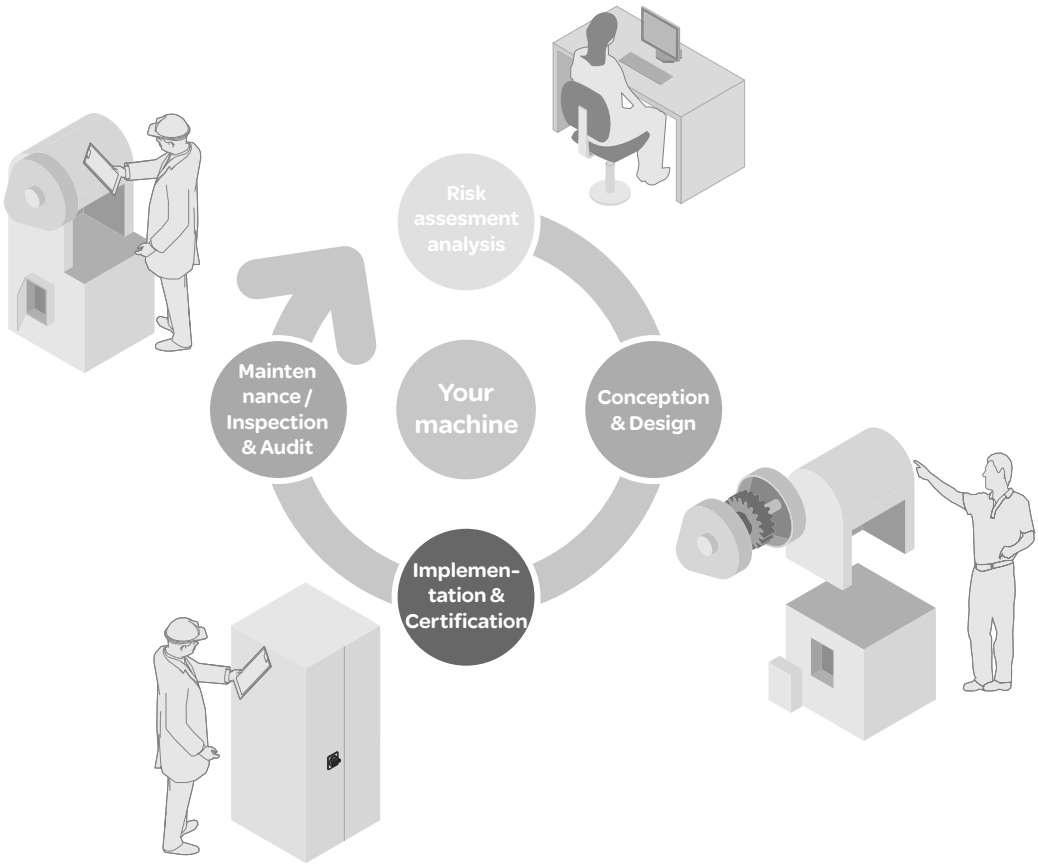
Preventa

The Preventa range enhances safety throughout a machine's entire life cycle from design, manufacture, installation, adjustment, operation and servicing right through to decommissioning.

8

In addition to moral obligation and economic consequences, the law requires that machinery is safe in the interests of accident prevention. Preventa offers an extensive range of safety products, compliant with international standards, designed to provide the most comprehensive protection for personnel and equipment.

Preventa, the safety attitude around your machine life cycle



8 Machine safety

WARNING
This document is a selection of the top selling products.
For detection products please refer to The Essential Guide of Detection

Safety standards ..... 8/2 to 8/7

Automation ..... 8/8 to 8/10

Safety controllers and modules

AS-Interface Safety at work ..... 8/11 to 8/12

Safety monitors and interfaces

Operator dialogue ..... 8/13 to 8/16

Emergency stops
Foot switches
Control units

Motor control ..... 8/17 to 8/19

Switch disconnectors
Motor starters

> New machines - the Machinery Directive

The Machinery Directive 98/37/EC is to compel manufacturers to guarantee a minimum safety level for machinery and equipment sold within the European Union.

From 29 December 2009, the new European Machinery Directive 2006/42/EC is effective. Machines have to comply with the Essential Health and Safety Requirements (EHSRs) listed in Annex I of the Directive, thus setting a common minimum level of protection across the EEA (European Economic Area).

Machine manufacturers, or their authorised representatives within the EU, must ensure that the machine is compliant, the Technical File can be made available to the enforcing authorities on request, the CE marking is affixed, and a Declaration of Conformity has been signed, before the machine may be placed on the market within the EU.

Why safety?



Human life is the most important value in a company!

Schneider Electric protect people and improve your productivity.

Functional safety



«Helping you to reach easily your safety machinery and standard level required»

Thanks to directives and standards as guidelines.

Certified safety chain solutions, designed for you by one of the leading automation companies!

The concept:

Providing certified safety functions, on the basis of an approved combination of products and simplified schematic, to save tie, reduce costs and obtain certification in accordance with the new European Machinery Directive.

Its are made by:

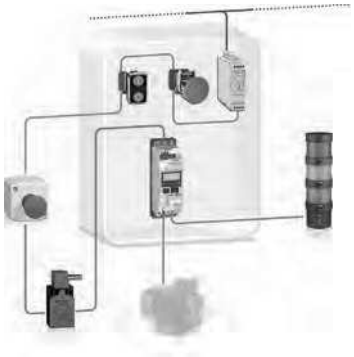
> Layout of solution indicating performance level (PL) and safety integrity level (SIL)
> Bill of materials and the system description file
> Example description of the PL and SIL calculation for the safety function
> Safety conceptual principle diagram
> Certification of all the product combination from a notify body

TÜV NORD CERT GmbH Safety Approved

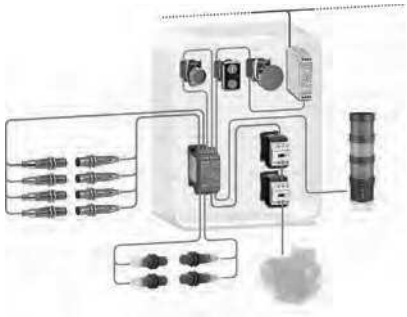
Approved

> Safety chain solutions to achieve the safety level required

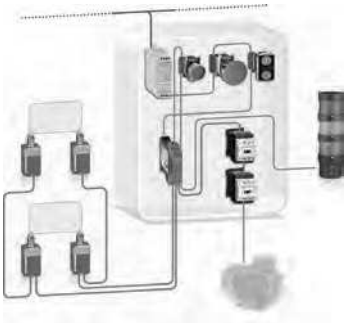
Motor starter (PL c, SIL 1)



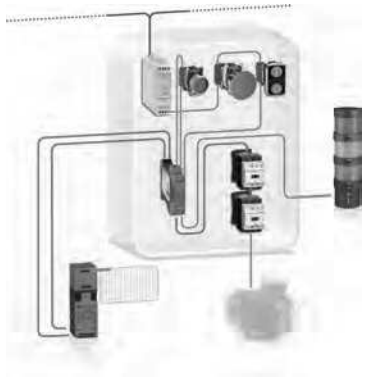
Light curtain (PL c, SIL 1)



Safe stop 0 (PL d, SIL 2)



Safe stop 0 (PL e, SIL 3) High performance

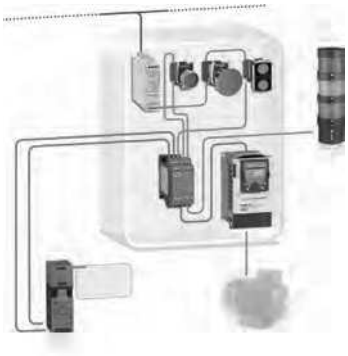


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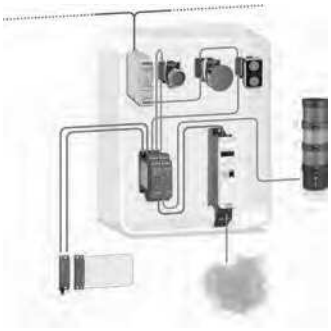
Be confident by using certified safety chain solutions provided by an automation leader

> Reduce design time by our examples of calculation of the safety level for each safety function

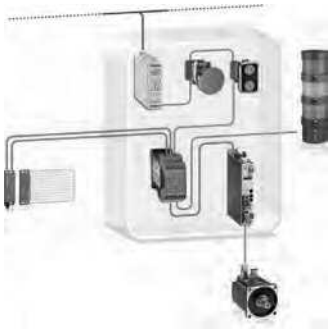
Safe stop 1 (PL d, SIL 2)
Variable speed drive



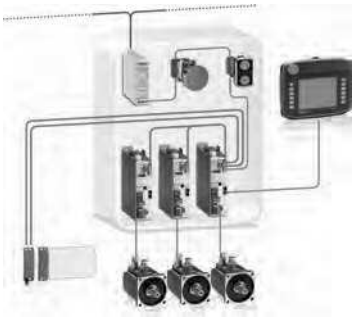
Safe stop 1 (PL e, SIL 3)
High performance



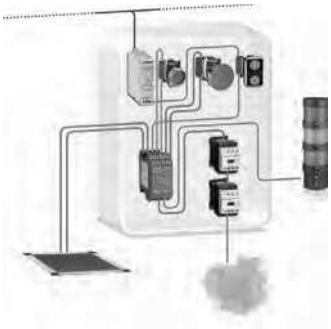
Safe stop 1 (PL e, SIL 3)
Servo drive



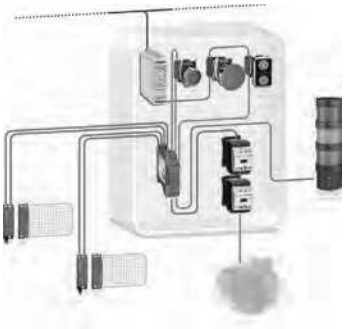
Safe stop 2 (PL e, SIL 3)
Servo-enhanced safety



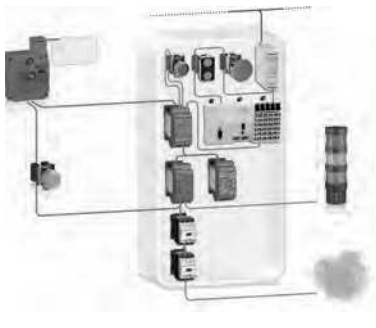
Safety Mat (PL d, SIL 2)



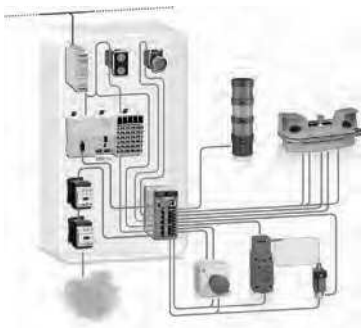
Magnetic switches (PL e, SIL 3)



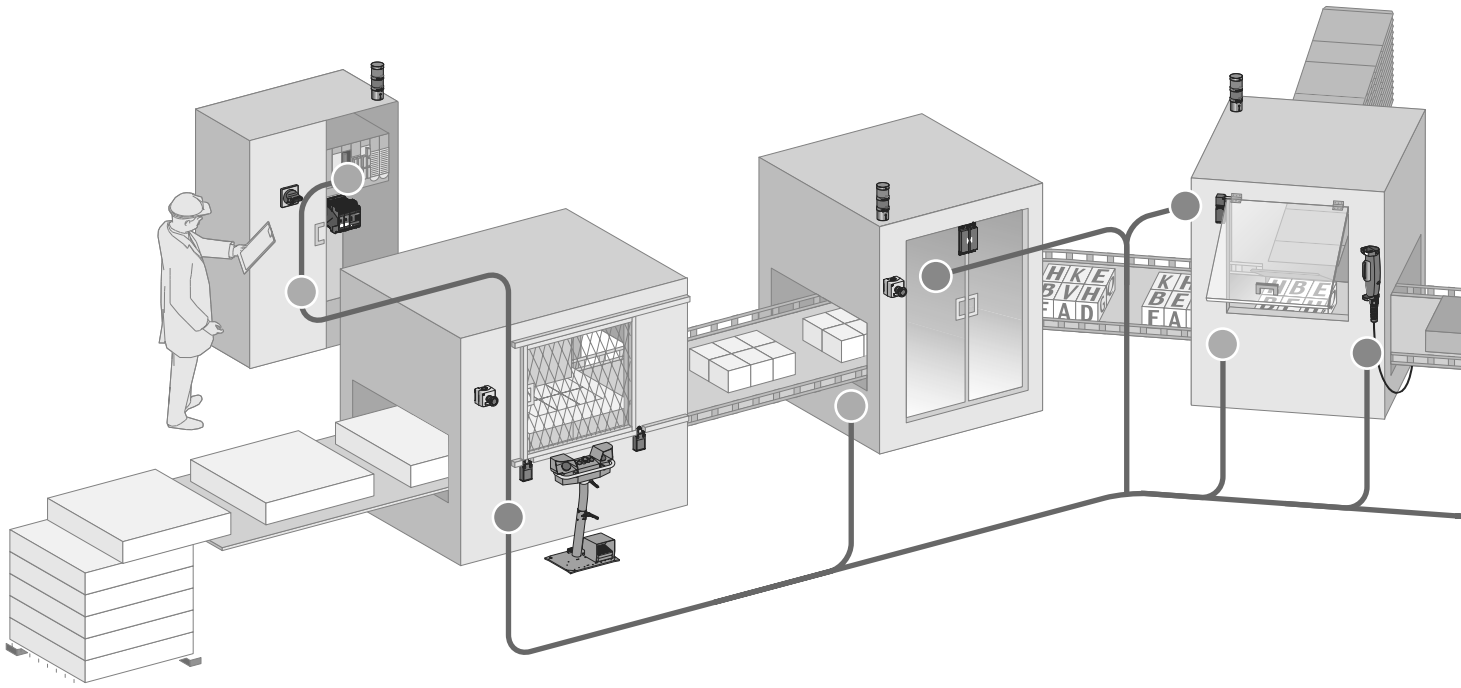
Zero speed detection (PL e, SIL 3)



Multifunction (PL e, SIL 3)



Save cost and time with our Preventa offer



Safe signal transmission



Protective guard devices

Acquire the information*:

> Protective guard devices used as part of safeguarding systems to control the access under specific conditions of reduced risk.

> Light curtains and safety mats to detect approach to dangerous and limited areas.

> Generic protective measures - Emergency stop.

Monitor and processing:

> Safety relays modules with a specific safety function to monitor input signals from safety devices and to interface with contactors and drives by switch off the output safety contacts.

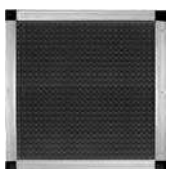
> Safety Controller: configurable safety device capable of centralized a generic range of safety monitoring functions.

> Safety PLCs: programmable electronic systems to carry out safety or non-safety related tasks for machinery and equipment.

> "AS-Interface safety at work": safety field bus network certified to work with safety devices to provide safety functions.



Light curtains



Safety mats



Enabling switches

*For detection products please refer to The Essential Guide of Detection



Emergency stop



Tripwire switch



Safety relays



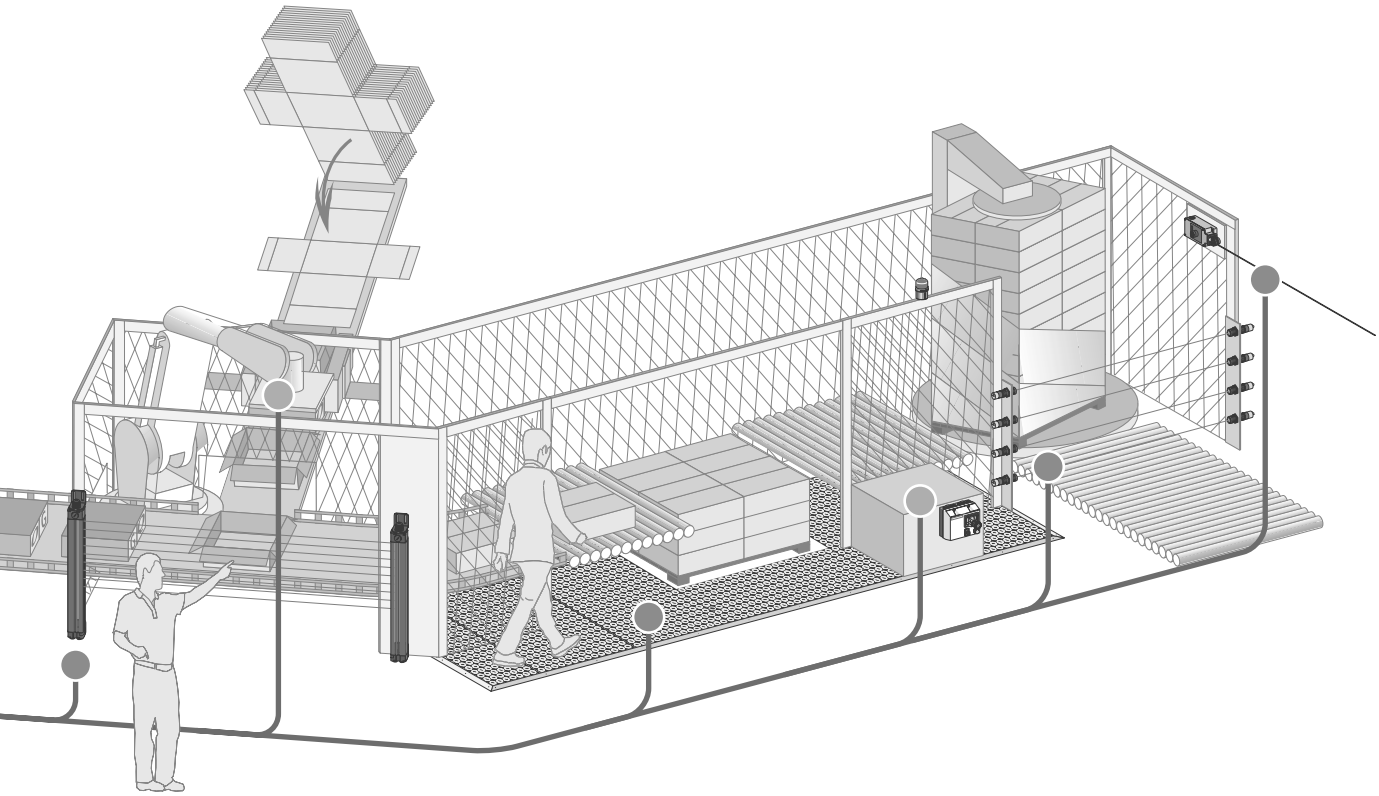
Safety Controller



Safety PLCs



AS-Interface safety at work



Stop the machine:

> Contactors to cut-off the electrical power supply to the motors with mechanically linked mirror auxiliary contacts integrated for the feedback loop diagnosis of safety modules.

> Variable speed drives and servo drives controlled stopping of the dangerous movement by safety functions integrated.

> Rotary switch disconnectors: for equipment isolation from the electrical supply andfor emergency stop by direct interruption of the power supply.



Variable Speed Drives



Servodrives



Contactors



Rotary switch disconnectors

1 Complete & upgraded safety offer:

Improve safety level required

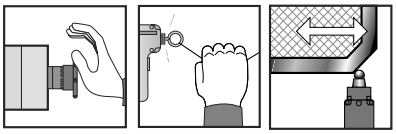
Up to 50% of space optimization

Increase the compactness by reducing size.

Save up to 30% on installation time

Reduce installation time by easy and quick wiring.

Safety controllers for monitoring
emergency stops and limit switches



Universal

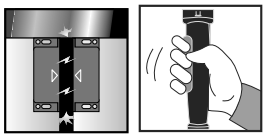


Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3			
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2 x 3N/O per function
	Additional	–			3 solid-state
Display (number of LEDs)		30			12
Width of housing		74 mm			45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1) (2)	**XPSMC32ZC** (1) (2)	**XPSMC32ZP** (1) (2)	**XPSMP11123P** (3)

coded magnetic switches enabling switch



Universal



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3			
For monitoring		magnetic switches and enabling switch			
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2 x 3N/O per function
	Additional	–			3 solid-state
Display (number of LEDs)		30			12
Width of housing		74 mm			45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1)(2)	**XPSMC32ZC** (1)(2)	**XPSMC32ZP** (1)(2)	**XPSMP11123P** (3)

safety mats and edging



Universal



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2			
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2 x 3N/O per function
	Additional	–			3 solid-state
Display (number of LEDs)		30			12
Width of housing		74 mm			45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1)(2)	**XPSMC32ZC** (1)(2)	**XPSMC32ZP** (1)(2)	**XPSMP11123P** (3)

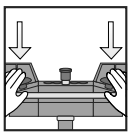
(1) Version with 32 inputs. For version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(3) For fixed connector version, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

Other versions: **please consult our Customer Care Centre.**

Safety controllers for monitoring
two-hand control



Universal



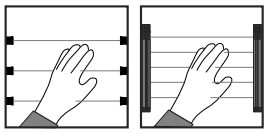


Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	–		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1)(2)	**XPSMC32ZC** (1)(2)	**XPSMC32ZP** (1)(2)

light curtains



Universal







Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3				2 light curtains monitoring max.
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2x3N/O per function	6 PNP solid-state
	Additional	–			3 solid-state	1 PNP + 1 NPN
Display (number of LEDs)		30			12	14 + double display units
Width of housing		74 mm			45 mm	100 mm
Integral Muting function		Yes			No	Yes
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

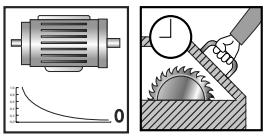
Supply voltage	24 VDC	**XPSMC32Z**(1)(2)	**XPSMC32ZC**(1)(2)	**XPSMC32ZP**(1)(2)	**XPSMP11123P** (3)	**XPSLCM1150** (4)

(1) Version with 32 inputs, for version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(3) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

(4) Removable terminal blocks

zero speed, time delay



Universal





Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
For monitoring		Motor zero speed condition		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	–		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

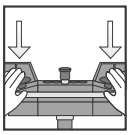
Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (5) (2)	**XPSMC32ZC** (5) (2)	**XPSMC32ZP** (5) (2)

(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(5) Plug-in connector version only.

Safety modules for monitoring
two-hand control





New





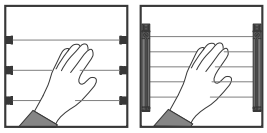
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 1 (type IIIA to EN 574/ISO 13851)	PL e / Cat. 4, SILCL 3 (type IIIC to EN 574/ISO 13851)	
Number of circuits	Safety	1N/O	2N/O	2N/O
	Additional	1N/C	1N/C	2 solid-state
Display (number of LEDs)		2	3	3
Width of housing		22.5 mm	22.5 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	–	–	**XPSBF1132P** (1)
	24 VAC/DC	**XPSBA5120**	**XPSBCE3110P** (2)	–

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSBF1132P becomes XPSBF1132).
(2) For version with cage clamps removable terminal block, change the letter P for C from the end of the reference (example: XPSBCE3110P becomes XPSBCE3110C)

light curtains











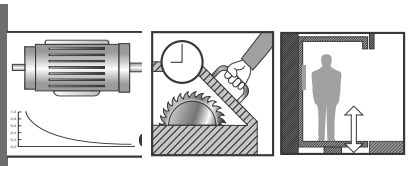
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 2, SILCL 1	PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2N/O	3N/O	3N/O	7N/O
	Additional	4 solid-state	–	1N/C + 4 solid-state	1N/C + 4 solid-state
Display (number of LEDs)		4	3	4	4
Width of housing		45 mm	22.5 mm	45 mm	90 mm
Integral Muting function		Yes	No	No	No

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	**XPSCM1144P** (1)	–	–	–
	24 VAC/DC	–	**XPSAFL5130P** (1)	**XPSAK311144P** (1)	**XPSAR311144P** (1)

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSCM1144P becomes XPSCM1144).

zero speed, time delay and lifts









New



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2			PL e / Cat. 4, SILCL 3
For monitoring		Motor zero speed condition	Safety time delay		Lifts
Number of circuits	Safety	1N/O + 1N/C	1N/O time delay	1N/O pulse	2N/O
	Additional	2 solid-state	2N/C + 2 solid-state	2N/C + 2 solid-state	2 solid-state
Display (number of LEDs)		4	4	4	4
Width of housing		45 mm	45 mm	45 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	**XPSVNE1142P** (1)	–	–	–
	24 VAC/DC	–	**XPSTSA5142P** (2)	**XPSTSW5142P** (2)	**XPSEDA5142**

(1) Motor frequency ≤ 60 Hz.. For frequencies ≥ 60 Hz, please refer to the “Safety solution” catalogue.
(2) Removable terminal block version only.

Safety monitors
Monitors



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3	
Number of circuits	Safety	2N/O	2 x 2N/O
	Auxiliary	1 solid-state	2 solid-state
Display (number of LEDs)		5	8
Width of housing		45 mm	45 mm
AS-Interface profile		S.7.F	S.7.F
Master module compatibility		V1 / V2.1	V1 / V2.1
References of monitor with	**enhanced functions**	**ASISAFEMON1B**	**ASISAFEMON2B**
	standard functions	**ASISAFEMON1**	**ASISAFEMON2**

Configuration software, adjustment terminal and AS-Interface analyser







Type		Configuration software (1)	Adjustment terminal (2)	AS-Interface Analyser
Multilingual		**EN / FR / DE / ES / IT / PT**	**–**	■ Analysis and diagnostics of AS-Interface line and Safety at Work ■ Complements the diagnostic functions of the local AS-Interface master ■ Maintenance or validation of AS-Interface lines ■ Print-out of AS-Interface line tests 92 x 28 x 139 mm
For use with		ASISAFEMON1/2, ASISAFEMON1B/2B	–	
Media		CD-ROM PC	–	
Environment		Windows	–	
Degree of protection		–	IP 40	
Supply		–	4 x LR6 batteries	
Dimensions W x D x H		–	70 x 50 x 170 mm	
References	Complete version	**ASISWIN2**	**ASITERV2**	**ASISA01**
	Update version (3)	**SSVASISWINUP**	**–**	**–**

(1) CD-ROM with hardware and software user guides.

(2) For addressing safety interfaces, use the infrared adaptor ASITERIR1 or the standard adaptor ASISAD1.

(3) To be ordered only if a previous version of ASISWIN have been already installed.

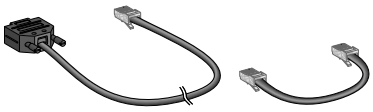
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Accessories









Type	Adaptor for the adressing of safety interfaces	Infrared adaptor for adjustment terminal	Tap-off for AS-Interface cable	Cable for monitor parametering, RS 232	Cable for monitor to monitor transfer
Degree of protection	–	IP 67	IP 67	IP 20	IP 20
Cable length	–	1 m	2 m	2 m	0.2 m
References	**ASISAD1**	**ASITERIR1**	**TCSATN01N2**	**ASISCPC**	**ASISCM**

Safety interfaces
For Ø 22 Emergency stop



Interface type	For mushroom head pushbuttons				Control stations	
	Metal	(1)	Plastic	(1)	Plastic	
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 65	IP 65
Dimensions W x D x H (mm)	40 x 90 x 68	40 x 80 x 40	40 x 90 x 64	40 x 90 x 40	66 x 95 x 78	66 x 95 x 78
AS-Interface profile	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA	45 mA	45 mA	45 mA
Infrared addressing	Yes	No	Yes	No	No	No
Connection on AS-Interface	IDC (2)	Connector	IDC (2)	Connector	M12 connector	M12 connector
Reference with N/C + N/C contact (head not included)	**ASISSLB4**	**ASISSLE4**	**ASISSLB5**	**ASISSLE5**	**ASISEA1C**	**ASISEK1C**
Reference of head (Ø40 latching mushroom head, turn to release)	**ZB4BS844** (3)	**ZB4BS844** (3)	**ZB4AS844** (3)	**ZB5AS844** (3)	**Integrated** (4)	**Integrated** (5)

(1) For installation in enclosures.

(2) IDC: Insulation Displacement Connector.

(3) Head to be ordered separately. For other heads, please refer to www.schneider-electric.com.

(4) Turn to release latching mushroom head.

(5) Key release (n° 455) latching mushroom head.

For other safety products with M12 connector outputs or ISO M16/20

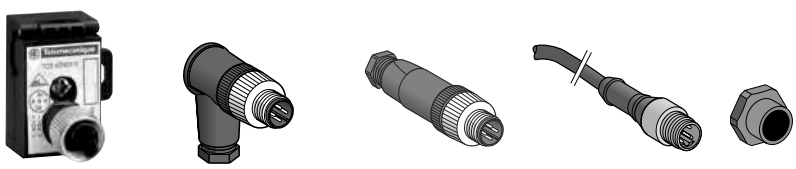


Type of entry	2 x M12 entries (6)	1 x M12 entry	1 x ISO M16 entry (7)
Degree of protection	IP 67	IP 67	IP 67
Dimensions W x D x H	40 x 40 x 58 mm	40 x 40 x 58 mm	40 x 40 x 57.5 mm
AS-Interface profile	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA
Infrared addressing	Yes	Yes	Yes
Connection on AS-Interface	IDC (1)	IDC (1)	IDC (1)
References	**ASISSLC2**	**ASISSLC1**	**ASISSLLS**

(6) For connection using 2 pre-wired connectors, or 1 pre-wired connector + 1 connector.
(7) For 1 x ISO M20 entry, use adaptor shown below.

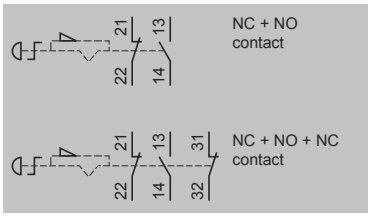
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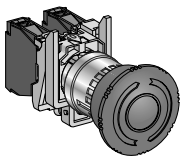
Accessories

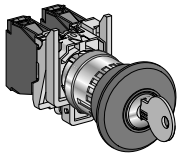


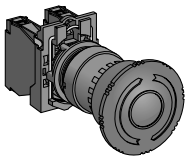
Type	Tap-off for AS-Interface cable	Connectors		Pre-wired connector	Adaptor (sold in lots of 5)
Description	M12 female, threaded	elbowed	straight	straight	ISO M16/M20
Degree of protection	IP 67	IP 67	IP 67	IP 67	IP 67
Length of cable	–	–	–	2 m	–
References	**TCSATN011F**	**XZCC12MCM40B**	**XZCC12MDM40B**	**XZCP1541L2**	**DE9RI2016**

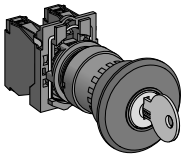
Emergency stops
Ø 22 trigger action latching pushbuttons




Turn to release


Key release
(key n° 455)

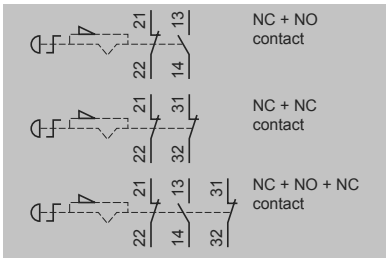

Turn to release

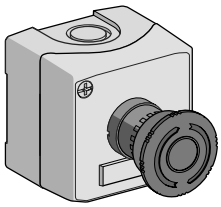

Key release
(key n° 455)

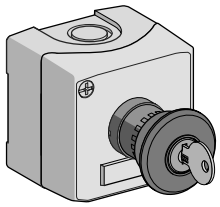
Pushbuttons		Metal		Plastic	
Mechanical life (millions of operating cycles)		0.3		0.3	
Shock / vibration resistance		10 gn / 5 gn		10 gn / 5 gn	
Degree of protection		IP 65		IP 65	
Rated operational characteristics		AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)			
Dimensions Ø x Depth		Ø 40 x 82 mm	Ø 40 x 104 mm	Ø 40 x 81.5 mm	Ø 40 x 103 mm
Contact	NC + NO	**XB4BS8445**	**XB4BS9445**	**XB5AS8445**	**XB5AS9445**
	2 NC + 1 NO	**XB4BS84441**	**ZB4BS944+ZB4BZ141**	**ZB5AS844 + ZB5AZ141**	**ZB5AS944+ZB5AZ141**

ISO entry (to EN 50262)

Ø 22 trigger action latching pushbutton stations




Turn to release


Key release (key n° 455)

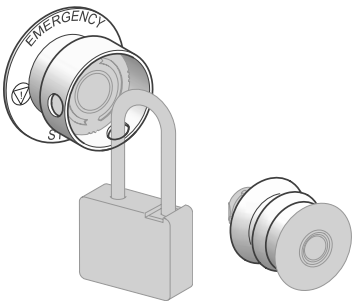
Enclosure		Plastic 2 x ISO M20 cable entries or n° 13 (Pg 13.5) cable gland	
Mechanical life (millions of operating cycles)		0.1	0.1
Shock / vibration resistance		10 gn / 5 gn	10 gn / 5 gn
Degree of protection		IP 65	IP 65
Rated operational characteristics		AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H		68 x 91 x 68 mm	68 x 113 x 68 mm
Contact	NC + NO	**XALK178EH7**	**XALK188EH7**
	NC + NC	**XALK178FH7**	
	2 NC + 1 NO	**–**	

Accessories



With legend holder





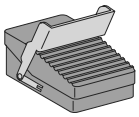
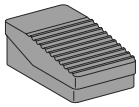
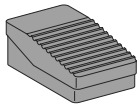
Type			Legend		Padlocking kit	Bellows seals	
Colour			Red with white lettering	Yellow with black lettering	Yellow	Red Silicone	Black EPDM
Dimensions			30 x 40 mm (1)	Ø 60 mm			
References	**Marking:**	“Arrêt d'urgence”	**ZBY2130**	**ZBY9130**	**–**	**–**	**–**
		“Emergency stop”	**ZBY2330**	**ZBY9330**	**–**	**–**	**–**
		“Not Halt”	**ZBY2230**	**ZBY9230**	**–**	**–**	**–**
			–	**–**	**ZBZ3605**	**ZBZ48**	**ZBZ28**

(1) circular appearance

Foot switches - metal

Single pedal switches

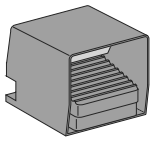
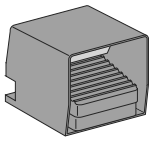
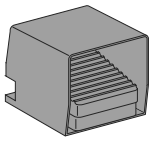
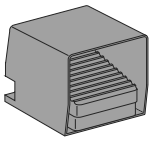
ISO entry (to EN 50262)

Type CSA certified for references ending with H2 only			Foot switches without protective cover 2 cable entries for n° 16 (Pg 16) cable gland (1)		
Trigger mechanism			With (positive operating action reqd.)	Without	
Colour			Orange	Blue	Orange
Mechanical life (millions of operating cycles)			15		
Degree of protection			IP 66		
Shock resistance			100 joules		
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)		
Dimensions W x D x H			104 x 172 x 59 mm		
Contact operation	**1 step**	1 NC + NO	**XPER810**	**XPEM110(2)**	**XPER110**
		2 NC + NO	**XPER811**	**XPEM111(2)**	**XPER111**
	2 step	2 NC + NO	**XPER911**	**XPEM211(2)**	**XPER211**
	Analogue output	2 NC + NO	**XPER929**	**–**	**XPER229**

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620H2 (sold in lots of 5). (2) For 1/2" NPT adaptor add H2 to the reference.

ISO entry (to EN 50262)

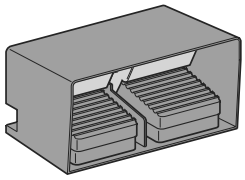
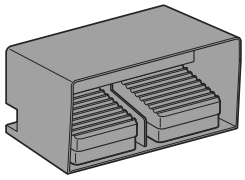





Type CSA certified for references ending with H2 only			Foot switches without protective cover 2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Blue	Orange	Blue	Orange
Mechanical life (millions of operating cycles)			15			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 186 x 152 mm			
Contact operation	**1 step**	1 NC + NO	**XPEM510(2)**	**XPER510**	**XPEM310**	**XPER310**
		2 NC + NO	**XPEM511(2)**	**XPER511**	**XPEM311**	**XPER311**
	1 step latching	1 NC + NO	**–**	**–**	**XPEM410(2)**	**XPER410**
	2 step	2 NC + NO	**XPEM711**	**XPER711**	**XPEM611**	**XPER611**
	Analogue output	2 NC + NO	**XPEM529**	**XPER529**	**XPEM329**	**–**

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620H2 (sold in lots of 5). (2) For 1/2" NPT adaptor add H2 to the reference.

Double pedal switches

ISO entry (to EN 50262)

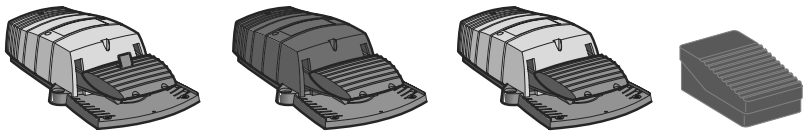



Type CSA certified for references ending with H2 only,			Foot switches without protective cover 2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Blue	Orange	Blue	Orange
Mechanical life (millions of operating cycles)			15			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			295 x 190 x 155 mm			
Contact operation	**1 step**	2 x 1 NC + NO	**XPEM5100D**	**XPER510D**	**XPEM3100D**	**XPER3100D**
		2 x 2 NC + NO	**XPEM5110D**	**XPER5110D**	**XPEM3110D**	**XPER3110D**

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

Foot switches - plastic
Single pedal switches

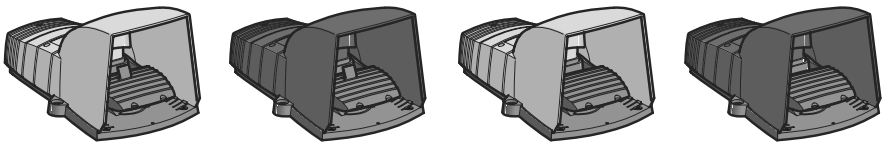
ISO entry (to EN 50262)



Type			Foot switches without protective cover			
			2 cable entries for ISO M20 cable gland			1 entry (1)
Trigger mechanism			With (positive operating action reqd.)	Without		Without
Colour			Grey+	Blue	Grey	Black
Mechanical life (millions of operating cycles)			10			2
Degree of protection			IP 66			IP 43
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 280 x 70 mm			94 x 161 x 54 mm
Contact operation	**1 step**	1 NC + NO	**XPEG810**	**XPEB110**	**XPEG110**	**XPEA110**
		2 NC + NO	**–**	**XPEB111**	**XPEG111**	**XPEA111**
	2 step	2 NC + NO	**XPEG911**	**XPEB211**	**XPEG211**	–

(1) Cable entry for ISO M16 or n° 9 (Pg 9) cable gland and for ISO M20 or n° 13 (Pg 13.5) cable gland.

ISO entry (to EN 50262)

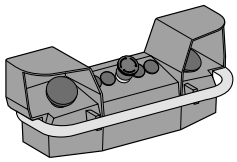


Type			Foot switches with protective cover			
			2 cable entries for ISO M20 cable gland			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Grey	Blue	Grey	Blue
Mechanical life (millions of operating cycles)			10			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			180 x 280 x 162 mm			
Contact operation	**1 step**	1 NC + NO	**XPEG510**	**XPEB510**	**XPEG310**	**XPEB310**
		2 NC + NO	**XPEG511**	**XPEB511**	**XPEG311**	**XPEB311**
	2 step	2 NC + NO	**XPEG711**	**XPEB711**	**XPEG611**	**XPEB611**

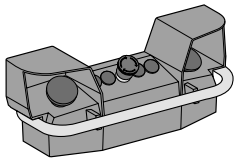
Control units
Two-hand control

ISO entry (to EN 50262)

Not CSA



2 control pushbuttons and 1 mushroom head Emergency stop or Lock out pushbutton



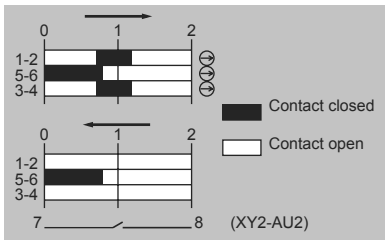
2 control pushbuttons and 1 mushroom head Emergency stop or Lock out pushbutton, with pre-wired terminal block

Type	Two-hand control stations 2 cable entries for ISO M20 or n° 13 (Pg 13.5) cable gland, 1 cable entry for n° 21 (Pg 21) cable gland (2)	
Mechanical life (millions of operating cycles)	1	1
Degree of protection	IP 65	IP 65
Rated operational characteristics	AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	455 x 170 x 188.5 mm	
Red emergency stop (NC + NC slow break)	**XY2SB71** (1)	**XY2SB72** (1)
Yellow lock out (NC + NO break before make)	**XY2SB75**	**XY2SB76**

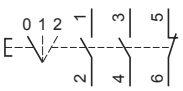
(1) To order a two-hand control station with pedestal XY2SB90, add 4 to the end of the reference (example: XY2SB71 becomes XY2SB714).
(2) For entry for ISO M25 cable gland, also order adaptor DE9RA2125 + fixing nut DE9EC21 (sold in lots of 5).

Enabling switch

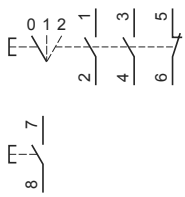
Contact states







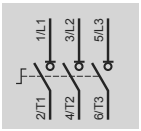




Type	Plastic grip Entry for Ø 7 to 13 mm cable	
Number of contacts	3	3
Type of contacts	2 NO + 1 NC	2 NO + 1 NC 1 NO auxiliary
Description	3 positions	3 positions with button for NO contact (auxiliary)
Shock / vibration resistance	10 gn / 6 gn	
Degree of protection	IP 66	IP 65
Rated operational characteristics	AC 15, C300 / DC 13, R300 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	46 x 58 x 261 mm	46 x 58 x 269 mm
References	**XY2AU1**	**XY2AU2**

For fixing accessories, please refer to www.schneider-electric.com.

Protection Components 12...175A
Motor disconnect switches





Varlo Switch Kits

Type								Door Mount				Rear Mount with Extension Shaft		Switch & Handle DIN Rail mount
Color								red/yellow	red/yellow	black/grey	black/grey	red/yellow	red/yellow	red/yellow
Front plate dimensions (mm)								60 x 60	90 x 90	60 x 60	90 x 90	90 x 90	60 x 60	–
Mounting								1 Hole	4 Hole	1 Hole	4 Hole	4 Hole	1 Hole	DIN Rail
Degree of protection								IP20	IP20	IP20	IP20	IP20	IP20	–
Amps		1 Phase, HP rating		3 Phase, HP rating										
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V							
10	12	1	2	2	2	5	5	VCD02	VCF02	VBD02	VBF02	VCCF02	VCCD02	–
16	20	1.5	3	3	3	7.5	7.5	VCD01	VCF01	VBD01	VBF01	VCCF01	VCCD01	–
20	25	2	3	5	5	10	10	VCD0	VCF0	VBD0	VBF0	VCCF0	VCCD0	VVE0
20	32	2	3	5	5	10	10	VCD1	VCF1	VBD1	VBF1	VCCF1	VCCD1	VVE1
25	40	2	3	5	5	10	15	VCD2	VCF2	VBD2	VBF2	VCCF2	VCCD2	VVE2
45	63	5	7.5	7.5	10	20	30		VCF3		VBF3	VCCF3		VVE3
63	80	7.5	10	10	15	30	40		VCF4		VBF4	VCCF4		VVE4
100	125	15	20	20	25	50	50		VCF5		VBF5	VCCF5		
110	175	15	25	25	30	50	60		VCF6		VBF6	VCCF6		

Enclosed Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Non Metallic	Metallic		
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V	Type 1/ 12	Type 1	Type 12	Type 4 / 4X (indoor use only)
20	32	2	3	5	5	10	10	VC1GU	9421V1G30	9421V1A30	9421V1W30
25	40	2	3	5	5	10	15	VC2GU	9421V2G30	9421V2A30	9421V2W30
45	63	5	7.5	7.5	10	20	30	VC3GU			
63	80	7.5	10	10	15	30	40	VC4GU			
100	125	15	20	20	25	50	50	VC5GU			
110	175	15	25	25	30	50	60	VC6GU			

Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Shaft Size	3 Pole	Add-On Power Pole
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V			
10	12	1	2	2	2	5	5	6mm	V02	VZ02
16	20	1.5	3	3	3	7.5	7.5	6mm	V01	VZ01
20	25	2	3	5	5	10	10	6mm	V0	VZ0
20	32	2	3	5	5	10	10	6mm	V1	VZ1
25	40	2	3	5	5	10	15	6mm	V2	VZ2
45	63	5	7.5	7.5	10	20	30	6mm	V3	VZ3
63	80	7.5	10	10	15	30	40	6mm	V4	VZ4
100	125	15	20	20	25	50	50	6mm	V5	–
110	175	15	25	25	30	50	60	6mm	V6	–

Varlo Switch Accessories

Auxilliary Contacts (10A)

1 N.O. / 1 N.C. (early make, late break0	VZ7
2 N.O.	VZ20

Handle

Mounting		Single Hole				Four Hole					
Color		red yellow		black/grey		red/yellow			black/grey		
Front Plate Dimensions (mm)		45x45 mm	60x60 mm	45x45mm	60x60mm	45x45mm	60x60mm	90x90mm	45x45mm	60x60mm	90x90mm
Padlockable for base switch	V02 to V2	KCC1YZ	KCD1PZ		KAD1PZ	KCE1YZ	KCF1PZ			KAF1PZ	
	V3 to V4						KCF2PZ			KAF2PZ	
	V5 to V6							KCF3PZ			KAF3PZ
Non-Padlockable for base switch	V02 to V2	KCC1LZ	KDD1PZ	KAC1BZ	KBD1PZ	KCE1LZ	KDF1PZ		KAE1BZ	KBF1PZ	
	V3 to V4						KDF2PZ			KBF2PZ	
	V5 to V6							KDF3PZ			KBF3PZ

Shaft Kits & Plates

Base Switch	Maximum Panel Depth	Shaft Kit	Door Interlock Plate	Door Mounting Plate
V02 to V2	330mm	VZ17	KZ32	KZ83
	429mm	VZ30	KZ32	KZ83
V03 to V4	320mm	VZ18	KZ74	KZ81
	419mm	VZ30	KZ74	KZ81
V05 to V6	351mm	VZ18	KZ74	KZ81
	450mm	VZ31	KZ74	KZ81

TeSys
GV2/GV3

Manual motor starters
0.1 to 30HP



The GV range of products are 3-pole, horsepower rated, CSA22.2 no. 14 and UL 508 listed, manual motor starters. They include a manual disconnect, class 10 ambient-compensated thermal overload relay, and an instantaneous magnetic trip mechanism in one compact unit. Any GV manual starter can be used alone for local manual control of a motor up to 220A.

Manual motor starters GV2ME and GV2P for connection by screw clamp terminals GV2ME with pushbutton control, GV2P control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz				Setting range of thermal trips A	Magnetic tripping current A	Catalog Number Group motor or manual starter	
200 V	230 V	460 V	575 V			Pushbutton 600 V max	Rotary Handle 600 V (Type E 480 V max)
-	-	-	-	0.1-0.16	1.5	**GV2ME01**	**GV2P01**
-	-	-	-	0.16-0.25	2.4	**GV2ME02**	**GV2P02**
-	-	-	-	0.25-0.40	5	**GV2ME03**	**GV2P03**
-	-	-	-	0.40-0.63	8	**GV2ME04**	**GV2P04**
-	-	-	0.5	0.63-1	13	**GV2ME05**	**GV2P05**
-	-	0.75	0.75	1-1.6	22.5	**GV2ME06**	**GV2P06**
0.5	0.5	1	1.5	1.6-2.5	33.5	**GV2ME07**	**GV2P07**
0.75	0.75	2	3	2.5-4	51	**GV2ME08**	**GV2P08**
1	1.5	3	5	4-6.3	78	**GV2ME10**	**GV2P10**
2	3	5	7.5	3-10	138	**GV2ME14**	**GV2P14**
3	3	10	10	9-14	170	**GV2ME16**	**GV2P16**
5	5	10	15	13-18	223	**GV2ME20**	**GV2P20**
5	7.5	15	20	17-23	327	**GV2ME21**	**GV2P21**
7.5	7.5	15	20	20-25	327	**GV2ME22**	**GV2P22**
7.5	10	20	25	24-32	416	**GV2ME32**	**GV2P32** (group motor installation only)

For common add on blocks and accessories for GV2/GV3 please see page 8/19.

The GV range may be used in group motor installations per CEC and NEC. Group motor applications do not require Type E devices but Type E devices can be used in Group applications if desired.

Manual motor starters
1 to 50HP
with EverLink terminal blocks



Thermal-magnetic circuit-breakers GV3-P for connection by EverLink terminal blocks (2)
Control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz						Setting range	Catalog Number
1ph		3ph				Thermal trips (A)	Type E
115V	230V	200V	230V	460V	575V		600V max
1	2	3	3	7.5	10	9...13	**GV3P13**
1	3	5	5	10	15	12...18	**GV3P18**
2	3	7.5	7.5	15	20	17...25	**GV3P25**
2	5	10	10	20	30	23...32	**GV3P32**
3	5	10	10	30	30	30...40	**GV3P40**
3	7.5	15	15	40	40	37...50	**GV3P50**
5	10	20	20	50	50	48...65	**GV3P65**

(2) BTR screw of 4 mm

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GV3 add-on blocks and accessories

Add-on blocks (front)	Fault signalling contact + instantaneous auxiliary contact	
Contact type	N/O (fault) + N/C	N/O (fault) + N/O
Catalog number	**GV-AED011**	**GV-AED101**

Accessories						
Type	for contactor for lug type terminals	IP20 cover for lug type terminals	Set of 3-pole 115 A busbars	2-pole busbars	"Wide spacing" UL 508 type E cover	Side by side mounting busbars
Catalog number	**LAD96575**	**LAD96570**	**GV3G364**	**GV36264**	**GV3G66**	**GV3S**

(3) Common add-on blocks and accessories GV2 / GV3, see page 8/19

(4) For spring terminal version add **3** to the end of the reference. Example **GV-AED011** becomes **GV-AED0113**

Circuit-breakers
Accessories







Accessories GV2						
Combination block						
For mounting on		LC1-K or LP1-K	LC1-D09…D38	LAD-31 and LC1-D09…D38		
		GV2-AF01	**GV2-AF3**	**GV2-AF4**		
Sets of 3-pole busbars						
63 A	Pitch	45 mm	54 mm	72 mm		
Number of tap-offs	2	**GV2-G245**	**GV2-G254**	**GV2-G272**		
	3	**GV2-G345**	**GV2-G354**			
	4	**GV2-G445**	**GV2-G454**	**GV2-G472**		
	5		**GV2-G554**			
Protective end cover						
For unused busbar outlets		**GV1-G10**				
Terminal blocks						
For supply to one or more GV2-G busbar sets		connection from the top	can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)			
		GV1-G09	**GV1-G05**			
Padlockable external operator for GV2 and GV3 (150 to 290 mm)						
Padlocking		In “On” and “Off” position	In “Off” position			
Handle		black	red			
Legend plate		blue	yellow			
IP 54	For GV2-ME/P/L	**GV2-AP01**	**GV2-AP02**			
	For GV3-P	**GV3-AP01**	**GV3-AP02**			
TeSys rotating handles for		**GV2-P**	**GV3-P**			
Kit IP54 black handle		**GV2APN01**	**GV3APN01**			
IP54 kid red/yellow handle		**GV2APN02**	**GV3APN02**			
IP65 kit red/yellow handle		**GV2APN04**	**GV3APN04**			
Line Insulator						
	For GV2-P Type UL508E (not required by CSA)	**GV2-GH7**				
	For GV3-P Type UL508E (not required by CSA)	**GV3-G66**				

Add-on blocks common to GV2 / GV3							
Contact blocks							
Contact types		N/O or N/C	N/O + N/C	N/O + N/O	(fault) + N/C	(fault) + N/O	C/O common point
Instantaneous auxiliary contacts							
Mounting	front	**GV-AE1**	**GV-AE11**	**GV-AE20**			
	LH side		**GV-AN11**	**GV-AN20**			
Fault signalling contact + instantaneous auxiliary contact							
	LH side “F” fault				**GV-AD1001**	**GV-AD1010**	
	“O” fault				**GV-AD0101**	**GV-AD0110**	
Short-circuit signalling contact							
	LH side						**GV-AM11**

Electric trips			
Undervoltage or shunt trips (Replace • in catalog number with "S" for Shunt trip or "U" for Undervoltage trip)			
Side mounting (1 block on RH side of circuit-breaker)		50 Hz	60 Hz
Voltage	24 V	**GV-A•025**	**GV-A•026**
	110…115 V	**GV-A•115**	**GV-A•116**
	120…127 V	**GV-A 125**	
	200…220 V		**GV-A•207**
	220…240 V	**GV-A•225**	**GV-A•226**
	380…400 V	**GV-A•385**	**GV-A•386**
	480 V		**GV-A•415**
	600 V		**GV-A•505**
Padlocking device			
For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max		**GV2-V03**	