbuttons on Decentralized Control Station¹⁾

Illustrative picture	Control Station	Emergency-stop pushbutton	Contact blocks	Engraved plate	Reference
	PBW-1Y	CSW-BESGM	1NO + 1NC	"EMERGENCY STOP"	PBW1Y-GM11V03
	PBW-1Y	CSW-BESGM	1NO + 2NC	"EMERGENCY STOP"	PBW1Y-GM12V03

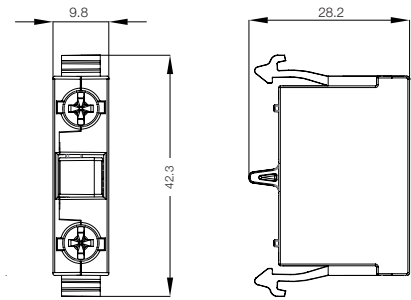
Note: 1) Other configurations on request.



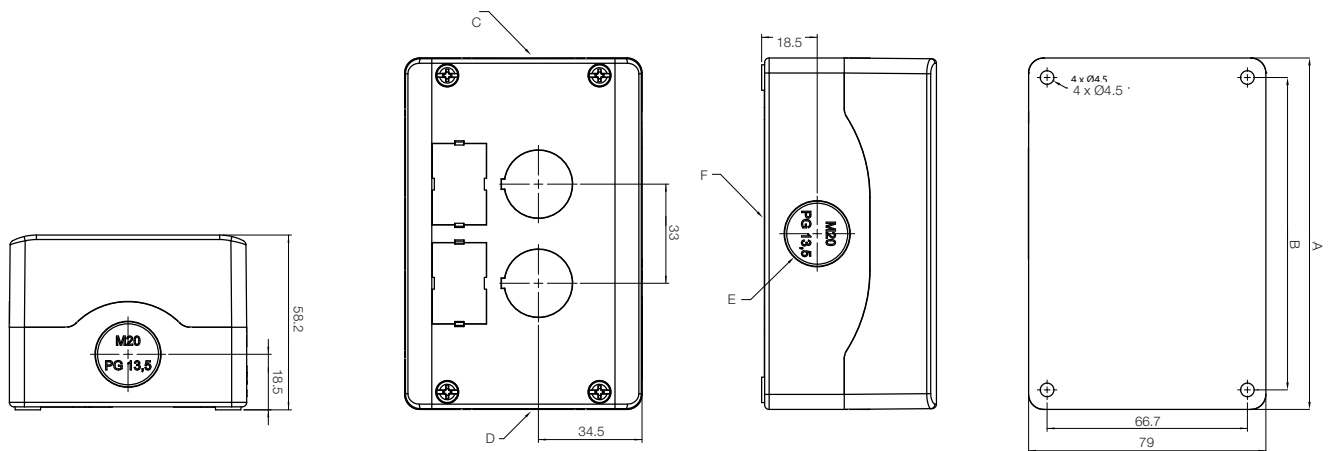
Dimensions



BES_M + BC10F/BC01F Contact Blocks + CBCSW Tie



BC10F/BC01F



PBW empty control stations

Number of holes	A	B	Cable gland input			
			C (lower)	D (upper)	E (side)	F (base)
1	74	66.7	1x ØM20/PG13.5	1x ØM20/PG13.5	1x ØM20/PG13.5	2x ØM16
2	117	104	1x ØM20/PG13.5	1x ØM20/PG13.5	1x ØM20/PG13.5	2x ØM16
3	150	137	1x ØM20/PG13.5	1x ØM20/PG13.5	2x ØM20/PG13.5	2x ØM16
4	183	170	1x ØM20/PG13.5	1x ØM20/PG13.5	2x ØM20/PG13.5	2x ØM16
6	249	236	1x ØM20/PG13.5	1x ØM20/PG13.5	2x ØM20/PG13.5	2x ØM16

Note: dimensions in millimeters (mm).



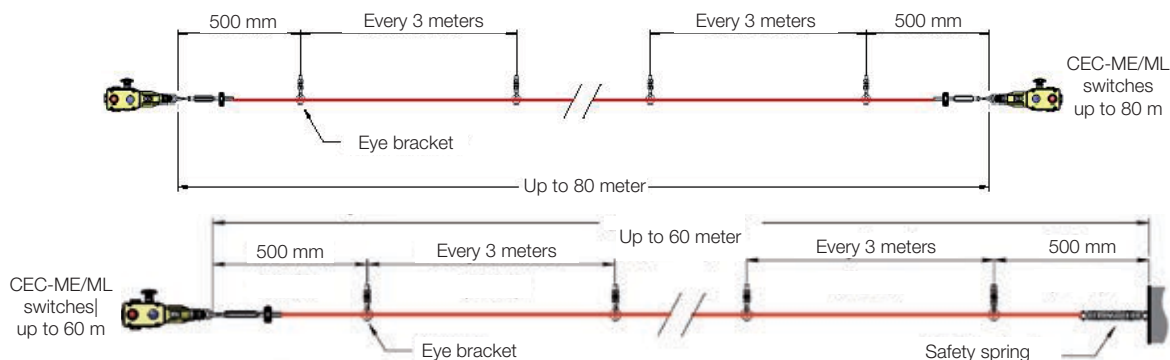
Safety Emergency Pull-Cord Switch



The safety emergency pull-cord switch (CEC) have a robust cast metal housing and can be mounted on machines and conveyor sections that cannot be protected by barriers.

In contrast with the traditional mushroom emergency pushbutton, the pull-cord safety switches can activate the emergency command from any point along the length of the installed cord. In combination with dual channel safety relay, the CEC switches can be used as emergency stop devices and monitored for up to category 4 / PLE in accordance with ISO 13849-1.

Installation forms



Note: For further details, refer to the installation guide.

Technical Data

Standards	IEC 60947-5-1, IEC 60947-5-5, UL 508, IEC 13850, IEC 13849-1, AS4024.1, AS1755
Approvals	cULus, TÜV
Mechanical characteristics	
Housing/cover	Cast metal (painted in yellow) or 316 stainless steel without coating
External parts	Stainless steel 316
IP rating	IP67
Cable extensions	Up to 80 m
Rope tensioning device	Tensioner/gripper - quick fixing
Rope type	Outside diameter 4.0 mm / Inner steel - PVC sheath
Mounting	4 x M5
Mounting position	Any
Conduit entry	4 x M20 or 4 x 1/2 " NPT by number of piece
Torque settings	Mounting M5 4.0 Nm, Lid T20 Torx M4 1.5 Nm, Terminals 1.0 Nm
Ambient temperature	-25 °C, 80 °C (-40 °C for versions - FZ)
Vibration resistance	10-500 Hz, 0.35 mm
Shock resistance	15 g, 11ms
Tension force (typical average setting)	130 N
Typical operating force (rope pulled)	<125 N, 300 mm deflection
Electrical characteristics	
Safety contact type	IEC 60947-5-1, double break type Zb
Contact material	Silver
Terminal	Clamp up to 2.5 sq. mm conductors
Rating	Utilization category AC15
Operational rating	Ac15, A300, 240 V 3 A / 120 V 6 A AC 24 V 2.5 A DC inductive
Thermal current (Ith)	10 A
Rated insulation voltage	(U _i) 500 V
Withstand voltage	(U _{imp}) 2,500 V
Short circuit overload protection	Fuse externally 10 A (FF)







Specifications

Switches

Power supply	Rope length ¹⁾	Safety contacts	Auxiliary contacts	Housing	LED	Conduit	Reference
24 V dc	Up to 80 m	3NC	1NO	Metallic	-	M20	CEC-ME31A
		2NC	2NO				CEC-ME22A
		3NC	1NO		Yes		CEC-ML31AE26
		2NC	2NO				CEC-ML22AE26


Note: 1) Rope not included. It is necessary to use 1 installation kit with the desired rope length.

Installation accessories

Description	Reference
	Rope tensioner - galvanized ACEC-TG
	Galvanized pulley (internal or external) ACEC-PG
	Galvanized screw (pack with 8 pieces) ACEC-EG
	Green/flashing red replacement LED 24 V ACEC-LME26
	Stainless steel safety spring ACEC-SI
	Emergency push-button (for switches) ACEC-B

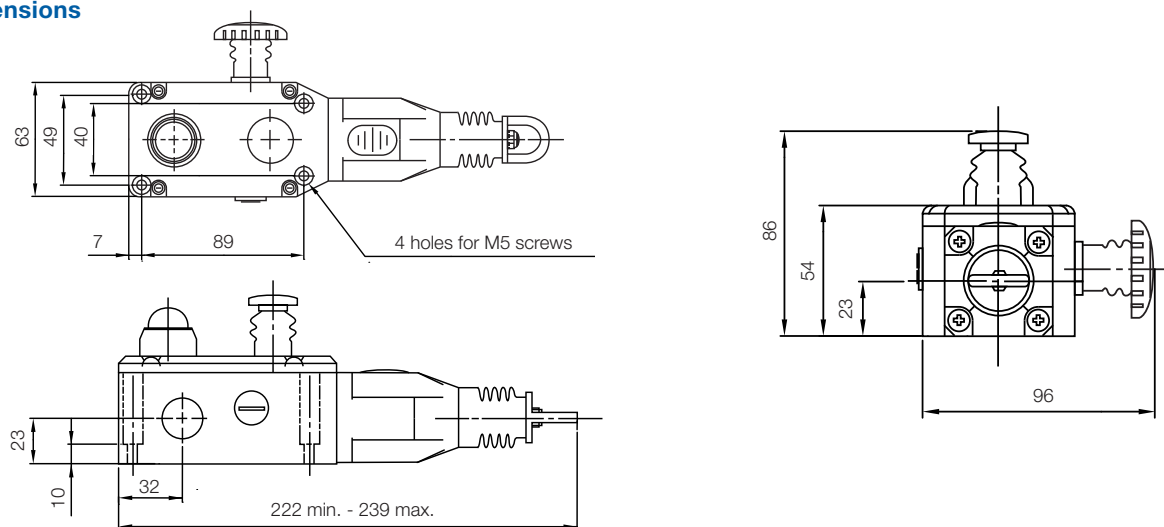
Note: accessories are only used to replace or complement the solution.

Installation kits

Description	Reference
	Installation kit 5 m ACEC-K5G
	Installation kit 10 m ACEC-K10G
	Installation kit 15 m ACEC-K15G
	Installation kit 20 m ACEC-K20G
	Installation kit 30 m ACEC-K30G
	Installation kit 50 m ACEC-K50G
	Installation kit 80 m ACEC-K80G

Note: Each kit consists of tensioner, galvanized screws and Allen wrench, required for the installation of the CEC switch, according to the length of the selected rope.

Dimensions





Magnetic Sensors with Safety Function

WEG magnetic sensors with safety function are designed for applications to monitor grids, doors, gates or the like.

Two models are available: the H5 magnetic hall effect version, with 10-30 V dc power supply, and the M5 version, which is directly connected to the safety relay, without the need for external power supply. In order to ensure safety, the H5 or M5 magnetic sensors can only operate together with their respective ASSH5 / ASSM5 coded actuator, interconnected to WEG safety relays, models CPA-D / CP-D or similar products so as to avoid possible faults.

Specifications

Reference ¹⁾	Description	Model	Size	Power supply	Output				Cable output
					Monitoring	Safety contacts	Contacts contacts ²⁾	Connection type	
SSH5-30R1P2A	Magnetic sensors with safety function	H5 Hall effect type	30R	10-30 V dc	Dual channel	2NO	-	2 m cable	Center
SSH5-30R1P2AL								2 m cable	Side
SSH5-30R1P4A								2 m cable	Center
SSH5-30R1P4AL								2 m cable	Side
ASSH5-30R1P	Coded actuator for magnetic sensor							-	-
SSH5-40R1P2A	Magnetic sensors with safety function	40R	40R	10-30 V dc	Dual channel	2NO	-	2 m cable	Center
SSH5-40R1P4A								2 m meter	Center
ASSH5-40R1P	Coded actuator for magnetic sensor							-	-
SSM5-30R1P2A	Magnetic sensors with safety function	M5 ²⁾	30R	Not applicable	Dual channel	2NO	-	2 m cable	Center
SSM5-30R3P2A								Connector	Center
SSM5-30R1P2AL								2 m cable	Side
SSM5-30R3P2AL								Connector	Side
ASSM5-30R1P	Coded actuator for magnetic sensor							-	-
SSM5-40R1P2A	Magnetic sensors with safety function	40R	40R	Not applicable	Dual channel	2NO	-	2 m cable	Center
SSM5-40R3P2A								Connector	Center
ASSM5-40R1P	Coded actuator for magnetic sensor							-	-
SSM5-30R1P201	Magnetic sensors with safety function	M5 ²⁾	30R	Not applicable	Dual channel	2NO	1NC	2 m cable	Center
SSM5-30R1P201L								2 m cable	Side
ASSM5-30R1P	Coded actuator for magnetic sensor							-	-
SSM5-40R1P201	Magnetic sensors with safety function	40R	40R	Not applicable	Dual channel	2NO	1NC	2 m cable	Center
ASSM5-40R1P								-	-

Technical Data

Technical specifications	H5 Model - hall effect type	Technical specifications	Modelo M5
Power Supply	10-30 V dc	Maximum switching voltages	60 V de or 25 V ac
Maximum consumption current	10 mA	Maximum consumption current	-
Maximum ripple in the power supply	10% V dc	Output	Dual channel 2NO + 1NC
Capacity of the contacts	100 mA	Capacity of the contacts	100 mA
Switching on distance	5 mm	Switching on distance	5 mm
Maximum switching off distance	7 mm	Maximum switching off distance	8 mm
Operating temperature	-10 +55 °C	Operating temperature	-10 +55 °C
Electrical lifespan	10 ⁸ operations	Electrical lifespan	10 ⁸ operations
Protection rating	IP67	Protection rating	IP67
Housing material	Polyamide	Housing material	Polyamide
Standards	IEC 60947-5-1, -5-3; IEC 61000-6-2; IEC 61000-4-6, 2006/42 (machine directive), NBR 14153; IEC 60204; EN ISO 13849-1, PL ³⁾ , IEC 62061 SIL3 ¹⁾	Standards	IEC 60947-5-1, -5-3; IEC 61000-6-2; IEC 61000-4-6, 2006/42 (machine directive), NBR 14153; IEC 60204; EN ISO 13849-1, PL ³⁾ , IEC 62061 SIL3 ¹⁾
Mounting	With screws	Mounting	With screws

Notes: 1) For the magnetic sensor with safety function to reach the safety level PL^e / SIL 3, it is necessary to use the sensor together with the coded actuator interconnected to WEG CP-D or CPA-D safety relays or similar products.

2) The M5 models must be directly interconnected to the safety relay.

3) 10 mA capacity for external signaling only.

Accessories

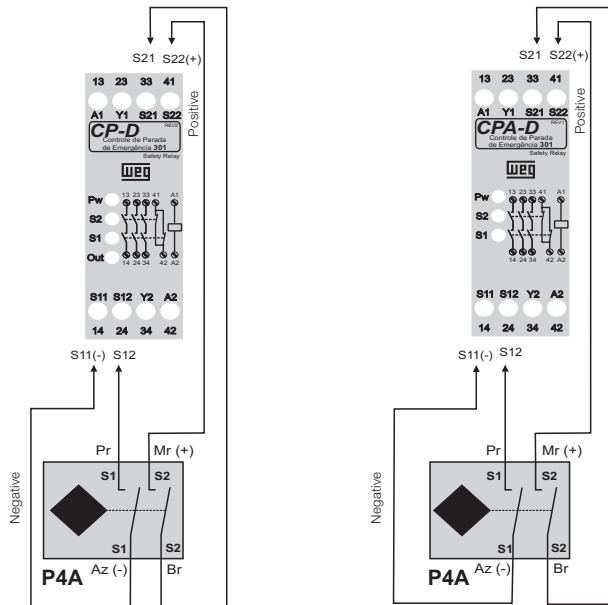
Cables for SSH5 or SSM5 Magnetic Sensors

Reference	Model	Pinout	Connection type	Length	Output type
M8-4V/3	M8	4 pins	Straight	3 m	-

Note: Use only with the output with connector version.

Wiring Diagram

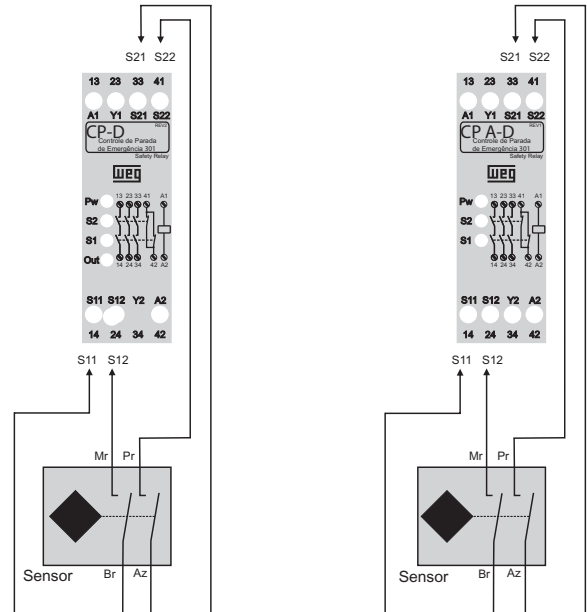
SSH5 Sensor - Hall Effect Magnetic Type



Example of connection to the CP-D safety relay

Example of connection to the CPA-D safety relay

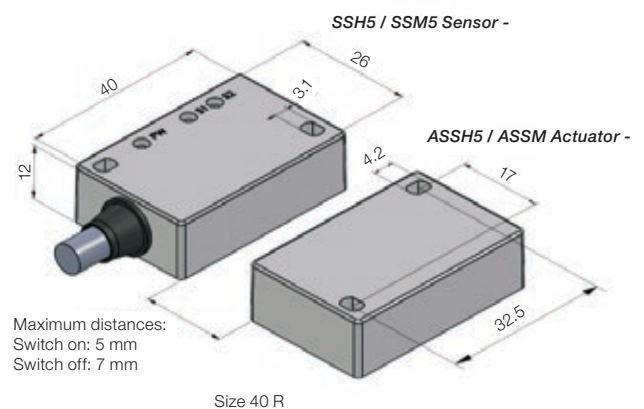
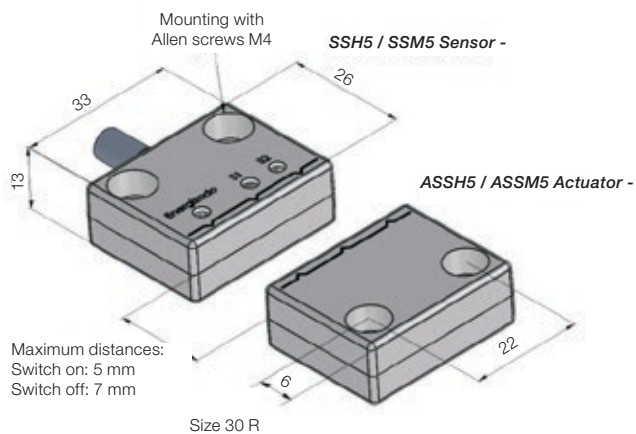
SSM5 Sensor - Standard Magnetic Type



Example of connection to the CP-D safety relay

Exemplo de ligação no relé de segurança CPA-D

Dimensions



Note: dimensions in millimeters (mm).



Magnetic Sensors with Safety Function - RFID

The magnetic sensor with the RFID safety function has been developed to provide a high functional safety level, providing coded protection intended to avoid attempts to tamper with the safety system.

The sensor coding is magnetically actuated and via radio frequency (RFID), both principles have to be fulfilled so that the switch can operate safely.
 The SSF5 cannot be actuated with a second actuator, even a similar one. It is only possible to actuate the sensor with its specific coded actuator supplied in the set (1 for 32 million possible combinations).
 The magnetic sensor with the RFID safety function must be connected to a WEG CP-D/CPA-D safety relay or similar product, complying with ISO 13849-1, and it can reach up to category 4 / PLe.

Main Characteristics

- Certification TÜV
- Category 4 / PLe / SIL 3
- Single-code coded switch: it only works with the actuator provided in the set
- The RFID system provides high protection level and avoids tampering with the safety system
- It can be used with CP-D and CPA-D safety relays, with no need for special relays
- It has no moving parts: long service life, shock and vibration resistant
- Rugged plastic housing with IP67 protection rating, allowing its use in any type of environment

Specifications

Reference	Description	Model	Size	Power supply	Output				Cable output
					Monitoring	Safety contacts	Auxiliary contacts	Connection type	
SSF5-50R1P2A0U	Sensor + RFID magnetic safety actuator	SSF5	50R	24 V dc	Dual channel	2 NC	-	Connector	Center
SSF5-50R1P2A2U								2 m cable	
SSF5-50R1P2A10U								10 m cable	

Notes: 1) The reference above includes sensor plus actuator. The sensor only works with its respective actuator.
 2) For the SSF5 sensor to reach the safety level PLe / SIL 3, it is necessary to use the sensor together with the coded actuator interconnected to WEG CP-D or CPA-D safety relays or similar products.
 3) The model with connector must be used with the cables indicated in the table below.

Accessories

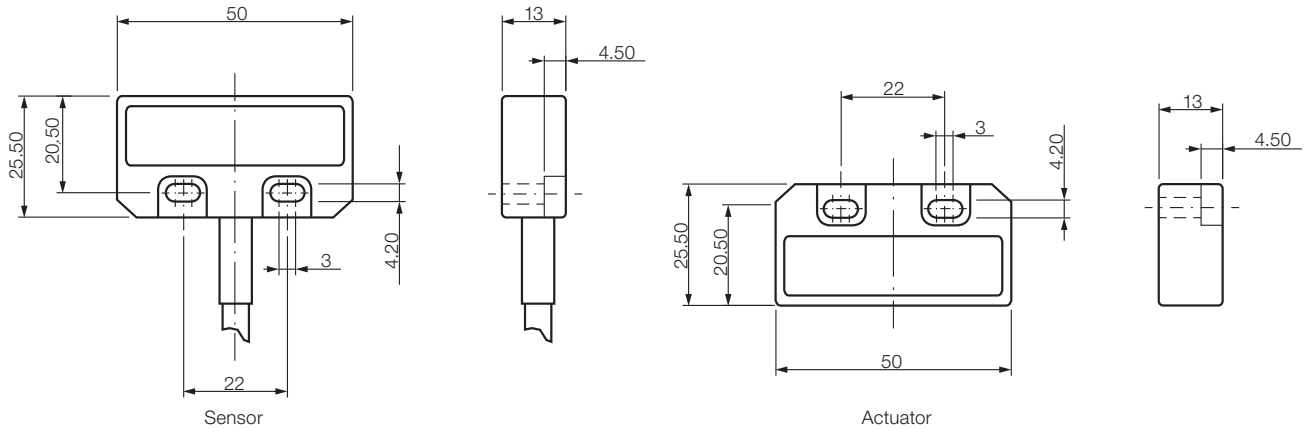
Power Cables for RFID Sensors

Reference	Model	Pinout	Connection type	Length	Output type
M12-8V/5	M12	8 pins	Straight	5 m	-
M12-8V/10	M12	8 pins	Straight	10 m	-

Note: use only with the RFID sensor in the output with connector version.



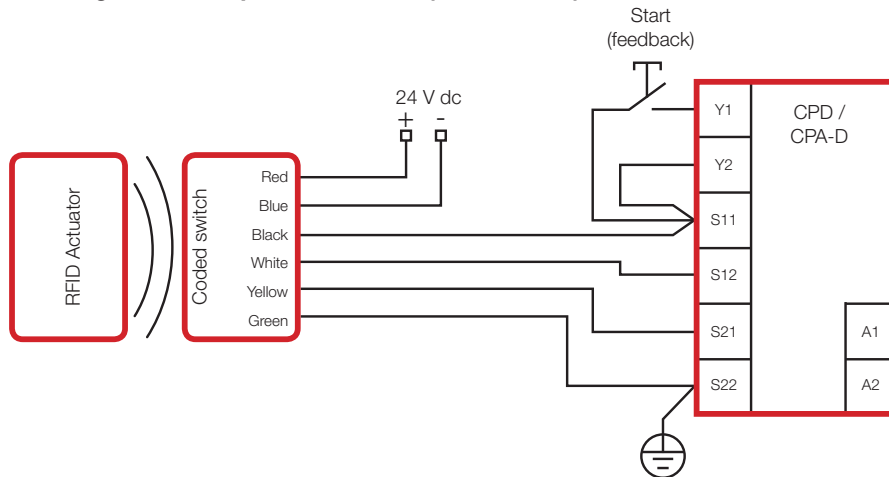
Dimensions



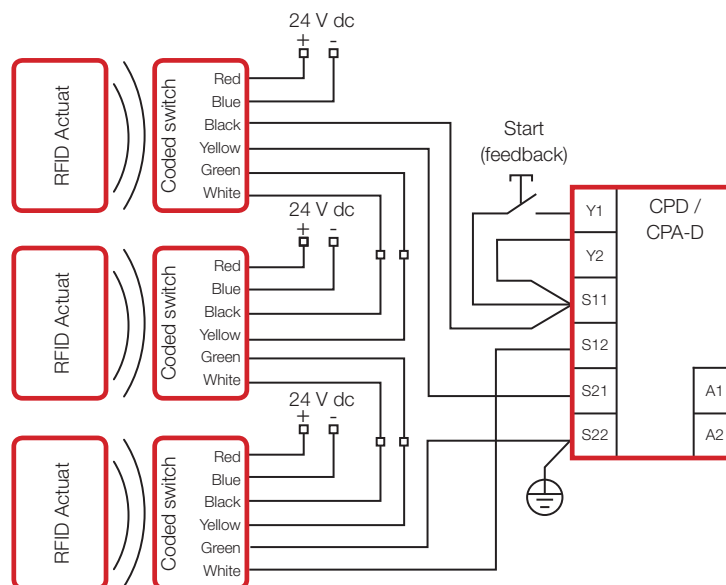
Note: dimensions in millimeters (mm).

Examples of Connection

Connection with Single Sensor up to PLe / Cat.4 (ISO 13849-1)



Connection with Multiple Sensors up to PLd / Cat.3 (ISO 13849-1)



Note: models with 2 m or 5 m cable.



Tongue Operated Safety Interlock

CISC, the safety interlock switch, has been designed to monitor movable guards. The plastic housing version, CIS-P, has a polyester housing with reduced size and an 8-position rotating head for the insertion of the actuator¹⁾.

The metal housing version, CIS-M, has a sturdy, cast metal housing ideal for movable guard applications in more aggressive environments. They have international certification to comply with the safety standards in force, positive-action contacts, forced disconnection of the safety contacts in the removal of the actuator and anti-tampering mechanism so as to prevent attempts to tamper with the integrity of the switch safety function.

Technical Data

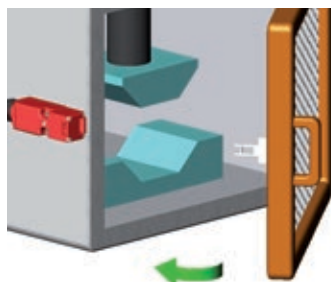
Standards	EN 1088, IEC 60947-5-1, EN 60204-1, ISO 13849-1, EN 62061, EN 954-1, UL 508
Certifications	TÜV, CE, UL
Safety and reliability certification data	
Mechanical reliability B10d	2.5 x 10 ⁶ operations at 100 mA load
EN 954-1	Up to category 4 with safety relay
ISO 13849-1	Up to PLe depending on system architecture
EN 62061	Up to SIL 3 depending on system architecture
Safety data - annual use	8 cycles per hour / 24 hours a day / 365 days a year
PFHd	3.44 x 10 ⁻⁸
Test proof interval	35 years
MTTFd	356 years
Utilization categories	AC15, A300, 3A
Thermal current (Ith)	5 A
Rated insulation/withstand voltage	500 V ac / 2.500 V ac
Actuator stroke for positive opening	8 mm
Actuator minimum entry radius	175 mm (standard) / 100 mm (flexible)
Maximum approach / removal speed	600 mm/s
Housing material	Polyester (CIS-P) / cast metal (CIS-M)
Actuators	316 stainless steel or polyester
Protection rating	IP67
Operating temperature: minimum/maximum	- 25 °C / +80 °C
Vibration	IEC 68-2-6, 10-55 Hz + 1 Hz travel: 0.35 mm, 1 octave/min
Conduit entry	M20
Mounting	2 x M5 (CIS-P) / 4 x M5 (CIS-M)

Note: 1) Metal housing model (CIS-MM21A). The model with plastic housing (CIS-PP21A) has up to four actuator entry positions.

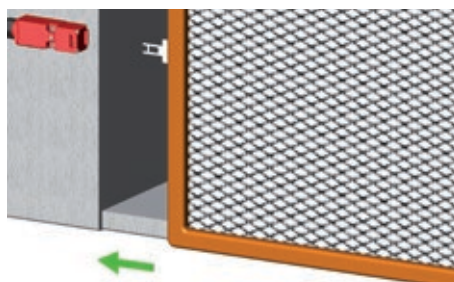
Applications

It can be used in fixed or movable guards, in machines or devices that have no stopping inertia in their moving parts.

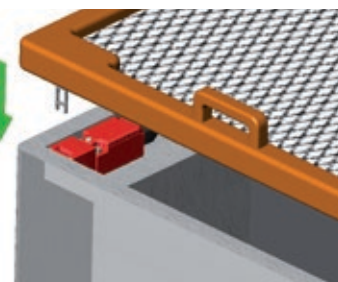
Movable Guards



Hinged



Sliding



Lift-off

Specifications

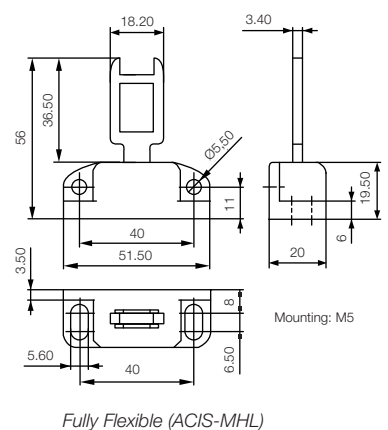
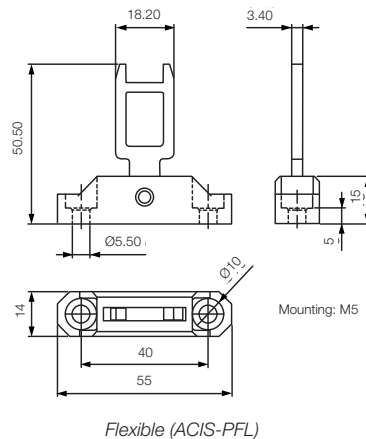
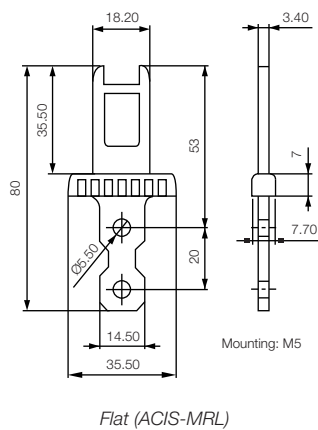
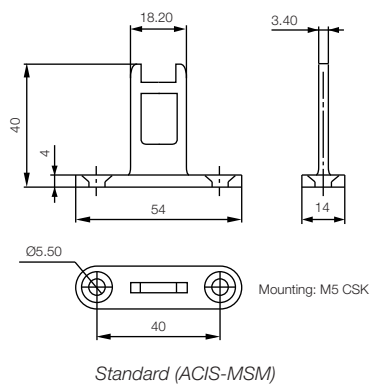
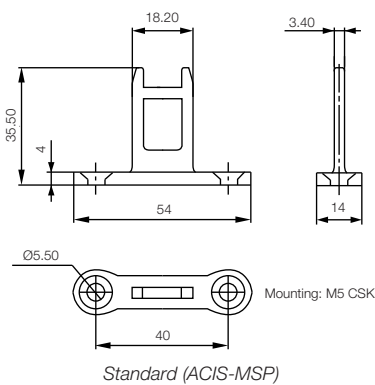
Switches

Contacts		Output conduit	Housing	Reference
Safety	Auxiliary			
2NC	1NO	M20	Metal	CIS-MM21A
			Plastic	CIS-PP21A


Note: a switch and an actuator must be selected.

Dimensions

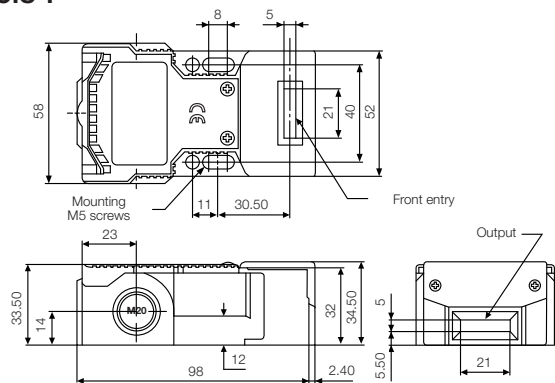
Actuators



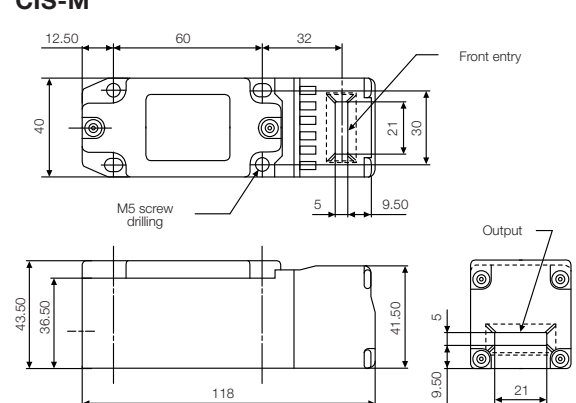
Actuators

Actuator description		Switch model		Reference
		CIS-P	CIS-M	
	Standard	x		ACIS-MSP
	Standard		x	ACIS-MSM
	Flat	x	x	ACIS-MRL
	Flexible plastic	x	x	ACIS-PFL
	Fully flexible	x	x	ACIS-MHL

CIS-P



CIS-M





Tongue Operated Safety Interlock Compact

CISC, the compact safety interlock switch, is designed to monitor small movable guards.

It has a compact easy-to-mount polyester housing with an 8-position rotating head for the insertion of the actuator. Ideal for applications in restrict spaces, it can be used in lift-off, sliding or hinged guards. Rugged, stainless steel selectable tongue combined with the positive action mechanism, providing a reliable interlock device for safety applications, with international certification to meet current safety standards.

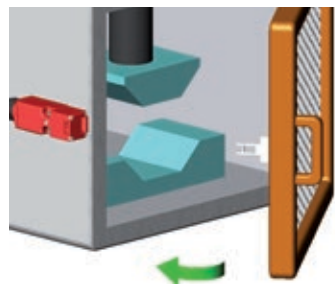
Technical Data

Standards	EN 1088, IEC 60947-5-1, EN 60204-1, ISO 13849-1, EN 62061, EN 954-1, UL 508
Certifications	TÜV, CE, UL
Safety and reliability certification data	
Mechanical reliability B10d	2.5 x 10 ⁶ operations at 100 mA load
EN 954-1	Up to category 4 with safety relay
ISO 13849-1	Up to PLe depending on system architecture
EN 62061	Up to SIL 3 depending on system architecture
Safety data - annual use	8 cycles per hour / 24 hours a day / 365 days a year
PFHd	3.44 x 10 ⁻⁸
Test proof interval	35 years
MTTFd	356 years
Utilization categories	AC15, A300, 3A
Thermal current (Ith)	5 A
Rated insulation/withstand voltage	600 V ac / 2.500 V ac
Actuator stroke for positive opening	6 mm
Actuator minimum entry radius	175 mm (standard) / 100 mm (flexible)
Maximum approach / removal speed	600 mm/s
Housing material	Polyester
Protection rating	IP67
Operating temperature: minimum/maximum	- 25 °C / +80 °C
Vibration	IEC 68-2-6, 10-55 Hz + 1 Hz travel: 0.35 mm, 1 octave/min
Conduit entry	M20
Mounting	2 x M4

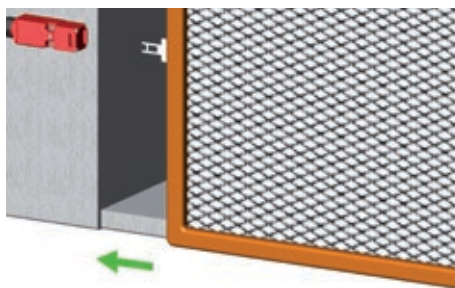
Applications

It can be used in fixed or movable guards, in machines or devices that have no stopping inertia in their moving parts.

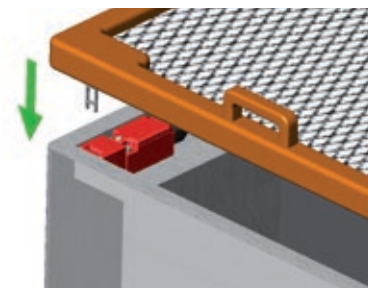
Movable Guards



Hinged



Sliding



Lift-off




Specifications

Switches

Contacts		Output conduit	Housing	Reference
Safety	Auxiliary			
2NC	1NO	M20	Plastic	CISC-PP21A
1NC				CISC-PP11A

Note: actuator (tongue) not included. Select an actuator according to the Actuators table below.

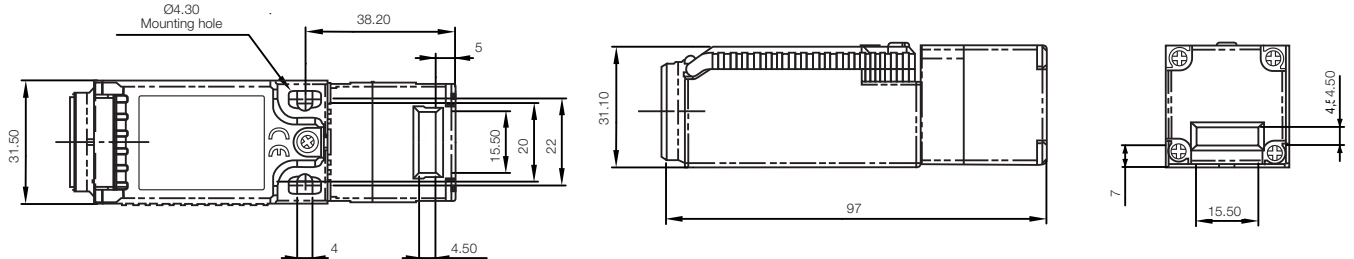
Actuators

Actuator description	Reference
	ACIS-MAP
	ACIS-MRP
	ACIS-PFP

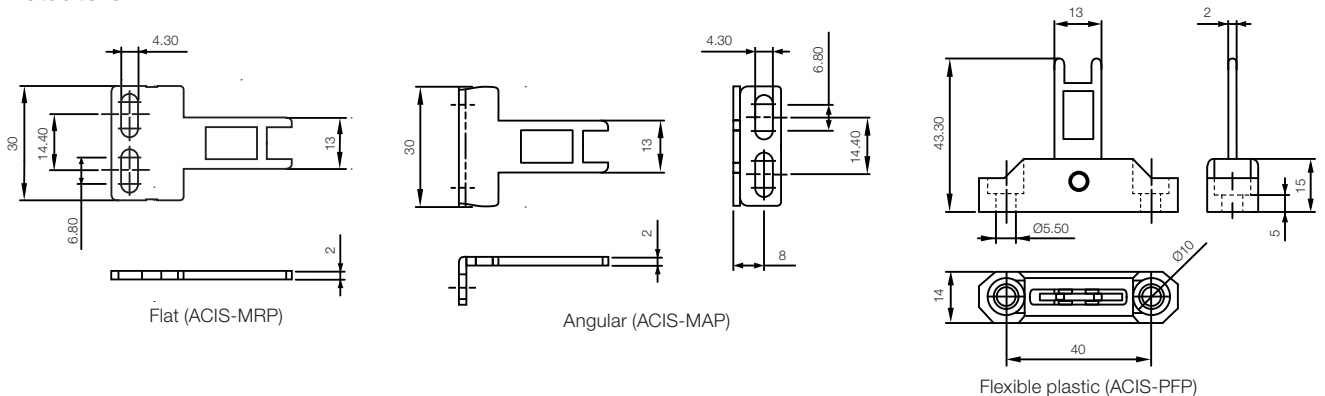
Note: always select an actuator (tongue) for each selected CISC switch.

Dimensions

CISC



Actuators



Note: dimensions in millimeters (mm).



Tongue Operated Safety Interlock Switches with Solenoid in the Plastic Housing

The CISS-P safety interlock switch with solenoid in the plastic housing version is small and designed for 1800 N holding force, keeping the medium or large movable guards closed until the hazards have been eliminated.

Its slim profile, 50 mm, is ideal for applications in restricted spaces, having a, 8-position rotating stainless steel head for the actuator entry. CISS interlock switches with solenoid are of the power-to-unlock type, suitable for applications with inertia at the stop. They have high quality plastic housing, resistant to chemical agents, and stainless steel heads that provide a robust and durable protection. IP67 protection rating, with double-gasket cover and metal fasteners, positive-break contacts IEC 60947-5-1 and high functional safety (ISO 13849-1).



Technical Data

Standards	EN 1088, IEC 60947-5-1, EN 60204-1, ISO 13849-1, EN 62061, EN 954-1, UL 508
Certifications	TÜV, CE, UL
Safety and reliability certification data	
Mechanical reliability B10d	2,5 x 10 ⁶ operations at 100 mA load
EN 954-1	Up to category 4 with safety relay
ISO 13849-1	Up to PLe depending on system architecture
EN 62061	Up to SIL 3 depending on system architecture
Safety data - annual use	8 cycles per hour / 24 hours a day / 365 days a year
PFHd	3.44 x 10 ⁻⁸
Test proof interval	35 years
MTTFd	356 years
Voltage on the solenoid	24 V dc / V ac
Power on the solenoid	12 W
Power supply LED 2	24 V dc
Utilization categories	AC15, A300, 3A
Thermal current (Ith)	5 A
Rated insulation/withstand voltage	500 V ac / 2.500 V ac
Actuator stroke for positive opening	10 mm
Actuator minimum entry radius	175 mm (standard) / 100 mm (flexible)
Maximum approach / removal speed	600 mm/s
Housing Material	Polyester (CIS-P) / cast metal (CISS-M)
Head material	Cast metal
Actuators	According to the selected model
Protection rating	IP67
Operating temperature: minimum/maximum	- 25 °C / +55 °C
Vibration	IEC 68-2-6, 10-55 Hz + 1 Hz travel: 0.35 mm, 1 octave/min
Conduit entry	M20
Mounting	4 x M5 (CISS-M)

Specifications

Switches

Contacts		Output conduit	Head	Housing	Reference
Safety ¹⁾	Auxiliary				
2NC	2NO	M20	Stainless	Plastic	CISS-PI22AE26

Note: an actuator is required; see page 35.



Tongue Operated Safety Interlock Switches with Solenoid in the Metal Housing

The CISS-M safety interlock switch with solenoid in the robust metal housing version has metal head and a slim shape. It has been designed for a 2000 N holding force to keep medium or large movable guards closed until the hazards have been eliminated.

Its slim profile, 50 mm, is ideal for applications in restricted spaces, having a, 8-position rotating stainless steel head for the actuator entry. It has two independent contact blocks to monitor the lock and door status and LED to monitor the lock status, positive-break contacts (IEC 60947-5-1) and high functional safety (ISO 13849-1).

Technical Data

Standards	EN 1088, IEC 60947-5-1, EN 60204-1, ISO 13849-1, EN 62061, EN 954-1, UL 508
Certifications	TÜV, CE, UL
Safety and reliability certification data	
Mechanical reliability B10d	2.5 x 10 ⁶ operations at 100 mA load
EN 954-1	Up to category 4 with safety relay
ISO 13849-1	Up to PLe depending on system architecture
EN 62061	Up to SIL 3 depending on system architecture
Safety data - annual use	8 cycles per hour / 24 hours a day / 365 days a year
PFHd	3.44 x 10 ⁻⁸
Test proof interval	35 years
MTTFd	356 years
Voltage on the solenoid	24 V dc / V ac
Power on the solenoid	12 W
Power supply LED 2	24 V dc
Utilization categories	AC15, A300, 3A
Thermal current (Ith)	5 A
Rated insulation/withstand voltage	500 V ac / 2,500 V ac
Actuator stroke for positive opening	10 mm
Actuator minimum entry radius	175 mm (standard) / 100 mm (flexible)
Maximum approach / removal speed	600 mm/s
Housing Material	Polyester (CIS-P) / cast metal (CISS-M)
Head material	Cast metal
Actuators	According to the selected model
Protection rating	IP67
Operating temperature: minimum/maximum	- 25 °C / +55 °C
Vibration	IEC 68-2-6, 10-55 Hz + 1 Hz travel: 0.35 mm, 1 octave/min
Conduit entry	M20
Mounting	4 x M5 (CISS-M)

Specifications

Switches




Contacts		Output conduit	Head	Housing	Reference
Safety ¹⁾	Auxiliary				
4NC	2NO	M20	Metallic	Metallic	CISS-MM42AE26

Notes: 1) The connection between terminals 31/32 and 41/42 is made using cables connected inside the switch (factory assembled). These connections can be removed at the installation to allow the individual monitoring of the solenoid lock status or actuator status. Refer to the installation guide for further details.

2) An actuator is required; see page 35.

Specifications

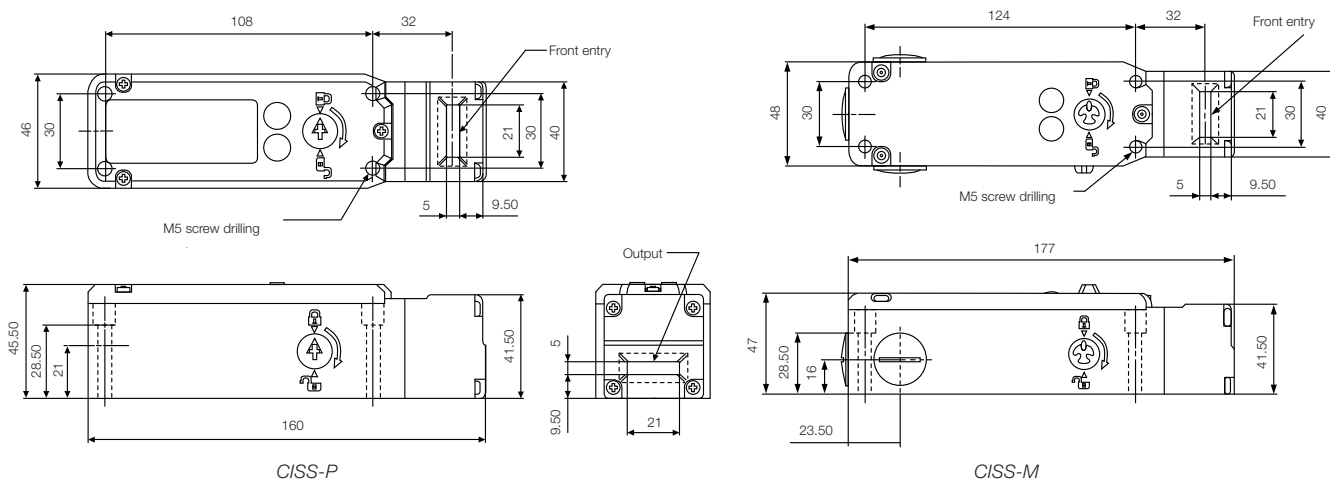
Actuators

Actuator description		Switch model		Reference
		CISS-P plastic housing	CISS-M metal housing	
	Standard	x	x	ACIS-MSM
	Flat	x	x	ACIS-MRL
	Flexible	x	x	ACIS-MHL

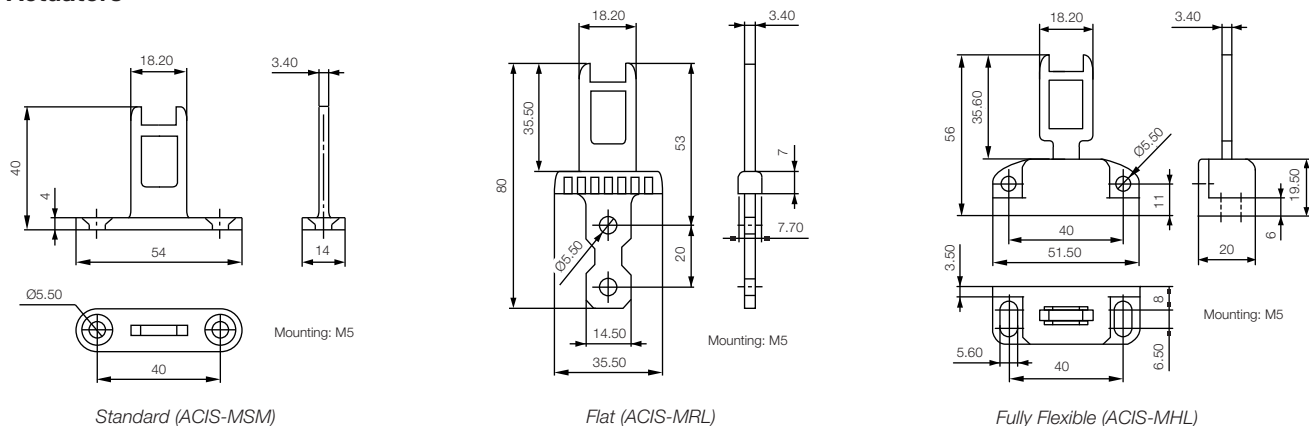
Note: a switch and an actuator must be selected.

Dimensions

Switches



Actuators





Safety certification

Safety Relays

The safety relays are devices that supervise circuits, ensuring the equipment/system and operator safety. They are designed to meet the latest safety standards, always aiming at reaching the maximum efficiency and reliability in a single product.

Main Characteristics

- TÜV Rheinland certification
- Dual channel outputs
- Contact supervision
- Protected against faults and tampering
- Flexibility - suitable for different application types
- Lead-free products
- DIN rail mounting
- High reliability

PSRW - Programable Safety Relay

- Easily programed by WPS graphic interface
- 24 V dc control supply voltage
- Pulse self monitored inputs
- Manual and automatic supervised reset
- 2 double channel outputs
- 4 double channel inputs
- Cat 4 / PLe (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508



CS Line - Simultaneity Monitoring

- CS-D and CS-D201 models
- 24 V dc power supply
- Dual channel
- Cat 4 / PLe (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508



CP Line - Emergency Stop Control

- Models: CP-D, CPA-D and CPLS-D
- 24 V dc / V ac power supply
- It supervises contacts of different safety equipment types
- 3 NO safety outputs
- 1 NC auxiliary output
- Dual channel
- Cat 4 / PLe (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508



SZS - Zero Speed Monitor

- It detects the zero-speed condition in electric motors
- It may be used in any type of single-phase or three-phase electric motor, AC or DC
- It can be used with frequency inverter or soft-starter
- Sensitivity adjustment
- Cable break detection
- Dual channel
- Category 3 / PL d (ISO 13849-1), SIL CL 2 IEC 61800-5-2 / IEC 62061 / IEC 61508




PSRW Line - Programable Safety Relay

Easily programmed by WPS graphic interface. With four double channel safety inputs and two double channel safety outputs (OSSDs) with individual reset (manual or automatic), the PSRW programmable safety relay may supervise the following safety componets:

- Safety light coutains
- Bimanual command
- Emergency stop control
- Magnetic sensors
- Mechanical switches
- Safety sensors



Specifications

	PSRW	Supply voltage..... 24 V dc (±20 %)
		Power consuption3 W máx
		Response time..... 5ms + Input filtering (4 ou 16ms) + delay (configurable)
		Digital inputs8 (4 double channel)
		Reset inputs..... 2 (configurable manual/automatic)
		Inputs logic..... PNP Active in high - (IEC 61131-2)
		Safety outputs4 (2 duoble channel)
		Safety outputs logic..... PNP Active in high – [1÷4] 2 A Σ 2 A máx
		Auxiliary outputs..... 2 (configurable)
		Auxiliary outputs logic..... PNP Active in high - (isolated) 100 mA a 24 V dc máx
		Maximum cross section of the terminal cable 0.5 to 2.5 mm ² / AWG 12 to 30 (solid/stranded)
		Maximum cable lenght 30 meters
		Operating temperature..... 0 to 50 °C
		Maximum ambient air temperature..... 50 °C
		Storage temperature..... -20 to 85 °C
		Humidity 10 to 95%
		PC connection.....USB 2.0
		Cable lenght3 m (max.)
		Housing material..... Poliamida
		Protection degree IP20
		Standards..... ISO 13849-1, IEC 61508, IEC 62061, IEC 61000-6-7, IEC 61131-2
		Machinery Directive 2006/42/EU, Electromagnetic Compatibility (EMC) Directive 2014/30/EU, Low Voltage Directive (LVD) 2014/35/EC, RoHS II Directive 2011/65/EU
		Safety certification.....Cat 4 / PLe (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508) TÜV Rheinland
		Product certification..... CE, UL

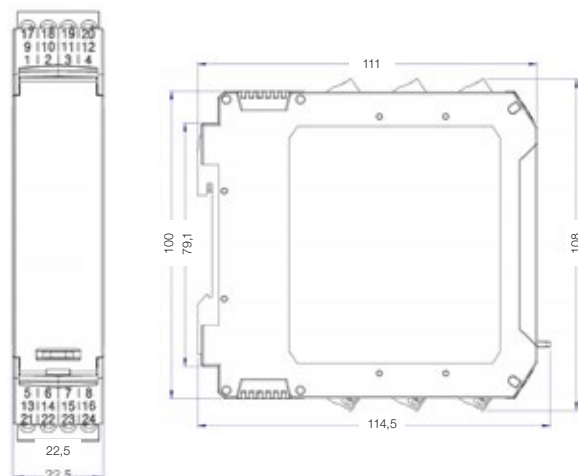
Safety Information

Item	Value	Standard
PL	e	ISO 13849-1:2006
CAT	4	ISO 13849-1:2006
SIL	3	IEC 61508:2010
SIL CL	3	IEC 62061:2005
PFH(1/h)	7.85 E-09	IEC 61508:2010
PFDavg	3.91 E-05	IEC 61508:2010
SFF	99.50%	IEC 61508:2010
MTTFd (year)	416.65	IEC 61508:2010
Test time interval	10 years	IEC 61508:2010

Conection Diagram

See product data sheet.

Dimensions



CS Line - Simultaneity Monitoring



They are safety relays that monitor the simultaneous activation in the control of machines and processes; in addition, they provide safety for the control of machines preventing operators from putting their hands into the hazardous area, being commonly used in two-hand controls.

They can be used with the Soft Switch and Palm Switch zero-force electronic pushbuttons.

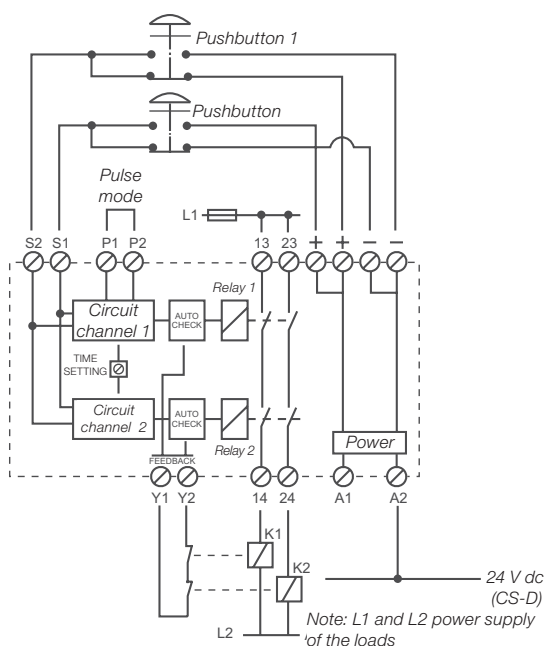
They are protected against faults and tampering (auto check), and have contact monitoring, dual channel and power supply to provide flexibility in a variety of applications.



Specifications

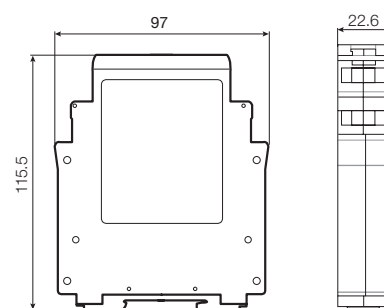
	CS-D	<p>Power supply 24 V dc $\pm 10\%$ Consumption <10 VA Connection types Output terminal 2 safety contacts NO Service life of the contacts 10⁷ operations Capacity of the contacts 3 A/250 V - 90 W Response time 10ms (max) Operating temperature -5 °C to 50 °C Protection rating IP20 Applicable standards ... EN 574 (tipo IIIC), ISO 13849-1, IEC 62061, IEC 61508, IEC 60947-5-1, IEC 60204-1, IEC 60664-1 Safety certification Cat 4 / PL e (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508) TÜV Rheinland</p> <p><i>Lead-free product</i></p>
	CS-D201	<p>Power supply 24 V dc $\pm 10\%$ Consumption <10 VA Connection types Terminal output 2 safety contacts NO + 1NC Service life of the contacts 10⁷ operation Capacity of the contacts 3 A/250 V - 90 W Response time 10ms (max) Operating temperature -5 °C to 50 °C Protection rating IP20 Applicable standards ... EN 574 (tipo IIIC), ISO 13849-1, IEC 62061, IEC 61508, IEC 60947-5-1, IEC 60204-1, IEC 60664-1 Safety certification Cat 4 / PL e (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508) TÜV Rheinland</p> <p><i>Lead-free product</i></p>

Typical Wiring Diagram - CS Line



Example of CS-D safety relay connection with Soft Switch and Palm Switch pushbuttons

Dimensions



Note: dimensions in mm.



CP Line - Emergency Stop Control

The CP safety relays can be used to monitor the contacts of emergency pushbuttons, safety sensors, interlock switches and other vital safety devices.

They are protected against faults and tampering (auto check), and have contact monitoring, dual channel and power supply to provide flexibility in a variety of applications.

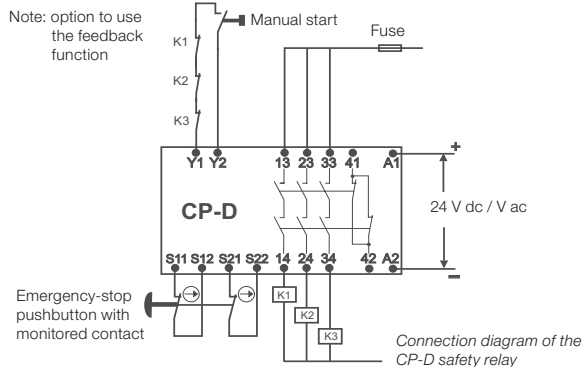


Specifications

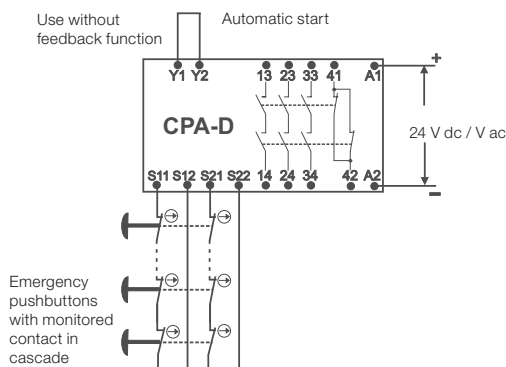
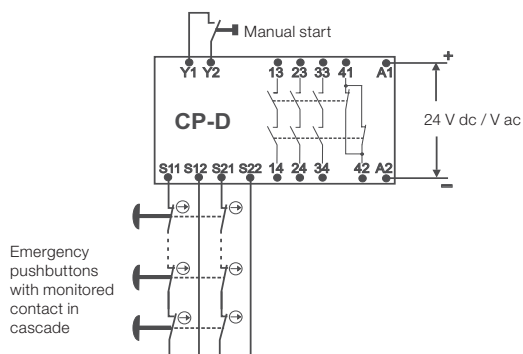
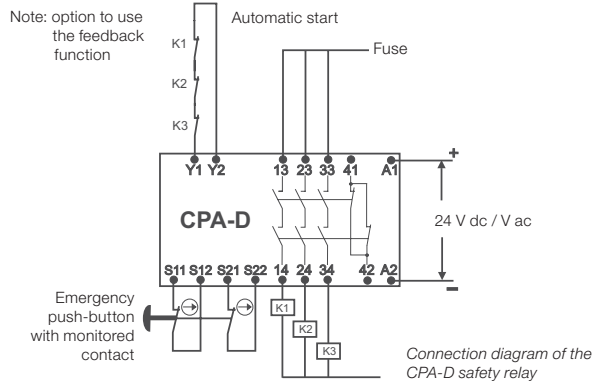
	CP-D	Manual start	Power supply24 V dc / V ac $\pm 10\%$ Consumption.....2.5 W Connection types Borne Output.....3 NO safety contacts and 1NC auxiliary Service life of the contacts.....10 ⁷ operation Capacity of the contacts 4.5 A - 30 V dc / 200 W - 250 V ac Response time10ms (max) Operating temperature-10 to 55 °C Protection ratingIP20 Applicable standards IEC 60204-1, ISO 13850, IEC 60947-5-1, ISO 13849-1, IEC 61508, IEC 62061 Safety certification..... Cat 4 / PLe (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508 TÜV Rheinland
	CPA-D	Automatic start	Power supply24 V dc / V ac $\pm 10\%$ Consumption.....2.5 W Connection types Terminal Output.....3 NO safety contacts and 1NC auxiliary contact Service life of the contacts.....10 ⁷ operation Capacity of the contacts 4.5 A - 30 V dc / 200 W - 250 V ac 3 A/250 V - 90 W Response time10ms (max) Operating temperature-10 to 55 °C Protection ratingIP20 Applicable standards ISO 13849-1, IEC 61508, IEC 62061, IEC 954-1 Safety certification..... Cat 4 / PLe (ISO 13849-1), SIL CL 3 IEC 62061/IEC 61508 TÜV Rheinland

Typical Wiring Diagrams

Manual Start




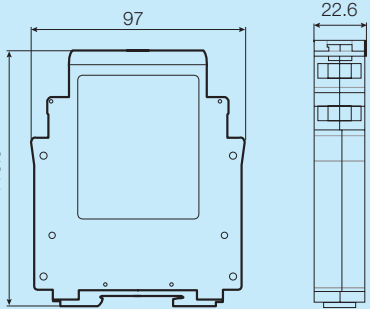
Automatic Start



CP Line - Safety Light Screen Monitoring

The CPLS-D301 safety relay is used for monitoring the safety light screens LSP or similar products.

Specifications

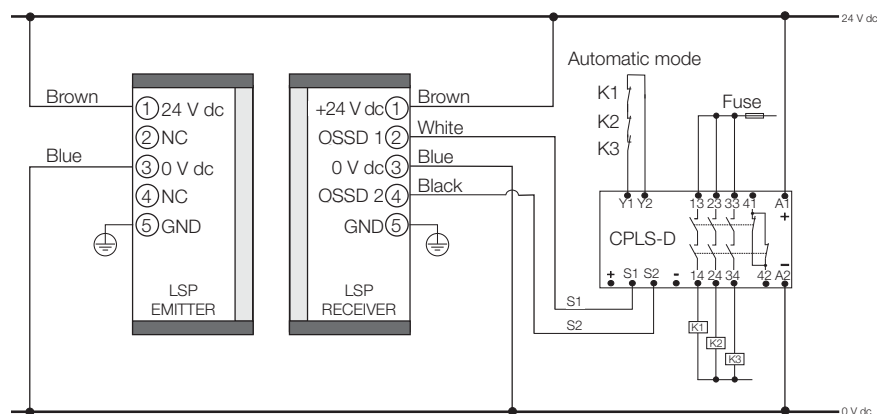
	CPLS-D301	Manual/ Automatic	<p>Power supply.....24 V dc $\pm 10\%$ Consumption.....2.5 W Connection type.....Terminal Cable cross-section.....2 mm² Connection cable.....Solid or flexible (maximum 2.5 mm²) Removable terminals.....Not Wire break detection.....Yes Cable length.....See the maximum cable resistance Maximum cable resistance.....40 Ohms Output.....3 NO safety contacts and 1NC auxiliary contact Service life of the contacts.....10⁷ operation Capacity of the contacts.....4.5 A - 30 V dc / 200 W - 250 V ac Response time.....10ms (max) Operating temperature.....-10 to 55 °C Storage/transportation temp.....-40 °C to +70 °C EMC classification.....EMC Directive Protection rating.....IP20 Applicable standards.....IEC 60204-1, ISO 13850, IEC 60947-5-1, ISO 13849-1, IEC 61508, IEC 62061</p>	
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Notes: The NC auxiliary contact is not a safety contact and must only be used for signaling.
Lead-free products.
Dimensions in mm (CP-D, CPA-D or CPLS-D).

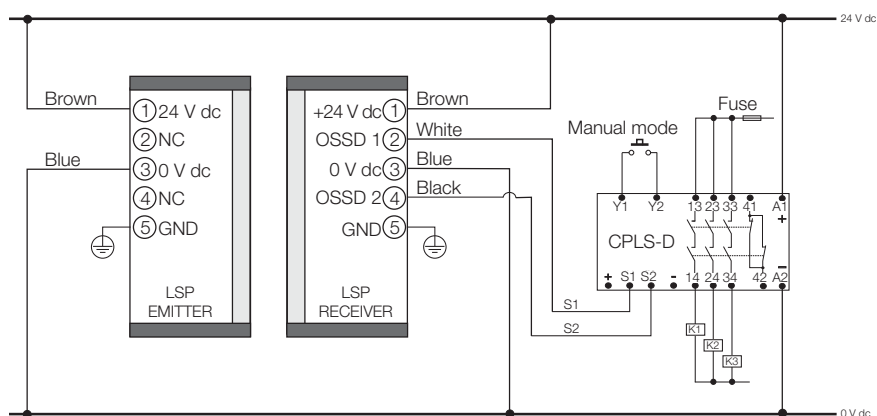


Connection Diagrams

Automatic Mode



Manual Mode




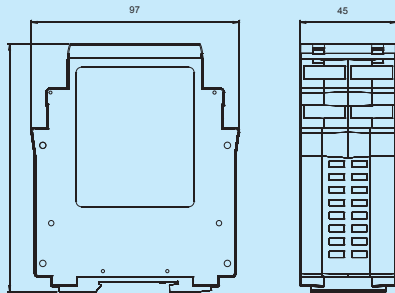
SZS - Zero Speed Monitor

It is used to detect the zero-speed condition of electric motors through the residual voltage of the voltages on the coils due to the rotor inertia.

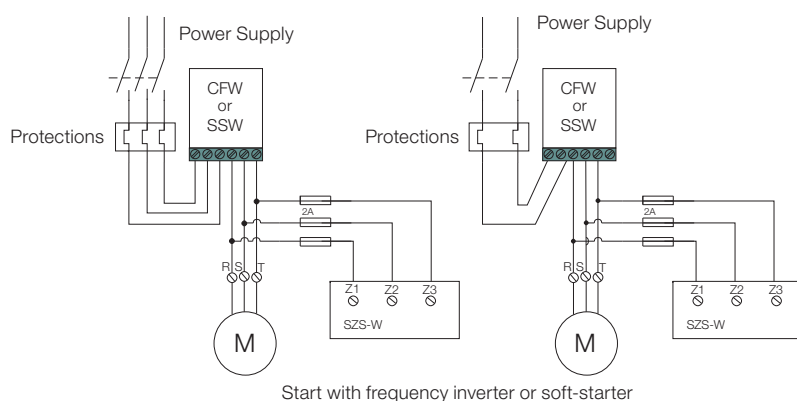
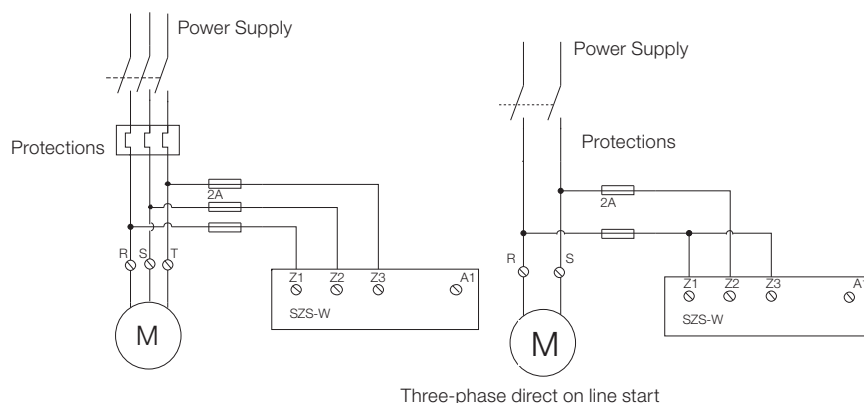
The SZS can be used to detect zero speed in any type of single-phase or three-phase electric motor, AC or DC. It can also be used with frequency inverters and soft-starters. The SZS has been designed so that any failure will not result in a hazardous condition, always ensuring safe shutdown through internal interlocks and autocheck.



Specifications

	<p>SZS-W/22</p> <p>Power supply 230 V ac 50/60 Hz Consumption <10 VA Connection types Terminals Safety contacts 1NO + 1NC Service life 10⁷ operations Capacity of the contacts 4,5 A/250 V Operating temperature -5 °C a 50 °C Protection rating IP20 Lead free RoHS Applicable standards EN ISO 13849-1, IEC 62061, IEC 61508 - 1-7, IEC 60947-5-1, IEC 60204-1, IEC 60664-1 Certification Category 3 / PL d (EN ISO 13849-1), SIL CL 2 IEC 61800-5-2, IEC 62061, IEC 61508) TÜV Rheinland</p>	
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Typical Wiring Diagrams





Contactors for safety Applications - Line CWBS

WEG's new CWBS line of contactors for safety applications (from 9 A to 80 A in AC-3) was developed in compliance with IEC and UL standards, featuring mechanically linked contacts (IEC/EN 60947-5-1) and mirror contacts (IEC/EN 60947-4-1), which provide proper operation of safety circuits of machines and equipment that must operate in compliance with international safety standards, including the Brazilian machine safety standard (NR12).

Characteristics

CWBS Power Contactors

- TÜV certification for mechanically linked contacts (IEC 60947-5-1 - Annex L) and mirror contacts (IEC 60947-4-1 - Annex F);
- 45 mm wide up to 38 A and 54 mm wide in models from 40 to 80 A, having two built-in auxiliary contacts (1 NO +1 NC);
- Choice of up to six auxiliary contacts;
- Compact starters can be assembled with MPW18, MPW40 and MPW80 manual motor protectors, and RW27-2D and RW67-5D thermal relays.

CAWBS Auxiliary Contactors

- TÜV certification for mechanically linked contacts (IEC 60947-5-1 - Annex L);
- 45 mm wide in versions with 5, 7 or up to 9 contacts.

Benefits



Protection against
inadvertent operation



Protection for operators and
equipment



Contactors to retrofit machines
and equipment so as to comply
with Brazilian standard NR12



Machine safety
applications



Certificate for
worldwide use



Fast mounting on DIN rail
35 mm or with screws



Auxiliary contact block
assembled and tested
at the factory



Different color, enabling easy
identification in safety systems
on panels and equipment

Certifications

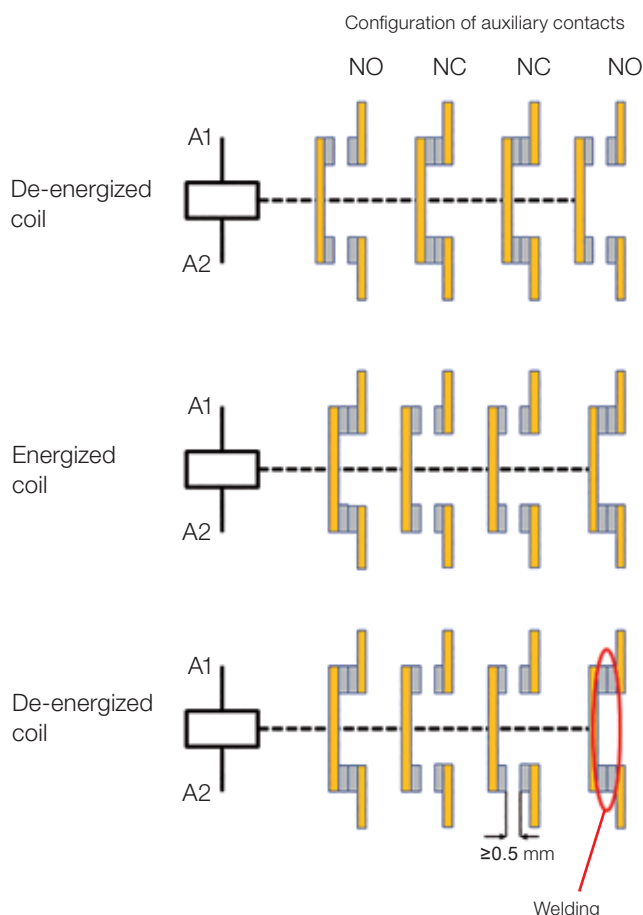


Note: 1) Under process.

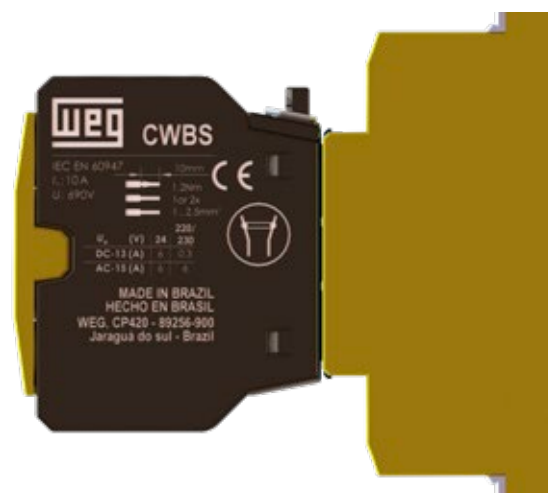
Rússia

Mechanically Linked Contacts (IEC/EN 60947-5-1 - Annex L)

Applicable to the auxiliary contacts used in auxiliary control circuits those contacts can be built into the contactor or blocks of external auxiliary contacts mounted on the contactors. According to IEC/EN 60947-5-1 - Annex L, open contacts and closed contacts cannot be simultaneously closed. In case welding occurs on the NO contacts, the NC contacts must remain open, and in case welding occurs on the NC contacts, the NO auxiliary contacts must remain open. The following example shows that characteristic:



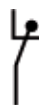
Some other names may also be given to this same requirement of the standard in technical documents, such as: forced contacts, positively activated contacts, linked contacts and positively guided contacts. Contactors with that characteristic are often used in self-monitoring circuits combined with safety interfaces (e.g., safety relays) used in the automation and safety of machinery and equipment. Contactors which do not meet that requirement may damage the equipment or harm the operator.



Side indication of the symbols of mechanically linked contacts.

Mirror Contact - IEC/EN 60947-4-1 - Annex F

Applicable to the auxiliary contacts mechanically linked to the power contacts. When the contactor coil is energized, the power contacts will be closed and at the same time the NC auxiliary contacts will be open. Those auxiliary contacts are called mirror contacts.



Construction Features



Power Contactors for Safety Applications

Three-Pole from 9 A to 38 A (AC-3)

I_e max. ($U_e \leq 440$ V)	$I_e = I_{th}$ ($U_e \leq 690$ V) ($\theta \leq 55$ °C)	Orientative rated operational power in AC-3 ¹⁾ Three-phase motor - IV poles - 60 Hz - 1,800 rpm					Auxiliary contacts per contactor		Reference to complete with the control voltage	Weight ³⁾ kg
A	A	kW / cv	kW / cv	kW / cv	kW / cv	kW / cv	<div> <div>•3</div> <div>•4</div> <div>NO</div> </div>	<div> <div>•1</div> <div>•2</div> <div>NC</div> </div>		
9	25	2.2 / 3	4 / 5.5	4.5 / 6	5.5 / 7.5	5.5 / 7.5	1	1	CWBS9-11-30 ♦	0.435
							1	3	CWBS9-13-30 ♦	
							1	5	CWBS9-15-30 ♦	
							2	2	CWBS9-22-30 ♦	
							2	4	CWBS9-24-30 ♦	
							3	1	CWBS9-31-30 ♦	
							3	3	CWBS9-33-30 ♦	
							4	2	CWBS9-42-30 ♦	
12	25	3 / 4	5.5 / 7.5	6.5 / 8.7	7.5 / 10	7.5 / 10	5	1	CWBS9-51-30 ♦	0.435
							1	1	CWBS12-11-30 ♦	
							1	3	CWBS12-13-30 ♦	
							1	5	CWBS12-15-30 ♦	
							2	2	CWBS12-22-30 ♦	
							2	4	CWBS12-24-30 ♦	
							3	1	CWBS12-31-30 ♦	
							3	3	CWBS12-33-30 ♦	
18	32	4.5 / 6	7.5 / 10	9.2 / 12.5	10 / 13.4	11 / 15	4	2	CWBS12-42-30 ♦	0.435
							5	1	CWBS12-51-30 ♦	
							1	1	CWBS18-11-30 ♦	
							1	3	CWBS18-13-30 ♦	
							1	5	CWBS18-15-30 ♦	
							2	2	CWBS18-22-30 ♦	
							2	4	CWBS18-24-30 ♦	
							3	1	CWBS18-31-30 ♦	
25	40	6.5 / 8.7	12.5 / 16.8	12.5 / 16.8	15 / 20	15 / 20	3	3	CWBS18-33-30 ♦	0.435
							4	2	CWBS18-42-30 ♦	
							5	1	CWBS18-51-30 ♦	
							1	1	CWBS25-11-30 ♦	
							1	3	CWBS25-13-30 ♦	
							1	5	CWBS25-15-30 ♦	
							2	2	CWBS25-22-30 ♦	
							2	4	CWBS25-24-30 ♦	
32	50	7.5 / 10	15 / 20	15 / 20	18.5 / 25	18.5 / 25	3	1	CWBS25-31-30 ♦	0.553
							3	3	CWBS25-33-30 ♦	
							4	2	CWBS25-42-30 ♦	
							5	1	CWBS25-51-30 ♦	
							1	1	CWBS32-11-30 ♦	
							1	3	CWBS32-13-30 ♦	
							1	5	CWBS32-15-30 ♦	
							2	2	CWBS32-22-30 ♦	
38	50	9.2 / 12.5	18.5 / 25	18.5 / 25	18.5 / 25	18.5 / 25	2	4	CWBS32-24-30 ♦	0.553
							3	1	CWBS32-31-30 ♦	
							3	3	CWBS32-33-30 ♦	
							4	2	CWBS32-42-30 ♦	
							5	1	CWBS32-51-30 ♦	
							1	1	CWBS38-11-30 ♦	
							1	3	CWBS38-13-30 ♦	
							1	5	CWBS38-15-30 ♦	
							2	2	CWBS38-22-30 ♦	0.553
							2	4	CWBS38-24-30 ♦	
							3	1	CWBS38-31-30 ♦	
							3	3	CWBS38-33-30 ♦	
							4	2	CWBS38-42-30 ♦	
							5	1	CWBS38-51-30 ♦	

Replace “♦” by the control voltage code²⁾.

Alternating Current

Code	D02	D07	D13	D23	D24	D25	D33	D34	D35	D36	D39
V (50/60 Hz)	24	48	110	220	230	240	380	400	415	440	480

Direct Current

Code	C02	C03	C07	C09	C12	C13	C15
V dc	12	24	48	60	110	125	220



Notes: 1) Orientative values;

2) Other voltages on request;

3) Weight for contactors with control circuit in alternating current. For control circuit in direct current, add 0.121 kg to the alternating-current models.

Power Contactors for Safety Applications

Three-pole from 40 A to 80 A (AC-3)

I_e máx. (A) ($U_e \leq 440$ V)	$I_e = I_{th}$ (A) ($U_e \leq 690$ V) ($\theta \leq 55$ °C)	Orientative rated operational power in AC-3 ¹⁾ Three-phase motor - IV poles - 60 Hz - 1,800 rpm					Auxiliary contacts per contactor		Reference to fill in with the control voltage	Weight ³⁾ kg
AC-3	AC-1	220 V 230 V	380 V 400 V	415 V 440 V	500 V	660 V 690 V	 NO	 NC		
A	A	kW / cv	kW / cv	kW / cv	kW / cv	kW / cv				
40	60	11 / 15	18.5 / 25	22 / 29	22 / 29	30 / 40	1	1	CWBS40-11-30 ♦	0.91
							1	3	CWBS40-13-30 ♦	0.973
							1	5	CWBS40-15-30 ♦	
							2	2	CWBS40-22-30 ♦	
							2	4	CWBS40-24-30 ♦	
							3	1	CWBS40-31-30 ♦	
							3	3	CWBS40-33-30 ♦	
							4	2	CWBS40-42-30 ♦	
50	90	15 / 20	22 / 29	30 / 40	30 / 40	33 / 44	5	1	CWBS40-51-30 ♦	0.973
							1	1	CWBS50-11-30 ♦	
							1	3	CWBS50-13-30 ♦	
							1	5	CWBS50-15-30 ♦	
							2	2	CWBS50-22-30 ♦	
							2	4	CWBS50-24-30 ♦	
							3	1	CWBS50-31-30 ♦	
							3	3	CWBS50-33-30 ♦	
65	110	18.5 / 25	30 / 40	37 / 50	37 / 50	37 / 50	4	2	CWBS50-42-30 ♦	0.973
							5	1	CWBS50-51-30 ♦	
							1	1	CWBS65-11-30 ♦	
							1	3	CWBS65-13-30 ♦	
							1	5	CWBS65-15-30 ♦	
							2	2	CWBS65-22-30 ♦	
							2	4	CWBS65-24-30 ♦	
							3	1	CWBS65-31-30 ♦	
80	110	22 / 29	37 / 50	45 / 60	55 / 74	45 / 60	3	3	CWBS65-33-30 ♦	0.973
							4	2	CWBS65-42-30 ♦	
							5	1	CWBS65-51-30 ♦	
							1	1	CWBS80-11-30 ♦	
							1	3	CWBS80-13-30 ♦	
							1	5	CWBS80-15-30 ♦	
							2	2	CWBS80-22-30 ♦	
							2	4	CWBS80-24-30 ♦	
							3	1	CWBS80-31-30 ♦	0.973
							3	3	CWBS80-33-30 ♦	
							4	2	CWBS80-42-30 ♦	
							5	1	CWBS80-51-30 ♦	

Replace "♦" by the control voltage code²⁾.

Alternating Current

Code	D02	D07	D13	D23	D24	D25	D33	D34	D35	D36	D39
V (50/60 Hz)	24	48	110	220	230	240	380	400	415	440	480

Direct Current

Code	C02	C03	C07	C09	C12	C13	C15
V dc	12	24	48	60	110	125	220

Notes: 1) Orientative values;

2) Other voltages on request;

3) Weight for contactors with control circuit in alternating current. For control circuit in direct current, add 0.121 kg to the alternating-current models.

Auxiliary Contactors for Safety Applications

- Protected against foreign bodies and unintentional touch
- Auxiliary contacts permanently connected to the contactors
- Factory assembled and tested units
- Specific color that enables easy identification on panels of machinery and equipment
- Directly mounted on DIN rail 35 mm or tightened with screws
- TÜV certification regarding the characteristics of mechanically linked contacts (IEC 60947-5-1- Annex L)



CAWBS

I _e máx. (A)		Auxiliary contacts		Reference	Weight kg
(U _e ≤230 V) AC-14 / AC-15	(U _e ≤24 V) DC-13	 NO	 NC		
10	4	1	4	CAWBS-14-00 ♦	0.372
		2	3	CAWBS-23-00 ♦	
		3	2	CAWBS-32-00 ♦	
		4	1	CAWBS-41-00 ♦	
		4	3	CAWBS-43-00 ♦	0.435
		4	5	CAWBS-45-00 ♦	
		5	2	CAWBS-52-00 ♦	
		5	4	CAWBS-54-00 ♦	
		6	1	CAWBS-61-00 ♦	
		6	3	CAWBS-63-00 ♦	
		7	2	CAWBS-72-00 ♦	
		8	1	CAWBS-81-00 ♦	

Alternating Current

Code	D02	D07	D13	D23	D24	D25	D33	D34	D35	D36	D39
V (50/60 Hz)	24	48	110	220	230	240	380	400	415	440	480

Direct Current

Code	C02	C03	C07	C09	C12	C13	C15
V dc	12	24	48	60	110	125	220

Accessories

Surge Protectors - Plug-In Type



Illustrative figure	Use with	Voltages	Diagram	Reference	Code	Weight kg
	CWBS9...38 CWBS40...80 CAWBS	24...48 V 50/60 Hz		RCBD53	12242511	0.008
		50...127 V 50/60 Hz		RCBD55	12242512	
		130...250 V 50/60 Hz		RCBD63	12242513	
		12...48 V 50/60 Hz / 12...60 V dc		VRBE49	12242514	
		50...127 V 50/60 Hz / 60...180 V dc		VRBE34	12242515	
		130...250 V 50/60 Hz / 180...300 V dc		VRBE50	12242516	
		277...380 V 50/60 Hz / 300...510 V dc		VRBE41	12242517	
		400...510 V 50/60 Hz		VRBD73	12242558	
		12...600 V dc		DIBC33 ¹⁾	12242560	
		12...250 V dc		DIZBC26 ²⁾	12242561	

Notes: 1) Contactors with control in direct current assembled with DIB surge suppressor blocks increases the opening time by six times.

2) Contactors with control in direct current assembled with DIZB surge suppressor blocks increases the opening time by four times.

Accessories

Mechanical Interlock

Illustrative figure	Use with	Description	Reference	Code	Weight kg
	CWBS9...38 CAWBS	Mounting set for interlocking two contactors with the same frame type. Fitting through snaps without tools. Content: lock + 2 clips	IM1	12244300	0.004
	CWBS40...80	Mounting set for interlocking two contactors with the same frame type. Fitting through snaps without tools.	IM2	13765620	

Spare Coils for Contactors¹⁾

Illustrative figure	Use with	Control type	Reference to fill in with the control voltage	Code	Weight kg
	CWBS9...38 CAWBS	CA	BRB-38 ♦	On request	0.08
	CWBS40...80	CA	BRB-80 ♦	On request	0.09
	CWBS40...80	DC	BRB-80 ♦	On request	0.40

Replace “♦” by the control voltage code.

Alternating Current

Code	D02	D07	D13	D23	D24	D25	D33	D34	D35	D36	D39
V (50/60 Hz)	24	48	110	220	230	240	380	400	415	440	480


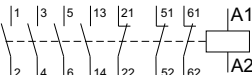
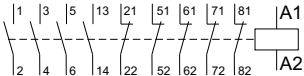
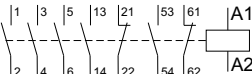

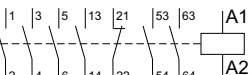

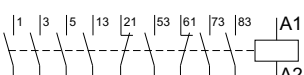
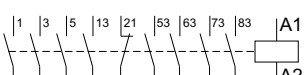
Direct Current

Code	C03	C07	C09	C12	C13	C15
V dc	24	48	60	110	125	220

Note: 1) Spare coil in direct current (DC) only for CWB40...80 A.

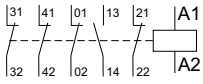
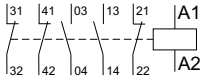
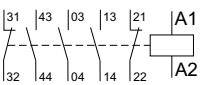

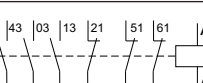
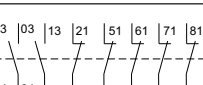
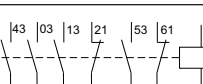
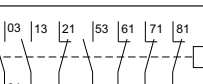

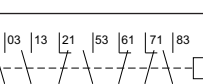
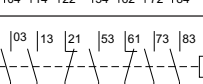
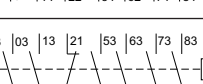
Technical Data

Contact Numbering According to IEC/EN 60947

Diagram	Configuration	Auxiliary contacts		Reference
		NO	NC	
Three-pole power contactors with built-in auxiliary contact				CWBS9...80 A
	11	1	1	CWBSxx.11.30
	13	1	3	CWBSxx.13.30
	15	1	5	CWBSxx.15.30
	22	2	2	CWBSxx.22.30
	24	2	4	CWBSxx.24.30
	31	3	1	CWBSxx.31.30
	33	3	3	CWBSxx.33.30
	42	4	2	CWBSxx.42.30
	51	5	1	CWBSxx.51.30

Technical Data

Contact Numbering According to IEC/EN 60947

Diagram	Configuration	Auxiliary contacts		Reference
		NO	NC	
Auxiliary contactors				
	14	1	4	CAWBS-14-00 ♦
	23	2	3	CAWBS-23-00 ♦
	32	3	2	CAWBS-32-00 ♦
	41	4	1	CAWBS-41-00 ♦
	43	4	3	CAWBS-43-00 ♦
	45	4	5	CAWBS-45-00 ♦
	52	5	2	CAWBS-52-00 ♦
	54	5	4	CAWBS-54-00 ♦
	61	6	1	CAWBS-61-00 ♦
	63	6	3	CAWBS-63-00 ♦
	72	7	2	CAWBS-72-00 ♦
	81	8	1	CAWBS-81-00 ♦

Technical Data

Basic Data

Models			CAWBS	CWBS9	CWBS12	CWBS18	CWBS25	CWBS32	CWBS38	CWBS40	CWBS50	CWBS65	CWBS80
Compliance with the standards			IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, UL 508										
Rated insulation voltage U _i (pollution degree 3)	IEC/EN 60947-4-1	(V)	690 V							1,000 V			
	UL, CSA	(V)	600 V										
Rated impulse withstand voltage U _{imp}	IEC/EN 60947-1	(kV)	6 kV										
Frequency limits		(Hz)	25...400										
Mechanical life	AC coil	(millions of operations)	10							6			
	DC coil	(millions of operations)	10							6			
Electrical life	I _e AC-3	(millions of operations)	-	2.0	2.0	1.8	1.6	1.6	1.2	1.6	1.6	1.6	1.2
Degree of protection (IEC 60529)	Main terminals		IP10 (front)										
	Coil and auxiliary contacts		IP20 (front)										
Mounting			Screws or DIN rail 35 mm (EN 50022)										
Coil connection points	Contactors with AC coil		2										
	Contactors with DC coil		2										
Resistance to vibrations (IEC 60068-2-6)	Open contactor	(g)	4										
	Closed contactor	(g)	4										
Resistance to mechanical shocks (½ sine wave = 11ms - IEC 60068-2-27)	Open contactor	(g)	10										
	Closed contactor	(g)	15										
Ambient temperature	Operation		-25 °C...+55 °C										
	Storage		-55 °C...+80 °C										
Maximum operation altitude without modification in the rated values ¹⁾			3,000 m										

Control Circuit - Alternating Current (AC)

Models			CWBS9...38, CAWBS	CWBS40...80
Rated insulation voltage U_i (pollution degree 3)	IEC/EN 60947-4-1 UL, CSA	(V)	690 600	1,000 600
Standard voltages at 50/60 Hz		(V)	12...600	24...600
Coil operation limits		(xUs)	0.8...1.1	0.8...1.1
Coil 50/60 Hz	Pick up	(xUs)	0.5...0.8	0.5...0.8
	Drop out	(xUs)	0.2...0.6	0.2...0.6
Average coil consumption 50/60 Hz	Closed magnetic circuit	(VA)	7.5	17.5
	Power factor switched on	(cos φ)	0.27	0.28
	Thermal power dissipation	(W)	1.5...2.5	4...5.5
	Closing of the magnetic circuit	(VA)	75	185
	Power factor switching on	(cos φ)	0.7	0.55
Average commute time	Closing of the NO contacts	(ms)	15...25	10...15
	Opening of the NO contacts	(ms)	8...12	8...12

Control Circuit - Direct Current (DC)

Models			CWBS9...38, CAWBS	CWBS40...80
Rated insulation voltage U_i (pollution degree 3)	IEC/EN 60947-4-1 UL, CSA	(V)	690 600	1,000 600
Standard voltages		(V)	12...500	12...500
Coil operation limits		(xUs)	0.8...1.1	0.8...1.1
	Pick up	(xUs)	0.5...0.8	0.5...0.8
	Drop out	(xUs)	0.1...0.4	0.1...0.4
Average DC coil consumption	Closed magnetic circuit	(W)	5.8	10.6
	Closing of the magnetic circuit	(W)	5.8	105.5
Average commute time	Closing of the NO contacts	(ms)	35...45	20...30
	Opening of the NO contacts	(ms)	8...12	4...8

Note: 1) For altitudes of 3,000...4,000 m ($0.90xI_e$ and $0.80xU_i$) and of 4,000...5,000 m ($0.80xI_e$ and $0.75xU_i$).

Technical Data

Main Contacts

Models			CWBS9	CWBS12	CWBS18	CWBS25	CWBS32	CWBS38	CWBS40	CWBS50	CWBS65	CWBS80
Rated operational current I _e	AC-3 (U _e ≤440 V)	(A)	9	12	18	25	32	38	40	50	65	80
	AC-4 (U _e ≤440 V)	(A)	4.4	5.8	8.5	10.4	13.7	13.7	18.5	18.5	26	32
	AC-1 (θ ≤55 °C, U _e ≤690 V)	(A)	25	25	32	40	50	50	60	90	110	110
Rated operational voltage U _e	IEC/EN 60947-4-1	(V)	690						1,000 V			
	UL, CSA	(V)	600									
Conventional thermal current I _{th}	(θ ≤55 °C)	(A)	25	25	32	40	50	50	60	90	110	110
Making capacity - IEC/EN 60947		(A)	250	250	300	450	550	550	550	1,000	1,000	1,000
Breaking capacity IEC 60947	(U _e ≤400 V)	(A)	250	250	300	450	550	550	550	1,000	1,000	1,000
	(U _e = 500 V)	(A)	220	220	250	350	450	450	480	880	880	880
	(U _e = 690 V)	(A)	150	150	180	250	350	350	350	640	640	640
Acceptable short-time current (no current flowing during recovery time of 15min and θ ≤40 °C)	1s	(A)	210	210	240	380	400	430	720	820	900	900
	10s	(A)	105	105	145	240	260	310	320	400	520	640
	1min	(A)	61	61	84	120	138	150	165	230	340	360
	10min	(A)	30	30	40	50	60	60	85	110	130	130
Short circuit protection of the main contacts	@600 V - UL/CSA	(kA)	5									
	Coordination type 1	(A)	25	40	50	63	63	63	80	100	125	160
Fuse (gL/gG)	Coordination type 2	(A)	20	25	35	40	63	63	63	80	100	125
Average impedance per pole		(mΩ)	2.5	2.5	2.5	2	2	2	1.6	1.6	1.6	1.6
Average power dissipation per pole	AC-1	(W)	1.5	1.5	2.5	3.2	5	5	6	13	19	19
	AC-3	(W)	0.2	0.4	0.8	1.2	2	3	3	4	7	10
Reliability ¹⁾	(V/mA)		50/100									
Utilization category AC-3												
Rated operational current I _e (θ ≤55 °C)	U _e ≤440 V	(A)	9	12	18	25	32	38	40	50	65	80
	U _e ≤500 V	(A)	9	12	15.8	23	28.5	28.5	35	45	55	75
	U _e ≤690 V	(A)	7	9	12.8	16.5	21	21	32	35	40	50
Orientative rated operational power Three-phase induction motors (50/60 Hz) IV poles - 1,800 rpm	220/230 V	(kW)	2.2	3	4.5	6.5	7.5	9.2	11	15	18.5	22
		(cv)	3	4	6	8.7	10	12.5	15	20	25	29
	380/400 V	(kW)	4	5.5	7.5	12.5	15	18.5	18.5	22	30	37
		(cv)	5.5	7.5	10	16.8	20	25	25	29	40	50
	415/440 V	(kW)	4.5	6.5	9.2	12.5	15	18.5	22	30	37	45
		(cv)	6	8.7	12.5	16.8	20	25	29	40	50	60
	500 V	(kW)	5.5	7.5	10	15	18.5	18.5	22	30	37	55
		(cv)	7.5	10	13.4	20	25	25	29	40	50	74
	660/690 V	(kW)	5.5	7.5	11	15	18.5	18.5	30	33	37	45
		(cv)	7.5	10	15	20	25	25	40	44	50	60
Maximum percentage	600 ops./h	(%)	100	100	100	100	100	100	100	100	100	100
Utilization category AC-4												
Rated operational current I _e	(U _e ≤440 V)	(A)	4.4	5.8	8.5	10.4	13.7	13.7	18.5	18.5	26	32
	(U _e ≤500 V)	(A)	3.9	5.1	7.5	12	13.9	13.9	17.5	23.5	28.5	33
	(U _e ≤690 V)	(A)	2.8	3.7	5.4	12	12.8	12.8	14	18	22	26
Orientative rated operational power Three-phase induction motors (50/60 Hz) IV poles - 1,800 rpm (200,000 operations)	220/240 V	(kW)	1.5	1.5	2.2	3	4	4	4.5	5.5	7.5	11
		(cv)	2.0	2.0	2.9	4.0	5.4	5.4	6.0	7.4	10.1	14.7
	380/400 V	(kW)	2.2	3.7	4	5.5	7.5	7.5	9.2	11	15	18.5
		(cv)	2.9	5.0	5.4	7.4	10.1	10.1	12.3	14.7	20.1	24.8
	415/440 V	(kW)	2.2	3	3.7	5.5	7.5	7.5	11	11	15	22
		(cv)	2.9	4.0	5.0	7.4	10.1	10.1	14.7	14.7	20.1	29.5
	500 V	(kW)	2.2	3	5	7.5	9	9	11	15	18.5	22
		(cv)	2.9	4.0	6.7	10.1	12.1	12.1	14.7	20.1	24.8	29.5
	660/690 V	(kW)	2.2	3	5	10	11	11	12.5	15	20	25
		(cv)	2.9	4.0	6.7	13.4	14.7	14.7	16.8	20.1	26.8	33.5

Note: 1) In order to achieve acceptable reliability for application and/or continuity test on the power contacts, a minimum voltage and current of 50 V and 100 mA, respectively, must be used. For lower values, the auxiliary contacts must be used.

Technical Data

Main Contacts

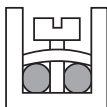
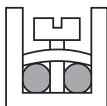
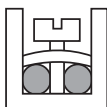
Models			CWBS9	CWBS12	CWBS18	CWBS25	CWBS32	CWBS38	CWBS40	CWBS50	CWBS65	CWBS80
			Utilization category AC-1									
			3P (NO)									
Conventional thermal current I_{th} ($\theta \leq 55^\circ\text{C}$) (A)			25	25	32	40	50	50	60	90	110	110
Maximum orientative operational current according to the ambient temperature $\theta \leq 60^\circ\text{C}$ ($U_g \leq 690\text{ V}$) (A)			25	25	32	40	50	50	60	90	110	110
Maximum operational power $\theta \leq 55^\circ\text{C}$ (three-phase resistors)	220/230 V (kW)	(kW)	9.5	9.5	12	15	19	19	22.5	34	42	42
	380/400 V (kW)	(kW)	16.5	16.5	21	26	33	33	39.5	59	72.5	72.5
	415/440 V (kW)	(kW)	19	19	24.5	30.5	38	38	45.5	68.5	84	84
	500 V (kW)	(kW)	21.5	21.5	27.5	34.5	43	43	52	77	95	95
	660/690 V (kW)	(kW)	28.5	28.5	36.5	45.5	57	57	66	100	125	125
Actual values for connections		2 poles in parallel	$I_g \times 1.7$									
		3 poles in parallel	$I_g \times 2.4$									
Percentage of maximum operational current		600 ops./h (%)	100	100	100	100	100	100	100	100	100	100

Auxiliary Contacts

Models			CWBS9...80 (built-in), CAWBS	BFBS (Front mounted blocks)
Compliance with the standards			IEC 60947-5-1	
Rated insulation voltage U _i (pollution degree 3)	IEC/EN 60947-4-1, VDE 0660	(V)	690	
	UL, CSA	(V)	600	
Rated operational voltage U _e	IEC/EN 60947-4-1, VDE 0660	(V)	690	
	UL, CSA	(V)	600	
Conventional thermal current I _{th} (θ ≤55 °C)		(A)	10	
Rated operational current I _e				
AC-15 (IEC/EN 60947-5-1)	220/230 V	(A)	10	
	380/440 V	(A)	4	
	500 V	(A)	2.5	
	660/690 V	(A)	1.5	
DC-13 (IEC/EN 60947-5-1)	24 V	(A)	4	
	48 V	(A)	2	
	110 V	(A)	0.7	
	220 V	(A)	0.3	
	440 V	(A)	0.15	
Making capacity	U _e ≤690 V 50/60 Hz - AC-15	(A)	10 x I _e	
Breaking capacity	U _e ≤400 V 50/60 Hz - AC-15	(A)	1 x I _e	
Short circuit protection with fuse (gL/gG)		(A)	10	
Control circuit reliability		(V / mA)	17 / 5	
Electrical life		(millions of operations)	1	
Mechanical life		(millions of operations)	10	
Non-overlapping time between NO and NC contacts		(ms)	1.5	
Impedance of the contacts		(mΩ)	2.5	

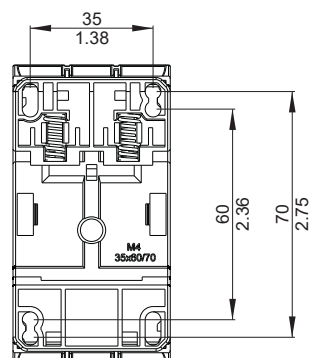
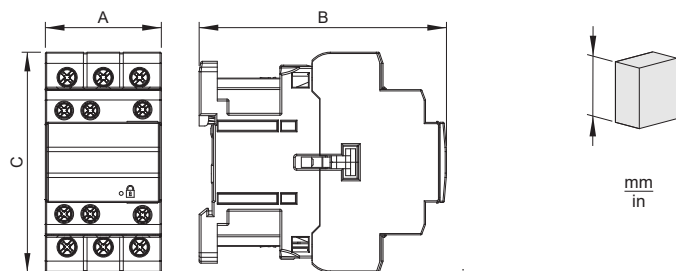
Technical Data

Terminal Capacity and Tightening Torque

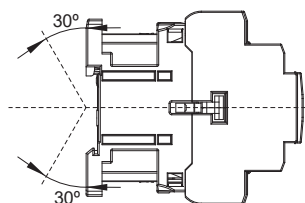
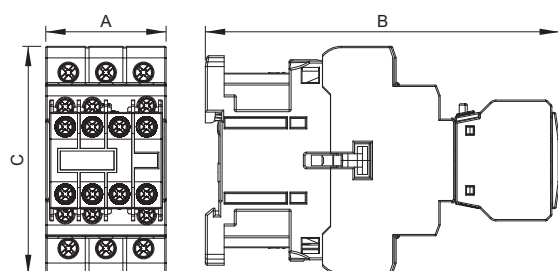
			Conductor cross-section		
Power circuit					
Models			CWBS9...18, CAWBS		CWBS40...80
Mounting system screw type			M4 Slot / Philips		ALLEN 4 mm
Flexible conductor without terminal	(mm²)		1 x 1...6 2 x 1...6		1 x 2.5...30 2 x 2.5...30
Flexible conductor with terminal	(mm²)		1 x 1...6 2 x 1...4		1 x 2.5...30 2 x 2.5...30
Solid wire	(mm²)		1 x 1...6 2 x 1...6		1 x 2.5...30 2 x 2.5...30
Tightening torque	(Nm)		1.7		5.0
Control and auxiliary circuit					
Models			CWBS9...38, CAWBS		CWBS40...80
Mounting system screw type			M3.5 Slot / Philips		Phillips number 2
Flexible conductor without terminal	(mm²)		1 x 1...4 2 x 1...4		1 x 1...4 2 x 1...4
Flexible conductor with terminal	(mm²)		1 x 1...4 2 x 1...2.5		1 x 1...4 2 x 1...2.5
Solid wire	(mm²)		1 x 1...4 2 x 1...4		1 x 1...4 2 x 1...4
Tightening torque	(Nm)		1.0		1.0
Auxiliary contact blocks					
Models			BFBS (front)		
Mounting system screw type			M3.5 Slot / Philips		
Conductor cross-section					
Flexible conductor without terminal	(mm²)		1 x 1...2.5 2 x 1...2.5		
Flexible conductor with terminal	(mm²)		1 x 1...2.5 2 x 1...2.5		
Solid wire	(mm²)		1 x 1...2.5 2 x 1...2.5		
Tightening torque	(Nm)		1.0		



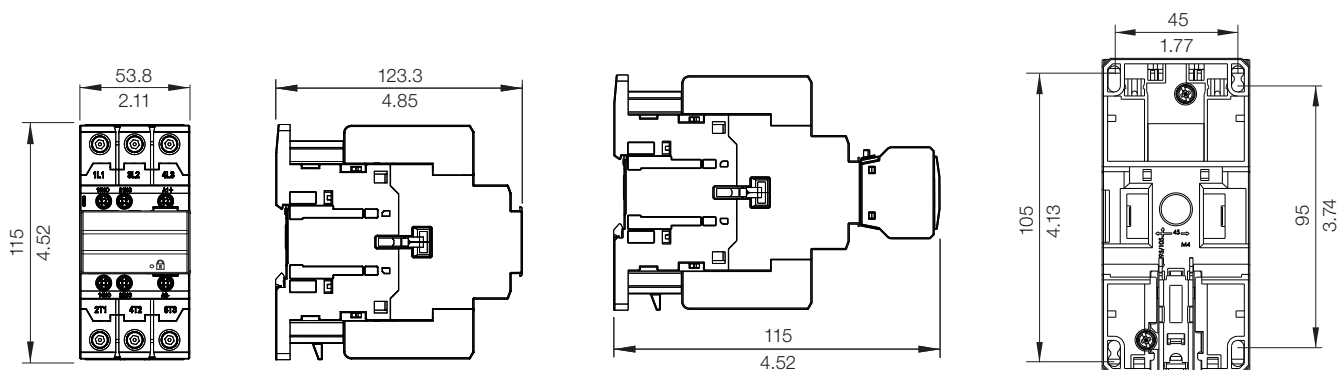
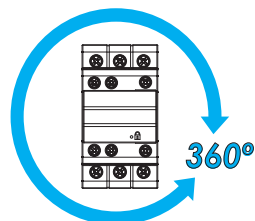
Dimensions (mm)



	CWBS9-18 CA	CWBS9-18 CC	CWBS25-38 CA + capa	CWBS25-38 CC + capa
mm in				
A	45 1,772			
B	89.5 3,524	98.3 3,870	95.6 3,764	104.8 4,126
C	78.4 3,087		85 3,346	



	(CWBS9-18 CA + BFBS)	(CWBS9-18 CC + BFBS)	CWBS25-38 CA + BFBS	CWBS25-38 CC + BFBS
mm in				
A	45 1,772			
B	125.8 4,953	134.6 5,299	131.9 5,193	141.1 5,555
C	78.4 3,087		85 3,346	





Two-Hand Control and Accessories

CBM - Two-Hand Control

It is a safety device to protect operators in the operation of machines that present hazards in the production process.

It is intended to keep the operator with the hands on the two-hand control during the process, reducing the risk of accidents. It complies with the NR12 Brazilian standard, provided that used with other products of the Safety Line, such as safety light screens.

Main Characteristics

- Ergonomic design - lower risk of injuries
- IP20 protection rating
- High reliability
- It can be used with the other products of the Safety line.

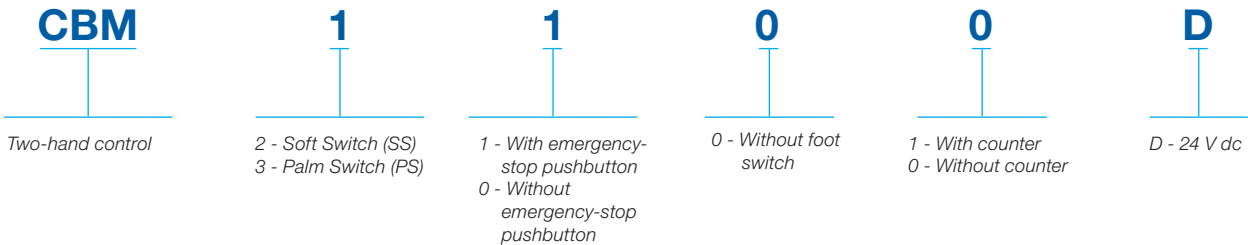


(for the internally mounted CS-D / CS-D201 relay)

Technical Data

Power supply	24 V dc
Consumption	<10 VA
Connection type	Connector
Lead free	According to RoHS directive
Output	2 NO contacts and 2 NC emergency contacts
Operating modes	Pushbutton, pulse foot switch, continuous foot switch
Service life of the contacts	10 ⁷ operations
Capacity of the contacts	3 A / 250 V - 90 W
Response time	10ms
Operating temperature	-5 °C to 50 °C
Protection rating	IP20
Standards	IEC 61000-4-2: 2001
Certification	TÜV Rheinland

Coding



Specifications

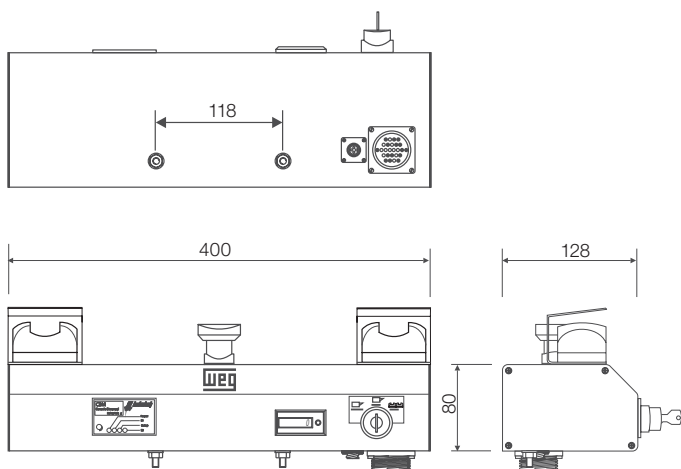
Power supply	Electronic pushbutton type	Emergency-stop pushbutton	Pneumatic pedal	Counter	Reference
24 V dc	SS - Soft Switch ¹⁾	YES	YES	YES	CBM-2111D
		YES	YES	NO	CBM-2110D
		YES	NO	YES	CBM-2101D
		YES	NO	NO	CBM-2100D
		NO	NO	NO	CBM-2000D
	PS - Palm Switch ¹⁾	YES	YES	YES	CBM-3111D
		YES	NO	YES	CBM-3101D
		YES	NO	NO	CBM-3100D

Note: 1) Connector, cable and simultaneity relay (CS-D) included.

Pedestal

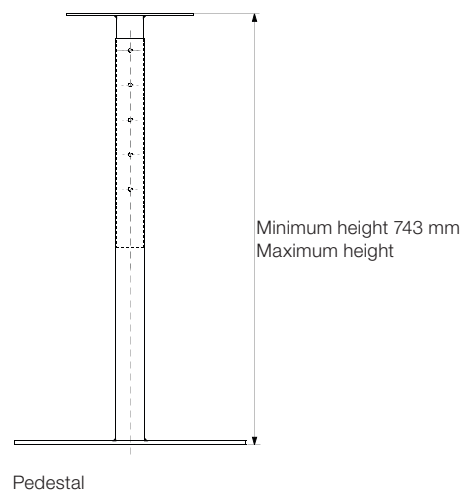
REG Pedestal	Adjustable pedestal with height adjustment from 743 to 983 mm
--------------	---

Dimensions



CBM - Two-Hand Control

Note: dimensions in mm.
Connector + cable included.



[illegible]



Global presence is essential, as much as understanding your needs.

Global Presence

With more than 30.000 employees worldwide, WEG is one of the largest electric motors, electronic equipments and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees our **Safety Solutions** are the right choice for your application and business, assuring safety, efficiency and reliability.



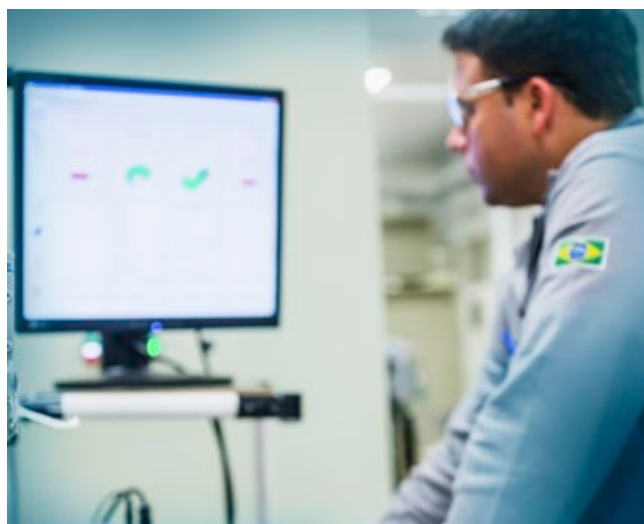
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