



TECHNICAL DATA

General information		
Net weight (with attached connectors)		approx. 370g
Packaging weight (including accessories)		approx. 950g
Battery		Lithium battery CR2032, 3V (approval i.a.w. UL 1642)
Service life of background lighting		40000h (after this period of time the background lighting efficiency will reduce by approx. 50 %)
Transport and storage		
The following information applies to devices which are transported or stored in the original packaging.		
Free fall		1m
Temperature		K55 (-25°C to +70°C)
Relative humidity		0 to 90 % RH
Ambient conditions during operation		
The UMG 96RM is intended for weather-protected, stationary use. Protection class II i.a.w. IEC 60536 (VDE 0106, Part 1).		
Operating temperature range		K55 (-10°C .. +55°C)
Relative humidity		0 to 75 % RH
Operating altitude		0 .. 2000m above sea level
Degree of pollution		2
Mounting position		vertical
Ventilation		Forced ventilation is not required.
Protection against ingress of solid foreign bodies and water		
- Front side		IP40 i.a.w. EN60529
- Rear side		IP20 i.a.w. EN60529
- Front with seal		IP54 i.a.w. EN60529
Power supply voltage		
Option 230V	Nominal range	90V - 277V (50/60Hz) or DC 90V - 250V; 300V CATIII
	Power consumption	max. 7.5VA / 4W
Option 24V	Nominal range	24V - 90V AC / DC; 150V CATIII
	Power consumption	max. 7.5VA / 5W
Operating range		+ -10% of nominal range
Internal fuse, not replaceable		Typ T1A / 250V/277V according IEC 60127
Recommended overcurrent protection device for line protection (certified under UL)		Option 230V: 6 - 16A Option 24V: 1 - 6A (Char. B)

Recommendation for a maximum number of devices on a circuit breaker:

Option 230V : Circuit breaker B6A: max. 4 devices / Circuit breaker B16A: max. 11 devices Option 24V
: Circuit breaker B6A: max. 3 devices / Circuit breaker B16A: max. 9 devices

Digital outputs	
2 and 3 optional digital outputs, semiconductor relays, not short-circuit proof.	
Switching voltage	max. 33V AC, 60V DC
Switching current	max. 50mAeff AC/DC

Response time	10/12 periods + 10ms *
Pulse output (energy pulse)	max. 50Hz

* Reaction time at 50 Hz, for example: 200 ms + 10 ms = 210 ms

Digital inputs			
3 optional digital inputs, semiconductor relays, not short-circuit proof.			
Maximum counter frequency		20Hz	
Input signal present		18V .. 28V DC (typical 4mA)	
Input signal not present		0 .. 5V DC, current less than 0.5mA	
Temperature measurement input			
2 optional inputs.			
Update time		1 second	
Connectable sensors		PT100, PT1000, KTY83, KTY84	
Total burden (sensor + cable)		max. 4 kOhm	
Sensor type	Temperature range	Resistor range	Uncertainty in measurement
KTY83	-55°C ... +175°C	500Ohm ... 2,6kOhm	± 1,5% rng
KTY84	-40°C ... +300°C	350Ohm ... 2,6kOhm	± 1,5% rng
PT100	-99°C ... +500°C	60Ohm ... 180Ohm	± 1,5% rng
PT1000	-99°C ... +500°C	600Ohm ... 1,8kOhm	± 1,5% rng
Cable length (digital inputs and outputs, temperature measurement input)			
Up to 30m		Unshielded	
More than 30m		Shielded	

Serial interface	
RS485 - Modbus RTU/Slave	9.6kbps, 19.2kbps, 38.4kbps, 57.6 kbps, 115.2kbps
Stripping length	7mm
Measuring voltage	
Three-phase 4-conductor systems with nominal voltages up to	277V/480V (+-10%)
Three-phase 3-conductor systems, unearthed, with nominal voltages up to	IT 480V (+-10%)
Overvoltage category	300V CAT III
Measurement surge voltage	4kV
Measurement range L-N	0 ¹⁾ .. 300Vrms (max. surge voltage 520Vrms)
Measurement range L-L	0 ¹⁾ .. 520Vrms (max. surge voltage 900Vrms)
Resolution	0.01V
Crest factor	2,45 (related to the measurement range)
Impedance	3MΩ/phase
Power consumption	apporx. 0,1VA
Sampling frequency	21.33kHz (50Hz); 25.6 kHz (60Hz) per measurement channel

Frequency range of the basic oscillation - Resolution	45Hz .. 65Hz 0.01Hz
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- ¹⁾ The UMG 96RM can only detect measurements when a voltage L1-N greater than 20Veff (4-wire measurement) at voltage input V1 or a voltage L1-L2 greater than 34Veff (3-wire measurement) is applied.

Current measurement I1 - I4	
Rated current	5A
Measurement range	0 .. 6Arms
Crest factor	1.98
Resolution	0.1mA (Display 0.01A)
Overvoltage category	300V CAT II
Measurement surge voltage	2kV
Power consumption	approx. 0.2 VA (Ri=5mOhm)
Overload for 1 sec.	120A (sinusoidal)
Sampling frequency	20kHz
Residual current measurement I5 / I6	
Rated current	30mArms
Measurement range	0 .. 40mArms
Operating current	50µA
Resolution	1µA
Crest factor	1.414 (related to 40mA)
Burden	4 Ohm
Overload for 1 sec.	5A
Sustained overload	1A
Overload for 20 ms	50A
Residual current measurement	i.a.w. IEC/TR 60755 (2008-01), Type A  Type B 

Ethernet connection	
Connection	RJ45
Functions	Modbus gateway, embedded web server (HTTP)
Protocols	TCP/IP, DHCP-Client (BootP), Modbus/TCP (Port 502), ICMP (Ping), NTP, Modbus RTU over Ethernet (Port 8000), FTP, SNMP
Terminal connection capacity (power supply voltage)	
Conductors to be connected. Only one conductor can be connected per terminal!	
Single core, multi-core, fine-stranded	0.2 - 2.5mm ² , AWG 26 - 12
Terminal pins, core end sheath	0.2 - 2.5mm ²
Tightening torque	0.4 - 0.5Nm
Stripping length	7mm
Terminal connection capacity (voltage and current measurement)	
Conductors to be connected. Only one conductor can be connected per terminal!	

	Current	Voltage
Single core, multi-core, fine-stranded	0.2 - 2.5mm², AWG 26-12	0.08 - 4.0mm², AWG 28-12
Terminal pins, core end sheath	0.2 - 2.5mm²	0.2 - 2.5mm²
Tightening torque	0.4 - 0.5Nm	0.4 - 0.5Nm
Stripping length	7mm	7mm
Terminal connection capacity (residual current or temperature measurement inputs and digital inputs / outputs)		
Rigid/flexible	0.14 - 1.5mm², AWG 28-16	
Flexible with core end sheath without plastic sleeve	0.20 - 1.5mm²	
Flexible with core end sheath with plastic sleeve	0.20 - 1.5mm²	
Tightening torque	0.20 - 0.25Nm	
Stripping length	7mm	
Terminal connection capacity: serial interface		
Single core, multi-core, fine-stranded	0.20 - 1.5mm²	
Terminal pins, core end sheath	0.20 - 1.5mm²	
Tightening torque	0.20 - 0.25Nm	
Stripping length	7mm	

FUNCTION PERFORMANCE CHARACTERISTICS

Function	Symbol	Precision class	Measurement range	Display range
Total effective power	P	0.5 ⁵⁾ (IEC61557-12)	0 .. 5.4 kW	0 W .. 999 GW *
Total reactive power	QA, Qv	1 (IEC61557-12)	0 .. 5.4 kvar	0 varh .. 999 Gvarh *
Total apparent power	SA, Sv	0.5 ⁵⁾ (IEC61557-12)	0 .. 5.4 kVA	0 VA .. 999 GVA *
Total active energy	Ea	0.5 ⁵⁾ (IEC61557-12) 0.5S ⁵⁾ (IEC62053-22)	0 .. 5.4 kWh	0 Wh .. 999 GWh *
Total reactive power	ErA, ErV	1 (IEC61557-12)	0 .. 5.4 kvarh	0 varh .. 999 Gvarh *
Total apparent energy	EapA, EapV	0.5 ⁵⁾ (IEC61557-12)	0 .. 5.4 kVAh	0 VAh .. 999 GVAh *
Frequency	f	0.05 (IEC61557-12)	45 .. 65Hz	45.00Hz .. 65.00Hz
Phase current I1 - I3	I	0.2 (IEC61557-12)	0 .. 6 Arms	0 A .. 999 kA
Measured neutral conductor current I4	IN	1 (IEC61557-12)	0 .. 6 Arms	0 A .. 999 kA
Residual currents I5, I6	IRes	1 (IEC61557-12)	0 .. 40 mArms	0 A .. 999 kA
Computed neutral conductor current	INc	1.0 (IEC61557-12)	0.03 .. 25 A	0.03 A .. 999 kA
Voltage	U L-N	0.2 (IEC61557-12)	10 .. 300 Vrms	0 V .. 999 kV
Voltage	U L-L	0.2 (IEC61557-12)	18 .. 520 Vrms	0 V .. 999 kV
Power factor	PFA, PFV	0.5 (IEC61557-12)	0.00 .. 1.00	0.00 .. 1.00
Short-term flicker, long-term flicker	Pst, Plt	-	-	-
Voltage drops (L-N)	Udip	-	-	-

Voltage increases (L-N)	Uswl	-	-	-
Transient overvoltages	Utr	-	-	-
Voltage drops	Unit	-	-	-
Voltage unbalance (L-N) ¹⁾	Unba	-	-	-
Voltage unbalance (L-N) ²⁾	Unb	-	-	-
Voltage harmonics	Uh	Kl. 1 (IEC61000-4-7)	up to 2.5 kHz	0 V .. 999 kV
THD of the voltage ¹⁾	THDu	1.0 (IEC61557-12)	up to 2.5 kHz	0 % .. 999 %
THD of the voltage ²³⁾	THD-Ru	-	-	-
Current harmonics	Ih	Kl. 1 (IEC61000-4-7)	up to 2.5 kHz	0 A .. 999 kA
THD of the current ³⁾	THDi	1.0 (IEC61557-12)	up to 2.5 kHz	0 % .. 999 %
THD of the current ⁴⁾	THD-Ri	-	-	-
Mains signal voltage	MSV	-	-	-

¹⁾ Referred to amplitude.

²⁾ Referred to phase and amplitude

³⁾ Referred to mains frequency.

⁴⁾ Referred to root mean square value.

⁵⁾ Accuracy class 0.5/ 0.5S with ..5 A transformer.
Accuracy class 1 with ..1 A transformer.

* The display returns to 0 W when the maximum total energy values are reached.

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Fișă tehnică: E-CCD - Cheie comandă distanță/local și automat/manual TGA.

Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametrii tehnici și funcționali: — Selector cu reținere și comandă cu unghi de comutare 90° tip V; — Prevăzut cu etichetă; — Tensiune de izolare minim 600 Vca; — Tensiune nominală de ținere la impuls: 6kV; — Curent nominal contacte 6A; — Duranță mecanică: 1.000.000 cicluri; — Tensiune nominală: 230/400V; 50/60Hz-AC; — Montaj: pe ușă TGA; — Grad de protecție: minim IP 65; — Domeniu de temperatură: -25 C...+50 C.	EATON – M22-WKV
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Protecția terminalelor la atingere cu mâna; — Carcasă din material ABS; — Parte frontală clasa 2; — Diametru montaj 22mm.	
3.	Condiții privind conformitatea cu standarde relevante: — EN 60947 – 3 — EN 60529	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării. — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: • instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); • instrucțiuni de exploatare; • buletine de încercări, verificări, probe; • declarație de conformitate.	

PROIECTANT,



Specifications

Eaton M22-WKV



Eaton M22 modular pushbutton, M22 Modular Selector Switch Operator, 22.5 mm, Knob, Maintained V, Non-illuminated, Bezel:

Silver, Button: Black, IP66, NEMA 4X, 13, Two-Position, V, 100,000 Operations



General specifications

PRODUCT NAME	Eaton M22 modular pushbutton
CATALOG NUMBER	M22-WKV
UPC	786685281438
PRODUCT LENGTH/DEPTH	1.17 in
PRODUCT HEIGHT	1.06 in
PRODUCT WIDTH	1.17 in
PRODUCT WEIGHT	0.995 lb
WARRANTY	Eaton Selling Policy 25000, one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.
COMPLIANCES	GoST-R CE Marked
CERTIFICATIONS	CCC Marked CSA Certified Lloyd's Register Certified
CATALOG NOTES	Includes contact block mounting adapter.

Resources

Bureau Veritas

Product specifications

SPECIFICATIONS AND DATASHEETS

[Eaton Specification Sheet - M22-WKV](#)

TYPE	Selector switch
BEZEL	Silver
OPERATING CYCLES	100,000 operations
ACTUATOR FUNCTION	Maintained V position
BUTTON COLOR	Black
ACTUATOR	Knob
ILLUMINATION	Non-illuminated
ENVIRONMENTAL RATING	IP66, NEMA 4X, NEMA 13
SERIES	M22
NUMBER OF POSITIONS	2
SIZE	22.5 mm

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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Fișă tehnică: E-CCIE - Cheie comandă iluminat exterior / chei comandă încălzire.

Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametrii tehnici și funcționali: — Mâner negru, fond gri și marcaj negru 0-1, unghi 90 ; — Număr etaje: 2; — Număr poziții: 2; — Tensiune de izolare minim 600 Vca; — Anduranță mecanică: 500.000 cicluri; — Anduranță electrică: 200.000 cicluri; — Curent nominal: minim 20A; — Tensiune nominal: 230/400V; 50/60Hz-AC; — Montaj: pe panou minishelter/ pe ușă TGA; — Poziția cheilor vor fi preluate în PLC; — Grad de protecție: minim IP 65; — Domeniu de temperatura: -25 C...+50 C.	Schneider – K2B1002HCH
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Protecția terminalelor la atingere cu mâna; — Carcasă din material ABS; — Parte frontală clasa 2.	
3.	Condiții privind conformitatea cu standarde relevante: — EN 60947 – 3 — EN 60529	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării. — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: □ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); □ instrucțiuni de exploatare; □ buletine de încercări, verificări, probe; □ declarație de conformitate.	

PROIECTANT,



Fișă tehnică produs

Specificatii



Comutator Cu Came - 2 Poli - 90° - 20 A - Pentru Ø 22 Mm

K2B1002HCH

Principale

gama de produse	Harmony K
Tip produs sau componenta	Comutator cu came complet
nume componenta	K2
[Ith] curent termic conventional in aer liber	20 A
locul de montare	Fata
mod de fixare	Orificiu Ø 22 mm
tipul capului comutatorului cu came	Cu placă frontală 45 x 45 mm
tip de operator	Negru maner, lungime = 35 mm
blocare cu lacat pentru maner rotativ	Fara
prezentarea legendei	Cu metalic legenda, 0 - 1 negru marcaj
functie de comutare cam	Comutator
revenire	Fara
pozitie decuplata	Cu pozitie Oprit
descriere poli	2P
pozitii de comutare	Dreapta: 0° - 90°
grad de protectie IP	IP65 conforming to SR EN 60529

Suplimentare

unghi de comutatie	90 °
[Ui] tensiune nominala de izolatie	690 V (grad de poluare 3) conformitate cu IEC 60947-1
[Ithe] curent termic conventional in incinta	16 A
putere nominala de functionare in W	1300 W AC-3, 230 V 1 fază conformitate cu SR EN 60947-3 14000 W AC-21, 400 V 3 faze conformitate cu SR EN 60947-3 17000 W AC-21, 500...660 V 3 faze conformitate cu SR EN 60947-3 2200 W AC-3, 230 V 3 faze conformitate cu SR EN 60947-3 2200 W AC-3, 400 V 1 fază conformitate cu SR EN 60947-3 4000 W AC-23A, 230 V 3 faze conformitate cu SR EN 60947-3 4000 W AC-3, 400 V 3 faze conformitate cu SR EN 60947-3 4000 W AC-3, 500 V 3 faze conformitate cu SR EN 60947-3 4000 W AC-3, 690 V 3 faze conformitate cu SR EN 60947-3 5500 W AC-23A, 400 V 3 faze conformitate cu SR EN 60947-3 5500 W AC-23A, 500 V 3 faze conformitate cu SR EN 60947-3

Declinare de responsabilitate: Această documentație nu se substituieși nu trebuie utilizată pentru stabilirea adecării sau fiabilității acestor produse pentru aplicații utilizator

8 mai 2025

curent nominal [Ie]	8 A la 400 V AC-3 3 faze conformitate cu SR EN 60947-3 10,8 A la 400 V AC-23A 3 faze conformitate cu SR EN 60947-3 14,6 A la 230 V AC-23A 3 faze conformitate cu SR EN 60947-3 4,7 A la 690 V AC-3 3 faze conformitate cu SR EN 60947-3 6,4 A la 690 V AC-23A 3 faze conformitate cu SR EN 60947-3 6,5 A la 500 V AC-3 3 faze conformitate cu SR EN 60947-3 8,3 A la 230 V AC-3 3 faze conformitate cu SR EN 60947-3 8,9 A la 500 V AC-23A 3 faze conformitate cu SR EN 60947-3 2 A la 500 V AC-15 conformitate cu SR EN 60947-5-1 3 A la 400 V AC-15 conformitate cu SR EN 60947-5-1 4 A la 230 V AC-15 conformitate cu SR EN 60947-5-1
durabilitate electrica	200000 cic AC-23 200000 cic AC-3 600000 cic AC-15 600000 cic AC-21
viteza maxima de functionare	2,5 cic/mn AC-21 2,5 cic/mn AC-23 2,5 cic/mn AC-3 8,333 cic/mn AC-15
curent de scurtcircuit	10000 A
protectie la scurtcircuit	20 A cartuş fuzibil, tip gG
[Uimp] tensiune de tinere la impuls	4 kV în funcţia de izolaţie 6 kV conformitate cu IEC 60947-1
operare contacte	Decuplare lenta
deschidere pozitiva	Cu
conexiune electrica	Terminale captive cu şurub flexibil, capacitate de prindere: 2 x 1,5 mm ² Terminale captive cu şurub solid, capacitate de prindere: 1 x 2,5 mm ²
durabilitate mecanica	1000000 cic
CAD latime globala	45 mm
CAD inaltime globala	50 mm
CAD adancime globala	49 mm
greutate neta	0,15 kg

Mediu

standarde	SR EN 60947-3 pentru circuit de alimentare SR EN 60947-5-1 pentru circuit de comanda CENELEC EN 50013 GB/T 14048.5 pentru circuit de comanda GB/T 14048.3 pentru circuit de alimentare
certificari produs	CSA 240 V 3 CP 3 faze 2 -pol(i) UL 240 V 0,33 CP 1 fază 2 -pol(i) CSA 240 V 1 CP 1 fază UL 240 V 1 CP 3 faze CCC
tratament protector	TC

temperatura ambientală de funcționare	-25...55 °C
temperatura ambientală pentru depozitare	-40...70 °C
rezistența la socuri	30 gn conformitate cu IEC 68-2-27
rezistența la vibrații	5 gn (f = 10...150 Hz) conformitate cu IEC 68-2-6
categorie de supratensiune	Clasa II conforming to IEC 536 Clasa II conforming to NF C 20-030

Unitati de ambalare

Unitate de masura pentru prima
PCE forma de impachetare

2	
Numar unitati in prima forma de impachetare	1
Inaltime prima forma de impachetare	6,500 cm
Latime prima forma de impachetare	6,500 cm
Lungime prima forma de impachetare	11,000 cm
Greutate prima forma de impachetare	157,000 g
Unitate de masura pentru a doua forma de impachetare	S01
Numar unitati in a doua forma de impachetare	10
Inaltime a doua forma de impachetare	15,000 cm
Latime a doua forma de impachetare	15,000 cm
Lungime a doua forma de impachetare	40,000 cm
Greutate a doua forma de impachetare	1,701 kg
Unitate de masura pentru a treia forma de impachetare	P06
Numar unitati in a treia forma de impachetare	320
Inaltime a treia forma de impachetare	75,000 cm
Latime a treia forma de impachetare	80,000 cm
Lungime a treia forma de impachetare	60,000 cm
Greutate a treia forma de impachetare	62,432 kg

Garanție contractuală

Garantie	18 months
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8 mai 2025



Schneider Electric isi propune sa atinga nivelul Net Zero pana in 2050 prin parteneriate la nivelul lantului de aprovizionare, materiale cu impact mai redus si circularitate, prin campania „Use Better, Use Longer, Use Again” pentru a extinde durata de viata a produselor si reciclabilitatea.

[Environmental Data expliate >](#)

[Cum evaluam sustenabilitatea produselor >](#)

 Amprenta de mediu

Raport de mediu

[Profilul ambiental al produsul ui](#)

Use Better

 Materiale si ambalare

Pachet cu carton reciclabil	Nu
Ambalaj fara plastic	Nu
Directiva RoHS UE	Conformitate proactiva (Produs in afara domeniului de aplicare a EU RoHS)
Regulamentul REACH	Declaratia REACH

Use Again

 Reambalare si refabricare

Profil circularitate	Nu sunt necesare operatii de reciclare speciale
Preluare la sfarsitul duratei de viata	No
DEEE	 Produsul trebuie sa fie eliminat de pe piata din Uniunea Europeana dupa colectarea specifica a deseurilor si sa nu ajunga niciodata in pubele de gunoi

Fișă tehnică: E-CE - Centrală de detecție, semnalizare și alarmare la efracție

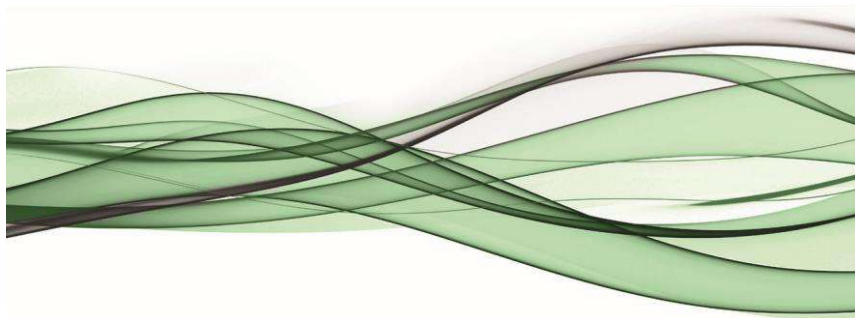
Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametrii tehnici și funcționali: — Centrală alarmă antiefracție convențional-adresabilă cu facilități pentru control acces (compusă din cel puțin următoarele: placa de bază, carcasă, sursă de alimentare, acumulatori, tastatură sau cititor cu tastatură, modul I/O BUS, modul de comunicație cu dispeceratul de Securitate al Beneficiarului, modul GSM/GPRS, antenă GSM etc.); — Material carcasă: metalică/policarbonat; — Alimentare principală: 230 Vca; — Sursa back-up: acumulatori calculați conform proiect; — Sursa de alimentare n comutație; — Intrări de zonă de placă: min. 8, extensibile; — Memorie evenimente: min. 250 evenimente; — Coduri utilizator: multiple, din care: 1 cod principal (master); 1 cod de mentenanță; — Ceas de timp real; — Leșire pentru încărcare acumulator back-up; — Leșire pentru comandă sirenă; — Leșiri supervizate la defect sau sabotaj; — Tastatură operare sistem – montaj n exterior; — Modul control acces pentru 2 cititoare de proximitate; — Comunicație serială; — Modul comunicație GSM/GPRS cu unul din protocoalele de comunicație ID sau SIA 9 compatibil cu dispeceratul de tip SurGard SG System III a Beneficiarului; — La montare centrala va trebui să comunice cu dispeceratul Beneficiarului; — Cartela SIM: va fi achiziționată de Beneficiar; — Buton de reset (revenire la valorile inițiale și restart); — Ceas n timp real cu baterie de backup.	PARADOX SP6000
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Programare și diagnoza locală și de la distanță; — Stocare locală rapoarte; — Eticheta de timp atașată, în cazul evenimentelor; — Ceas intern; — Autotestare și autodiagnosticare: indicare locală pe display și transmitere la distanță a stării sistemului; — Va transmite către PLC starea de alarmă și de defect; — Va prelua semnalele de alarmă de la centrala de detecție incendiu și le va transmite către dispecerat.	
3.	Condiții privind conformitatea cu standarde relevante: — EN 50131.	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării;	

	— Ofertantul va trebui să intervină în maxim 48 de ore în perioada de garanție la defectarea centralei; — Se vor preda softurile de programare a centralei; — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: □ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); □ instrucțiuni de exploatare; □ buletine de încercări, verificări, probe; □ declarație de conformitate.	

PROIECTANT,



Spectra SP Series



4 to 32-Zone Expandable Security Systems

Description

Spectra SP control panels (SP4000, SP5500, SP6000, SP65, and SP7000) offer a combination of innovative features and an advanced communication bus for a uniquely expandable security system. Through its communication bus, all Spectra SP panels can be expanded via wireless and hardwired expansion modules and a variety of accessory modules. With their in-field firmware upgrade capability, the Spectra SP series allows installers to upgrade their system without hassle – quickly, easily, and on-site. To further facilitate installation, every Spectra SP panel can be configured using easy-to-follow, menu-driven programming.

Spectra SP also features multipath communication; this enables your system to communicate through multiple channels, including telephony with its built-in landline dialer, IP with the IP150 Internet Module, IP/GPRS/GSM with the PCS series module, and voice with the VDMP3 Plug-In Voice Module.

With its reliable communication technology, flexible expansion and user-friendly keypads, Spectra SP is the complete residential or commercial security solution.

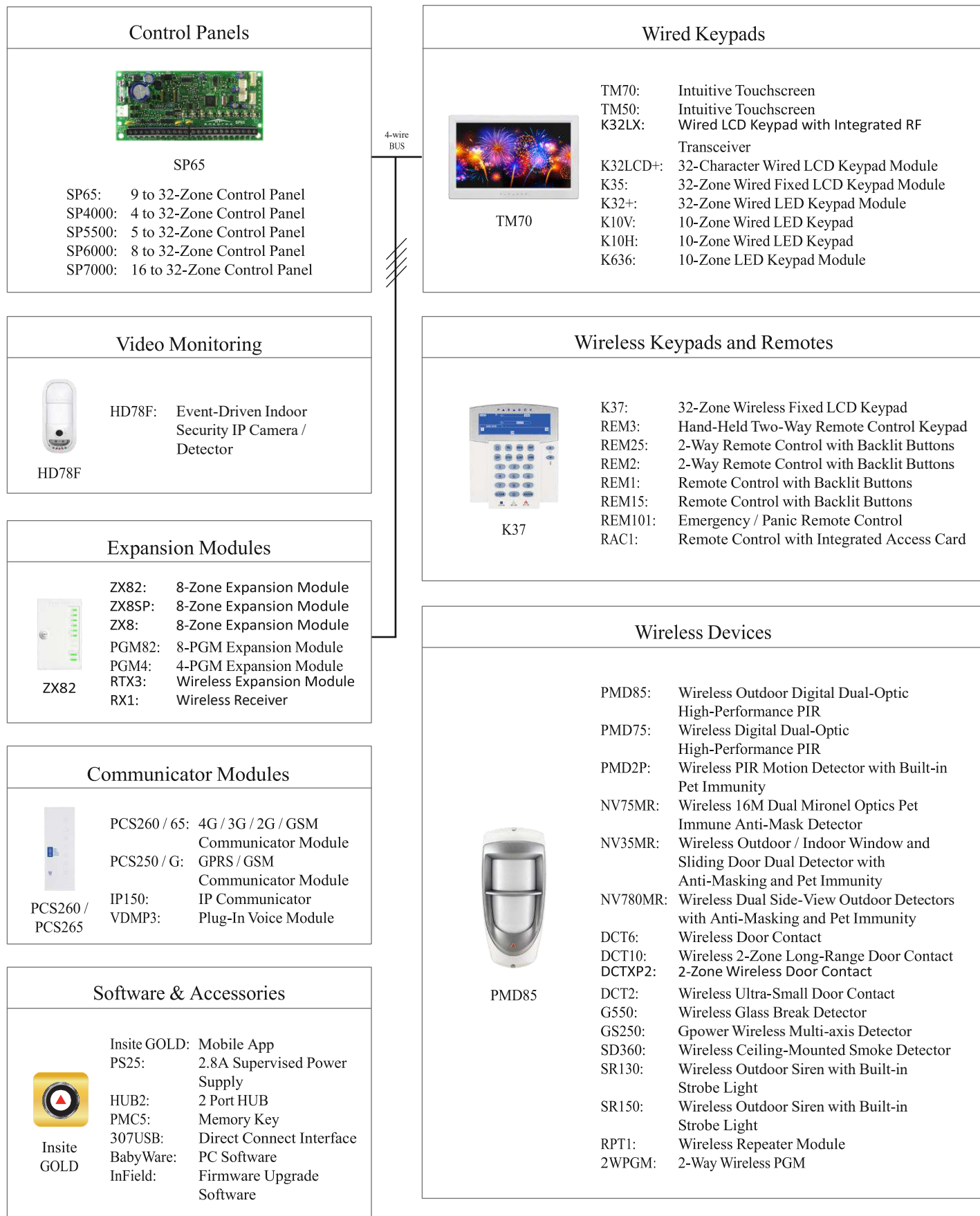
www.paradox.com

Features

- Supports StayD mode
- 4-wire expansion bus
- Wireless expansion (via RTX3 / RX1)
- Expandable to 32 zones
- Expandable to 16 PGMs
- 2 partitions
- 32 user codes
- Supports PCS series modules
- Supports IP150 Internet Module
- Supports VDMP3 Plug-in Voice Module
- Supports REM3 Hand-held Remote Keypad
- Supports SR150 Wireless Siren
- Landline dialer (except SP65)
- In-field firmware upgradable



System Overview



For compatibility details, visit us at paradox.com

Feature Details



Internet Communication (IP150)

The IP150 Internet Module allows you to control and monitor your security system remotely through any web browser. It allows for email notifications of important system events such as alarms, arm/disarm events, and troubles. For example, receive an email at work when your kids get back from school. Also, view the live status of your system and arm/disarm it. For instance, you have just left your office for the weekend but are unsure whether you armed the system. Simply check the status of your system from a laptop and arm it.



Wireless Communication (PCS Series)

The PCS series modules provide the Spectra SP control panels with wireless communication capabilities to report system events via IP, GPRS, and/or GSM. Whether it be uploading/downloading via IP or GPRS, receiving system status and events by voice or text message, or reporting to the monitoring station via IP, GPRS, or GSM, the PCS series enhances the communication capabilities of any Spectra SP installation.



Voice Communication (VDMP3)

The VDMP3 is a plug-in, voice-assisted module that can be programmed to call up to five telephone numbers in the event of an alarm. For example, when an alarm occurs at your store during off-hours, every employee can receive notification via telephone. You can also call the VDMP3 from an outside line, enabling you to arm or disarm the system as well as activate PGMs. The VDMP3 essentially turns any outside telephone into a keypad. The VDMP3 is easy to install; plug it in directly onto the panel, set the phone numbers, and select the activation event.



StayD

StayD resolves all issues with common security systems and represents the only solution for secure living. The revolutionary StayD feature represents a completely reversed philosophy compared to all other security systems made today. Traditional systems share the same principle - in order to provide security, users must remember to arm the system; otherwise the system is disarmed and does not provide security. A StayD system is always armed, and needs only to be partly disarmed when an entry or exit is needed. With StayD, you can truly have peace of mind knowing, that you are always protected.



In-field Upgradable

Spectra SP is not only easy to install, but is also fully in-field upgradable, allowing for simple on-site updates. The process is effortless; connect the PC to the panel and you are a few clicks away from performing a complete system upgrade within minutes. No need to change panels or hardware; all the updates are performed using Paradox's InField Firmware Upgrade Software.



App-based System Control

The Insite GOLD app enables you to remotely access your Paradox security system and view your system cameras. Insite GOLD provides lots of functionality and information at one's fingertip. It has an intuitive user-interface which enables you to easily connect to your security system and edit settings. Now you can control your Paradox security system from any Android / iOS smartphone.

TM70 Overview



11.4 cm
4.5 in

Provides a real-time visual display of the system’s status on one screen. It allows the user to choose which partitions will be displayed showing arming level, alarm, ready, and

TM70: Intuitive Touchscreen

SpotOn Locator™

Upload photos, images, or schematics to eliminate the need for deciphering LED zone lights. These images display any door, window, or motion detector that are active. Since the images are uploaded by the user, they are truly customized, and can be unique to each installation. SpotOn Locator™ is integrated in the original firmware, and when purchased, is unlocked with an authorization code.

OneScreen Monitoring™

troubles. It also displays zone statuses; open, close, bypass, alarm, and tamper. OneScreen Monitoring™ also features Solo Test™ mode, which allows installers and users to easily test all system zone’s via the TM50 Touch’s screen. OneScreen Monitoring™ is integrated in the original firmware, and when purchased, is unlocked with an authorization code.

Specifications

Display	16-bit, color LCD; 8.6 x 15.4 cm (3.1 x 5.9 in.), 800 x 480 pixels
Input Voltage	9 to 15 Vdc
Current Consumption	250 mA at max brightness + 80 mA sounder
Keypad Zone Input	1 for a detector or external temperature sensor
Tamper	Built-in, cover and wall
Humidity	5 to 90%
Operating Temperature	-10 to 55 °C (14 to 131 °F)
Compatibility	Swan, EVO, Spectra, Magellan

Note: All control panel outputs are rated to operate between 11.4 Vdc and 12.5 Vdc.

Fișă tehnică: E-CI - Centrală de detecție și semnalizare incendiu.

Nr. crt.	Specificațiile tehnice oferite	Producător – Denumire
0	1	2
1.	Parametrii tehnici și funcționali: — Centrală alarmă incendiu convențional-adresabilă; — Maxim 128 dispozitive adresabile/centrală; — Material carcasă: Metalic — Panou de comandă cu LED+LCD — Număr zone de intrare pe placă: 32 zone — Memorie evenimente: 4000 evenimente; — Posibilitatea de preluare în centrală a semnalelor de la detectorii de gaz metan; — Posibilitate de dezactivare a diferitelor zone; — Funcție de dezactivare a sirenei; — Coduri utilizator: multiple, din care: 1 cod principal (master); 1 cod de mentenanță; — Funcție de autoadresare; — Alimentare principală: 230VaC 50Hz - 15/+10%; — Sursa back-up: acumulatori calculați conform proiect; — Umiditate: max 95% fără condensare.	INIM Previdia C100L
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Programare soft de la tastatură (panou frontal); — Autotestare și autodiagnosticare: indicare a stării sistemului; — Va comunica starea de alarmă către centrala de efracție sau către un sistem superior; — Centrala va prelua din câmp semnale de alarmă de la toate echipamentele (butoane de incendiu, detectori de gaz și fum etc) și le va transmite n PLC; — Va transmite n PLC starea de defect; — Funcționare tolerantă la întrerupere și scurtcircuit a buclei; — Dispozitive de alarmare alimentate de pe buclă, conforme EN 54-3 cu tonuri integrate de semnalizare conforme DIN 33404;	
3.	Condiții privind conformitatea cu standarde relevante: — Conform standardelor EN 54-2 și EN 54-4.	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării; — Ofertantul va trebui să intervină în maxim 48 de ore în perioada de garanție la defectarea centralei; — Se vor preda softurile de programare a centralei; — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: □ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage);	

	☐ instrucțiuni de exploatare; buletine de ☐ încercări, verificări, probe; declarație de ☐ conformitate.	
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PROIECTANT,



Previdia C100L

Centrala detectie incendiu analog adresabila cu o s

EN 54-2
EN 54-13
EN 54-4
EN 54-21

Specificatii tehnice

- Model de carcasa
- Tensiunea de alimentare: 230Vca (+10%/-15%)
- Consum maxim de curent: 1.1A la 230Vca
- Tensiunea de iesire nominala: 27.6Vcc (19V - 27.6Vcc)
- Curent maxim de iesire: 4A
- Consumul placii de baza:
 - In stand-by: 150mA
 - Fara tensiune de alimentare: 130mA
- Curent maxim de incarcare a bateriei: 1.2A
- Capacitate baterii: 2x12Vcc, 17Ah
- Tensiunea de oprire a bateriei: 19V
- Siguranta sursa alimentare interna: T3.15A 250V
- Ripple max curent de iesire: 260mV
- Temperatura de operare: -5°C / +40 °C
- Clasa de
- Grad de protectie a carcasei (EN 60529): IP30
- Dimensiuni: 497 x 380 x 97 mm
- Greutate: 6.1
- Culoare carcasa: gri (rosu optional)



Caracteristici principale

- O bucla, neextensibila, pana la 240 de dispozitive pe bucla
- Multiprotocol Inim, Apollo, Argus
- Ecran tactil 4.3", color, 65.000 de culori
- 4 canale de intrari/iesiri (I/O) de alimentare supravegheate
- Releu incorporat pe placa de baza
- Port Ethernet cu TCP-IP
- Port USB pentru configurare
- Card MicroSD pentru backup/configurare
- Compatibilitate modul de apelare PTSN/3G/GSM

Suport tehnic

Tel: 0730.118.208 www.heliossecurity.ro Tel: 0730.118.205 e-mail: tehnice@helios.ro

Vanzari

e-mail:

solutii@helios.ro

- Certificate EN54-2, EN54-4, EN54-13, EN54-21

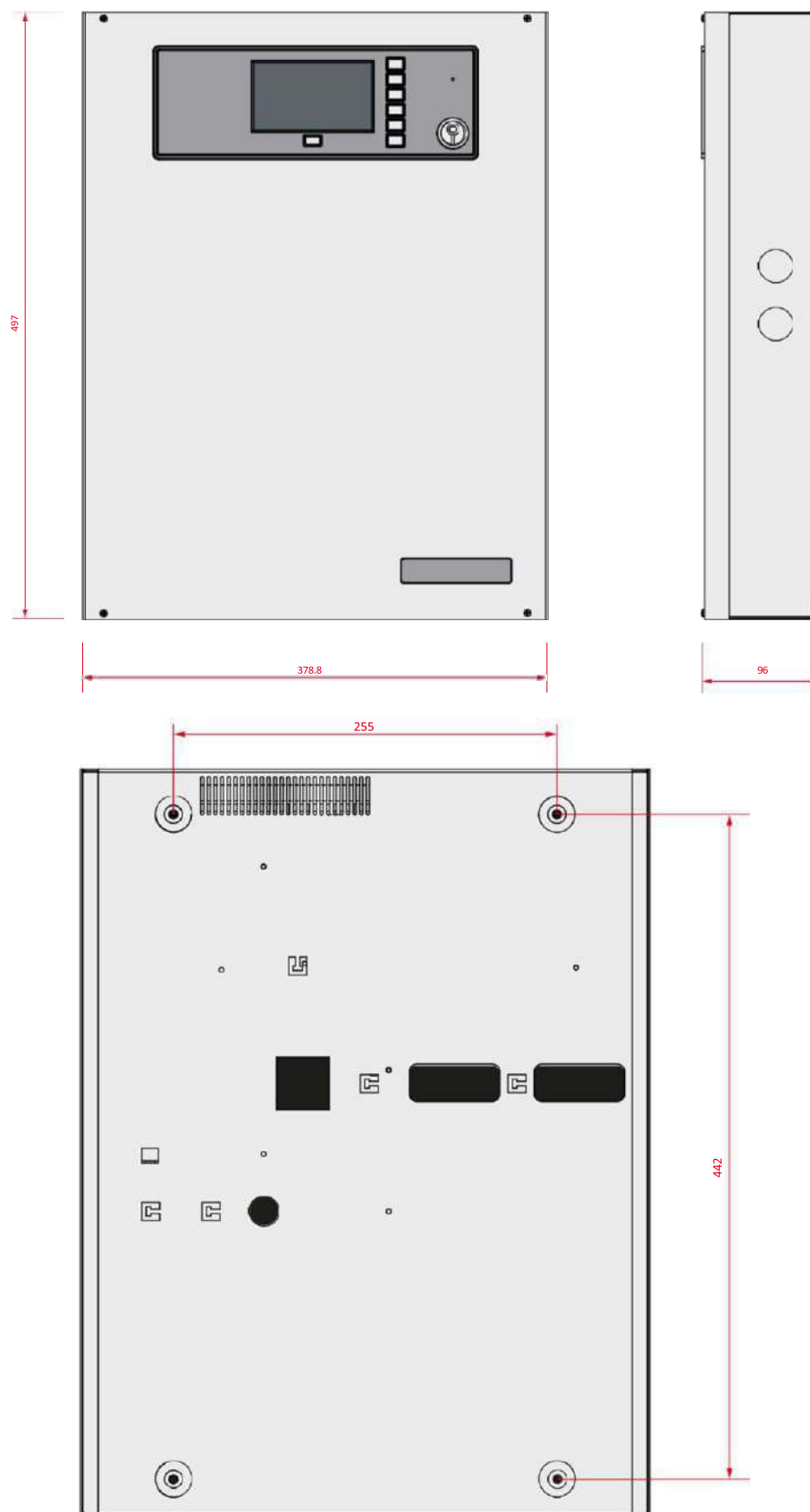
Retea si comunicatii

- Retea Token Ring de pana la 48 de panouri
- Retea prin TCP-IP, pana la 20 de clustere
- Partajare activări și date între panouri
- FIRE CLOUD – acces de la distanță
- Verificare video de pe orice camera IP Onvif

Caracteristici software

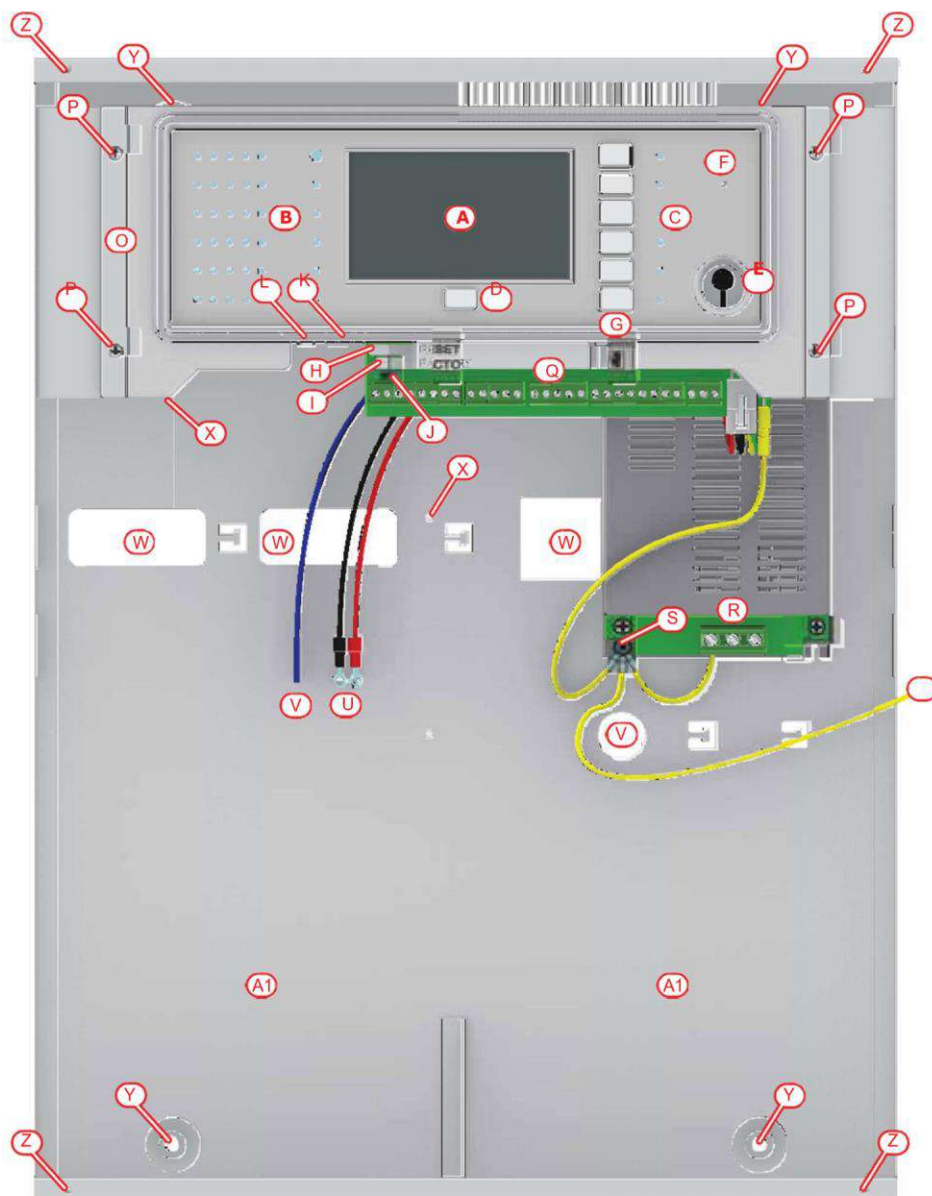
- Tehnologie OpenLoop , LoopMap ,Versa++
- Configurare harti grafice
- Suport Modbus TCP
- Protocol SIA-IP
- Posibilitatea de a trimite mesaje SMS cu generare automata de text (cu modul de apelare)
- Posibilitatea de a trimite pana la 100 de mesaje vocale pentru maximum 8 minute (cu modul de apelare)
- Ecuatii de control pentru activari cu operatori logici (AND, OR, NOT, XOR, etc.)
- 1000 de zone software pentru fiecare panou de control 1000 de grupuri logice pentru fiecare panou de control
- 500 de declansari active pe fiecare panou de control
- 100 de actiuni
- 240 de grupuri logice care pot fi partajate in retea
- Functie Walk-test
- Memorie de 2000 de evenimente
- Inregistrarea automata a dispozitivelor pe bucla
- Adresarea automata a dispozitivelor pe bucla
- Administrare a 4 nivele de acces in conformitate cu EN54-2
- 4 nivele de parola
- 100 de coduri de utilizator
- Software programare PREVIDIA-STUDIO pe platforma Windows

Dimensiuni



Vedere carcasa interior

[A]	Display touchscreen
[B]	LED status
[C]	Buton pentru LED si functie
[D]	Buton pentru LED si alarma multipla
[E]	Slot cheie acces
[F]	Buzzer
[G]	Suport card MicroSD
[H]	Buton reset
[I]	Buton pentru resetare setari mod implicit (resetare fabrica)
[J]	Conector jumper de programare
[K]	Port Ethernet
[L]	Mini port USB
[M]	Conector pentru placa PREVIDIA-C-DIAL
[N]	Conector pentru placa PREVIDIA-C-COM
[O]	Suport pentru placa de baza
[P]	Suport surub ancorare
[Q]	Placa terminal
[R]	Terminale de alimentare
[S]	Impamantare
[T]	Fir de impamantare a placii frontale
[U]	Cabluri baterie
[V]	Sonda termica pentru baterii
[W]	Intrarea cablului
[X]	Locatii pentru suruburile de montare a placii optionale
[Y]	Amplasarea suruburilor de montare
[Z]	Locatii pentru suruburile de montare a placii frontale
[A1]	Carcasa bateriei



V1.0 / 23.11.2020

Fișă tehnică: E-CIE - Corp de iluminat exterior cu tehnologie LED.

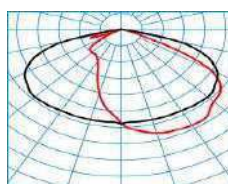
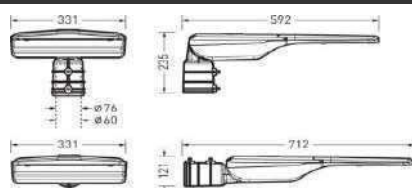
Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametrii tehnici și funcționali: Domeniu de utilizare:- Iluminat exterior; — Putere :minim: 40W; — Flux net total inițial: minim 5500lm; — Tensiune de alimentare: 230V/50Hz; — Eficacitate luminoasă globală netă: minim 125 (lm/W); — Carcasă din aluminiu turnat sub presiune, vopsit în câmp electrostatic; — Grad de protecție IP66; — Temperatura de funcționare nominală de la -25 C...+45 C; — Factor de putere: min.0.96; — Sursa de lumină utilizată: LED-uri de putere, cu temperatura de culoare alb-neutru 4000K , CRI minim 70, durată lungă de viață L70B50 de minim 50000 ore de funcționare la T=250C; — Protecție contra descărcărilor atmosferice: 6kV.	TRILUX – 2370 AB21L
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Montaj pe stâlp, în consolă pe țevă Ø60-65mm.	
3.	Condiții privind conformitatea cu standarde relevante: — Corpurile vor fi inscripționate cu marcajul CE; — Corespunde standardelor pentru corpuri de iluminat: EN 60559-1, EN 60598-2-3, SR-EN 62031	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării. — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: □ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); □ instrucțiuni de exploatare; □ buletine de încercări, verificări, probe; □ declarație de conformitate.	

PROIECTANT,



2370 AB21L/100/150/200/ML-740 ET 26

TOC: 8260840



Product description

Luminaire type

Outdoor post-top luminaire for post-top and bracket-mounting, adjustable inclination angle.

Applications

Car parks, Paths, Access areas, Stairways, Works roads, Cycle paths

Mounting methods

Post-top and bracket-mounted on or to post spigot Ø 60 mm or Ø 76 mm. Inclination angle adjustable in 5 steps by +/- 10 ° scaled. Also suitable for mounting to masts with spigot Ø 42 mm via reduction pieces to be ordered separately.

Optical system

Optical systems consists of PMMA lens optics. Cover of light emission aperture of clear non-laminated safety glass. With asymmetric wide light distribution.

LED system

Luminaire luminous flux adjustable in 3 levels. Luminaire luminous flux 10000 lm - 20000 lm, connected load 73 W - 165 W, Power Faktor $\lambda > 0,95$, maximum luminous efficiency of luminaire 137 lm/W. Light colour neutral white, correlated colour temperature (CCT) 4000 K, general colour rendering index (CRI) $R_a > 70$. Colour locus tolerance (initial MacAdam) ≤ 5 SDCM. Mean rated service life $L80(t_q 25^\circ C) = 75,000$ h.

Luminaire body

Luminaire body of aluminium Surface anthracite coated (DB 703). Safety class (EN 61140): II, protection rating (DIN EN 60529): IP66, impact resistance level in accordance with IEC 62262: IK08. Mast available upon request. Windage area $f_w 0,200 m^2$. Weight: 8,1 kg.

Electrical version

With electronic transformer, switchable. The control gear unit is replaceable in accordance with the ecodesign requirements (VO (EU) 2019/2020). Surge voltage resistance Differential Mode / Common Mode: 6 kV / 10 kV. The luminaire complies with the fundamental requirements of applicable EU regulations and product safety legislation and bears the CE symbol.

Planning information:

The luminaire is compliant to the requirements of EN 60598 and is designed for the effects of wind compliant to EN 1991 (Eurocode) with basic wind velocity of up to 30m/s (corresponding to wind zone 4 in Germany) in terrain category 1. A snow load (up to $1kN/m^2$) and icing (up to 2 cm) at a mounting height in accordance with the mounting instructions are taken into account. Not considered are exposed locations (e.g. bridges, installation on buildings or directly adjacent to railway tracks). Impact loads are not considered.

Product features and key data

Luminaire type	Outdoor post-top luminaire for post-top and bracket-mounting, adjustable inclination angle.	
Mounting method	Outdoor bracket-mounted Post-top outdoor	
Luminaire optic	Optical systems consists of PMMA lens optics.	
Light Engine	Level 1	Level 3
Colour temperature	4000 K	4000 K
Rated luminous flux	10000 lm	20000 lm
Connected load	73,00 W	165,00 W
Luminous efficacy	137 lm/W	121 lm/W
Service life	L80 (25 °C) = 75.000 h	
Colour rendering index	70	

Product features and key data

Colour tolerance	5 SDCM
Photobiological class	Group 2 - no risk
Luminaire colour	DB703 micaceous iron oxide
Luminaire body	Luminaire body of aluminium
Electrical version	With electronic transformer, switchable.
Surge voltage resistance (differential)	6 kV
Surge voltage resistance (common)	10 kV
Connection method	Plug-in terminal
Mains frequency	50/60 Hz
Mains voltage	220 - 240 V
Total harmonic distortion < %	10 %
Ingress Protection (IP) rating	IP66
Protection class	II
Impact resistance (IK)	IK08
Hot wire resistance	650 °C
Ambient temperature	25 °C
Max. Luminaires B10	4
Max. Luminaires B16	7
Max. Luminaires C10	8
Max. Luminaires C16	13
Net length	705 mm
Net width	335 mm
Net height	116 mm
Weight	8,1 kg

Available accessories

Material	Description
8434400	

For more sustainability in day-to-day business

New packing



 **CO₂ OPTIMISED**
 **NO PLASTIC**

 **ONLY ONE MATERIAL**
 **100% RECYCLABLE**



www.trilux-twenty3.com/eco

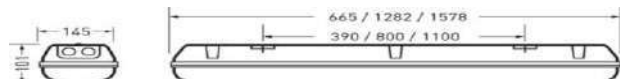
All technical data including details of weight and dimensions have been compiled with all due care. Errors excepted. Product illustrations serve as examples and may differ from the original. We reserve the right to make alterations in the interest of improving our products.

Fișă tehnică: E-CI-Ex - Corp de iluminat pentru medii cu potențial exploziv.

Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametri tehnici și funcționali : — Iluminat n medii cu pericol de explozie din grupa II, zona 2; — Putere totală: minim 55W ; — Tensiune: 240Vac, 50/60Hz; — Clasa de izolație electrica I; — Grad de protecție minim IP55; — Introducător de cablu cu etanșare prin garnitură de cauciuc pentru diametru $\Phi 11$-$\Phi 14$ mm; — Secțiunea maximă a conductorului: 2.5 mm²; număr de borne: 3 (N, L, PE); — Temperatura de funcționare nominală de la -25 C...+50 C; — Marcaj Ex grupa II, zonă 2; — Temperatura maximă de suprafață T4.	TRILUX – ACQUEx LED-M 1.5 80-840 ET PC
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Montaj semistaționar, conectare individuală.	
3.	Condiții privind conformitatea cu standarde relevante: — EN 60079, — EN 60529.	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării; — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: □ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); □ instrucțiuni de exploatare; □ buletine de încercări, verificări, probe; □ declarație de conformitate.	

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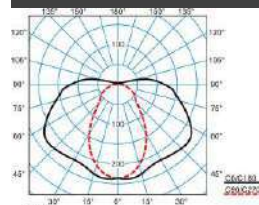




Product features and key data	
Applications	canopied outdoor areas Damp rooms Assembly halls Production areas Works halls Workshops Manufacturing Multi storey car parks Shipping and logistics, warehouses
Luminaire type	Explosion-proof water-proof LED diffuser luminaire.
Mounting method	Suspension Surface-mounting
	2
	22
ATEX Code	II 3G Ex ec IIC T6 Gc / II 3D Ex tc IIIC T85°C Dc / 0°C ≤ Ta ≤ +40°C
Luminaire optic	Luminaire cover made of an injection-moulded, transparent and UV-stabilised PC cover.
Light distribution curve	Lambertian (L)
Light Engine	standard product
Colour temperature	4000 K
Rated luminous flux	8000 lm
Connected load	60,00 W
Luminous efficacy	133 lm/W
Rated service life	L80 (25 °C) = 100.000 h
Colour rendering index	80
Colour tolerance	3 SDCM
Photobiological class	Group 1 - no risk
Luminaire colour	RAL1003 Signal yellow
Luminaire body	Luminaire body of compacted, glass-fibre-reinforced polyester.
Electrical version	With electronic transformer, switchable.
Connection method	Plug-in terminal
Emergency light	Single battery 3h
Mains voltage	220 - 240 V
Mains frequency	0/50/60 Hz
Total harmonic distortion < %	14 %
Ingress Protection (IP) rating	IP66
Protection rating on room side	IP66
Protection class	I
Impact resistance (IK)	IK10
Hot wire resistance	650 °C
Ambient temperature	0 - 40 °C
Max. Luminaires B10	19
Max. Luminaires B16	30
Max. Luminaires C10	25
Max. Luminaires C16	40
Net length	1.578 mm
Net width	145 mm
Net height	101 mm
Recess length	1.100 mm
Recess width	145 mm

Weight

4,5 kg

light distribution curve

Acquex LED-M 1.5 80-840 ET PC EB3

UGR I = 19,7
 UGR q = 27,0
 DIN 5040: B30
 UTE: 0.89 H + 0.11 T
 DLOR: 89 %
 ULOR: 11 %
 CEN Flux Code: 36 65 85 89 100 2 8 21 11

Available accessories

Material	Description
 ZBSB 1,0m 6923200	Steel strip suspension, 1 pair, rust-free, length 1.0 m, for weather-proof luminaires.

Offer text

Explosion-proof water-proof LED diffuser luminaire. In emergency light version with single battery system, nominal operation time 3 hours. Suitable for wall and ceiling mounting, also for damp rooms and canopied outdoor areas. Suitable for use in areas that are seldom and only briefly at risk of explosion due to combustible dust clouds during normal operation (Zone 22). Suitable for use in areas which are rarely and only briefly at risk of explosion due to gases, vapors or mists during normal operation (Zone 2). ATEX mark II 3G Ex ec IIC T6 Gc / II 3D Ex tc IIIC T85°C Dc / 0°C ≤ Ta ≤ +40°C. For horizontal or vertical ceiling and wall mounting. Also suitable for suspended mounting with accessories to be ordered separately. Luminaire cover made of an injection-moulded, transparent and UV-stabilised PC cover. With smooth surface and internal prismatic cover for ideal light distribution. With Lambertian light distribution. The prismatic cover protects the LED system from accidental contact during installation. Luminaire luminous flux and light color fixed. Luminaire luminous flux 8000 lm, connected load 60 W, maximum luminous efficiency of luminaire 133 lm/W. Light colour neutral white, correlated colour temperature (CCT) 4000 K, general colour rendering index (CRI) R_a > 80. Colour locus tolerance (initial MacAdam) ≤ 3 SDCM. Mean rated service life L80 (t_q 25 °C) = 100,000 h. Luminaire body of compacted, glass-fibre-reinforced polyester. Surface coated signal yellow (similar to RAL 1003). Dimensions (L x W): 1578 mm x 145 mm, luminaire height 101 mm. Stainless steel tilting lever catch of rust-free and acid-resistant stainless steel (V2A). Sealing made of polyurethane. Safety class (EN 61140): I, protection rating (DIN EN 60529): IP66. Permissible ambient temperature (ta): 0 °C to 40 °C. Weight: 4,5 kg. The luminaire is suitable for operation on a 230V direct voltage supply grid (DC). With electronic transformer, switchable. The luminaire complies with the fundamental requirements of applicable EU regulations and product safety legislation and bears the CE symbol.

EPREL - European Product Registry for Energy Labelling

Energy Efficiency Class	Model identifier
C	85400877-00
C	SI-B8T122560EU
C	85400879-00
C	SI-B8T064280EU

Fișă tehnică: E-CJEx - Cutie de joncțiuni pentru mediu Ex.

Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametrii tehnici și funcționali: — Curent nominal : 6A – 16A (conform proiect); — Șir de cleme : Conform proiect; — Presetupe Ex pentru cabluri armate : Minim 12 pentru cabluri conform specificațiilor din proiect; — Dopuri pentru intrările de rezervă, dop anticondens, șurub de împământare; — Grad de protecție : IP66; — Temperatură de lucru : -25°C...+50°C; — Marcare Ex : grupa II zona 2; — Temp. maximă de suprafață : T4; — Tensiune nominală : 400 Vca; — Culoare : Gri, negru.	SCAME
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Se montează mecanic în zone cu pericol de explozie pe peretele cofretului SRM.	
3.	Condiții privind conformitatea cu standarde relevante: — EN 60679; — EN 60529.	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării. — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: □ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); □ instrucțiuni de exploatare; □ buletine de încercări, verificări, probe; □ declarație de conformitate.	

PROIECTANT,



Fișă tehnică: E-CV-E - Camera video IP de exterior.

Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametrii tehnici și funcționali: — Camera de supraveghere Full HD 3 Megapixel 1080p; — Compresia datelor: H.264+, H.265 Motion JPEGH.; — Senzor imagine: 1/3 inch CMOS Progressive Scan color; — Mărime imagine: 295(W)x105(H)x95(D)mm; — Lentila: fixă 2.8 mm cu deschidere de minim 100 grade, 5MP; — Distanța de iluminare: 40÷60m; — Wavelength: 850nm; — Iluminare minima: 0.1 Lux / F1.5, 0 Lux (IR pornit); — Clasa de protecție: IP66; — Compensare alb: auto; — Sincronizare: internă; — Temperatura de operare: -25 C...+50 C, RH95% Max; — Raport semnal/zgomot: > 50 dB; — Alimentare: PoE; — Rezoluții suportate: 2048x1536, 1920x1080, 1280x720; — Max frame rate: 30 fps @1280 x 720; — Protocoale: TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour (SIP opțional); — Network Interface: 1xRJ45, 10M/100M port Ethernet adaptive.	Hikvision – DS-2CD2T63G2-2I/4I
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Funcții speciale: □ Zi/Noapte; □ AWB (Automatic White Balance); □ AGC (Automatic Gain Control); — Shutter Time: 1/25s - 1/100.000s; — Lens Mount: 14 (diametrul); — Digital noise reduction: 3D DNR; — Accesorii dedicate pentru montajul pe st lp.	
3.	Condiții privind conformitatea cu standarde relevante: — EN 50132.	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării; — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: □ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); □ instrucțiuni de exploatare; □ buletine de încercări, verificări, probe;	

	☐ declarație de conformitate.	
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PROIECTANT,

PRECIZARE:

1. Responsabilitatea completării coloanelor 2 și 3 revine ofertantului.
2. Toate cerințele din prezenta fișă tehnică sunt obligatorii.
3. Se vor considera edițiile în vigoare a normativelor și standardelor la care se face referire.
4. În coloana 2 ofertantul va preciza corespondența între oferta tehnică și prezenta fișă tehnică.
5. În acest scop, ofertantul va preciza pentru fiecare solicitare din fișa tehnică (coloana 1): documentul, pagina, articolul/paragraful din oferta tehnică prin care se atestă îndeplinirea cerinței.
6. Oferta va conține un cuprins care va indica paginile unde se găsesc toate cerințele din fișa tehnică.

Se vor oferta și livra numai echipamente noi, de ultimă generație și originale, conform cu specificațiile și documentele specifice ale producătorului. Nu se vor oferta produse demo, recondiționate sau refuzate de alți beneficiari.

7. Ofertarea se va face în limba română. Ofertantul își asumă corectitudinea traducerii.



DS-2CD2T63G2-2I/4I
6 MP AcuSense Fixed Bullet Network Camera

AcuSense



Empowered by deep learning algorithms, Hikvision AcuSense technology brings human and vehicle targets classification alarms to front- and back-end devices. The system focuses on human and vehicle targets, vastly improving alarm efficiency and effectiveness.

- High quality imaging with 6 MP resolution
- Efficient H.265+ compression technology
- Clear imaging against strong backlight due to 120 dB WDR technology
- Focusing on human and vehicle classification based on deep learning
- Water and dust resistant (IP67)

▪ Specification

Camera	
Image Sensor	1/2.4" Progressive Scan CMOS
Max. Resolution	3200 × 1800
Min. Illumination	Color: 0.005 Lux @ (F1.6, AGC ON), B/W: 0 Lux with IR
Shutter Time	1/3 s to 1/100,000 s
Day & Night	IR cut filter
Angle Adjustment	Pan: 0° to 360°, tilt: 0° to 90°, rotate: 0° to 360°
Lens	
Lens Type	Fixed lens, 2.8, 4, and 6 mm optional
Focal Length & FOV	2.8 mm, horizontal FOV 105°, vertical FOV 55°, diagonal FOV 127° 4 mm, horizontal FOV 78°, vertical FOV 38°, diagonal FOV 96° 6 mm, horizontal FOV 51°, vertical FOV 26°, diagonal FOV 59°
Lens Mount	M12
Iris Type	Fixed
Aperture	F1.6
DORI	
DORI	2.8 mm: D: 76 m, O: 30 m, R: 15 m, I: 7 m 4 mm: D: 115 m, O: 45 m, R: 23 m, I: 11 m 6 mm: D: 164 m, O: 65 m, R: 32 m, I: 16 m
Illuminator	
Supplement Light Type	IR
Supplement Light Range	-2I: up to 60 m -4I: up to 80 m
Smart Supplement Light	Yes
IR Wavelength	850 nm
Video	
Main Stream	50 Hz: 25 fps (3200 × 1800, 2688 × 1520, 1920 × 1080, 1280 × 720) 60 Hz: 30 fps (3200 × 1800, 2688 × 1520, 1920 × 1080, 1280 × 720)
Sub-Stream	50 Hz: 25 fps (1280 × 720, 640 × 480, 640 × 360) 60 Hz: 30 fps (1280 × 720, 640 × 480, 640 × 360)
Third Stream	50 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360) 60 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360) *Third stream is supported under certain settings.
Video Compression	Main stream: H.265/H.264/H.264+/H.265+ Sub-stream: H.265/H.264/MJPEG Third stream: H.265/H.264 *Third stream is supported under certain settings.
Video Bit Rate	32 Kbps to 16 Mbps
H.264 Type	Baseline Profile/Main Profile/High Profile
H.265 Type	Main Profile
Bit Rate Control	CBR/VBR
Scalable Video Coding (SVC)	H.264 and H.265 encoding
Region of Interest (ROI)	1 fixed region for main stream and sub-stream

Network	
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, SNMP, WebSocket, WebSockets, SRTP, SFTP
Simultaneous Live View	Up to 6 channels
API	Open Network Video Interface (Profile S, Profile G, Profile T), ISAPI, SDK, ISUP
User/Host	Up to 32 users. 3 user levels: administrator, operator and user
Security	Password protection, complicated password, HTTPS encryption, 802.1X authentication (EAP-TLS, EAP-LEAP, EAP-MD5), watermark, IP address filter, basic and digest authentication for HTTP/HTTPS, WSSE and digest authentication for Open Network Video Interface, RTP/RTSP over HTTPS, control timeout settings, security audit log, TLS 1.1/1.2/1.3, host authentication (MAC address)
Network Storage	NAS (NFS, SMB/CIFS), auto network replenishment (ANR)
Client	iVMS-4200, Hik-Connect, Hik-Central
Web Browser	Plug-in required live view: IE 10, IE 11, Plug-in free live view : Chrome 57.0+, Firefox 52.0+, Edge 89+, Local service: Chrome 57.0+, Firefox 52.0+, Edge 89+
Image	
Image Parameters Switch	Yes
Image Settings	Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance adjustable by client software or web browser
Day/Night Switch	Day, Night, Auto, Schedule
Wide Dynamic Range (WDR)	120 dB
SNR	≥ 52 dB
Image Enhancement	BLC, HLC, 3D DNR
Privacy Mask	4 programmable polygon privacy masks
Interface	
Ethernet Interface	1 RJ45 10 M/100 M self-adaptive Ethernet port
On-Board Storage	Built-in memory card slot, support microSD/microSDHC/microSDXC card, up to 512 GB
Reset Key	Yes
Event	
Basic Event	Motion detection (human and vehicle targets classification), video tampering alarm, exception
Smart Event	Line crossing detection, intrusion detection (support alarm triggering by specified target types (human and vehicle)) Face detection
Linkage	Upload to FTP/memory card/NAS, notify surveillance center, trigger recording, trigger capture, send email

General	
Power	-2I: 12 VDC $\pm$ 25%, 0.67 A, max. 8 W, $\varnothing$ 5.5 mm coaxial power plug, reverse polarity protection, PoE: IEEE 802.3af, Class 3, max. 9 W -4I: 12 VDC $\pm$ 25%, 0.92 A, max. 11 W, $\varnothing$ 5.5 mm coaxial power plug, reverse polarity protection, PoE: IEEE 802.3af, Class 3, max. 12.5 W
Material	Aluminum alloy body Sun shield, IR cover: plastic
Dimension	$\varnothing$ 105 mm $\times$ 299.7 mm ($\varnothing$ 4.1" $\times$ 11.8")
Package Dimension	386 mm $\times$ 156 mm $\times$ 155 mm (15.2" $\times$ 6.2" $\times$ 6.2")
Weight	Approx. 1065 g (2.4 lb.)
With Package Weight	Approx. 1560 g (3.5 lb.)
Storage Conditions	-30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing)
Startup and Operating Conditions	-30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing)
General Function	Heartbeat, mirror, password reset via email, pixel counter, anti-flicker
Language	33 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil), Ukrainian
Approval	
EMC	FCC (47 CFR Part 15, Subpart B); CE-EMC (EN 55032: 2015, EN 61000-3-2: 2014, EN 61000-3-3: 2013, EN 50130-4: 2011 +A1: 2014); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 6, 2016); KC (KN 32: 2015, KN 35: 2015)
Safety	UL (UL 60950-1); CB (IEC 60950-1:2005 + Am 1:2009 + Am 2:2013); CE-LVD (EN 60950-1:2005 + Am 1:2009 + Am 2:2013)
Environment	CE-RoHS (2011/65/EU); WEEE (2012/19/EU); Reach (Regulation (EC) No 1907/2006)
Protection	IP67 (IEC 60529-2013)

▪ Typical Application

Hikvision products are classified into three levels according to their anti-corrosion performance. Refer to the following description to choose for your using environment.

This model has NO SPECIFIC PROTECTION.

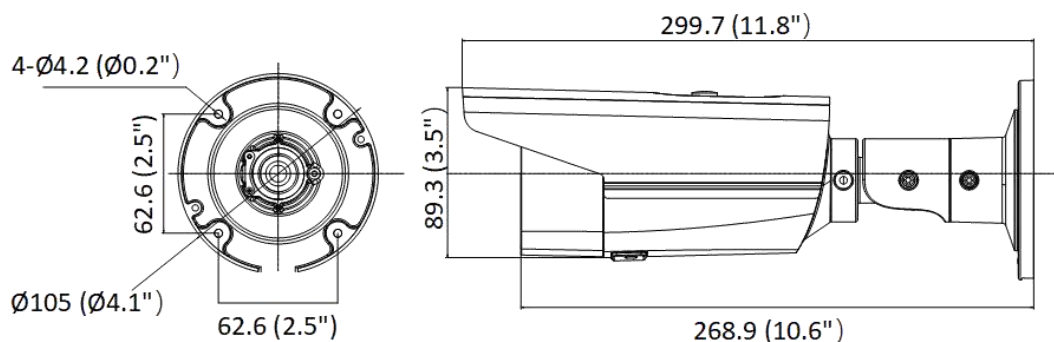
Level	Description
Top-level protection	Hikvision products at this level are equipped for use in areas where professional anti-corrosion protection is a must. Typical application scenarios include coastlines, docks, chemical plants, and more.
Moderate protection	Hikvision products at this level are equipped for use in areas with moderate anti-corrosion demands. Typical application scenarios include coastal areas about 2 kilometers (1.24 miles) away from coastlines, as well as areas affected by acid rain.
No specific protection	Hikvision products at this level are equipped for use in areas where no specific anti-corrosion protection is needed.

▪ Available Model

DS-2CD2T63G2-2I (2.8/4/6 mm)

DS-2CD2T63G2-4I (2.8/4/6 mm)

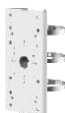
▪ Dimension



Unit: mm (inch)

▪ **Accessory**

▪ **Optional**

DS-1275ZJ-SUS Vertical Pole Mount	DS-1275ZJ-S-SUS Vertical Pole Mount	DS-1260ZJ Junction Box	DS-1280ZJ-S Junction Box	DS-1276ZJ-SUS Corner Mount
				

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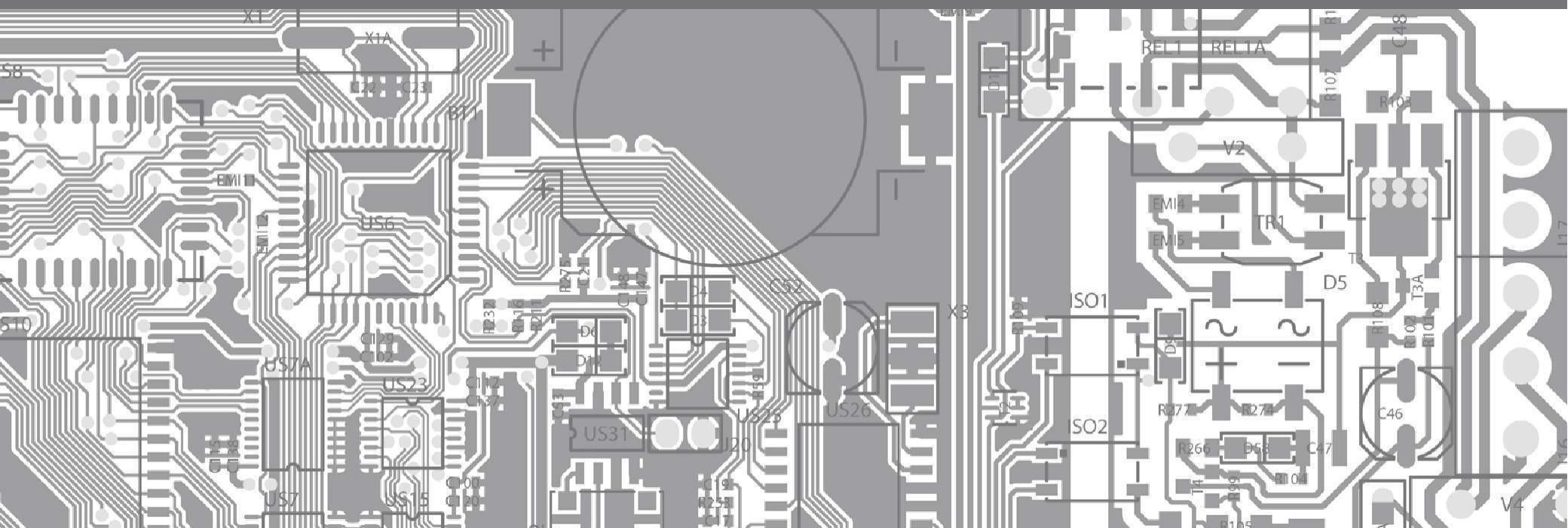


Fișă tehnică: E-DE-E - Detector efracție de exterior.

Nr. crt.	Specificațiile tehnice oferite	Producător – Denumire
0	1	2
1.	Parametrii tehnici și funcționali: — Material carcasă: ABS plastic UV stabilizat/metalic; — Cu contact magnetic; — Montaj exterior; — Sistem adresabil; — Grad de protecție minim IP 54; — Conexiune electrică: terminale cu șurub; — Distanța detecție: maxim 20 mm; — Contact de alarmă: NC/NO; — Compatibil cu centrala de efracție.	SATEL B-3A
2.	Specificații de performanță și condiții privind siguranța în exploatare: — Monitorizarea pătrunderii persoanelor străine la intrarea prin efracție și declanșare contact releu REED; — Adresabil compatibil cu centrala de efracție.	
3.	Condiții privind conformitatea cu standarde relevante: — Conform standarde în vigoare din seria EN 50130, EN 50131; — EN 60529 grade de protecție.	
4.	Condiții de garanție și postgaranție: — Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării; — Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: — Vor fi anexate: ▪ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); ▪ instrucțiuni de exploatare; ▪ buletine de încercări, verificări, probe; ▪ declarație de conformitate.	

PROIECTANT,





technical specification

INTRUDER ALARM CONTROL PANELS

INTEGRA intruder alarm control panels

	INTEGRA 24	INTEGRA 32	INTEGRA 64	INTEGRA 64 Plus	INTEGRA 128	INTEGRA 128 Plus	INTEGRA 128-WRL
SYSTEM FEATURES							
50131-3 security grade	Grade 2	Grade 2	Grade 2	Grade 3	Grade 2	Grade 3	Grade 2
Max. total number of zones	24	32	64	64	128	128	128
Max. number of addressable zones (CA-64 ADR)	16	24	48	48	112	112	120
Max. number of wireless zones (ACU-100)	16	24	48	48	112	112	120
Simultaneous support for addressable and wireless zones	•	•	•	•	•	•	•
Max. number of programmable outputs	20	32	64	64	128	128	128
Max. number of wireless outputs (ACU-100)	16	24	48	48	112	112	120
ABAX wireless system compatibility	bus communication	bus communication	bus communication	bus communication	bus communication	bus communication	integrated
Partitions	4	16	32	32	32	32	32
Objects	1	4	8	8	8	8	8
Users / master / service	16 / 1 / 1	64 / 4 / 1	192 / 8 / 1	192 / 8 / 1	240 / 8 / 1	240 / 8 / 1	240 / 8 / 1
Expansion modules	32	32	64	64	64	64	32
Event log	439	439	5887	6143	22527	22527	21503
Timers	16	28	64	64	64	64	64
SYSTEM OPERATION							
Keypads	4	4	8	8	8	8	8
Partition keypads	32	32	64	64	64	64	32
Proximity readers: attached to expansion modules / integrated with keypads	64 / 4	64 / 4	128 / 8	128 / 8	128 / 8	128 / 8	64 / 8
MAINBOARD SPECIFICATION							
Nominal mainboard supply voltage (±15%)	18 V AC, 50-60 Hz	18 V AC, 50-60 Hz	20 V AC, 50-60 Hz	20 V AC, 50-60 Hz	20 V AC, 50-60 Hz	20 V AC, 50-60 Hz	18 V AC, 50-60 Hz
Nominal power supply output voltage (±10%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Power supply load capacity	1,2 A	1,2 A	3 A	2 A + 1.5 A	3 A	2 A + 1.5 A	2 A
High current programmable outputs load	2 A	2 A	3 A	3 A	3 A	3 A	2 A
Low current programmable outputs load	50 mA	50 mA	50 mA	50 mA	50 mA	50 mA	50 mA
Max. battery capacity	7 Ah	18 Ah	24 Ah	24 Ah	24 Ah	24 Ah	24 Ah
Environmental class	II	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C
On-board zones	4	8	16	16	16	16	8
On-board outputs	4	8	16	16	16	16	8
Number of buses: keypad / expansion modules	1 / 1	1 / 1	1 / 2	1 / 2	1 / 2	1 / 2	1 / 1
Dimensions (mm)	142 x 106	173 x 106	264 x 134	264 x 134	264 x 134	264 x 134	192 x 106
COMMUNICATION							
PSTN dialer	•	•	•	•	•	•	•
GSM communicator	external	external	external	external	external	external	internal
Messaging telephone numbers	4	8	16	16 + 16	16	16 + 16	16
Voice messages	16	16	16	16	32	32	16
Text messages (Pager/SMS)	16	32	64	64	64	64	64
ETHM-1 TCP/IP module support	•	•	•	•	•	•	•
TCP/IP monitoring	•	•	•	•	•	•	•
TCP/IP upload/download	•	•	•	•	•	•	•
Control via WWW browser	•	•	•	•	•	•	•
TCP/IP supervision with Guard application	•	•	•	•	•	•	•
Remote control with mobile phone	•	•	•	•	•	•	•

INTEGRA keypads

	INT-KSG	INT-KLCD-GR/BL	INT-KLCDR-GR/BL	INT-KLCDL-GR/BL	INT-KLCDS-GR/BL	INT-KLCDK-GR
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Standby current consumption	165 mA	17 mA	60 mA	61 mA	33 mA	30 mA
Max. current consumption	175 mA	101 mA	156 mA	147 mA	151 mA	110 mA
Dimensions (mm)	143 x 156 x 22	140 x 126 x 26	140 x 126 x 26	145 x 115 x 26	114 x 94 x 23,5	160 x 132 x 29
Environmental class	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

INTEGRA and VERSA operation

	INT-S-GR/BL	INT-SK-GR	INT-SCR-BL	INT-IT	INT-CR	INT-RX	INT-RX-S
INTEGRA / VERSA compatibility	● / -	● / -	● / -	● / ●	● / ●	● / ●	● / ●
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Max. current consumption	66 mA	65 mA	125 mA	80 mA	75 mA	30 mA	29 mA
Max. switched voltage	24 V	24 V	24 V				
Max. switched current	2 A	2 A	2 A				
Frequency						433 MHz	433 MHz
Dimensions (mm)	80 x 127 x 24	144 x 80 x 27	47 x 158 x 24	21 x 44 x 50	35 x 127 x 21	72 x 118 x 24	24 x 110 x 27
Environmental class	II	II	III	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-25°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

Zones/outputs expansion modules for INTEGRA and VERSA control panels

	CA-64 E	CA-64 EPS	CA-64 ADR	ACU-100	ACU-250	CA-64 PP	CA-64 O	CA-64 OPS	INT-IORS	INT-ORS
INTEGRA / VERSA compatibility	● / ●	● / ●	● / -	● / ●	● / ●	● / -	● / ●	● / ●	● / -	● / ●
Supply voltage (±15%)	12 V DC	18 V AC	18 V AC	12 V DC	12 V DC	18 V AC	12 V DC	18 V AC	12 V DC	12 V DC
Power supply type		A	A			A		A		
Power supply load capacity		1,2 A	2,2 A			2,2 A		2,2 A		
Max. battery capacity		7 Ah	7 Ah			7 Ah		7 Ah		
Dimensions (mm)	80 x 57	140 x 68	140 x 68	104 x 73	24 x 110 x 27	142 x 101	140 x 68	142 x 101	121 x 93 x 58	121 x 93 x 58
Max. number of zones	8	8	48	48		8			8	
Support for vibration and roller shutter sensors	●	●								
Programmable EOL value	●	●								
Max. number of outputs				24		8	8	8	8	8
Max. current consumption (active relay state)						116 mA			280 mA	230 mA
Average current consumption (±10%)	18 mA	39 mA	46 mA	100 mA	33 mA	45 mA	17 mA	39 mA		
Environmental class	II	II	II	II	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

Mimic board

	CA-64 PTSA
Supply voltage (±15%)	18 V AC, 50-60 Hz
Power supply type	A
Power supply load capacity	1,3 A
Max. battery capacity	7 Ah
Dimensions (mm)	173 x 102
Environmental class	II
Operating temperature range	-10°C...+55°C

TCP/IP communication module

	ETHM-1
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	112 mA
Dimensions (mm)	68 x 140
Environmental class	II
Operating temperature range	-10°C...+55°C

Voice module

	INT-VG
Max. current consumption	35 mA
Supply voltage	12 V DC
Standby mode current consumption	27 mA
Environmental class	II
Operating temperature range	-10...+55 °C
Board dimensions	57 x 80 mm
Weight	32 g

Voice message module

	INT-VMG
Supply voltage	12 V DC
Board dimensions	68 x 140 mm
Operating temperature range	-10...+55 °C
Standby mode current consumption	75 mA
Max. current consumption	500 mA
Weight	80 g
Maximum humidity	93 ±3%
Environmental class according to EN50130-5	II
Maximum power of speaker output	6 W
Recommended impedance of loudspeaker connected to SPEAKER terminals	8 Ω

KNX bus integration module

	INT-KNX
Environmental class	II
Supply voltage	12 V DC
Board dimensions	57 x 80 mm
Operating temperature range	-10...+55 °C
Standby mode current consumption	35 mA
Max. current consumption	35 mA
Weight	140 g
Maximum humidity	93 ±3%

Fiber-optic interface

	INT-FI
Environmental class	II
Average current consumption (standby mode) (±10%)	120 mA
Board dimensions	80 x 57 mm
Operating temperature range	-10...+55 °C
Nominal supply voltage (±15%)	12 V DC
Max. current consumption	160 mA
Weight	125 g

RS-232 interface for systems integration

	INT-RS
Environmental class	II
Supply voltage	12 V DC
Average current consumption (standby mode) (±10%)	35 mA
Board dimensions	57 x 80 mm
Operating temperature range	-10...+55 °C
Max. current consumption	35 mA
Weight	39 g

Access control modules for INTEGRA systems

	INT-SZ-GR/INT-SZ-BL	INT-SZK-GR
Supply voltage (±15%)	12 V DC	12 V DC
Average current consumption (±10%)	24 mA	19 mA
Max. switched voltage	24 V	24 V
Max. switched current	2 A	2 A
Dimensions (mm)	80 x 127 x 24	144 x 80 x 27
Environmental class	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C

Multifunction expander for card / chip readers

	INT-R
Environmental class	II
Board dimensions	140 x 68 mm
Operating temperature range	-10...+55 °C
Supply voltage	12 V DC ±15%
Standby mode current consumption	110 mA
Max. current consumption	150 mA
Weight	80 g
Relay contacts rated load (resistive)	5 A / 30 V DC
Maximum humidity	93 ±3%

Proximity card readers

	CZ-EMM	CZ-EMM2	CZ-EMM3	CZ-EMM4
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC
Average current consumption (±10%)	50 mA	31 mA	80 mA	80 mA
Dimensions (mm)	80 x 120 x 16	35 x 127 x 21	47 x 158 x 24	47 x 158 x 24
Environmental class	II	II	III	III
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-25°C...+55°C	-25°C...+55°C

VERSA intruder alarm control panels

	VERSA 5	VERSA 10	VERSA 15
SYSTEM FEATURES			
50131-3 security grade	Grade 2	Grade 2	Grade 2
Max. number of zones programmable	30	30	30
Tamper input	•	•	•
Max. number of wireless devices	30	30	30
Max. number of programmable outputs	12	12	12
ABAX wireless system compatibility	•	•	•
Standard user / installer	30 / 1	30 / 1	30 / 1
Partitions	2	2	2
Event log	2047	2047	2047
Timers	4	4	4
SYSTEM OPERATION			
Keypads	6	6	6
Proximity card readers	6	6	6
MAINBOARD SPECIFICATION			
Supply voltage (±10%)	18 V AC, 50-60 Hz	18 V AC, 50-60 Hz	18 V AC, 50-60 Hz
Power supply type	A	A	A
Nominal output voltage (±10%)	13,7 V DC	13,7 V DC	13,7 V DC
Power supply current rating	1 A	2 A	2 A
High current outputs current rating (±10%)	1,1 A	1,1 A	1,1 A
Low current outputs current rating	50 mA	50 mA	50 mA
Max. battery capacity	7 Ah	17 Ah	17 Ah
Environmental class	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C
On-board zones	5	10	15
On-board programmable outputs	4	4	4
Supply outputs	2	2	2
Communication buses	1	1	1
Dimensions (mm)	120 x 68	150 x 68	180 x 68
COMMUNICATION			
Telephone dialer	•	•	•
Telephone line monitoring	SIA, Contact ID, inne	SIA, Contact ID, inne	SIA, Contact ID, inne
Messaging telephone numbers	8	8	8
Voice messages	16	16	16
Text messages: pager (SMS)	64	64	64
Support for GSM/GPRS communicators	•	•	•
GPRS reporting support with additional module	•	•	•
Support for TCP/IP communicators	•	•	•
TCP/IP reporting with additional module	•	•	•
E-mail messaging with additional module	•	•	•

VERSA keypads

	VERSA-LCDM-WH	VERSA-LED-BL	VERSA-LED-GR	VERSA-LCD-BL	VERSA-LCD-GR
Environmental class	II	II	II	II	II
Supply voltage	12 V DC	-	-	-	-
Enclosure dimensions	139 x 124 x 22 mm	114,5 x 95 x 22,5 mm	114,5 x 95 x 22,5 mm	114,5 x 95 x 22,5 mm	114,5 x 95 x 22,5 mm
Operating temperature range	-10...+55°C	-10...+55 °C	-10...+55 °C	-10...+55 °C	-10...+55 °C
Standby mode current consumption	50 mA	40 mA	33 mA	40 mA	36 mA
Max. current consumption	60 mA	120 mA	110 mA	130 mA	110 mA
Weight	236 g	97 g	97 g	123 g	123 g
Maximum humidity	93±3%	-	-	-	-
Nominal supply voltage (±15%)	-	12 V DC	12 V DC	12 V DC	12 V DC

Wireless system control

	VERSA-MCU
Number of supported remote control keyfobs	30
Supply voltage	12 V DC
Enclosure dimensions	24 x 110 x 27 mm
Operating temperature range	-10 °C...+55 °C
Standby mode current consumption	24 mA
Max. current consumption	29 mA
Weight	30 g
Maximum humidity	93±3%
Environmental class according to EN50130-5	II
Number of supported wireless detectors	30
Supported keyfobs	MPT-300, P-2, P-4, T-1, T-2, T-4
Supported wireless detectors	MFD-300, MMD-300, MPD-300, MSD-300
Keyfob and wireless detector operating frequency band	433,05 ÷ 434,79 MHz

MICRA Alarm module with GSM/GPRS communicator

	MICRA
Number of inputs	4 + 1
Inputs mode	digital (on/off) or analog (voltage)
Number of outputs	2 + 1
Number of supported remotes	8 (models: MPT-300, P-2, P-4, T-1, T-2, T-4 types)
Number of supported wireless detectors	8 (models: MFD-300, MMD-300, MPD-300, MSD-300)
Number of supported wireless keypads	1 (model: MKP-300)
GSM telephone	quad-band, GPRS class 10
Microphone connector	3.5 mm Jack
AUX output rating	500 mA
FT output rating	50 mA
Maximum relay load	1 A / 30 V DC (resistive)
Recommended transformer	TR40VA (18 V AC, 40 VA)
Battery current consumption	120 mA (standby) / 420 mA (max.)
230 V mains current consumption	50 mA (standby) / 150 mA (max.)*
Max. battery charging current	250 mA ±20%
Low battery voltage threshold	11 V
Battery cut-off threshold	10,5 V
Total power supply rating	2 A
Environmental class	II
Operating temperature range	-10°C...+55°C
Dimensions (with enclosure) (mm)	266 x 286 x 100
Weight (excl. transformer and battery)	1072 g

* measured with recommended TR40VA transformer

Wireless keypad

	MKP-300
Environmental class	II
Battery working time	Estimated 3 years
Operating temperature range	-10...+55 °C
Standby mode current consumption	80 µA
Max. current consumption	20 mA
Weight	164 g
Maximum humidity	93 ±3%
Operating frequency band	433,05 ÷ 434,79 MHz
Radio communication range (in open area)	to 200 m
Battery	CR123A 3V
Dimensions	144 x 80 x 27 mm

Remote control keyfob

	MPT-300
Enclosure dimensions	38 x 78 x 16 mm
Operating temperature range	-10...+55 °C
Weight	30 g
Maximum humidity	93 ±3%
Operating frequency band	433,05 ÷ 434,79 MHz
Radio communication range (in open area)	to 100 m
Battery	2 x CR2016 3V
Environmental class according to EN50130-5	II

Wireless motion detector

	MPD-300
Environmental class	II
Detected target velocity	0,3...3 m/s
Enclosure dimensions	63 x 96 x 49 mm
Operating temperature range	-10...+55 °C
Recommended mounting height	2,4 m
Standby mode current consumption	90 µA
Max. current consumption	20 mA
Weight	108 g
Maximum humidity	93 ±3%
Operating frequency band	433,05 ÷ 434,79 MHz
Radio communication range (in open area)	to 200 m
Battery	CR123A 3V
Battery life expectancy (energy save mode)	Estimated 3 years

Wireless smoke and heat detector

	MSD-300
Battery working time	Estimated 3 years
Enclosure dimensions	ø108 x 61 mm
Operating temperature range	0...+55 °C
Standby mode current consumption	50 µA
Max. current consumption	20 mA
Weight	170 g
Operating frequency band	433,05 ÷ 434,79 MHz
Radio communication range (in open area)	to 200 m
Battery	CR123A 3V
Class according to EN 54-5 (heat sensor)	A1R
Minimum static response temperature	54 °C
Maximum static response temperature	65 °C

Wireless door/window opening detector

	MMD-300
Additional input sensitivity	312 ms
Environmental class	II
Enclosure dimensions	24 x 110 x 27 mm
Operating temperature range	-10...+55 °C
Standby mode current consumption	80 µA
Max. current consumption	27 mA
Weight	64 g
Maximum humidity	93 ±3%
Operating frequency band	433,05 ÷ 434,79 MHz
Radio communication range (in open area)	to 200 m
Battery	CR123A 3V
Battery life expectancy (energy save mode)	Estimated 3 years

Wireless flood detektor

	MFD-300
Battery working time	Estimated 3 years
Enclosure dimensions	24 x 110 x 27 mm
Operating temperature range	-10...+55 °C
Standby mode current consumption	80 µA
Max. current consumption	27 mA
Weight	90 g
Maximum humidity	93 ±3%
Operating frequency band	433,05 ÷ 434,79 MHz
Radio communication range (in open area)	to 200 m
Battery	CR123A 3V
Environmental class according to EN50130-5	II
Probe wire length	3 m

CA-10, CA-6, CA-5 intruder alarm control panels

	CA-10	CA-6	CA-5
SYSTEM FEATURES			
Max. total number of zones	16	8	5
Max. number of outputs	6	5	3
Bus communication with ABAX wireless controller	•		
Partitions	4	2	1
Users / master users / service	28 / 4 / 1	12 / 1 / 1	5 / 1 / 1
Expansion modules	•		
Zone expansion in keypads	•	•	
Event log	255	255	255
Event printing	•		
Timers	4	4	
SYSTEM OPERATION			
LCD keypads	•		•
LED keypads	•	•	•
Radio remote controllers RX/RE support	•	•	•
MAINBOARD SPECIFICATION			
Supply voltage (±15%)	18 V AC, 50-60 Hz	18 V AC, 50-60 Hz	18 V AC, 50-60 Hz
Power supply type	A	A	A
Nominal power supply output voltage (±10%)	12 V DC	12 V DC	12 V DC
Power supply load capacity	1,7 A	1,2 A	1,2 A
High current programmable outputs load (±10%)	2,2 A	2,2 A	1,1 A
Low current programmable outputs load	50 mA	50 mA	50 mA
Max. battery capacity	17 Ah	7 Ah	7 Ah
Environmental class	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C
On-board zones	8	6	5
RS-232 port	•	•	•
PSTN telephone dialer	•	•	•
Built-in modem	•	•	•
Dimensions (mm)	173 x 102	142 x 102	147 x 70
COMMUNICATION			
Monitoring	•	•	•
Telephone messaging	•	•	
Messaging telephone numbers	8	4	
Voice messages	1	1	
Text messages (Pager/SMS)	4	2	
Upload/download functionality	•	•	•

Zone expansion module

	CA-10 E
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	11 mA
Environmental class	II
Operating temperature range	-10°C...+55°C

Keypads CA-10, CA-6, CA-5

	CA-10 KLCD	CA-10 KLCD-L	CA-10 KLCD-S	CA-10 KLED	CA-10 KLED-S	CA-6 KLED-S	CA-6 KLED	CA-5 KLCD-L	CA-5 KLCD-S	CA-5 KLED-S
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Average current consumption (±10%)	95 mA	61 mA	33 mA	15 mA	15 mA	15 mA	15 mA	64 mA	33 mA	15 mA
Dimensions (mm)	160 x 132 x 29	145 x 115 x 26	114 x 94 x 23	144 x 80 x 27	80 x 95 x 20	80 x 95 x 20	144 x 80 x 27	145 x 115 x 26	114 x 94 x 23	80 x 95 x 20
Environmental class	II	II	II	II	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

ABAX TWO WAY WIRELESS SYSTEM

Wireless system controller

	ACU-100	ACU-250
Supply voltage (±15%)	12 V DC	12 V DC
Dimensions (mm)	104 x 73	24 x 110 x 27
Max. number of zones	48	
Max. number of outputs	24	
Average current consumption (±10%)	100 mA	33 mA
Environmental class	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C

Controller inputs and outputs expansion module

	ACX-100
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	26 mA
Outputs load capacity	50 mA
Dimensions (mm)	72 x 118 x 24
Environmental class	II
Operating temperature range	-10°C...+55°C

Zones and outputs expansion wireless modules

	ACX-200	ACX-201
Supply voltage (±15%)	12 V DC	18 V AC 50-60 Hz
Power supply load capacity		1,2 A
Average current consumption depending on relay status (±10%)	40 mA ÷ 120 mA	40 mA ÷ 120 mA
Operating range in the open space	up to 500 m	up to 500 m
Relay outputs load capacity	1 A/24 V	1 A/24 V
Dimensions (mm)	126 x 158 x 32	250 x 250 x 80
Environmental class	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C

Wireless movement detectors

	APMD-150	APD-100
Supply type	lithium battery CR123A 3 V	lithium battery CR123A 3 V
Estimated battery lifetime	3 years	3 years
Operating range in the open space	up to 500 m	up to 500 m
Dimensions (mm)	63 x 136 x 49	63 x 96 x 49
Motion detection target speed	do 3 m/s	do 3 m/s
Recommended installation height	2,4 m	2,4 m
Environmental class	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C

Wireless detectors for perimeter protection

	AMD-100	AMD-101	AMD-102	ARD-100	AVD-100	AGD-100
Supply type	lithium battery CR123A 3 V	lithium battery CR123A 3 V	lithium battery CR123A 3 V	lithium battery CR123A 3 V	lithium battery CR123A 3 V	lithium battery CR123A 3 V
Estimated battery lifetime	3 years	3 years	3 years	3 years	3 years	3 years
Operating range in the open space	up to 500 m	up to 500 m	up to 500 m	up to 500 m	up to 500 m	up to 500 m
Dimensions (mm)	24 x 110 x 27	24 x 110 x 27	24 x 110 x 27	24 x 110 x 27	24 x 110 x 27	24 x 110 x 27
Additional input sensitivity	312 ms	312 ms	312 ms			
Environmental class	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

Wireless flood detector

	AFD-100
Supply type	lithium battery CR123A 3 V
Estimated battery lifetime	3 years
Operating range in the open space	up to 500 m
Dimensions (mm)	24 x 110 x 27
Environmental class	II
Operating temperature range	-10°C...+55°C

Wireless smoke and heat detector

	ASD-110
Supply type	lithium battery CR123A 3 V
Estimated battery lifetime	3 years
Operating range in the open space	up to 500 m
Dimensions (mm)	106 x 106 x 49
Minimal operating temperature	-10°C

Site survey tool for ABAX system

	ARF-100
Supply type	alkaline battery 9 V 6LR61
Dimensions (mm)	70 x 196 x 32
Environmental class	II
Operating temperature range	-10°C...+55°C

Bidirectional remote control keyfob

	APT-100
Operating frequency band	868,0 MHz ÷ 868,6 MHz
Operating range in the open space	up to 500 m
Supply type	lithium battery CR2032 3 V
Environmental class according to EN50130-5	II
Operating temperature range	-10°C...+55°C
Dimensions (mm)	78 x 38 x 16

Wirelessly triggered outdoor siren

	ASP-105
Supply voltage	12 V DC ±15%
Type of internal battery	6 V 1,2 Ah
Operating range in the open space	up to 500 m
Average current consumption (standby mode)	150 mA ±10%
Average current consumption (signaling mode)	600 mA ±10%
Dimensions (mm)	148 x 254 x 64
Environmental class	III
Operating temperature range	-35°C...+55°C

Wireless indoor siren

	ASP-205
Supply type	lithium battery CR123A 3 V
Estimated battery lifetime	3 years
Operating range in the open space	up to 500 m
Dimensions (mm)	87 x 134 x 37
Environmental class	II
Operating temperature range	-10°C...+55°C

Wireless control

	ASW-100 E	ASW-100 F
Supply voltage (±15%)	230 V AC	230 V AC
Maximum load	16 A AC	16 A AC
Operating range in the open space	up to 500 m	up to 500 m
Dimensions (mm)	65 x 100 x 77	65 x 100 x 77
Plug type	hybrid (type E and type F)	hybrid (type E and type F)
Socket type	E	F
Environmental class	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C

DETECTORS

Digital movement detectors

	COBALT	COBALT Plus	COBALT Pro	SILVER	AQUA Plus	AQUA Plus 2E	AQUA Pet	AQUA Pet 2E	AQUA Pro	AQUA Luna	AQUA S	AQUA Ring	AQUA Ring S	AMBER	AMBER 2E	GRAPHITE	GRAPHITE Pet	IVORY
Pyrosensor type	dual element	dual element	quad element	dual element	dual element	dual element	dual element	dual element	quad element	dual element	dual element	dual element	dual element	dual element	dual element	dual element	dual element	dual element
Microwave unit	10,525 GHz	10,525 GHz	10,525 GHz	10,525 GHz														
Antimask feature		•	•	•														
Lens	extra wide	extra wide	extra wide	precise LODIFF	extra wide	extra wide	precise LODIFF	precise LODIFF	extra wide	extra wide	extra wide	360°	360°	WA	WA	precise LODIFF	precise LODIFF	mirror
EOL resistors						2 x 1,1 kΩ		2 x 1,1 kΩ							2 x 1,1 kΩ			
Digital temperature compensation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PIR sensitivity adjustment	jumpers	jumpers	jumpers	trimmer	jumpers	jumpers	jumpers	jumpers	jumpers	jumpers	jumpers	jumpers	jumpers	jumpers	jumpers	trimmer	trimmer	trimmer
Microwave range adjustment	trimmer	trimmer	trimmer	trimmer														
Installation height compensation					•	•	•	•	•	•	•	•	•			•		
Prealarm feature					•	•	•	•	•	•	•	•	•					
Auto-diagnostics	basic	basic	basic	advanced	basic	basic	basic	basic	basic	basic	basic	basic	basic			advanced	advanced	advanced
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	24 V AC/DC	12 V DC	24 V AC/DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Average current consumption (±10%)	24 mA	24 mA	24 mA	16 mA	9,5 mA	9,5 mA	9,5 mA	9,5 mA	9,5 mA	9,5 mA	27 mA for 24 V AC 14 mA for 24 V DC	9,5 mA	27 mA for 24 V AC 14 mA for 24 V DC	3 mA	3 mA	11 mA	11 mA	12 mA
Backlight current consumption										25 mA								
Dimensions (mm)	63 x 136 x 49	63 x 136 x 49	63 x 136 x 49	62 x 136 x 49	63 x 96 x 49	63 x 96 x 49	63 x 96 x 49	63 x 96 x 49	63 x 96 x 49	63 x 96 x 49	63 x 96 x 49	ø 97 x 29	ø 97 x 29	48,5 x 66 x 36	48,5 x 66 x 36	62 x 96 x 48	62 x 96 x 48	57 x 123 x 42
Adjustable mounting bracket	•	•	•	•	•	•			•	•	•			optional	optional	•		•
Environmental class	II	II	II	II	II	II	II	II	II	II	II	II	II	II	II	II	II	II
Operating temperature range	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C

Gas detectors

	DG-1 CO	DG-1 LPG	DG-1 ME	DG-1 TCM
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC
Average current consumption (±10%)	12 mA	35 mA	35 mA	80 mA
Dimensions (mm)	ø 97 x 36	ø 97 x 36	ø 97 x 36	ø 97 x 36
Environmental class	II	II	II	II
Operating temperature range	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C	-30°C...+55°C

Active infrared barrier

	ACTIVA-2	ACTIVA-3	ACTIVA-4	ACTIVA-5	ACTIVA-6	ACTIVA-7	ACTIVA-8
Number of beams	2	3	4	5	6	7	8
Length (cm)	52	78	105	130	158	184	210
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Standby current consumption	55 mA	58 mA	60 mA	63 mA	65 mA	70 mA	75 mA
Max. current consumption	60 mA	63 mA	65 mA	68 mA	70 mA	75 mA	80 mA
Emitted wavelength	950 nm	950 nm	950 nm	950 nm	950 nm	950 nm	950 nm
Adjustable range (m)	10 / 20	10 / 20	10 / 20	10 / 20	10 / 20	10 / 20	10 / 20
Operating temperature range	-25°C...+55°C	-25°C...+55°C	-25°C...+55°C	-25°C...+55°C	-25°C...+55°C	-25°C...+55°C	-25°C...+55°C

Magnetic detectors

	K-1	K-1 2E	K-2	K-2 2E	K-3	K-3 2E	S-1	S-2	S-3	S-4
Max. reed switched voltage	20 V	20 V	20 V	20 V	20 V	20 V	20 V	20 V	20 V	20 V
Max. switched current	0,02 A	0,02 A	0,02 A	0,02 A	0,02 A	0,02 A	0,02 A	0,02 A	0,02 A	0,02 A
Weight	10 g	10 g	10 g	10 g	24 g	24 g	29 g	28 g	43 g	24 g
Transient resistance	0,15 Ω	-	0,15 Ω	-	0,15 Ω	-	0,15 Ω	0,15 Ω	0,15 Ω	0,15 Ω
Life expectancy (20 V, 20 mA)	360 000	360 000	360 000	360 000	360 000	360 000	360 000	360 000	360 000	360 000
Contact material	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)	Ru (Ruten)
Make distance	18 mm	18 mm	28 mm	28 mm	15 mm	15 mm	18 mm	28 mm	15 mm	18 mm
Break distance	28 mm	28 mm	40 mm	40 mm	24 mm	24 mm	28 mm	40 mm	24 mm	28 mm
Resistance	-	2 x 1100 Ω	-	2 x 1100 Ω	-	2 x 1100 Ω	-	-	-	-

Magnetic detectors

	B-1	B-1M	B-1T	B-2	B-2S	B-2T	B-3	B-3A	B-4L	B-4M	B-4S
Max. reed switched voltage	100 V	100 V	100 V	100 V	100 V	100 V	100 V	100 V	100 V	100 V	100 V
Max. switched current	0,5 A	0,5 A	0,5 A	0,5 A	-	0,5 A	0,4 A	0,4 A	0,4 A	0,4 A	0,4 A
Make distance	24 mm	30 mm	25 mm	19 mm	25 mm	19 mm	38 mm	38 mm	75 mm	75 mm	75 mm
Break distance	29 mm	33 mm	30 mm	20 mm	27 mm	20 mm	42 mm	42 mm	80 mm	80 mm	80 mm
Dimensions	28 x 12,5 mm	51 x 9 mm	65 x 13,5 x 11 mm	ø11 x 14,5 mm	ø6,5 x 27 mm	ø11 x 19 mm	50 x 17 x 9,8 mm	50 x 17 x 9,8 mm	104,5 x 44,5 mm	107 x 50 mm	88,9 x 44,5 mm

Vibration detector with magnetic contact

	VD-1
Supply voltage (±15%)	12 V DC
Standby current consumption	3,5 mA
Max. current consumption	5,4 mA
Dimensions (mm)	24 x 110 x 27
Environmental class	II
Operating temperature range	-30°C...+55°C

Digital glassbreak detector

	MAGENTA
Supply voltage	12 V DC
Enclosure dimensions	24 x 110 x 27 mm
Operating temperature range	-30...+55 °C
Standby mode current consumption	5 mA
Max. current consumption	10 mA
Weight	40 g
Relay contacts rated load (resistive)	40 mA / 16 V DC
Environmental class according to EN50130-5	II
Alarm signaling time	2 s
Detection range	to 6 m

Acoustic glassbreak detector

	INDIGO
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	12,5 mA
Dimensions (mm)	48 x 78 x 23
Environmental class	II
Operating temperature range	-30°C...+55°C

Programmable temperature detector

	TD-1
Environmental class	III
Supply voltage	12 V DC
Enclosure dimensions	48 x 78 x 18 mm
Operating temperature range	-35...+60 °C
Standby mode current consumption	15 ±20% mA
Max. current consumption	50 mA
Weight	108 g
Relay contacts rated load (resistive)	1 A / 30 V DC

Universal smoke and heat detector for alarm systems

	TSD-1
Supply voltage	12 V DC
Enclosure dimensions	ø108 x 61 mm
Operating temperature range	-10...+55 °C
Standby mode current consumption	250 µA
Max. current consumption	24 mA
Weight	164 g
Relay contacts rated load (resistive)	40 mA / 16 V DC
Maximum humidity	93 ±3%
Class according to EN 54-5 (heat sensor)	A1R
Minimum static response temperature	54 °C
Maximum static response temperature	65 °C
Environmental class according to EN50130-5	II

Latching panic button

	PNK-1
Max. switched voltage	160 V
Max. switched current	250 mA
Max. switched power	5 VA
Dimensions (mm)	40 x 60 x 25

Water flood detector

	FD-1
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	3 mA
Dimensions (mm)	24 x 110 x 27
Environmental class	II
Operating temperature range	-10°C...+55°C

SIRENS

Outdoor sirens

	SP-4001	SP-4002	SP-4003	SP-4006	SD-3001	SP-500	SPLZ-1011	SPL-2010	SPL-2030	SPL-5010	SPL-5020
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Average current consumption (acoustic signaling)	250 mA	220 mA	200 mA	200 mA	1,7 A	250 mA	220 mA	250 mA	250 mA	250 mA	200 mA
Average current consumption (optical signaling)	35 mA	60 mA	250 mA	250 mA	35 mA	35 mA	120 mA	35 mA	35 mA	35 mA	350 mA
Optical signaling	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	light bulb
Acoustical signaling	piezo	piezo	piezo	piezo	dynamic	piezo	piezo	piezo	piezo	piezo	piezo
Alarm tone selection	•	•	•	•	•	•	•	•	•	•	•
Sealed lead acid battery					optional						optional
Battery type		6 V 1,3 Ah		6 V 1,3 Ah	12 V 1,3 Ah		6 V 1,3 Ah				12 V 0,8 Ah
Enclosure	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate
Dimensions (mm)	148 x 254 x 64	148 x 254 x 64	148 x 254 x 64	148 x 254 x 64	300 x 195 x 97	300 x 195 x 97	298 x 197 x 90	298 x 197 x 90	298 x 197 x 90	298 x 197 x 72	298 x 197 x 72
Inner metal shield	•	•	•	•	•	optional	•	•	optional	optional	optional
Tamper opening switch	•	•	•	•	•	•	•	•	•	•	•
Tamper removal from mounting	•	•	•	•	•	•	•	•	•	•	•
Anti foam tamper (SPL-SAB)							•	•	optional	optional	optional
Optical anti foam tamper (SPL-TO)							optional	optional	optional	optional	optional
Environmental class	III	III	III	III	III	III	III	III	III	III	III
Operating temperature range	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C	-35°C...+55°C

Indoor sirens

	SPW-250	SPW-220	SPW-210	SPW-100	SOW-300 R/O	SOW-300 BL
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Average current consumption (acoustic signaling)	90 mA	100 mA	100 mA	240 mA		
Average current consumption (optical signaling)		180 mA			24/14 mA*	44/24 mA*
Optical signaling		LED			LED	LED
Acoustical signaling	piezo	piezo	piezo	piezo		
Alarm tone selection	•	•	•	•		
Dimensions (mm)	87 x 134 x 37	87 x 134 x 37	87 x 134 x 37	130 x 130 x 40	97 x 97 x 37	97 x 97 x 37
Tamper opening switch	•	•	•	•	•	•
Tamper removal from mounting	•	•	•			
Environmental class	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

* Depends on optic signaling mode.

COMMUNICATION AND MESSAGING

GSM/GPRS modules

	GPRS-T1	GPRS-T2	GSM-4	GSM-5	GSM LT-1	GSM LT-2
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Average current consumption (±10%)					230 mA	230 mA
Average current consumption (standby mode) (±10%)	50 mA	50 mA	100 mA	100 mA	100 mA	50 mA
Max. current consumption (±10%)	220 mA	180 mA	250 mA	330 mA		
Outputs load			50 mA	50 mA		
Dimensions (mm)	80 x 57	80 x 57	162 x 104	162 x 104		
Environmental class	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

Voice synthesizer

	SM-2
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	18 mA
Dimensions (mm)	65 x 43 x 20
Environmental class	II
Operating temperature range	-10°C...+55°C

PSTN telephone communicator

	DT-1
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	30 mA
Dimensions (mm)	145 x 90 x 38
Environmental class	II
Operating temperature range	-10°C...+55°C

Terminal adapter for ISDN networks

	ISDN-MOD
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	500 mA
Environmental class	II
Operating temperature range	-10°C...+55°C

Universal TCP/IP communication module

	ETHM-2	
Supply voltage	12 V DC ±15%	16 V AC ±10%
Average current consumption (standby mode)	150 mA	180 mA
Max. current consumption (±10%)	450 mA	1500 mA
Dimensions (mm)	68 x 120	68 x 120
Operating temperature range	0°C...+45°C	0°C...+45°C

Video alarm verification unit

	VIVER
Supply voltage (±15%)	12 V DC
Average current consumption (standby mode) (±10%)	160 mA
Max. current consumption (±10%)	200 mA
Dimensions (mm)	69 x 139
Environmental class	I
Operating temperature range	+5°C...+40°C

External 56k modem

	MDM56
Supply voltage (±15%)	12 V DC
Average current consumption (±10%)	110 mA
Dimensions (mm)	125 x 114,5 x 31
Environmental class	II
Operating temperature range	-10°C...+55°C

RADIO REMOTE CONTROLLERS

Sets

	RXH-1K	RXH-2K	RXH-4K	RE-1K	RX-1K	RE-2K	RX-2K	RE-4K	RX-4K
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC
Max. current consumption (±10%)	40 mA	70 mA	100 mA	40 mA	30 mA	60 mA	50 mA	65 mA	65 mA
Operating frequency band	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz	433,05 ÷ 434,79 MHz
Independent control channels	1	2	4	1	1	2	2	4	4
Number of supported keyfobs	40	340	340	16	40	16	340	340	340
RS-232							•	•	•
Dimensions (mm)	72 x 118 x 24	72 x 118 x 24	72 x 118 x 24	72 x 118 x 24	72 x 118 x 24	72 x 118 x 24	72 x 118 x 24	72 x 118 x 24	72 x 118 x 24
Environmental class	II	II	II	II	II	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

Keyfobs

	P-2	P-4	T-1	T-2	T-4
Independent control channels	2	4	1	2	4
Dimensions (mm)	37 x 55 x 15	37 x 55 x 15	35 x 70 x 15	35 x 70 x 15	35 x 70 x 15
Battery type	23A 12 V	23A 12 V	23A 12 V	23A 12 V	23A 12 V

POWER SUPPLIES

	APS-1012	APS-524	APS-30	APS-15
Supply voltage (transformer)			230 V AC	230 V AC
PCB nominal supply voltage	230 V AC 50 Hz	230 V AC 50 Hz	20 V AC	20 V AC
Nominal output voltage (±15%)	12 V DC	24 V DC	12 V DC	12 V DC
Power supply load capacity	10 A	5 A	3 A	1,5 A
OC outputs load	50 mA	50 mA	50 mA	50 mA
Recommended battery type	12 V 17 Ah	2 x 12 V 17 Ah	12 V 17 Ah	12 V 7 Ah
Dimensions (mm)	403 x 323 x 100	403 x 323 x 100	296 x 330 x 90	170 x 270 x 81
Environmental class	I	I	I	I
Operating temperature range	+5°C...+40°C	+5°C...+40°C	+5°C...+40°C	+5°C...+40°C

ACCO ACCESS CONTROL SYSTEM

Door controllers

	ACCO-KPWG	ACCO-KP	ACCO-KPWG-PS	ACCO-KP-PS
Number of users	1024	1024	1024	1024
Event log	24 576	24 576	24 576	24 576
Supply voltage	12 V DC ±15%	12 V DC ±15%	18 V AC ±10%	18 V AC ±10%
Switching mode power supply			•	•
Power supply load capacity			1,2 A	1,2 A
Battery load testing and charging mechanism			•	•
Number of inputs	5	5	5	5
Number of OC outputs	2	2	2	2
Number of relay outputs	1	1	1	1
Maximum relay switching current	8 A	8 A	8 A	8 A
RS-232	•	•	•	•
RS-485	•	•	•	•
RJ socket dedicated for LCD keypad connection during programming	•	•	•	•
Dimensions (mm)	104 x 73	104 x 73	151 x 70	151 x 70
Environmental class	II	II	II	II
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C

ACCO terminals

	ACCO-KLCDR-BG	ACCO-KLCDR-BW	ACCO-SCR-BG
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC
Max. current consumption	160 mA	160 mA	110 mA
Dimensions (mm)	140 x 126 x 26	140 x 126 x 26	47 x 158 x 24
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-20°C...+55°C
Outdoor operation			•
Doorbell button			•
PIN code access authorization	•	•	•
Proximity card access authorization	•	•	•

RS-485 to USB interface

	ACCO-USB
Supply voltage	5 V (received from USB port)
Dimensions (mm)	125 x 114,5 x 31
Operating temperature range	+5°C...+40°C

Proximity card readers

	CZ-EMM	CZ-EMM2	CZ-EMM3	CZ-EMM4	ACCO-USB-CZ
Supply voltage (±15%)	12 V DC	12 V DC	12 V DC	12 V DC	12 V DC (received from ACCO-USB converter)
Average current consumption	50 mA	31 mA	80 mA	80 mA	
Dimensions (mm)	80 x 120 x 16	35 x 127 x 21	47 x 158 x 24	47 x 158 x 24	120 x 80 x 29
Outdoor operation			•	•	
Doorbell button			•	•	
Proximity card access authorization	•	•	•	•	
Environmental class	II	II	III	III	
Operating temperature range	-10°C...+55°C	-10°C...+55°C	-25°C...+55°C	-25°C...+55°C	-10°C...+55°C

Integrated monitoring receiver with micro server

	STAM-IRS
Operating temperature range	0...+35 °C
Supply voltage	230 V AC
Current consumption from 230 V mains (with 1 card connected)	0,25 A
Current consumption from battery in emergency power mode (with 1 card connected)	2,5 A
Recommended battery capacity	40 Ah
PCI slots for cards	14
COM ports	4
USB 2.0 ports	2
Operating system	Microsoft Windows XP Professional
Main disk drive	32 GB
Spare disk drive	60 GB
Display	TFT LCD supporting the resolution of 800 x 600
Maximum humidity	90 %
Enclosure dimensions	55 x 48 x 17,7 cm
Weight (without cards)	15 kg

Visualization board for STAM monitoring station

	STAM-1 PTSA
Supply voltage (±15%)	20 V AC, 50-60 Hz
Power supply type	A
Power supply load capacity	1,3 A
Max. battery capacity	7 Ah
Dimensions (mm)	173 x 102
Environmental class	II
Operating temperature range	-10°C...+55°C

TCP/IP reporting converter to telephone formats

	SMET-256
Recommended power supply	12 V DC / 750 mA
Dimensions (mm)	125 x 114,5 x 31
Environmental class	II
Operating temperature range	-10°C...+55°C

Battery deep discharge protection

	ZB-1
Cut-off voltage	10,5 V ±0,5%
Max. current	7 A
Environmental class	II
Operating temperature range	-10°C...+55°C

Relay module

	MP-1
Supply voltage (±15%)	12 V DC
Max. switched voltage R1 and R2	48 V
Max. switched voltage R3 and R4	400 V AC / 250 V DC
Max. switched current R1 and R2	4 A
Max. switched current R3 and R4	8 A
Dimensions (mm)	140 x 68
Environmental class	II
Operating temperature range	-10°C...+55°C

Code lock

	SZW-02
Supply voltage (±15%)	DC 9 V to 16 V
Average current consumption (±10%)	19 mA
Max. switched voltage	24 V
Max. switching current	2 A
Dimensions (mm)	144 x 80 x 27
Environmental class	II
Operating temperature range	-10°C...+55°C

DTMF remote operation module

	MST-1
Average current consumption (±10%)	16 mA
Dimensions (mm)	61 x 50
Environmental class	II
Operating temperature range	-10°C...+55°C

Distribution box modules

	MZ-1 S	MZ-1 L	MZ-1 CT	MZ-2 S	MZ-2 L	MZ-2 CT	MZ-3 S	MZ-3 L	MZ-3 CT
Number of terminals	6	6	5 pairs	18	18	11 pairs	38	38	39 pairs
Terminal dimensions (mm)	1,5 x 2,5	2,5 x 2,5		1,5 x 2,5	2,5 x 2,5		1,5 x 2,5	2,5 x 2,5	
Jumpers for parallel connections				•	•		•	•	
Max. jumper circuit current				500 mA	500 mA		500 mA	500 mA	
Max. terminal voltage	24 V DC/AC	24 V DC/AC	24 V DC/AC	24 V DC/AC	24 V DC/AC	24 V DC/AC	24 V DC/AC	24 V DC/AC	24 V DC/AC
Tamper switch	•	•	•	•	•	•	•	•	•
Dimensions (mm)	89 x 28 x 30	89 x 28 x 30	89 x 28 x 30	89 x 66 x 30	89 x 66 x 30	89 x 66 x 30	132 x 89 x 30	132 x 89 x 30	132 x 89 x 30

Automatic overload protection with notification output

	ZB-2
Supply voltage (±15%)	12 V DC
OUT output cut-off current (±10%)	1,7 A
Current consumption without OUT output load	1,5 mA
Current-carrying capacity of OVL output	50 mA
Environmental class	II
Operating temperature range	-10°C...+55°C

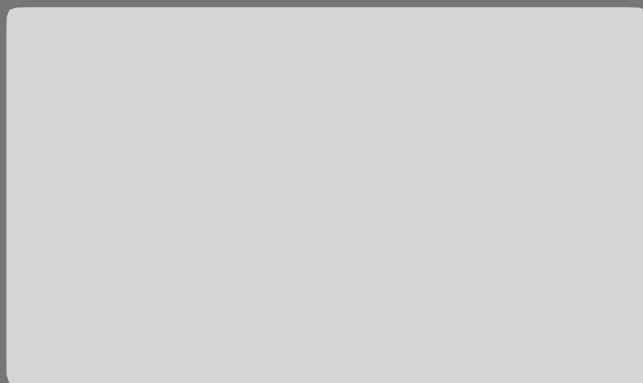
Voice message module

	INT-VMG
Supply voltage	12 V DC
Board dimensions	68 x 140 mm
Operating temperature range	-10...+55 °C
Standby mode current consumption	75 mA
Max. current consumption	500 mA
Weight	80 g
Maximum humidity	93 ±3%
Environmental class according to EN50130-5	II
Maximum power of speaker output	6 W
Recommended impedance of loudspeaker connected to SPEAKER terminals	8 Ω

Standalone door control module

	PK-01
Supply voltage	12 V DC
Enclosure dimensions	47 x 158 x 24 mm
Operating temperature range	-25...+55 °C
Standby mode current consumption	105 mA
Max. current consumption	125 mA
Weight	297 g
Relay contacts rated load (resistive)	2 A / 24 V DC
Maximum humidity	93 ±3%
Environmental class according to EN50130-5	III
Max. load for doorbell output	30 mA
Max. load for alarm output	30 mA
Reader frequency	125 kHz

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The manufacturer reserves the right to change the specification and technical data of devices described in this catalog. (IND_1212)

Fișă tehnică: E-DE-Ex - Detector efracție pentru medii Ex.

Nr. crt.	Specificațiile tehnice oferite	Producător - Denumire
0	1	2
1.	Parametrii tehnici și funcționali: – Material carcasă: ABS plastic UV stabilizat sau metalic; – Cu contact magnetic; – Montaj exterior; – Sistem cuplare la centrală efracție prin transponder; – Grad de protecție IP55; – Temperatura de lucru: -25°C...+50°C; – Conexiune electrică: terminale cu șurub; – Marcaj Ex pentru grupa II zona 2; – Distanța detecție: maxim 20 mm; – Contact de alarmă: NC/NO, maxim 0,5A/15Vcc; – Compatibil cu centrala de efracție prin transponder.	Schneider – XCSDMC5902
2.	Specificații de performanță și condiții privind siguranța în exploatare: – Monitorizarea pătrunderii persoanelor străine la intrarea prin efracție și declanșare contact releu REED; – Adresabil compatibil cu centrala de efracție.	
3.	Condiții privind conformitatea cu standarde relevante: – EN 60079, EN 60529 grade de protecție	
4.	Condiții de garanție și postgaranție: – Producătorul va garanta calitatea și buna funcționare a produsului timp de 24 luni de la punerea în funcțiune sau de 36 luni de la data livrării; – Produsul va corespunde normelor tehnice și standardelor europene.	
5.	Condiții cu caracter tehnic: – Vor fi anexate: ▪ instrucțiuni de montaj (scheme de conectare, broșuri, cataloage); ▪ instrucțiuni de exploatare; ▪ buletine de încercări, verificări, probe; ▪ declarație de conformitate.	

PROIECTANT,



Safety detection solutions

XCS range

Safety switches

Catalogue



XCS safety switches

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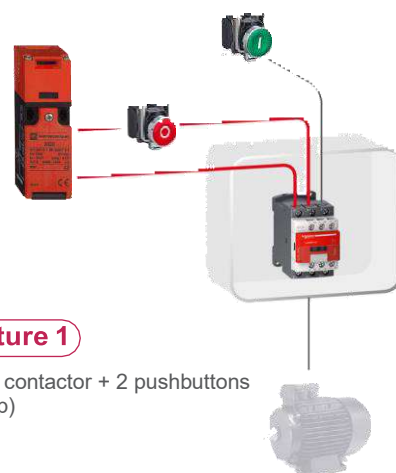
> Appropriate solutions

The latest operating safety standards propose new risk management methods right from the design stage, making use of concepts such as Safety Integrity Levels (SIL) and Performance Levels (PL).

Telemecanique Sensors safety solutions enable you to optimize the cost of your installations according to the level of safety required, while maximizing interoperability.

3 pre-defined safety levels

PL=b (category 1) / SIL 1



Architecture 1

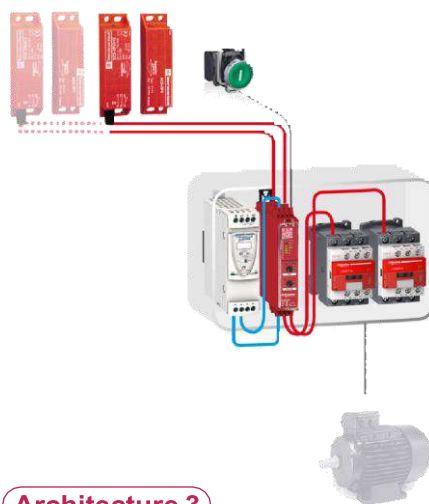
1 XCSPA + 1 contactor + 2 pushbuttons (start and stop)

PL=d (category 3) / SIL 2



Architecture 2

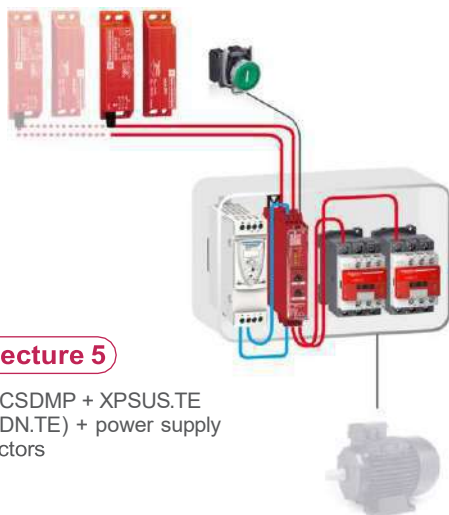
Several XCSLF in series + XPSUAF.TE + 2 contactors + 1 pushbutton start + XPSVNE (for zero speed detection)
For more than one XCSLF connected in series, the safety level can even be reduced to PLc (see fault masking restrictions in ISO/TR 24119)



Architecture 3

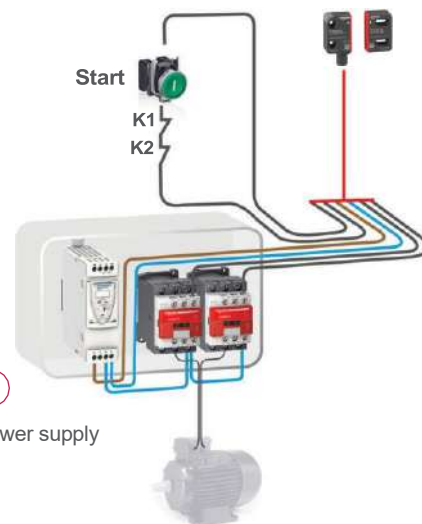
Several XCSDM in series with 1 XPSUAF.TE + power supply + contactor
For more than one XCSDM connected in series, the safety level can even be reduced to PLc (see fault masking restrictions in ISO/TR 24119)

Used with Telemecanique Sensors safety relays, safety controllers or safety PLCs, and motor starter solutions, XCS safety switches offer levels of access protection up to PLe, category 4, SIL3, according to standards requirements in force EN ISO 13849-1 and EN/IEC 62061.



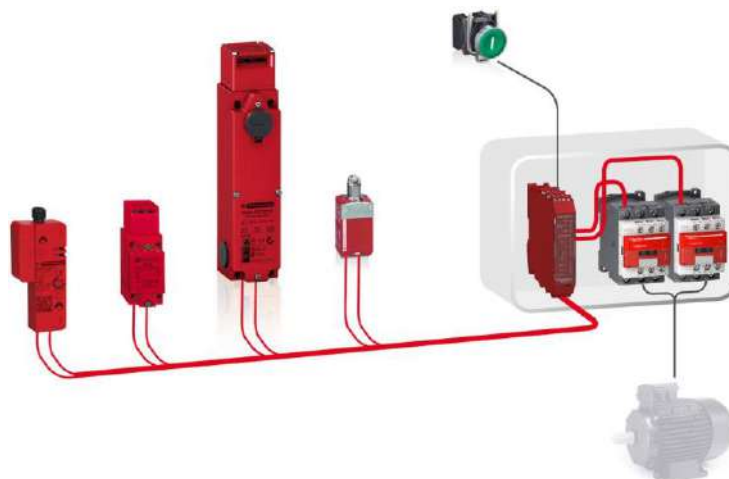
Architecture 5

Several XCSDMP + XPSUS.TE
(or XPSUDN.TE) + power supply
+ 2 contactors



Architecture 6

XCSRmp3M12 + power supply
+ 2 contactors

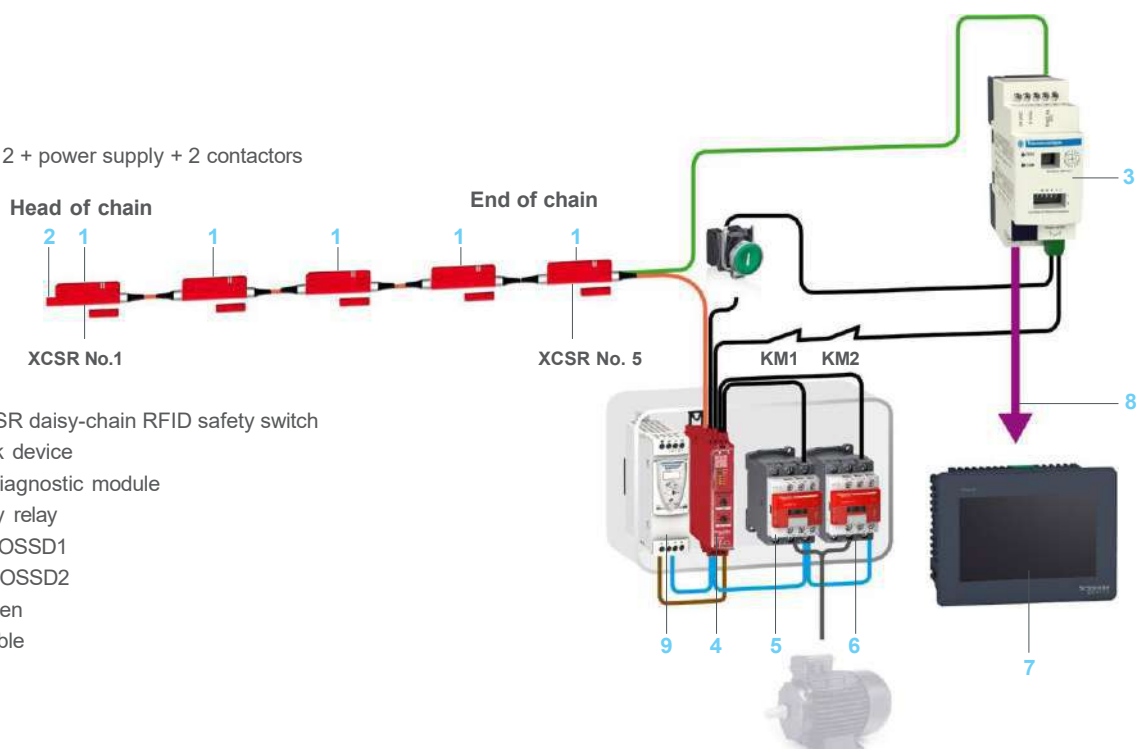


Architecture 4

1 XCSRcp0M12 + 1 XCSA + 1 XCSLF
+ 1 XCSM + XPSMCM + 2 contactors

Architecture 7

Several XCSRcp2M12 + power supply + 2 contactors

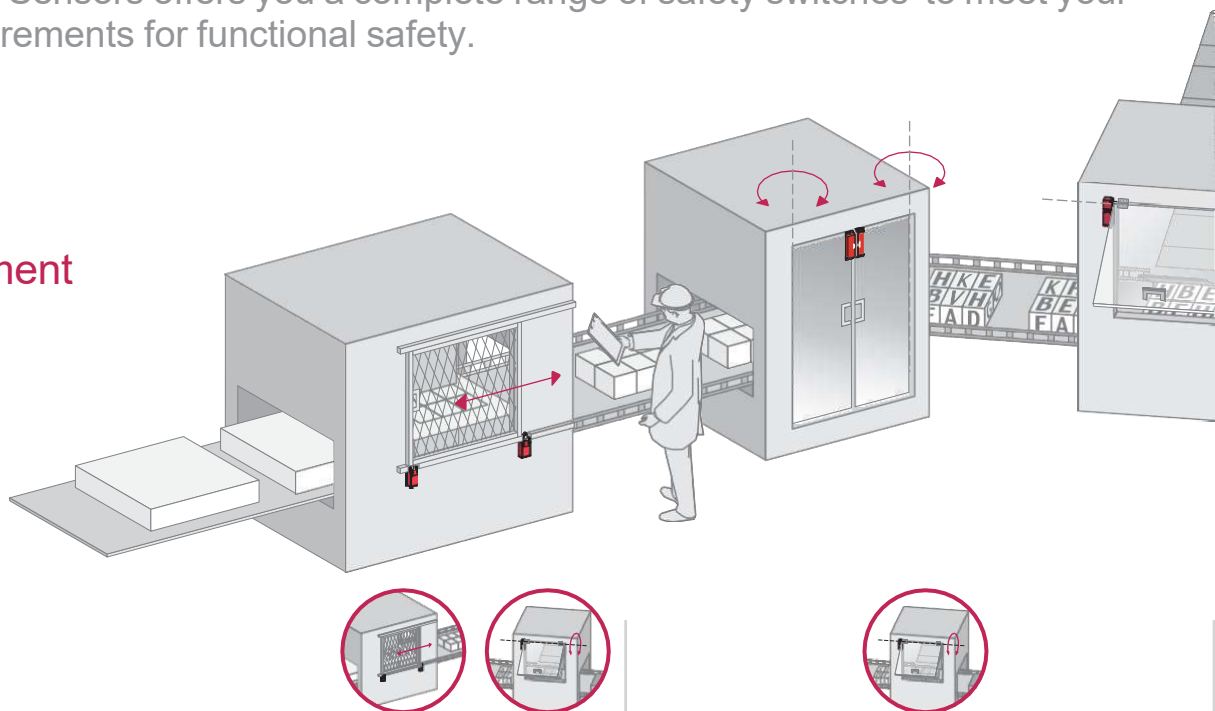


- 1 XCSRcp2M12: XCSR daisy-chain RFID safety switch
- 2 XCSRZE: Loopback device
- 3 XCSRd210MDB: Diagnostic module
- 4 XPSUAF.TE: Safety relay
- 5 KM1: Contactor 1 - OSSD1
- 6 KM2: Contactor 2 - OSSD2
- 7 HMI with touch screen
- 8 2xRJ45 Modbus cable
- 9 Power supply

> XCS safety switches guide your choice

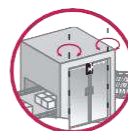
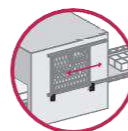
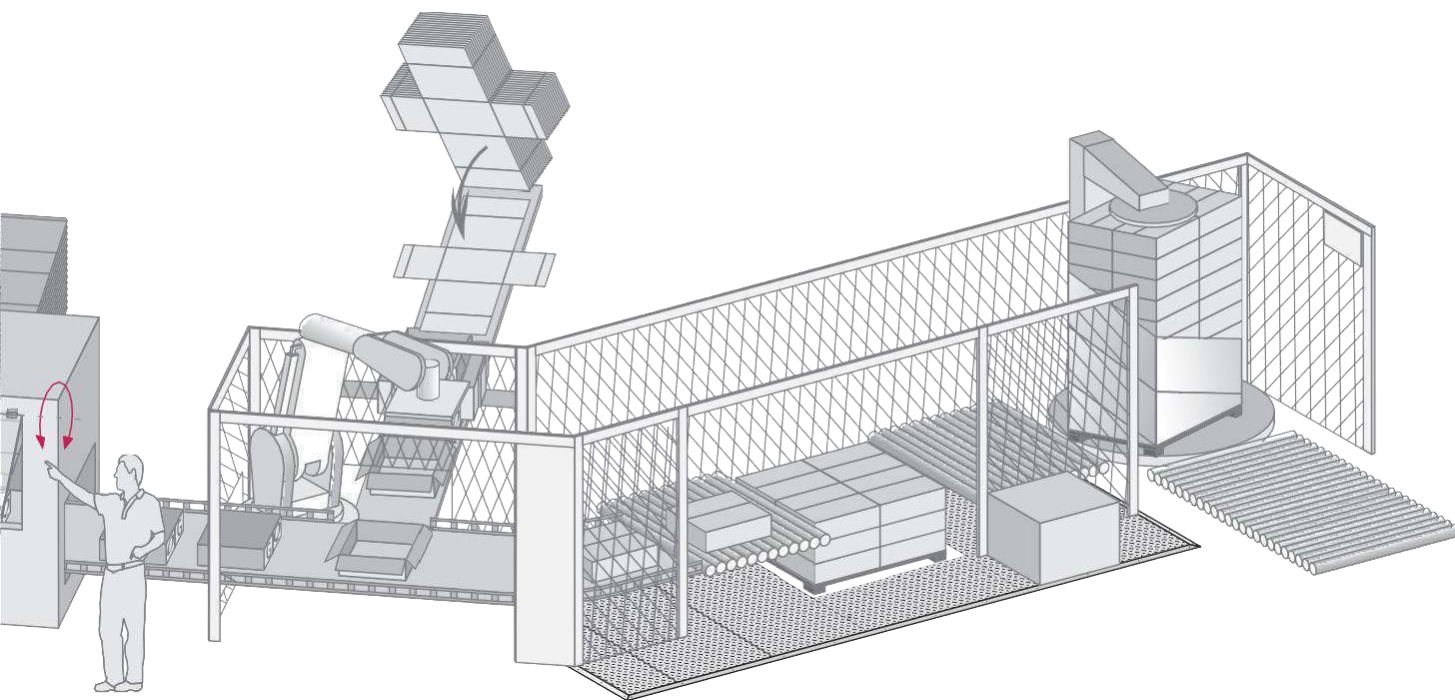
Whatever your activity sector, your type of machine or your automated function, Telemecanique Sensors offers you a complete range of safety switches to meet your protection requirements for functional safety.

Adaptable to
your environment



Actuation mode	According to ISO 14119	Mechanical: 5 different actuator heads	Lever or hinge-operated	
Non-defeatability	Actuation mode	Actuator protected against manual operation	Mechanical direct connection	
Product type and preferred machine architecture by safety level (PL/SIL)	PL=b (category 1) / SIL1			
	PL=d (category 3) / SIL2			
	PL=e (category 4) / SIL3			
Normal environment		XCSP: Plastic body, 3 contacts secured mounting adjustment and cabling access using special screws (XCSP and XCSD also) 	XCSPL: Stainless steel lever, up to 3 contacts 	XCSPR - XCSTR: Stainless steel spindle operator, for direct axis control, up to 3 contacts 
Harsh environment			—	—
Safety controllers & relay modules	XPSUAF.TE, XPSUAK.TE, XPSUAT.TE,			

(1) In combination with an appropriate and correctly connected safety control unit. Refer to the relevant safety standards and product features to determine the
(2) Complete references and other XPS safety control units are available on www.telemecaniquesensors.com



Mechanical using separate key actuators	Mechanical and interlock by separate key manual locking	Mechanical and interlocking using separate key, Solenoid locking/unlocking	Contact-free	
Without solenoid		With solenoid	Using RFID unique code High level of coding	Using coded magnetic key Low level of coding
Using special specific key				
Architecture 1		—	—	—
Architecture 2				Architecture 3
Architecture 4			Architecture 4, 6, or 7	Architecture 5
XCSPA, XCSTA: Compact plastic body, XCSPM: Miniature key switch with cable output, up to 3 contacts 	—	XCSLE: Reinforced plastic body, FZh= 1100N slim dimensions, up to 6 contacts for inertia machines XCSTE: Plastic body, rectangular shape, 3 contacts FZh=500N, for small machines with inertia 	—	—
XCSA: Metal body, 3 contacts for protection against accidental impact for controlling heavy doors 	XCSB, XCSC: Metal body, 3 contacts, release using pushbutton or key 	XCSLF: Slim dimensions, metal body, FZh=2300 N. Up to 6 contacts, reinforced locking for inertia machines in harsh environments XCSE: Metal body, rectangular shape, 5 contacts, FZh=2000N, for inertia machines 	XCSR: Thermo-plastic body, 3 versions (standalone, daisy-chain, or single models for point-to-point connection) Suitable for low inertia machines with doors, covers or guards with imprecise alignment. Ideal for dust and liquid environments which may be exposed to impact and vibrations 	XCSPA, XCSTA: Compact plastic body 
XPSUDN.TE, XPSUS.TE			Not necessary for standalone models. XPSUAF.TE, XPSUAK.TE, XPSUAT.TE, XPSUDN.TE, XPSUS.TE, XPSMCM (1)(2) for daisy-chain or single models.	XPSUAK.TE, XPSUAT.TE, XPSUDN.TE, XPSUS.TE, XPSMCM (1)(2)

the maximum safety level achievable for the application.

Switch type			XCS safety limit switches		
Applications			Protection of operators by stopping the machine when the gate is opened. All machines with quick rundown time.		
Design			Miniature format		Compact format
			Pre-cabled		With 1 cable entry
					
Case			Metal		Plastic
Features			–		
Conformity to standards			EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no. 14		
			EN/IEC 60204-1, EN/ISO 14119		
Product certifications			UL, CSA, CCC, EAC		
Dimensions (w x h x d) in mm			Switch		
			Fixings	Centers	
Head			Plunger or rotary head Head adjustable in 15° steps through 360° Linear (plunger) or rotary (lever) actuation.		
Contact blocks			NC contacts with positive opening operation		
			2 NC + 1 NO break before make, slow break 2 NC + 1 NO and 2 NC + 2 NO snap action		XCSD: 2 NC + 1 NO break before make, slow break or snap action XCSP: 2 NC + 1 NO snap action
Degree of protection			IP 66, IP 67 and IP 68		IP 66 and IP 67
Ambient air temperature			For operation -25...+70 °C		
Connection			Screw terminals (cable entry via cable gland)		Tapped entry for Pg 13.5, ISO M20 cable gland or tapped 1/2" NPT
			Pre-cabled		
Type reference			XCSP		XCSD
Page			26		30

XCS lever or spindle-operated safety switches

Protection of operators by stopping the machine when the operating lever (attached to hinged machine guard) is displaced by 5°.
All light industrial machines fitted with hinged or rotary protective covers with small opening radius.

Protection of operators by stopping the machine when the guard hinge rotates through 5°.
All light industrial machines fitted with hinged access doors.

Compact format

With 1 or 2 cable entries



Plastic, double insulated

2 types of lever: straight or elbowed (flush with rear of switch)
3 lever positions: to left, center or to right

2 types of spindle: length 30 mm or 80 mm

EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no.14, JIS C4520

EN/IEC 60204-1, EN/ISO 14119

UL, CSA, CCC, EAC

30 x 87.5 x 30

30 x 96 x 30

52 x 117 x 30

20/22

20/22

20/22 or 40.3

Turret head: 4 positions
Rotary actuation (lever)

Turret head: 4 positions
Rotary actuation (spindle)

Slow break safety contacts with positive opening operation
NC contacts open when lever or spindle displaced by more than 5°

1 NC + 1 NO break before make
2 NC
1 NC + 2 NO break before make
2 NC + 1 NO break before make

1 NC + 1 NO break before make
2 NC
1 NC + 2 NO break before make
2 NC + 1 NO break before make

1 NC + 2 NO break before make
2 NC + 1 NO break before make
3 NC

IP 67

-25...+70 °C

1 tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" NPT

1 tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" NPT

2 tapped entries for Pg 11, ISO M16 cable gland or tapped 1/2" NPT

—

—

—

XCSPL

XCSPR

XCSTR

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Switch type
Applications
Design

XCS key-operated safety switches	
Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All light industrial machines with quick rundown time (1).	
Miniature format	Compact format
Pre-cabled	With 1 or 2 cable entries



Features	
Conformity to standards	Products
	Machine assemblies
Product certifications	
Dimensions (w x h x d) in mm	Switch
	Fixings
Head	
Contact blocks	
Degree of protection	
Ambient air temperature	For operation
Connection	Screw terminals
	(cable entry via cable gland)
Type reference	
Page	

Without locking of actuating key.		Without locking of actuating key. Optional accessory: guard retaining device.	
EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no. 14			
EN/IEC 60204-1, EN/ISO 14119			
cULus		UL, CSA, CCC, EAC	
30 x 87 x 15		30 x 93.5 x 30	52 x 114.5 x 30
Centers: 20/22		Centers: 20/22	Centers: 20/22 or 40.3
Fixed head: 2 positions for insertion of actuating key.		Turret head: 8 positions for insertion of actuating key.	
Safety contacts actuated by the actuating key. Slow break and NC positive opening operation.			
1 NC + 1 NO break before make 2 NC 2 NC + 1 NO break before make 3 NC		1 NC + 1 NO slow break contacts, break before make or make before break, or snap action 2 NC slow break or snap action 2 NC + 1 NO slow break contacts, break before make, or snap action 1 NC + 2 NO slow break contacts, break before make, or snap action	
1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC			
IP 67			
-25...+70 °C			
–		Tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" NPT	
L = 2, 5 or 10 m		–	–
XCSMP		XCSPA	XCSTA
40		44	

(1) Machine stopping time less than time taken for operator to access hazardous zone.

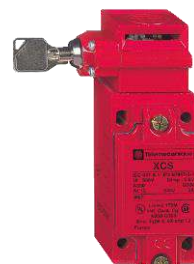
XCS key-operated safety switches

All heavy industrial machines with quick rundown time ⁽¹⁾

Industrial format with or without locking

With 1 cable entry, without locking

With 1 cable entry and manual locking/unlocking



Without locking of actuating key.

Manual locking and unlocking of actuating key by pushbutton (can be mounted on left or right-hand side of switch head).

Manual locking and unlocking of actuating key by key-operated lock (can be mounted on left or right-hand side of switch head).

EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no.14

EN/IEC 60204-1, EN/ISO 14119

UL, CSA, CCC, EAC

40 x 113.5 x 44

52 x 113.5 x 44

30 x 60

30 x 60

Turret head: 8 positions for insertion of actuating key.

Turret head: 8 positions for insertion of actuating key.

Safety contacts actuated by the actuating key.
Slow break and NC positive opening operation.

Safety contacts actuated by the actuating key.
Slow break and NC positive opening operation.

1 NC + 2 NO break before make
2 NC + 1 NO break before make
3 NC

1 NC + 2 NO break before make
2 NC + 1 NO break before make
3 NC

IP 67

-25...+70 °C

Screw clamp terminals. Tapped entry for Pg 13.5, ISO M20 cable gland or tapped 1/2" NPT

Screw clamp terminals. Tapped entry for Pg 13.5 cable gland, ISO M20 or tapped 1/2" NPT.

XCSA

XCSB

XCSC

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Safety detection solutions

XCS safety switches

Switch type			XCS key-operated safety switches, locking and unlocking by solenoid	
Applications			Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All industrial machines with long rundown time ⁽¹⁾	
Design			Slim format	
			With 3 cable entries	With 3 cable entries
				
Case			Plastic	Metal
Features			Locking and unlocking of actuating key using a solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using special tool) of actuating key in abnormal conditions.	Locking and unlocking of actuating key by solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using key lock) of actuating key in abnormal conditions.  Emergency release mushroom head pushbutton (only for XCSLF...4.. and XCSLF...6..).
Conformity to standards		Products	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508 and CSA C22-2 no. 14	
		Machine assemblies	EN/IEC 60204-1, EN/ISO 14119	
Product certifications			UL, CSA, CCC, EAC	
Dimensions (w x h x d or Ø) in mm		Switch	51 x 205 x 43.5	
		Fixings	30 x 153.3	
		Centers	Turret head: 8 positions for insertion of actuating key.	
Head				
Resistance to forcible withdrawal of the actuator		F _{1max}	1400 N	3000 N
		F _{2h}	1100 N	2300 N
Contact blocks or outputs			Main safety contacts actuated by the actuating key; auxiliary contacts actuated by solenoid. Contact states given with key inserted and solenoid not energized. Slow break and NC positive opening operation	
		Main contacts	1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	
		Auxiliary contacts	1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	
Degree of protection			IP 66/IP 67	
Ambient air temperature		For operation	-25...+60 °C	
		For storage	-40...+70 °C	
Connection		Terminals	Spring terminals, 3 cable entries. Tapped entry for ISO M20 cable gland or tapped 1/2" NPT.	
		Connector	M23 (18 + 1 PE)	
Type reference			XCSLE	XCSLF
Page			52	

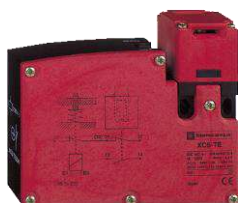
(1) Machine stopping time greater than time taken for operator to access hazardous zone.

XCS key-operated safety switches, locking and unlocking by solenoid (continued)

Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All industrial machines with long rundown time (1)

Rectangular

— With 2 cable entries



Plastic, double insulated

Locking and unlocking of actuator by solenoid (either on de-energization or on energization). Manual unlocking (auxiliary release using special tool) of actuating key in abnormal conditions.



Metal

Locking and unlocking of actuating key by solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using key lock) of actuating key in abnormal conditions.

EN/IEC 60947-5-1, EN/ISO 13849-1, UL 508, CSA C22-2 no. 14, EN/IEC 62061, EN/IEC 60947-1

EN/IEC 60204-1, EN/ISO 14119

UL, CSA, CCC, EAC

110 x 93.5 x 33

30 x 153.3

Turret head: 8 positions for insertion of actuating key

650 N

500 N

UL, CSA, CCC, EAC

98 x 146 x 44

88 x 95

2600 N

2000 N

Main safety contacts actuated by the actuating key; auxiliary contacts actuated by solenoid.
Slow break and NC positive opening operation

1 NC + 1 NO break before make
1 NC + 1 NO make before break
2 NC

1 NC

1 NC + 2 NO break before make
2 NC + 1 NO break before make
3 NC

1 NC + 1 NO
2 NC

IP 67

-25...+60 °C

-40...+70 °C

Tapped entry for Pg 11 ISO M16 cable gland or tapped 1/2" NPT

—

XCSTE

68

-25...+40 °C

-40...+70 °C

Screw clamp terminals. 2 tapped entries for Pg 13.5 ISO M20 cable gland or tapped 1/2" NPT.

—

XCSE

Switch type
Applications
Design

XCSR contactless RFID safety switches

Highly tamper-proof protection of operators by stopping the machine when the gate is opened (transfer lines, assembly lines, automated equipment, machine tools, etc.). All light industrial machines fitted with access gates with imprecise guidance and/or subjected to frequent washing, shocks and vibrations. This safety switch is suitable for machine with low inertia.

Standard rectangular format

M12 connector



Case	
Features	Assured operating sensing distance (Sao) Assured release distance (Sar) Type of switch Operating mode
Conformity to standards	Products Machine assemblies RFID protocol
Product certifications	
Dimensions (w x h x d or Ø) in mm	Switch Transponder Fixings Centers Reader Transponder
Contact blocks or outputs	Safety output
Degree of protection	Conforming to EN/IEC 60529 Conforming to DIN 40050
Ambient air temperature	For operation For storage
Connection	Pre-cabled Connector Pigtail
Type reference	
Page	

Thermoplastic housing (Valox TM)

Contactless system composed of a microprocessor-controlled switch and a transponder factory-paired with a unique code. Multiposition sensor transponder.

15 mm

35 mm

Standalone RFID switch

Daisy-chain RFID switch for direct series connection

Single RFID switch for point-to-point connection

Possible functioning without association with a safety control unit (Integrated External Device Monitoring (EDM) and Start/Restart function)

Functioning in combination with a safety control unit
PL=e/Cat4 - SIL 3

EN/IEC 60947-5-2, EN/IEC 60947-5-3, UL 508, CSA C22.2
SIL 3 (IEC 61508), SILCL 3 (IEC 62061), PL e-Cat. 4 (EN ISO 13849-1)

EN/IEC 60204-1, EN/ISO 14119

Based on ISO 15693

e, cULus, TÜV, FCC, EAC, IC, RCM, E2, ECOLAB

30 x 108.3 x 15

30 x 118.6 x 5

30 x 108.3 x 15

50 x 15 x 15

—

74...78

30...34

2 OSSDs (Safety outputs PNP NO). OSSDs are in the ON state when the gate is closed

Maximum current 400mA

Maximum current 200 mA

IP 65, IP 66, IP 67

IP 69K

-25...+70 °C

-40...+85 °C

—

1 M12 8-pin connector
(A coding)

2 M12 5-pin connector
(A coding)

1 M12 5-pin connector
(A coding)

—

XSRCp1pM12

XSRCp2M12

XSRCp0M12

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XCSRM contactless RFID safety switches

Highly tamper-proof protection of operators by stopping the machine when the gate is opened (transfer lines, assembly lines, automated equipment, machine tools, etc.).
All light industrial machines fitted with access gates with imprecise guidance and/or subjected to frequent washing, shocks and vibrations. This safety switch is suitable for machine with low inertia.

Miniature rectangular format

Single model

Advanced model



Polyketone

Contactless system composed of a microprocessor-controlled switch and a transponder factory-paired with a unique code, also available with a generic code.
Multiposition sensor transponder.

10

25

Single RFID switch for point-to-point connection

Suitable for both Standalone by EDM and Daisy-chain connection

Automatic start/restart

Automatic start/restart
Manual start/restart
Built-in EDM function
Daisy-chain connection
Diagnostic

EN/IEC 60947-5-2, EN/IEC 60947-5-3, EN ISO 13849-1, IEC 61508, EN IEC 62061, UL 508, CSA C22.2

EN ISO 14119,

Low Frequency according to ISO/IEC 18000-2

e, cULus, TÜV, FCC, IC, UKCA, ECOLAB

28.5 x 42 x 18 (pre-cabled or pigtail)

28.5 x 57 x 18 (M12 connector)

28.5 x 42 x 18

–

22

22

2 OSSDs : PNP safety outputs

2 OSSDs : 2 PNP safety outputs

Maximum current 300mA

Maximum current 300mA

IP65 and IP67

IP69K

-25...+70 °C

-25...+70 °C

2, 5, or 10 m cable with 5 flying wires

–

M12 5-pin male connector

M12 8-pin male connector

0.1 m cable with M12 5-pin male connector

0.1 m cable with M12 8-pin male connector

XCSRCMp0ppp

XCSRCMp3ppp

96

Switch type
Applications
Design

XCS safety coded magnetic safety switches for detection without contact

Protection of operators by stopping the machine when the gate is opened
All light industrial machines fitted with access gates with imprecise guidance and/or subjected to frequent washing
This Safety sensor is suitable for machine with low inertia.

Miniature rectangular format	Compact rectangular format
Pre-cabled or M8 connector on flying lead	Pre-cabled or M12 connector on flying lead



Case	
Features	Assured operating sensing distance (Sao) Assured release distance (Sar) Type of switch Operating mode
Conformity to standards	Products Machine assemblies RFID protocol
Product certifications	
Dimensions (w x h x d or Ø) in mm	Switch Transponder Fixings Centers Reader Transponder
Contact blocks or outputs	Safety output Contact states given in presence of magnet
Degree of protection	Conforming to EN/IEC 60529 Conforming to DIN 40050
Ambient air temperature	For operation For storage
Connection	Pre-cabled Connector Conforming to EN/IEC 60947-5-2-A3 and EN/IEC 61076
Type reference	
Page	

Plastic	
3 approach directions	
5 mm	8 mm
15 mm	20 mm
—	
—	
EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508 and CSA C22-2 no. 14	
EN/IEC 60204-1, EN/ISO 14119	
—	
UL, CSA, EAC, ECOLAB	
16 x 51 x 7	25 x 88 x 13
—	
16	78
—	
—	
1 NC + 1 NO staggered 2 NC staggered Independent Reed-type contacts operated by coded magnet.	1 NC + 1 NO staggered 2 NC staggered 2 NC + 1 NO (NC staggered) 1 NC + 2 NO (NO staggered)
To be used with safety control units.	
IP 66 and IP 67 for pre-cabled version, IP 67 for connector on flying lead version	
—	
—	
-25...+85 °C	
—	
L = 2, 5 or 10 m	
M8, on 0.15 m flying lead	M12, on 0.15 m flying lead
—	—
XCSDMC	XCSDMP
106	

Protection of operators by stopping the machine when the gate is opened
 All light industrial machines fitted with access gates with imprecise guidance and/or subjected to frequent washing
 This Safety sensor is suitable for machine with low inertia.

Cylindrical format

Pre-cabled or M12 connector on flying lead



Plastic

1 approach direction

8 mm

20 mm

–

–

EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508 and CSA C22-2 no. 14

EN/IEC 60204-1, EN/ISO 14119

–

UL, CSA, EAC, ECOLAB

Ø 30, L 38.5

–

–

–

–

–

1 NC + 1 NO staggered
 2 NC staggered

To be used with safety control units.

IP 66 and IP 67 for pre-cabled version, IP 67 for connector on flying lead version

-25...+85 °C

–

L = 2, 5 or 10 m

M12, on 0.15 m flying lead

–

XCSDMR

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Refer to standards

EN/ISO 12100 and EN/ISO 14119
IEC/ISO 13852 and EN/IEC 60204-1

Telemecanique Sensors XCS safety detection solutions conform to EN/ISO 12100 and EN/ISO 14119 standards regarding potentially hazardous machine functions. They meet more specifically the following requirements:

- Removable or movable protective guards must be used in conjunction with locking or interlocking devices,
- For high inertia machines (i.e. with long rundown time), an interlocking device must be used. With a long rundown time, the rundown time is greater than the time it takes for a person to reach the hazardous zone. The interlocking device helps ensure that the guard remains locked until the potentially hazardous movement has stopped.

Safety interlock switches

As required by EN/ISO 12100 and EN/ISO 14119, safety interlock switches which are specifically designed for machine guarding applications provide an ideal solution for the locking or interlocking of movable guards associated with industrial machinery. They also meet the requirements of IEC/ISO 13852 and EN/IEC 60204-1.

They contribute to the protection of operators working on potentially hazardous machines by breaking the start control circuit of the machine when a protective guard is opened or removed, using **positive opening operation contacts**, thus stopping the hazardous movement of the machine.

Removal/opening of the guard (after the hazardous movement has stopped) can either be:

- at the time the machine is switched off for low inertia machines (machines where the rundown time is less than the time it takes for the operator to access the hazardous zone), or
- delayed for high inertia machines (machines where the rundown time is greater than the time it takes for the operator to access the hazardous zone).

Control circuit categories

If used with a safety control unit, the safety interlock switch enables designers to achieve PL=e, category 4 control systems with reference to EN/ISO 13849-1 and SIL CL3 with conformity to EN/IEC 62061. When used on their own or combined with another switch, they can achieve up to category 1, 2 or 3 control circuits (except for RFID XCSR standalone models which can reach PLe-Cat. 4/SIL3 without safety control unit).

Safety related parts of control systems shall be developed taking into account the results of an appropriate Risk Assessment.

Safety of personnel

The start command for the machine can only be initiated following correct operation of the safety interlock switch.

On its release, the NC safety contacts are opened by **positive action** or, for coded magnetic switches, change state (**this should be monitored using a safety control unit**). RFID XCSR safety switches have 2 OSSDs (Output Signal Switching Devices) which are NC when the guard is closed.

Safety of operation

The safety interlock switches incorporate slow break or snap action contacts with **positive opening operation** (except for coded magnetic switches where this is not possible). For mechanical safety interlock switches, on closing of the guard the actuating key fitted to it enters the head of the switch, operates the multiple interlock device and closes the NC contacts. For coded magnetic switches, the presence of the magnet causes the contacts to change state. For RFID XCSR safety switches, the 2 OSSDs change from ON to OFF state when the guard is being opened.

Safety in use

In order to compensate for mechanical clearance, vibration, etc., all safety interlock switches are designed to accept a few millimeters of misalignment between the actuating key and the switch, or between the magnet and the sensor part for coded magnetic switches, or between the transponder and the reader for RFID XCSR safety switches.

Design to minimize defeat

Mechanically, magnetically or RFID-actuated safety interlock switches are designed to be operated by specific actuating keys so that they cannot be defeated in a simple manner using common tools (rods, metal plates, simple magnets, etc.). When loosening the fixing screws for re-orientation of the turret head on safety interlock switches, the head itself remains attached to the switch body and the contact states remain unchanged.

All safety interlock switches and safety limit switches are designed to avoid any adjustments in the head setting, removal of the actuating key or access to the safety contacts without using the appropriate tool.

There are various methods for obtaining a higher level of tamperproofing, for example:

- using a cage device to help prevent the insertion of a spare actuating key or magnet, or any other foreign body
- fixing the actuating key or coded magnet to the guard by means that make it very difficult to remove (riveting or welding)
- using RFID unique coding XCSR safety switches

Metal key-operated safety switches - Without solenoid

Without locking of actuating key



XCSA without manual unlocking

Metal case key-operated switches for use on machines **with low inertia** and operating in **normal conditions** (no vibration or shock and guard mounted vertically, without risk of rebound on closing), thus helping to eliminate unintentional opening of the guard.

With locking of actuating key and manual unlocking



XCSB with pushbutton



XCSC with actuating key

Metal case key-operated switches for use on heavy machines **with low inertia** and operating in **arduous conditions** (shock or vibration), whereby the guard could open unintentionally.

A key-operated lock or a pushbutton enables positive locking of the guard and its subsequent unlocking.

Metal safety interlock switches - With solenoid

With interlocking of actuating key by solenoid



XCSLF slim (metal case)

Metal case safety interlock switches for use on machines **with high inertia** with controlled opening of the protective guard.

Locking of the moving guard can either be on de-energization or energization of the solenoid.

Auxiliary release: A key-operated lock enables manual unlocking of the guard from outside the safeguarded area in the event of an interlocking circuit malfunction, and also provides extra safety for maintenance personnel likely to be working on the machine.

The switches incorporate 2 LEDs: one indicating guard "open" and the other, guard "closed and locked" (XCSLF/XCSE).

Emergency release with mushroom head pushbutton



XCSLF with mushroom button

Safety interlock switches are available with a mushroom head pushbutton mounted on the rear of the switch for unlocking the machine guard from inside the safeguarded area.

This manual unlocking using the mushroom head pushbutton for emergency release is useful in the following cases:

- while the machine or a group of machines is undergoing maintenance, enabling operation at reduced speed
- while stopped with the guard(s) closed

The safety of maintenance personnel is thus improved in the event of:

- a power outage
- an interlocking circuit malfunction
- personnel finding themselves in a hazardous situation

Unlocking using the emergency release mushroom head pushbutton takes priority over any other action. It therefore enables a person to leave the zone if the need arises.

This function is reinitialized by turning (with or without a key) the emergency release mushroom head.

Plastic key-operated safety switches - Without solenoid

Without locking of actuating key - Without solenoid



XCSMP



XCSPA



XCSTA

Plastic case safety interlock switches for use on light machines **with low inertia** and operating in **normal conditions**.

For use in arduous conditions (shock or vibration, guard not vertical or risk of rebound on closing) where the guard could open unintentionally, a **guard retaining device (XCSPA or XCSTA)** is available as an accessory.

Plastic safety interlock switches - With solenoid

With interlocking of actuating key by solenoid



XCSLE slim (plastic case)

Plastic case safety interlock switches for use on machines **with high inertia** with controlled opening of the protective guard.

Locking of the moving guard can either be on de-energization or energization of the solenoid.

Auxiliary release: A special tool enables manual unlocking of the guard from outside the safeguarded area in the event of an interlocking circuit malfunction, and also provides extra safety for maintenance personnel likely to be working on the machine.

The switches incorporate 2 LEDs: one indicating guard "open" and the other, guard "closed and locked" (XCSLE).

Safety detection solutions

Lever or spindle-operated safety switches, safety limit switches, coded magnetic switches and contactless RFID safety switches

Rotary lever and spindle-operated switches for hinged or cover guards

With head for rotary movement (lever or spindle)



XCSTR
with spindle

XCSPL
with lever

Plastic case safety interlock switches with straight or elbowed operating lever or spindle operator.

Specifically designed for small industrial machines with low inertia fitted with small **hinged doors, covers or protective guards**.

They help protect the operator by immediately stopping the hazardous movement of the machine as soon as the rotary lever or spindle displacement reaches an angle of 5°.

Safety limit switches

With head for linear movement (plunger) or rotary movement (lever)



XCSD for rotary
movement

XCSM for linear
movement

Metal or plastic case limit switches.

For use on machines with low inertia and also on machines with high inertia, when used in conjunction with key-operated safety interlock switches with solenoid for monitoring access doors and/or guards. When used on their own, they are always installed in "positive mode" or combined in pairs, with one switch being in "positive mode" and the other in "negative mode".

Coded magnetic switches

With an associated coded magnet



XCSDMC,
compact format

XCSDMP,
standard format

Plastic case guard switches for use on machines with low inertia.

Specifically designed for industrial machines fitted with **doors, covers or guards with imprecise guiding**.

They are ideally suited for machines subjected to frequent washing or liquid spray. They help protect the operator by immediately stopping any hazardous movement, as soon as the distance between the switch and its magnet is greater than 8 or 5 mm, depending on the switch model.



XCSDMR,
cylindrical format

Contactless RFID safety switches

Operated by a digital code



XC SRC,
compact design

XC SRM,
miniature design

Plastic case switch and transponder for use on machines with low inertia.

Specifically designed for industrial machines fitted with **doors, covers or guards with imprecise guiding**. They are ideally suited for **machines subjected to frequent washing or liquid spray, and exposed to shocks and vibrations**.

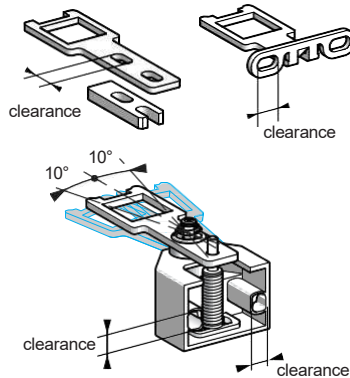
Contactless system composed of a microprocessor-controlled switch and a transponder.

The reader and the transponder are factory-paired so as to load into the transponder a unique code shared with the reader. This saved digital code is the unique "key" accepted by the paired reader. **This type of switch is thus difficult to tamper with.**

As long as the transponder is in the reader detection zone (<15 mm), the machine will run normally. When the transponder goes outside the field generated by the reader, the reader stops the machine, indicating that the safety guard is open.

Actuating keys

The actuating keys are common to all safety interlock switches: metal case XCSLF, XCSE, XCSA, XCSB, XCSC and plastic case XCSLE



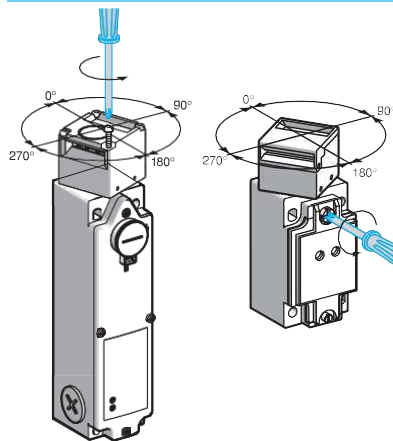
Their oblong fixing holes enable simple adjustment when mounting on moving guards.

A pivoting actuating key (both horizontally and vertically) is available when using safety interlock switches in conjunction with hinged guards or guards with imprecise guiding.

Straight actuating keys are supplied with an adapter shank for simple replacement of legacy **XCKJ** or **XCSL5/7** safety interlock switches by an **XCSLF/LE** switch, without the need to drill additional fixing holes for the switch or the actuating key.

Turret head

All metal case safety interlock switches are fitted with a square turret head which can be rotated through 360° in 90° steps



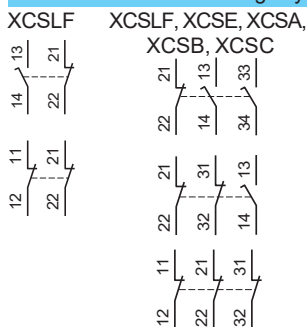
8 directions of actuation are possible for the actuating key:

- 4 in the horizontal plane
- 4 from above the switch (4 alternative positions of the actuating key slot, depending on the orientation of the head).

When loosening the fixing screw(s) for re-orientation of the operating head, the head itself remains attached to the body and the contact states remain unchanged.

Safety (or main) contacts

Metal case safety interlock switches incorporate a **2-pole (XCSLF)** or a **3-pole (XCSLF, XCSE, XCSA, XCSB, XCSC)** contact block with NC contacts with positive opening operation, which is actuated by insertion or withdrawal of the actuating key attached to the guard.



Withdrawal of the actuating key opens the NC safety contact(s), even in the event of the contact sticking or welding.

The 3-pole contact block enables redundant safety circuits to be established (for example: NC + NC or NC + NO) and also to provide signaling (for example: PLC, illuminated beacon, etc.).

Auxiliary contacts

Safety interlocks with solenoid (XCSLF and XCSE) have 2 (XCSLF, XCSE) or 3 auxiliary contacts (XCSLF) for monitoring the solenoid position (locking monitoring) - NC contacts with positive opening operation

LED indicators

An orange LED (optional for XCSA, XCSB and XCSC key-operated switches, standard for XCSLF and XCSE safety interlock switches) **indicates the position of the machine guard:**



LED illuminated: actuating key not inserted in head of switch, NC contact(s) open, guard open.



LED not illuminated: actuating key inserted in head of switch, NC contact(s) closed, guard closed.

A green LED (incorporated on XCSLF, XCSLE, XCSE and XCSTE safety interlock switches) **indicates the locking of the machine guard:**



LED not illuminated: actuating key not inserted in head of switch. The machine cannot be operated.



LED illuminated: actuating key inserted in head of switch **and actuating key locked**. The machine is either ready for starting, running or decelerating to a standstill.

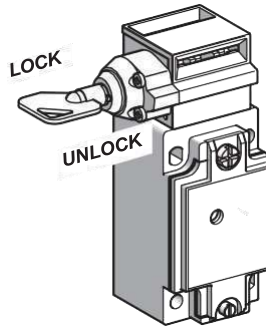
Note: LEDs should be wired in accordance with the schematics indicated in the instruction sheet or in the catalog pages.

Safety detection solutions

Metal case key-operated safety interlock switches

Manual locking/unlocking by pushbutton or key-operated lock

The pushbutton or key-operated lock fitted to XCSB and XCSC key-operated switches allows manual locking/unlocking of the machine guard

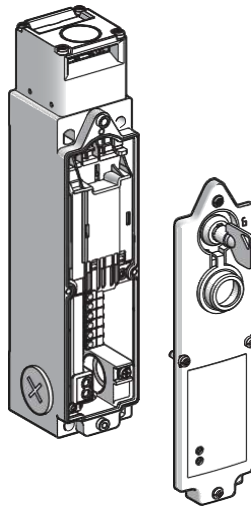


The use of pushbutton or key is not necessary for normal operation of the safety interlock switch (XCSA).

For XCSB and XCSC key-operated switches, when the machine guard is locked (key in "LOCK" position), the resistance to forcible withdrawal of the actuating key fitted to the guard is $F_{zh} = 1150 \text{ N}$. The key is removable from the locking device in the "LOCK" position.

Locking/unlocking by solenoid

XCSLF and XCSE safety interlock switches incorporate a solenoid for locking/unlocking of the machine guard



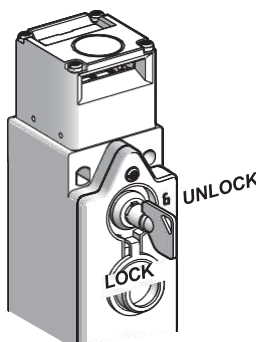
With the machine guard closed and locked, the resistance to forcible withdrawal of the actuating key fitted to the guard is $F_{zh} = 2300 \text{ N}$ (XCSLF) and $F_{zh} = 2000 \text{ N}$ (XCSE) (according to EN/ISO 14119 - $F_{zh} = F_{1max}/1.3$).

In addition to the 2-pole (XCSLF) or 3-pole contacts (XCSLF and XCSE), positively operated by the actuating key fitted to the guard, XCSLF safety interlock switches incorporate **NC + NO or 2 NC or 1 NC + 2 NO or 2 NC + 1 NO or 3 NC auxiliary contact blocks mechanically linked to the solenoid (NC + NO or 2 NC for XCSE)**.

The NC contact(s) are for use in the safety circuit of the machine and the NO contact for signaling the status of the solenoid.

Key-operated lock (auxiliary release)

XCSLF and XCSE safety interlock switches are fitted with a key-operated lock allowing unlocking of the machine guard from outside the safeguarded area (for use by authorized personnel only)



Manual unlocking of the guard using the key-operated lock is useful in the following cases:

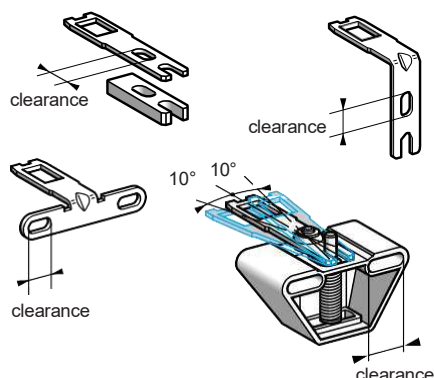
- while the machine is undergoing maintenance (with the key turned to the "UNLOCK" position and then removed, the level of protection is higher for helping to prevent an accidental machine start. Safety for maintenance personnel is thus improved):
- in the event of a power outage
- in the event of an interlocking circuit malfunction (interlocked condition maintained: positive safety).

The electrical supply providing unlocking via the solenoid always takes priority over manual unlocking using the key-operated lock.

The lock fitted to standard safety interlock switches has key withdrawal from the "LOCK" and "UNLOCK" positions.

Actuating keys

The actuating keys are common to plastic XCSTE, XCSPA and XCSTA key-operated switches (except for XCSMP, see page 40)



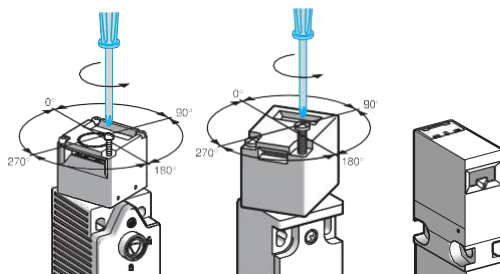
Their oblong fixing holes enable simple adjustment when mounting on moving guards.

A pivoting actuating key (both horizontally and vertically) is available when using safety interlock switches in conjunction with hinged guards or guards with imprecise guiding.

Straight actuating keys are supplied with an adapter shank for simple replacement of a legacy **XCKP** key-operated switch by an **XCSPA** switch, or a legacy **XCKT** key-operated switch by an **XCSTA** switch, without the need to drill additional fixing holes for the switch or the actuating keys.

Turret head

XCSPA, XCSTA, XCSLE and XCSTE safety interlock switches are fitted with a square turret head which can be rotated through 360° in 90° steps. XCSMP safety interlock switches have a fixed head



8 directions of actuation are possible for the actuating key:

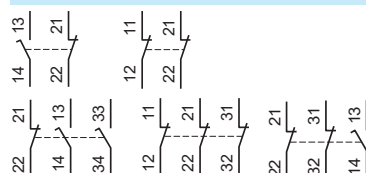
- 4 in the horizontal plane (1 for **XCSMP**)
 - 4 from above the switch (1 for **XCSMP**)
- (4 alternative positions of the actuating key slot, depending on the orientation of the head)

When loosening the fixing screw(s) for re-orientation of the operating head, the head itself remains attached to the body and the contact states remain unchanged.

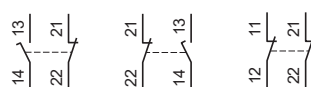
Safety (or main) contacts

Key-operated switches incorporate either a 2-pole contact block (XCSMP, XCSPA, XCSLE and XCSTE) or a 3-pole contact block (XCSMP, XCSPA, XCSTA, XCSLE and XCSE), with NC contacts with positive opening operation, which is actuated by insertion or withdrawal of the actuating key attached to the guard

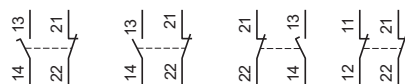
XCSLE



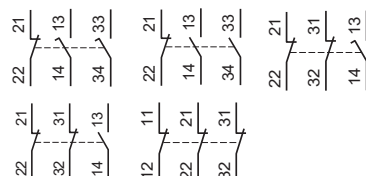
or XCSTE



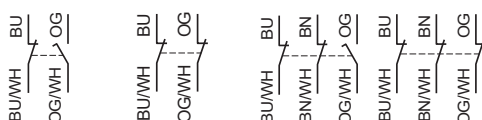
or XCSPA



or XCSPA, XCSTA



or XCSMP



The NC contact(s) are for use in the safety circuit of the machine. Withdrawal of the actuating key opens the NC safety contact(s), even in the event of the contact sticking or welding.

The other NO contact can be used for signaling (for example: PLC, illuminated beacon, etc.).

Auxiliary contacts

Safety interlocks with solenoid (XCSLE and XCSTE) have 1 (XCSTE), 2 or 3 auxiliary contacts (XCSLE) for monitoring the solenoid position (locking monitoring) - NC contacts with positive opening operation

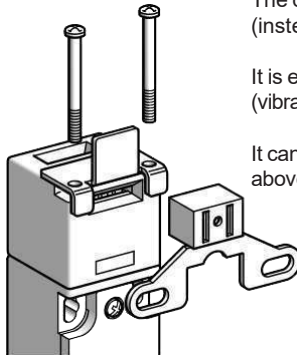
Guard retaining device

The XCSZ21 guard retaining device can be used with all XCSPA and XCSTA plastic case key-operated switches that are used in conjunction with either the wide (XCSZ12) or pivoting (XCSZ13) actuating key

The device maintains the guard closed by providing a retaining force of 50 N (instead of 10 N without guard retaining device).

It is especially suitable for use with light machines operating in arduous conditions (vibration, mechanical shock, guard not vertical, risk of guard rebound on closing, etc.).

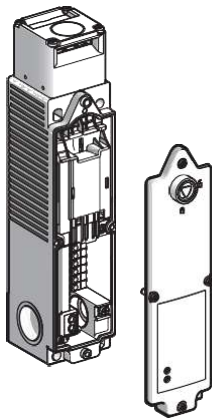
It can be used for horizontal actuating key actuation directions, as well as those from above.



Locking/unlocking by solenoid

XCSLE and XCSTE safety interlock switches incorporate a solenoid for locking/unlocking of the machine guard

With the machine guard closed and locked, the resistance to forcible withdrawal of the actuating key fitted to the guard is $F_{zh} = 1100 \text{ N}$ (XCSLE) and $F_{zh} = 500 \text{ N}$ (XCSTE) (according to EN/ISO 14119 - $F_{zh} = F_{1max}/1.3$). In addition to the 2-pole (XCSLE, XCSTE) or 3-pole (XCSLE) contact block, positively operated by the actuating key fitted to the guard, the switches incorporate **1 NC (XCSTE), NC + NO or 2 NC (XCSLE) auxiliary contacts mechanically linked to the solenoid**. The NC contact(s) are for use in the safety circuit of the machine.

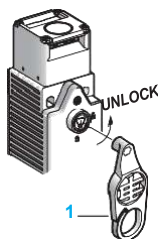


Unlocking by special tool (auxiliary release)

XCSLF and XCSE safety interlock switches are supplied with a special tool **1** that enables unlocking of the machine guard from outside the safeguarded area (for use by authorized personnel only)

Manual unlocking of the guard using the tool **1** is useful in the following cases:

- while the machine is undergoing maintenance (with the tool turned to the "UNLOCK" position and then removed, the level of protection is higher for helping to prevent an accidental machine start. The safety of maintenance personnel is thus improved)
- in the event of a power outage
- in the event of an interlocking circuit malfunction (interlocked condition maintained: positive safety). The electrical supply providing unlocking via the solenoid always takes priority over manual unlocking using the special tool.

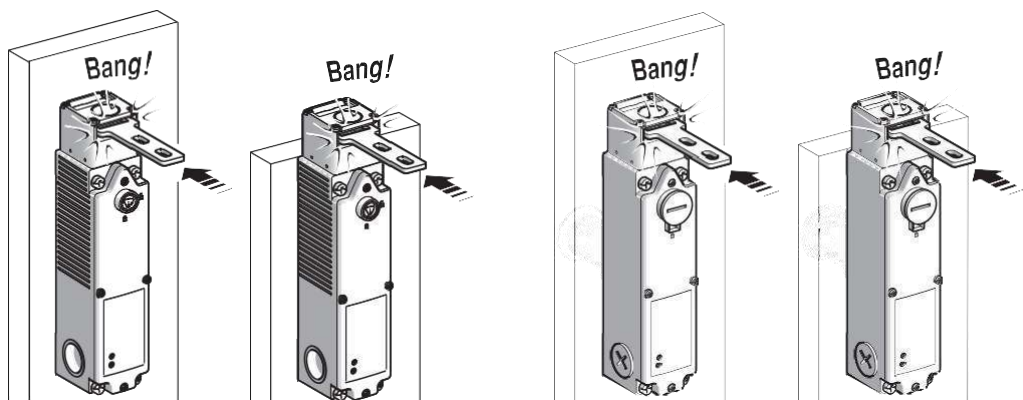


Resilience

XCSLE and XCSLF safety interlock switches provide good resistance to shocks

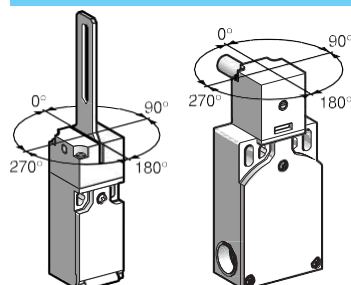
XCSLE Head against the fixing support: max = 1.2 J
XCSLE Head protruding from the fixing support:
max = 4.9 J

XCSLF Head against the fixing support: max = 9.6 J
XCSLF Head protruding from the fixing support:
max = 6.4 J



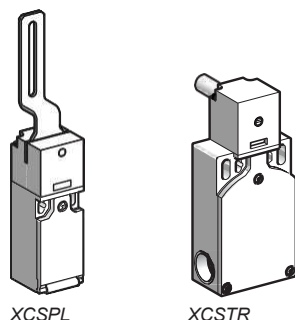
Presentation

Turret head



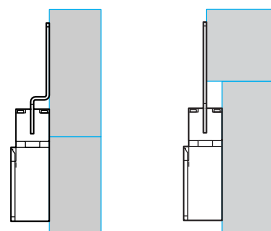
Safety switches for hinged covers or guards, featuring a hinged lever or spindle operator, incorporate a turret head that can be rotated through 360° in 90° steps. Two additional self-locking screws are included with each switch for positive fixing of the head.

2 types of body



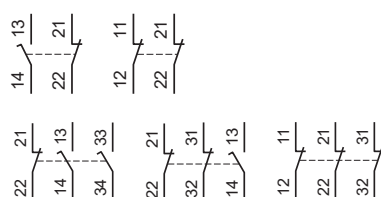
- b Plastic case, narrow, with 1 cable entry for **XCSPL** and **XCSPL**.
- b Plastic case, wide, with 2 cable entries for **XCSTR**.

2 types of operating lever, 2 spindle lengths



- b **Levers**
Straight or elbowed (flush with rear of switch), making the lever switches suitable for use with all types of hinged guard, whether:
 - flush with the machine framework (use a switch with an elbowed flush lever)
 - overhanging in relation to the machine framework (use a switch with a straight lever)
- 3 alternative operating lever positions allow the switches to be used with guards that open to the left, center or right.
- b **Spindle operators**
2 spindle lengths: 30 or 80 mm.

Safety contacts

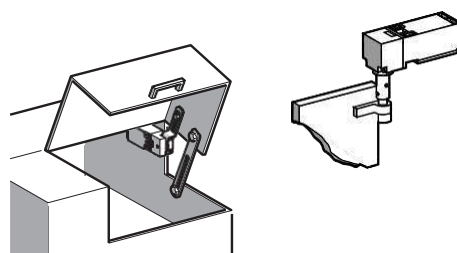


XCSPL and **XCSPL** safety switches incorporate a 2-pole or 3-pole contact block - NC contacts with positive opening operation. The contact arrangements can be: NC + NO break before make, 2 NC, 1 NC + 2 NO break before make or 2 NC + 1 NO break before make.

XCSTR safety switches incorporate a 3-pole contact block - NC contacts with positive opening operation. The contact arrangements can be:
1 NC + 2 NO break before make, 2 NC + 1 NO break before make or 3 NC. Opening of the NC safety contact(s) occurs when the operating lever or spindle is displaced by an angle equal to or greater than 5°.

Applications

These safety switches provide a solution for monitoring **hinged protective guards** with small opening radius on machines with low inertia (quick rundown time). They are especially suitable for existing machines which need to be brought in line with the latest standards and directives since they can be used in conjunction with existing covers, including those whose mounting is somewhat imprecise. Mounting of the safety switch improves the machine operator's level of safety by limiting opening of the protective guard and reducing the risk of touching any moving parts before they have come to a stop.



Presentation

Coded magnetic switches



XCSDMC
Compact format

XCSDMP
Standard format



XCSDMR
Cylindrical format

3 types of case

- b PBT plastic body
- b Compact rectangular, **XCSDMC**
- b Standard rectangular, **XCSDMP**
- b Cylindrical Ø 30, **XCSDMR**
- b Pre-cabled, length 2 m, 5 m or 10 m
- b Connector on flying lead connection:
 - M8: DMC
 - M12: DMP, DMR

Contacts

Coded magnetic switches are fitted with 2-pole (**XCSDMC/XCSDMR/XCSDMP**) or 3-pole (**XCSDMP**) Reed type contacts and are available with or without a "guard closed" LED indicator.

The NC and NO contacts change state as soon as the magnet is at a distance from the sensor of approximately 8 mm for **XCSDMP** and **XCSDMR** switches and approximately 5 mm for **XCSDMC** switches.

Coded magnetic switches have a low level of coding according to EN/ISO 14119.

Connection

When used in safety circuits, the Reed technology contacts must always be used in conjunction with a safety control unit.

Contactless RFID safety switches



Standard size, standalone
or single model

Standard size, daisy-chain
model



Miniature size, single
mode



Splitter connector for
daisy-chain configuration

Standard and miniature sizes

- b Standard size: 30x108.3x15 mm (w x h x d), for standalone model
- b Miniature size: 28.5x57x18 mm

3 model types

- b Standalone model, with embedded EDM (external device monitoring) and start/restart function
- b Model for series connection (daisy-chain)
- b Model for point-to-point connection

Features

- b Thermoplastic housing (Valox™) or nylon (polyketone)
- b Connector:
 - M12 8-pin for standalone
 - 2 x M12 5-pin for daisy-chain model and M12 5-pin for point-to-point connection
- b For miniature design: additional safety inputs, unlimited pairing capability

Technology

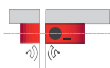
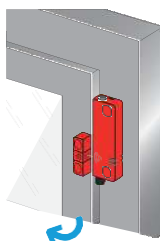
Contactless RFID protocol.

Embedded EDM (external device monitoring) for standalone model (no need for safety control unit); diagnosis of the whole daisy chain of switches possible using the diagnostic module; point-to-point connection to a safety controller or safety PLC.

High level of coding (according to EN/ISO 14119)

- b Reader and transponder are factory-paired with a unique code

Applications



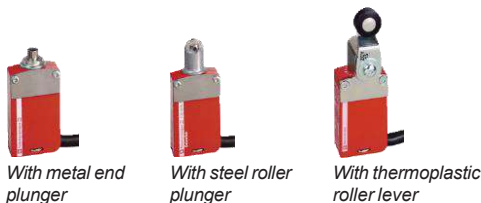
Contactless safety switches are specifically designed for industrial machines fitted with **doors, covers or guards with imprecise guiding**.

They are ideally suited for machines subjected to frequent washing or liquid spray, and for XCSR RFID safety switches, exposed to knocks and vibrations.

Presentation

XCSM safety limit switches

With head for linear movement (plunger) or rotary movement (lever)



- b **XCSM** miniature metal case
- b With protective plate, helping to prevent both access to the fixing screws and adjustment of the head by unauthorized personnel
- b Torx fixing screws
- b A removable cable entry to facilitate wiring

Contacts

XCSM3 limit switches are fitted with 3-pole contacts (2 NC + 1 NO snap or slow break) and **XCSM4** switches are fitted with 4-pole contacts (2 NC + 2 NO snap) - NC contacts with positive opening operation.

4 versions of complete switches are available incorporating these contacts:

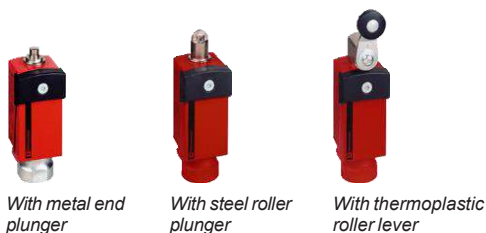
- metal end plunger
- roller plunger
- thermoplastic roller lever
- 19 mm diameter steel roller lever

Connection

Pre-cabled switches, either 7 x 0.5 mm² (3-pole contacts) or 9 x 0.34 mm² (4-pole contacts).

XCSD and XCSP safety limit switches

With head for linear movement (plunger) or rotary movement (lever)



- b **XCSD** compact metal case and **XCSP** plastic case
- b With protective plate, helping to prevent both access to the fixing screws and adjustment of the head by unauthorized personnel
- b Torx fixing screws
- b A removable cable entry to facilitate wiring

Contacts

XCSP39... and **XCSD3** limit switches are fitted with 3-pole contacts.

2 NC + 1 NO snap action or slow break for **XCSD3**; 2 NC + 1 NO snap action for **XCSP39** (NC contacts with positive opening operation)

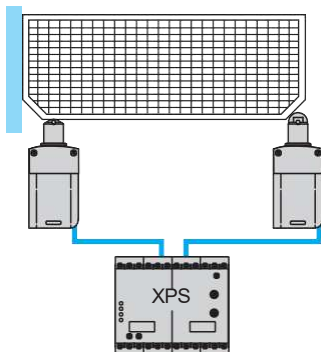
4 versions of complete switches are available incorporating these contacts:

- metal end plunger
- roller plunger
- thermoplastic roller lever
- 19 mm diameter steel roller lever

Applications

These switches provide a solution for monitoring covers, guards or grids. For use on machines with low inertia (quick rundown time) and also on machines with high inertia (long rundown time) when used in conjunction with key-operated safety interlock switches with solenoid.

When used on their own, they are always installed in "positive mode" or combined in pairs, with one switch being in "positive mode" and the other in "negative mode", and can, when connected to safety control units, achieve a PL=e, category 4/SIL 3 system.



XCSM
pre-cabled

With head for linear movement (plunger). Fixing by the body



XCSM with plunger

Page 26

With head for rotary movement (lever). Fixing by the body



XCSM with lever

Page 26

Environmental characteristics

Conformity to standards	Products	EN/IEC 60947-5-1, UL 508, CSA C22-2 no. 14
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119
Product certifications		UL, CSA, CCC, EAC
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061
Reliability data B _{10D}		50,000,000 (value given for a service life of 20 years, limited by mechanical or contact wear)
Ambient air temperature		For operation: -25...+70 °C For storage: -40...+70 °C
Vibration resistance		XCSM snap action: 5 gn. XCSM slow break: 25 gn (10...500 Hz) conforming to EN/IEC 60068-2-6
Shock resistance		25 gn (18 ms) conforming to EN/IEC 60068-2-27
Electric shock protection		Class I conforming to EN/IEC 61140
Degree of protection		IP 66, IP 67 and IP 68 (2) conforming to EN/IEC 60529; IK 06 conforming to IEC 62262
Materials		Body: Zamak. Head: Zamak. Protective plate: steel, fixed with 5-lobe torque safety screws. Cable: PVC.
Repeat accuracy		0.05 mm on the tripping points, with 1 million operating cycles for head with end plunger

Contact block characteristics

Rated operational characteristics	a AC-15; C300 (U _e = 240 V, I _e = 0.75 A) c DC-13; R300 (U _e = 250 V, I _e = 0.1 A), conforming to EN/IEC 60947-5-1 Appendix A
Conventional thermal current in enclosure	3 snap action contact and 3 slow break contact versions: I _{the} = 4 A 4 snap action contact version: I _{the} = 3 A
Rated insulation voltage	U _i = 400 V degree of pollution 3 conforming to EN/IEC 60947-5-1 U _i = 300 V conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage	U _{imp} = 4 kV conforming to EN/IEC 60947-1, EN/IEC 60664
Positive operation (depending on model)	NC contacts with positive opening operation conforming to IEN/IEC 60947-5-1 Appendix K
Resistance across terminals	≤ 25 mΩ conforming to EN/IEC 60255-7 category 3
Short-circuit protection	6 A cartridge fuse type gG (gl)
Minimum actuation speed	Snap action contact: 0.01 m/minute, Break before make, slow break contact: 6 m/minute

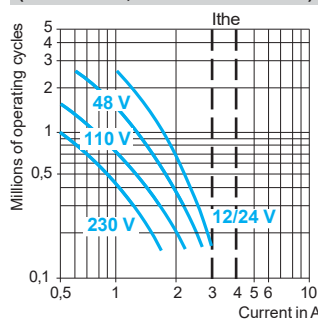
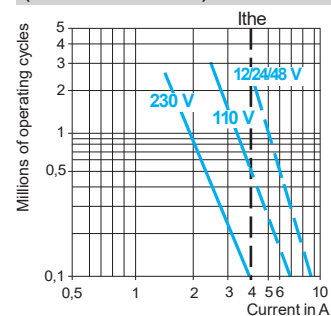
(1) Using an appropriate and correctly connected safety control unit.

(2) Protection against prolonged immersion: the test conditions are subject to agreement between the manufacturer and the user.

Electrical durability

- b Conforming to EN/IEC 60947-5-1 Appendix C
- b Utilization categories AC-15 and DC-13
- b Maximum operating rate: 3,600 operating cycles/hour
- b Load factor: 0.5

AC supply
50/60 Hz **a**
○ inductive circuit

XCSM snap action
(2 NC + 1 NO, 2 NC + 2 NO contact)XCSM slow break
(2 NC + 1 NO contact)

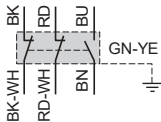
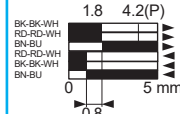
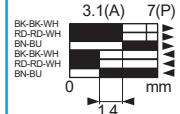
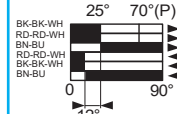
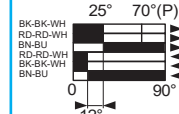
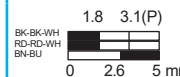
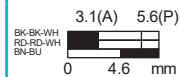
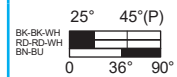
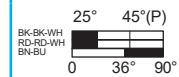
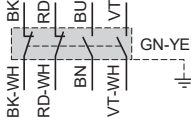
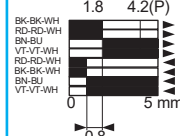
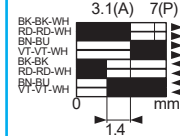
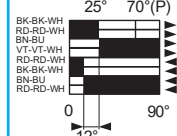
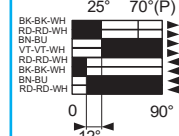
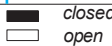
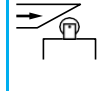
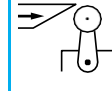
DC supply c
Power broken in W for
5 million operating cycles

Voltage	V	24	48	120
○	W	3	2	1

Power broken in W for
5 million operating cycles

Voltage	V	24	48	120
○	W	4	3	3

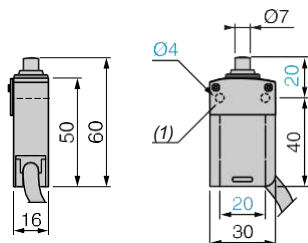
(1) Protection against prolonged immersion: the test conditions are subject to agreement between the manufacturer and the user.

Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)		
					
Type of operator	Metal end plunger	Roller plunger	Thermoplastic roller lever	Steel roller lever	
References (⊙ NC contact with positive opening operation)					
	3-pole 2 NC + 1 NO snap action contact	XCSM3910L1 ⊙ 	XCSM3902L1 ⊙ 	XCSM3915L1 ⊙ 	XCSM3916L1 ⊙ 
		XCSM3710L1 ⊙ 	XCSM3702L1 ⊙ 	XCSM3715L1 ⊙ 	XCSM3716L1 ⊙ 
	4-pole 2 NC + 2 NO snap action contact	XCSM4110L1 ⊙ 	XCSM4102L1 ⊙ 	XCSM4115L1 ⊙ 	XCSM4116L1 ⊙ 
Weight (kg)	0.165	0.170	0.205	0.210	
Contact operation	 (A) = cam displacement (P) = positive opening point ⊙ NC contact with positive opening operation				
Complementary characteristics not shown under general characteristics (page 25)					
Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s	0.5 m/s	1.5 m/s		
Mechanical durability	10 million operating cycles				
Minimum force or torque	Tripping	8.5 N	7 N	0.5 N.m/4.42 lb-in	
	Positive opening	42.5 N	35 N	0.1 N.m/0.88 lb-in	
Cabling	3-pole contacts	PVC pre-cabled, 7 x 0.5 mm ² , length 1 m (1)			
	4-pole contacts	PVC pre-cabled, 9 x 0.34 mm ² , length 1 m (1)			

(1) For a 2 m long cable, replace L1 with L2.
For a 5 m long cable, replace L1 with L5.

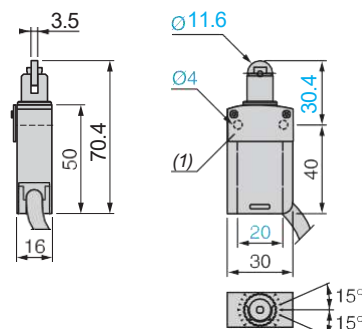
Dimensions

XCSM..10L1

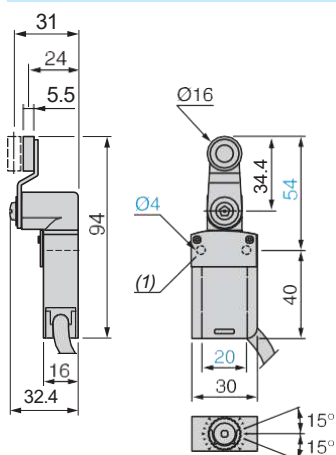


(1) Protective plate fixed by 5-lobe torque safety screws.

XCSM..02L1

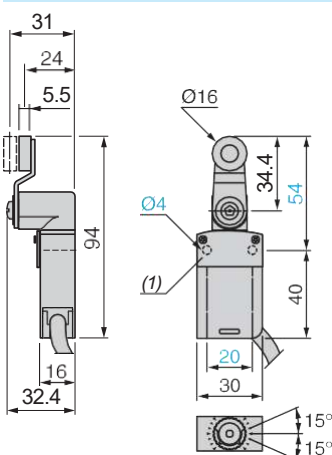


XCSM..15L1



(1) Protective plate fixed by 5-lobe torque safety screws.

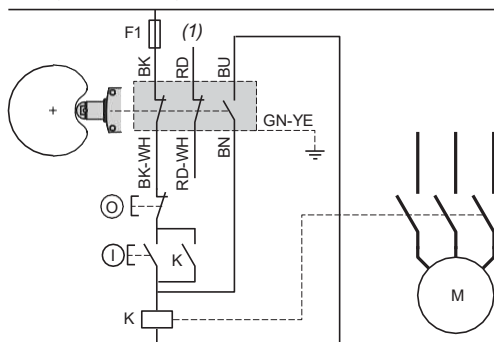
XCSM..16L1



Connections

Wiring up to PL = b, category 1 conforming to EN/ISO 13849-1

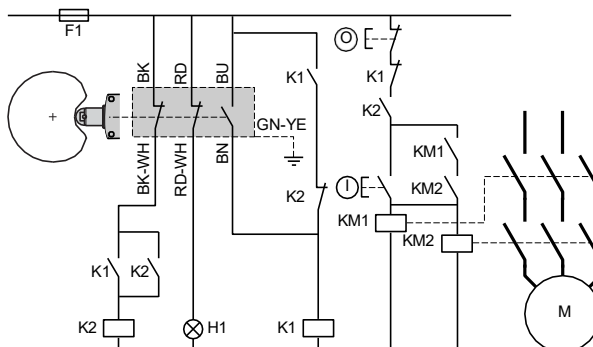
Example with 3-pole 2 NC + 1 NO contact and protection fuse to help prevent shunting of the N/C contacts, due to either cable damage or tampering.



(1) Signaling contact

Wiring up to PL = d, category 3 conforming to EN/ISO 13849-1

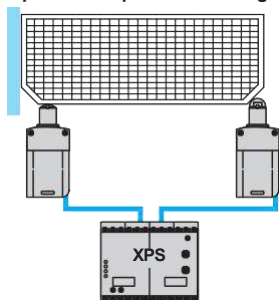
Example with 3-pole 2 NC + 1 NO contact with mixed redundancy of the contacts and the associated control relays. Opening and closing of the guard necessary to activate K1.



H1: "Guard closed" indicator light

Example of guard monitoring using 2 switches and 1 safety control unit (PL=e, category 4 conforming to EN/ISO 13849-1)

Operation in positive and negative (combined) mode



Safety detection solutions
Safety limit switches
Compact design
XCSD, metal
XCSP, plastic

b XCSD, XCSP
with 1 cable entry
Conforming to standard EN 50047

With head for linear movement (plunger)

XCSD

XCSP



Metal end plunger



Roller plunger



Metal end plunger



Roller plunger

Page 30

Page 32

With head for rotary movement (lever)

XCSD

XCSP



Thermoplastic roller lever



Steel roller lever



Thermoplastic roller lever



Steel roller lever

Page 30

Page 32

Environmental characteristics

Conformity to standards	Products	EN/IEC 60947-5-1, UL 508, CSA C22-2 no. 14
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119
Product certifications		UL, CSA, CCC, EAC
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061
Reliability data B _{10D}		50,000,000 (value given for a service life of 20 years, limited by mechanical or contact wear)
Ambient air temperature	For operation	-25...+70 °C
	For storage	-40...+70 °C
Vibration resistance	Conforming to EN/IEC 60068-2-6	25 gn (10...500 Hz)
Shock resistance	Conforming to EN/IEC 60068-2-27	50 gn (11 ms)
Electric shock protection		Class I conforming to EN/IEC 61140 for XCSD
		Class II conforming to EN/IEC 61140 for XCSP
Degree of protection	Conforming to EN/IEC 60529	IP 66 and IP 67
	Conforming to IEC 62262	IK 06 for XCSD IK 04 for XCSP
Repeat accuracy		0.1 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry	Depending on model	Tapped entry for Pg 13.5 cable gland, tapped ISO M20 x 1.5 or tapped 1/2" NPT
Materials		XCSD : Zamak bodies and heads, XCSP : plastic bodies, Zamak heads Plastic protective cover, fixed with 5-lobe torque safety screws

Contact block characteristics

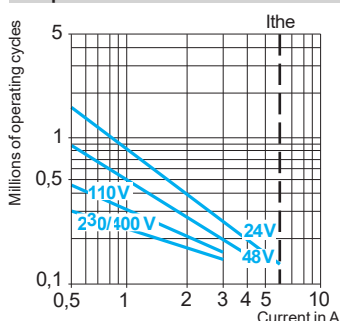
Rated operational characteristics		a AC-15; B300 (U _e = 240 V, I _e = 1.5 A) c DC-13; R300 (U _e = 250 V, I _e = 0.1 A), conforming to EN/IEC 60947-5-1 Appendix A
Conventional thermal current in enclosure		3 snap action contact and 3 slow break contact versions: I _{the} = 6 A
Rated insulation voltage		U _i = 400 V degree of pollution 3 conforming to IEN/IEC 60947-1 U _i = 300 V conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage		U _{imp} = 4 kV conforming to EN/IEC 60947-1, EN/IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEN/IEC 60947-5-1 Appendix K
Resistance across terminals		γ 25 mΩ conforming to EN/IEC 60255-7 category 3
Short-circuit protection		6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)		Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed (for head with end plunger)	Snap action	0.01 m/minute
	Slow break	6 m/minute

(1) Using an appropriate and correctly connected safety control unit.

Electrical durability

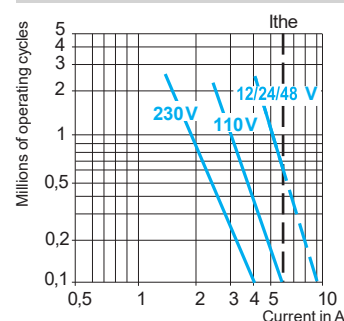
- b Conforming to EN/IEC 60947-5-1 Appendix C
- b Utilization categories AC-15 and DC-13
- b Maximum operating rate: 3,600 operating cycles/hour
- b Load factor: 0.5

Snap action contacts



Voltage	V	24	48	120
Power broken in W for 5 million operating cycles.	W	3	2	1

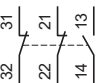
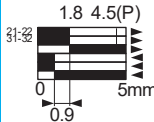
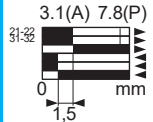
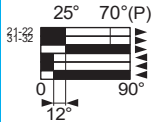
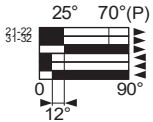
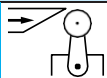
Slow break contacts

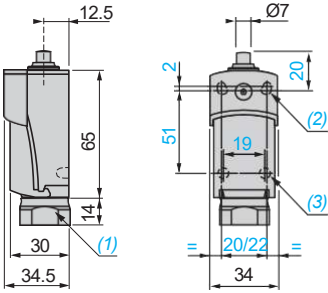
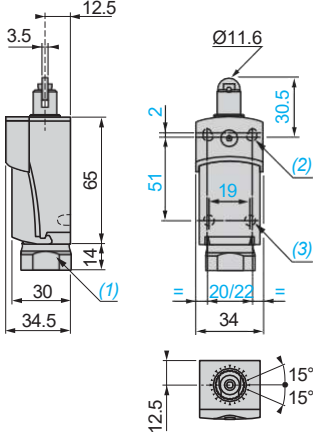


Voltage	V	24	48	120
Power broken in W for 5 million operating cycles.	W	4	3	2

AC supply
50/60 Hz **a**
○ inductive circuit

DC supply **c**
Power broken in W for
5 million operating cycles.

Type of head	Plunger		Rotary	
				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever
References of complete switches with 3-pole 2 NC + 1 NO snap action contact (⊖ NC contact with positive opening operation)				
With ISO M20 x 1.5 cable entry	XCSD3910P20 ⊖	XCSD3902P20 ⊖	XCSD3918P20 ⊖	XCSD3919P20 ⊖
With Pg 13.5 cable entry	XCSD3910G13 ⊖	XCSD3902G13 ⊖	XCSD3918G13 ⊖	XCSD3919G13 ⊖
With 1/2" NPT cable entry	XCSD3910N12 ⊖	XCSD3902N12 ⊖	XCSD3918N12 ⊖	XCSD3919N12 ⊖
Weight (kg)	0.215	0.220	0.255	0.255
Contact function diagrams				
 3-pole 2 NC + 1 NO snap action	 1.8 4.5(P) 0 5mm 0.9	 3.1(A) 7.8(P) 0 mm 1.5	 25° 70°(P) 0 90° 12°	 25° 70°(P) 0 90° 12°
Contact operation	 closed  open  NC contact with positive opening operation (A) = cam displacement (P) = positive opening point			
Characteristics				
Switch actuation	On end	By 30° cam		
Type of actuation				
Maximum actuation speed	0.5 m/s			1.5 m/s
Mechanical durability (in millions of operating cycles)	15	10		
Minimum force or torque	For tripping	15 N	12 N	0.1 N.m/0.88 lb-in
	For positive opening	45 N	36 N	0.25 N.m/2.21 lb-in
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped for Pg13.5 cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT conduit			

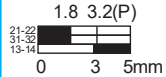
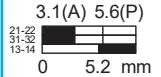
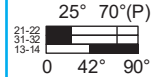
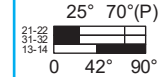
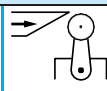
Dimensions		XCSD3p10ppp	XCSD3p02ppp
			
(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT. (2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centers, 2 holes Ø 4.3 on 20 mm centers. (3) 2 x Ø 3 holes for support studs, depth 4 mm.			

Safety detection solutions

Safety limit switches

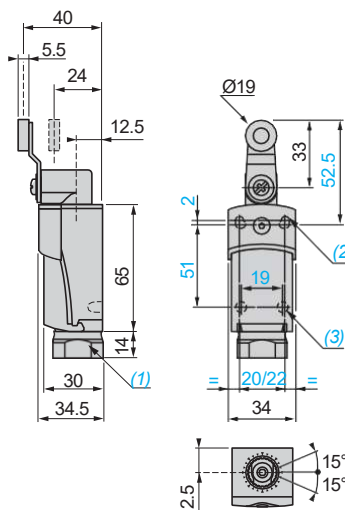
XCSD compact design, metal

Complete switches, 1 cable entry

Type of head	Plunger		Rotary	
				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever
References of complete switches with 3-pole 2 NC + 1 NO break before make, slow break contact (⊖ NC contact with positive opening operation)				
With ISO M20 x 1.5 cable entry	XCSD3710P20 ⊖	XCSD3702P20 ⊖	XCSD3718P20 ⊖	XCSD3719P20 ⊖
With Pg 13.5 cable entry	XCSD3710G13 ⊖	XCSD3702G13 ⊖	XCSD3718G13 ⊖	XCSD3719G13 ⊖
With 1/2" NPT cable entry	XCSD3710N12 ⊖	XCSD3702N12 ⊖	XCSD3718N12 ⊖	XCSD3719N12 ⊖
Weight (kg)	0.215	0.220	0.255	0.255
Contact function diagrams				
 3-pole 2 NC + 1 NO break before make, slow break	 1.8 3.2(P) 0 3 5mm	 3.1(A) 5.6(P) 0 5.2 mm	 25° 70°(P) 0 42° 90°	 25° 70°(P) 0 42° 90°
Contact operation	 closed (A) = cam displacement  open (P) = positive opening point ⊖ NC contact with positive opening operation			
Characteristics				
Switch actuation	On end	By 30° cam		
Type of actuation				
Maximum actuation speed	0.5 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycles)	15	10		
Minimum force or torque	For tripping	15 N	12 N	0.1 N.m/0.88 lb-in
	For positive opening	45 N	36 N	0.25 N.m/2.21 lb-in
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped for Pg13.5 cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT conduit			

Dimensions

XCSD3p18ppp, XCSD3p19ppp



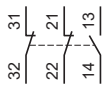
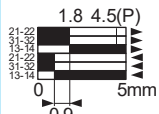
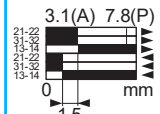
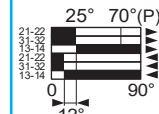
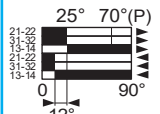
- (1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centers, 2 holes Ø 4.3 on 20 mm centers.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Safety detection solutions

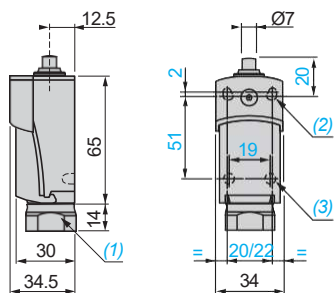
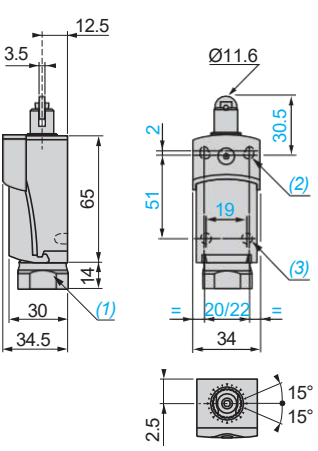
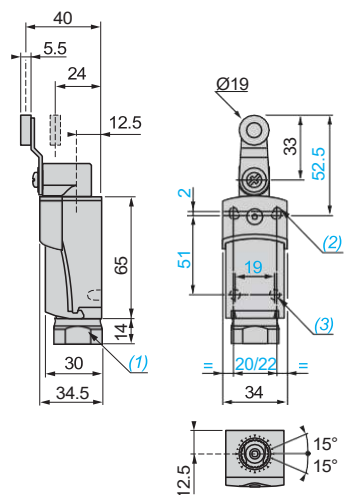
Safety limit switches

XCSP compact design, plastic

Complete switches, 1 cable entry

Type of head	Plunger		Rotary	
				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever
References of complete switches with 3-pole 2 NC + 1 NO snap action contact (⊖ NC contact with positive opening operation)				
With ISO M20 x 1.5 cable entry				
	XCSP3910P20 ⊖	XCSP3902P20 ⊖	XCSP3918P20 ⊖	XCSP3919P20 ⊖
With Pg 13.5 cable entry				
	XCSP3910G13 ⊖	XCSP3902G13 ⊖	XCSP3918G13 ⊖	XCSP3919G13 ⊖
With 1/2" NPT cable entry				
	XCSP3910N12 ⊖	XCSP3902N12 ⊖	XCSP3918N12 ⊖	XCSP3919N12 ⊖
Weight (kg)	0.215	0.220	0.255	0.255
Contact function diagrams				
 3-pole 2 NC + 1 NO snap action	 1.8 4.5(P) 0 5mm 0.9	 3.1(A) 7.8(P) 0 1.5 mm	 25° 70°(P) 0 12° 90°	 25° 70°(P) 0 12° 90°
Contact operation	■ closed (A) = cam displacement □ open (P) = positive opening point ⊖ NC contact with positive opening operation			

Characteristics			
Switch actuation	On end	By 30° cam	
Type of actuation			
Maximum actuation speed	0.5 m/s		1.5 m/s
Mechanical durability (in millions of operating cycles)	15	10	
Minimum force or torque	For tripping	15 N	0.1 N.m/0.88 lb-in
	For positive opening	45 N	0.25 N.m/2.21 lb-in
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped for Pg 13.5 cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT conduit		

Dimensions			
XCSP3910ppp		XCSP3902ppp	XCSP3918ppp, XCSP3919ppp
			

(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centers, 2 holes Ø 4.3 on 20 mm centers.

(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Safety detection solutions

Lever or spindle-operated safety switches

XCSPL, XCSPR and XCSTR

plastic, double insulated, turret head

XCSPL with 1 cable entry

With rotary operating head, with elbowed lever (flush with rear of switch) or straight lever, for hinged covers and guards



Page 36

XCSPR with 1 cable entry

With rotary operating head, with spindle operator, for hinged covers and guards



Page 36

XCSTR with 2 cable entries

With rotary operating head, with spindle operator, for hinged covers and guards



Page 36

Environmental characteristics

Conformity to standards	Products	EN/IEC 60947-5-1, EN/IEC 60947-5-4, UL 508, CSA C22-2 no. 14
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119
Product certifications		UL, CSA, CCC, EAC
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061
Reliability data B ₁₀₀		5,000,000 (value given for a service life of 20 years, limited by mechanical or contact wear)
Ambient air temperature	For operation	-25...+70 °C
	For storage	-40...+70 °C
Vibration resistance		50 gn (10...500 Hz) conforming to EN/IEC 60068-2-6
Shock resistance		50 gn (duration 11 ms) conforming to EN/IEC 60068-2-27
Electric shock protection		Class II conforming to EN/IEC 61140
Degree of protection		IP 67 conforming to EN/IEC 60529
Cable entry		XCSPL and XSPR: 1 entry tapped M16 x 1.5 for: b ISO cable gland (clamping capacity 4.5 to 10 mm) or b Pg 11 cable gland (clamping capacity 7 to 10 mm) or b 1/2" NPT conduit. XSTR: 2 entries tapped M16 x 1.5 for: b ISO cable gland (clamping capacity 4.5 to 10 mm) or b Pg 11 cable gland (clamping capacity 7 to 10 mm) or b 1/2" NPT conduit using the DE9 RA1012 adapter in one of the Pg 11 tapped entries and a blanking plug in the other.
Materials		Polyamide PA66 fibreglass impregnated case. Stainless steel lever and fixings

(1) Using an appropriate and correctly connected safety control unit.

Contact block characteristics

Rated operational characteristics	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): a AC-15, A300: $U_e = 240\text{ V}$, $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$, $I_e = 6\text{ A}$ c DC-13, Q300: $U_e = 250\text{ V}$, $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.55\text{ A}$ conforming to EN/IEC 60947-5-1
	3-contact version	XCSP (3-contact version): a AC-15, B300: $U_e = 240\text{ V}$, $I_e = 1.5\text{ A}$ or $U_e = 120\text{ V}$, $I_e = 3\text{ A}$ c DC-13, R300: $U_e = 250\text{ V}$, $I_e = 0.1\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.2\text{ A}$ conforming to EN/IEC 60947-5-1
Conventional thermal current in enclosure	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): $I_{the} = 10\text{ A}$
	3-contact version	XCSP (3-contact version): $I_{the} = 6\text{ A}$
Rated insulation voltage	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): $U_i = 500\text{ V}$ degree of pollution 3 conforming to EN/IEC 60947-1 $U_i = 300\text{ V}$ conforming to UL 508, CSA C22-2 no. 14
	3-contact version	XCSP (3-contact version): $U_i = 400\text{ V}$ degree of pollution 3 conforming to EN/IEC 60947-1 $U_i = 300\text{ V}$ conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): $U_{imp} = 6\text{ kV}$ conforming to EN/IEC 60947-5-1
	3-contact version	XCSP (3-contact version): $U_{imp} = 4\text{ kV}$ conforming to EN/IEC 60947-5-4
Positive operation		NC contacts with positive opening operation conforming to EN/IEC 60947-5-1 Appendix K
Resistance across terminals		$\gamma 30\text{ m}\Omega$ conforming to EN/IEC 60947-5-4
Short-circuit protection	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): 10 A cartridge fuse type gG (gl)
	3-contact version	XCSP (3-contact version): 6 A cartridge fuse type gG (gl)
Connection	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): Clamping capacity, min: $1 \times 0.5\text{ mm}^2$, max: $2 \times 1.5\text{ mm}^2$ with or without cable end
	3-contact version	XCSP (3-contact version): Clamping capacity, min: $1 \times 0.34\text{ mm}^2$, max: $1 \times 1\text{ mm}^2$ or $2 \times 0.75\text{ mm}^2$
Minimum actuation speed	2 and 3-contact versions	0.1 m/second

Complementary characteristics

Tripping angle		5°
Mechanical durability		1 million operating cycles
Minimum torque	For tripping	0.1 N.m/0.88 lb-in
	For positive opening	0.25 N.m/2.21 lb-in (XCSP and XCSPR) 0.45 N.m/3.98 lb-in (XCSTR)

Electrical durability

b Conforming to EN/IEC 60947-5-1 Appendix C

b Utilization categories AC-15 and DC-13

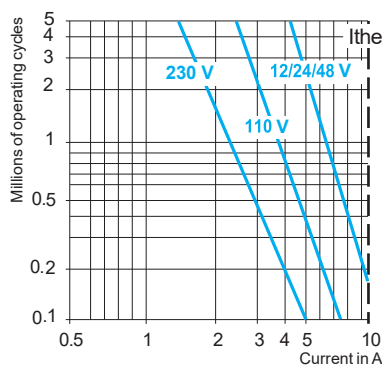
b Load factor: 0.5

b Maximum operating rate: 3600 operating cycles/hour

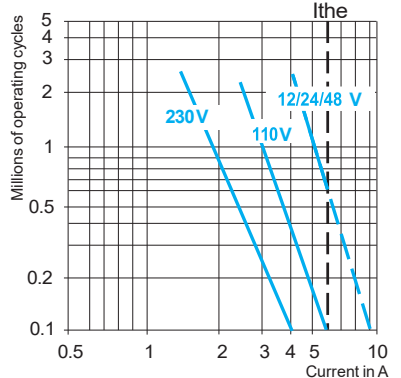
XCSP, XCSPR: 2-contact version
XCSTR: 3 contacts

XCSP, XCSPR: 3-contact version

AC supply
50/60 Hz a
○ inductive circuit



Voltage	V	24	48	120
○	W	13	9	7



Voltage	V	24	48	120
○	W	4	3	2

DC supply c
Power broken in 100 ms
1 million operating cycles

Safety detection solutions

Lever or spindle-operated safety switches

XCSPL, XCSPR and XCSTR

plastic, double insulated, turret head (1)

1 or 2 cable entries

Type of switch	Elbowed lever (flush with rear of switch)			Straight lever		Spindle	
Operator	To left	Centered	To right	To right OR to left	Centered	Length 30 mm (2)	
References of complete switches (➡ NC contact with positive opening operation) with 1 cable entry tapped ISO M16 x 1.5							
2-pole 1 NC + 1 NO break before make, slow break		XCSPL592 ➡	XCSPL582 ➡	XCSPL572 ➡	XCSPL562 ➡	XCSPL552 ➡	XCSPR552 ➡
2-pole 2 NC slow break		XCSPL792 ➡	XCSPL782 ➡	XCSPL772 ➡	XCSPL762 ➡	XCSPL752 ➡	XCSPR752 ➡
3-pole 1 NC + 2 NO break before make, slow break		—	—	—	XCSPL862 ➡	—	XCSTR552 ➡
3-pole 2 NC + 1 NO break before make, slow break		—	—	—	XCSPL962 ➡	—	XCSPR952 ➡
3-pole 3 NC slow break		—	—	—	—	—	XCSTR852 ➡
Weight (kg)	0.095	0.095	0.095	0.095	0.095	0.105	0.155

References of complete switches with 1 or 2 cable entries tapped no. 11 (Pg 11)

To order a complete switch with 1 or 2 Pg 11 cable entries, replace the last number in the reference (2) with 1.
Example: XCSPL752 becomes **XCSPL751** (some Pg 11 references may not be available).

References of complete switches with 1 or 2 cable entries for 1/2" NPT conduit

To order a complete **XCSPL...** or **XCSPR...** switch with 1 cable entry for 1/2" NPT conduit, replace the last number in the reference (2) with 3.
Example: XCSPL592 becomes **XCSPL593** (some 1/2" NPT references may not be available).
For a complete **XCSTR** switch with 2 entries for 1/2" NPT conduit, use DE9RA1012 adapter.



DE9RA1012

Description	Sold in lots of 10	Unit reference	Weight kg
1/2" NPT conduit adapter	10	DE9RA1012	0.050

(1) Head adjustable in 90° steps through 360°. Switches supplied with 2 additional self-locking screws for positive fixing of the head.

(2) For switches with 80 mm spindle: replace the second number in the reference (5) with 6. Example: XCSPR552 becomes **XCSPR562**. The weight increases by 0.032 kg (some 80 mm spindle references may not be available).

Other versions: please consult our Customer Care Center.

Safety detection solutions

Lever or spindle-operated safety switches

XCSP, XCSPR and XCSTR

plastic, double insulated, turret head

1 or 2 cable entries

Setting-up

Operator displacement

XCSPp9p, PLp7p, PLp6p

XCSPp8p, PLp5p

XCSPRp5p

XCSTRp5p



Functional diagrams

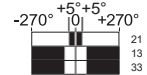
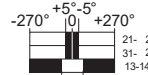
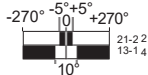
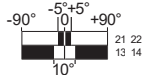
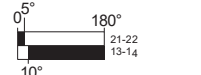
XCSPp59p, PLp57p, PLp56p

XCSPp58p, PLp55p

XCSPRp55p

XCSPRp95p

XCSTRp55p

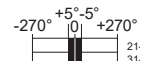
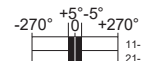
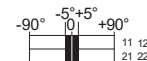
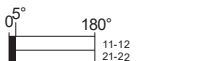


XCSPp79p, PLp77p, PLp76p

XCSPp78p, PLp75p

XCSPRp75p

XCSTRp75p



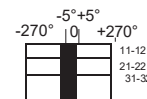
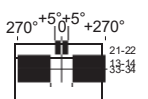
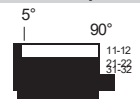
Contact operation

- ☐ closed
- ☐ open

XCSPp98p

XCSPRp85p

XCSTRp85p

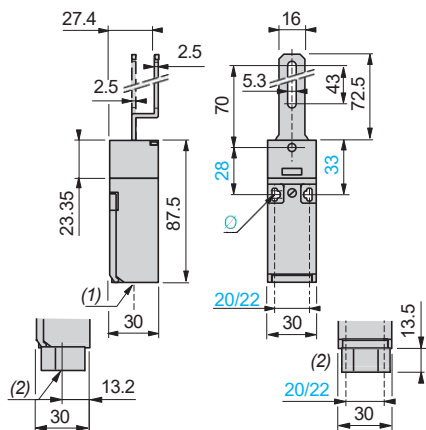


Dimensions

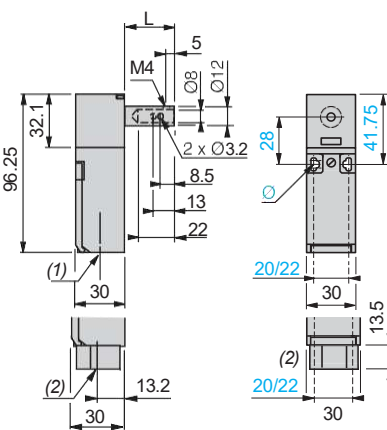
XCSPppp

XCSPRppp

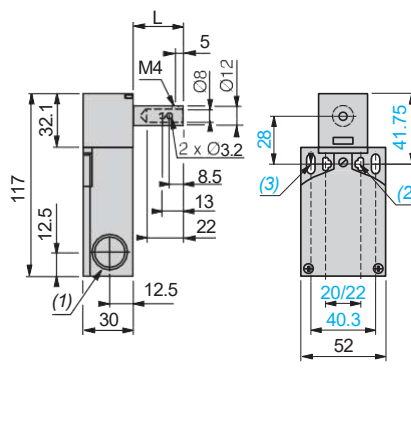
XCSTRppp



- (1) 1 entry tapped ISO M16 x 1.5 or tapped for Pg 11 cable gland
- (2) 1 entry tapped for 1/2" NPT conduit
- Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers



- (1) 1 entry tapped for Pg 11 cable gland
- (2) 1 entry tapped for 1/2" NPT conduit
- Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers
- L = 30 (XCSPRp5.) or 80 (XCSPRp6.)

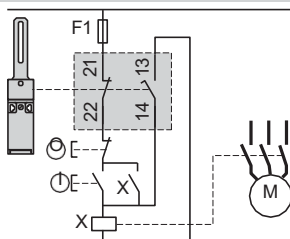


- (1) 2 entries tapped ISO M16 x 1.5 or tapped for Pg 11 cable gland
- (2) 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers
- (3) 2 elongated holes Ø 5.3 x 13.3
- L = 30 (XCSTRp5.) or 80 (XCSTRp6.)

Schemes

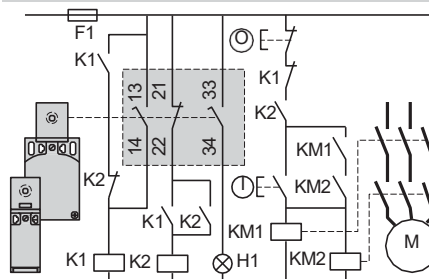
Wiring up to PL=b, category 1 conforming to EN/ISO 13849-1

Example with cable short-circuit protection fuse



Wiring up to PL=d, category 3 conforming to EN/ISO 13849-1

Example with 3-pole 1 NC + 2 NO contact with mixed redundancy of the contacts and the associated control relays



To activate K1, the lever or spindle needs to be rotated when the supply is switched on.

H1: "lever or spindle displaced from initial position" indicator. When used in conjunction with an appropriate safety control unit and another safety switch, the rotary lever or spindle-operated safety switch can provide locking protection to PL=d, category 3 or PL=e, category 4 conforming to EN/ISO 13849-1.

Safety detection solutions

Key-operated safety switches

XCSA, XCSB and XCSC metal, turret head

XCSPMP, XCSPA and XCSTA

plastic, double insulated, turret head

XCSA, XCSB, XCSC metal

Key-operated switches with or without locking of the actuating key



XCSA



XCSB



XCSC

Page 48

XCSPMP, XCSPA, XCSTA plastic

Key-operated switches without locking of the actuating key



XCSPMP



XCSPA



XCSTA

Page 40

Environmental characteristics

Key-operated switch type		XCSA, XCSB, XCSC (metal)	XCSPMP, XCSPA, XCSTA (plastic)
Conformity to standards	Products	EN/IEC 60947-5-1, UL 508, CSA C22-2 no. 14	
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119	
Product certifications		UL, CSA, CCC, EAC	UL, CSA, CCC, EAC (cULus, EAC for XCSPMP)
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061	
Reliability data B ₁₀₀		XCSA/PA/TA/MP: 5,000,000 XCSB/C: 3,000,000 (value given for a service life of 20 years, limited by mechanical or contact wear)	
Ambient air temperature	For operation	-25...+70 °C	
	For storage	-40...+70 °C (-25...+80 °C for XCSPMP)	
Vibration resistance		5 gn (10...500 Hz) conforming to EN/IEC 60068-2-6 (6 gn (10...55 Hz) for XCSPMP)	
Shock resistance		10 gn (duration 11 ms) conforming to EN/IEC 60068-2-27 (50 gn (duration 11 ms) for XCSPMP)	
Electric shock protection		Class I conforming to EN/IEC 61140	Class II conforming to EN/IEC 61140
Degree of protection		IP 67 conforming to EN/IEC 60529 and EN/IEC 60947-5-1 (2)	
Cable entry		1 entry tapped ISO M20 x 1.5 (clamping capacity 7 to 13 mm) or tapped for Pg 13.5 cable gland (clamping capacity 9 to 12 mm) or for 1/2" NPT conduit	1 entry (XCSPA) or 2 entries (XCSTA) tapped for ISO M16 x 1.5 cable gland (clamping capacity 4.5 to 10 mm) or for Pg 11 cable gland, or tapped 1/2" NPT, or for 1/2" NPT conduit using metal adapter DE9RA1012) for XCSTA (other entry fitted with blanking plug).
Connecting cable		—	Pre-cabled, either 4 x 0.5 mm ² or 6 x 0.5 mm ² (XCSPMP)
Materials		Zamak case	Polyamide PA66 fibreglass impregnated case
		Actuating keys (all types): steel XC60, surface treated	

(1) Using an appropriate and correctly connected safety control unit

(2) Live parts of these switches are protected to some extent against the penetration of dust and water. However, when installing take all necessary precautions to help prevent the penetration of solid bodies, or liquids with a high dust content, into the actuating key aperture. Use of blanking plugs in unused key slots can reduce the penetration of unwanted elements (XCSZ28 for XCSPMP and XCSZ27 for XCSA, XCSB, XCSC). One blanking plug is delivered with the product. Not recommended for use in saline atmospheres.

Contact block characteristics

Rated operational characteristics	2 and 3 contacts, slow break	XCSEA, XCSB, XCSC, XCSTA, XCSPA: a AC-15, A300: $U_e = 240\text{ V}$, $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$, $I_e = 6\text{ A}$ XCSEMP: a AC-15, C300: $U_e = 240\text{ V}$, $I_e = 0.75\text{ A}$ or $U_e = 120\text{ V}$, $I_e = 1.5\text{ A}$ All models: c DC-13, Q300: $U_e = 250\text{ V}$, $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.55\text{ A}$ conforming to EN/IEC 60947-5-1
	2 contacts, snap action	XCSPA: a AC-15, A300: $U_e = 240\text{ V}$, $I_e = 3\text{ A}$ c DC-13, Q300: $U_e = 250\text{ V}$, $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.55\text{ A}$ conforming to EN/IEC 60947-5-1
	3 contacts, snap action	XCSPA: a AC-15, B300: $U_e = 240\text{ V}$, $I_e = 1.5\text{ A}$ c DC-13, R300: $U_e = 250\text{ V}$, $I_e = 0.1\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.55\text{ A}$ conforming to EN/IEC 60947-5-1
Conventional thermal current in enclosure		XCSEA, XCSB, XCSC, XCSTA (3 slow break contacts): $I_{the} = 10\text{ A}$ XCSPA (2 slow break and snap action contacts): $I_{the} = 10\text{ A}$ XCSPA (3 slow break and snap action contacts): $I_{the} = 6\text{ A}$ XCSEMP (2 and 3 slow break contacts): $I_{the} = 2.5\text{ A}$
Rated insulation voltage	2 and 3 contacts	3 contacts (XCSEA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA), 2 and 3 contacts (XCSEMP): $U_i = 500\text{ V}$ conforming to EN/IEC 60947-1; $U_i = 300\text{ V}$ conforming to UL 508, CSA C22-2 no. 14
	3 contacts	XCSPA: $U_i = 400\text{ V}$ degree of pollution 3 conforming to EN/IEC 60947-1 $U_i = 300\text{ V}$ conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage	2 and 3 contacts	3 contacts (XCSEA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA), 2 and 3 contacts (XCSEMP): $U_{imp} = 6\text{ kV}$ conforming to EN/IEC 60947-5-1
	3 contacts	XCSPA: $U_{imp} = 4\text{ kV}$ conforming to EN/IEC 60947-5-4
Positive operation		NC contacts with positive opening operation conforming to EN/IEC 60947-5-1, Section 3
Resistance across terminals		$\gamma 30\text{ m}\Omega$ conforming to EN/IEC 60947-5-4
Short-circuit protection	2 and 3 contacts	3 contacts (XCSEA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA), 2 and 3 contacts (XCSEMP): 10 A cartridge fuse type gG (gl)
	3 contacts	XCSPA: 6 A cartridge fuse type gG (gl)
Connection	Pre-cabled	4 x 0.5 mm ² or 6 x 0.5 mm ² (XCSEMP). PVC
	Screw clamp terminals	XCSPA, XCSTA: Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²
		3 contacts (XCSEA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA): Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² with or without cable end
		XCSPA: clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²

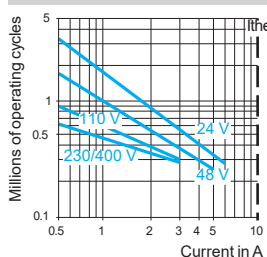
Electrical durability

- b Conforming to EN/IEC 60947-5-1 Appendix C
- b Utilization categories AC-15 and DC-13
- b Maximum operating rate: 3600 operating cycles/hour
- b Load factor: 0.5

Only applicable to **XCSEMP**:

- b Conforming to EN/IEC 60947-5-1 Appendix C
- b Utilization categories AC-15 and DC-13
- b Maximum operating rate: 900 operating cycles/hour

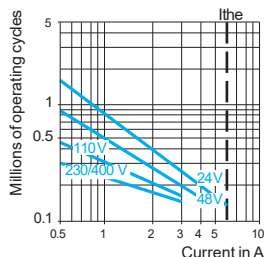
XCSPA 2 snap action contact version



Voltage	V	24	48	120
	W	10	7	4

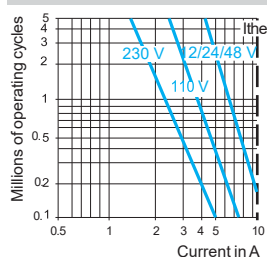
For **XE2SPp151** on a or c, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

XCSPA 3 snap action contact version



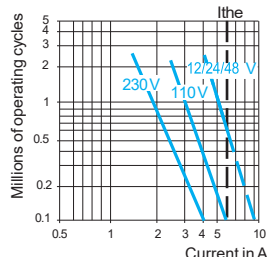
Voltage	V	24	48	120
	W	3	2	1

XCSEA, XCSB, XCSC, XCSTA 3 slow break contact version and XCSPA 2 slow break contact version



Voltage	V	24	48	120
	W	13	9	7

XCSPA 3 slow break contact version



Voltage	V	24	48	120
	W	4	3	2

AC supply
50/60 Hz a
○ inductive circuit

DC supply c
Power broken in W for
1 million operating cycles

AC supply
50/60 Hz a
○ inductive circuit

DC supply c
Power broken in W for
5 million operating cycles.

Type of switch

Without locking of actuating key



XCSMP switch

References of switches without actuating key (4) (⊖ NC contact with positive opening operation) (1) (3)

2-pole 1 NC + 1 NO break before make, slow break (2)		XCSMP59Lp ⊖
2-pole 2 NC slow break (2)		XCSMP79Lp ⊖
3-pole 2 NC + 1 NO break before make, slow break (2)		XCSMP70Lp ⊖
3-pole 3 NC slow break (2)		XCSMP80Lp ⊖
Weight (kg)		0.110

Complementary characteristics not shown under general characteristics (page 38)

Actuation speed	Maximum: 1.5 m/s, minimum: 0.05 m/s
Mechanical durability	> 1 million operating cycles
Pre-cabled connection	4 x 0.5 mm ² or 6 x 0.5 mm ²
Maximum operating rate	For maximum durability: 1 200 operating cycles per hour
Minimum force for extraction of actuating key	u 8 N

References of actuating keys

Description	Straight actuating key	Right-angled actuating key	Pivoting actuating key For right-hand door	Pivoting actuating key For left-hand door
For XCSMP safety switches	XCSZ81	XCSZ84	XCSZ83	XCSZ85
Weight (kg)	0.015	0.025	0.085	0.085

Separate components

Description	Unit reference	Weight (kg)
Blanking plugs for operating head slot (Sold in lots of 10)	XCSZ29	0.005

(1) Blanking plug for operating head slot included with switch.

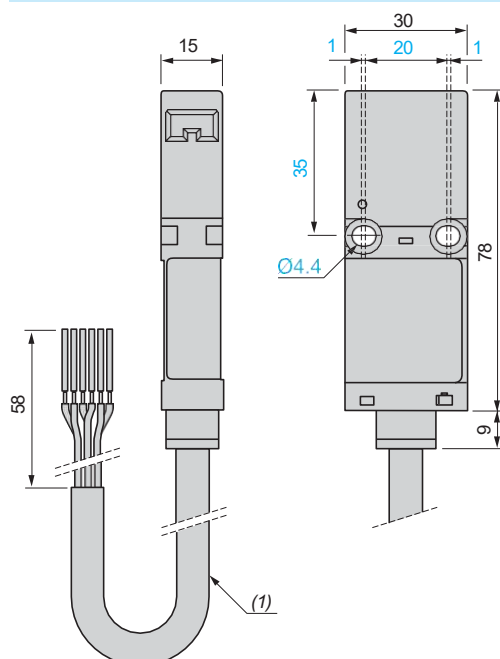
(2) Schematic diagrams shown represent the contact states while the actuating key is inserted in the head of the switch.

(3) Basic reference, to be completed: replace the dot with 2 for a 2 m long cable, with 5 for a 5 m long cable or with 10 for a 10 m long cable. Some lengths may not be available. Example: XCSMP70Lp becomes XCSMP70L10 for a switch with a 10 m long cable.

(4) Actuating keys to be ordered separately (see above).

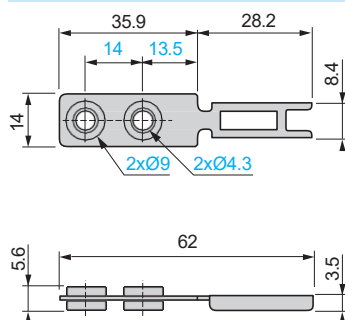
Dimensions

XCSMP

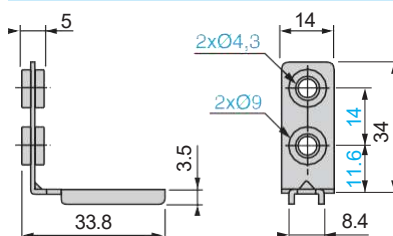


(1) $\varnothing 7.6$, length 2, 5 or 10 m.

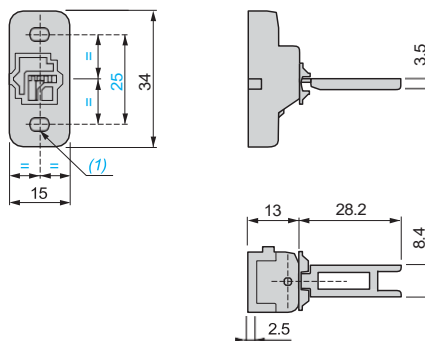
XCSZ81



XCSZ84

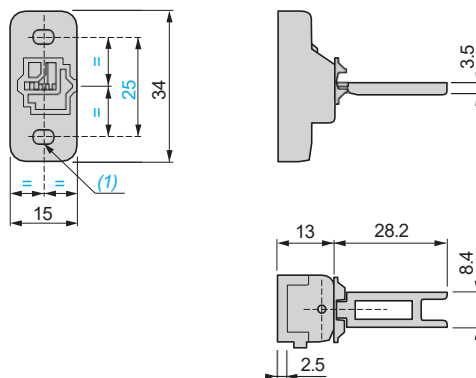


XCSZ83



(1) 2 elongated holes $\varnothing 4.2 \times 6$.

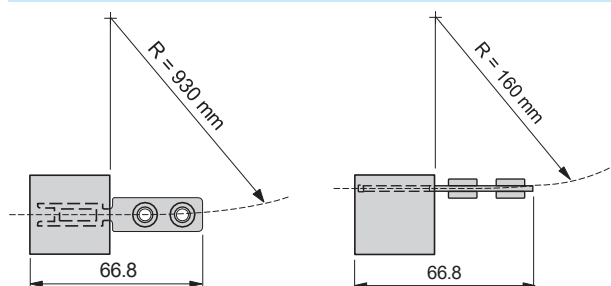
XCSZ85



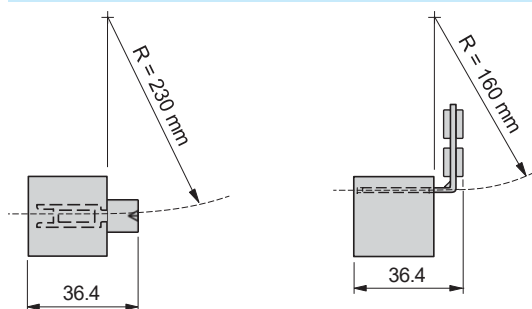
(1) 2 elongated holes $\varnothing 4.2 \times 6$.

Operating radius required for actuating key

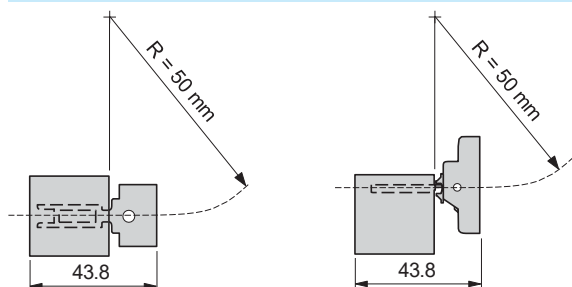
XCSZ81



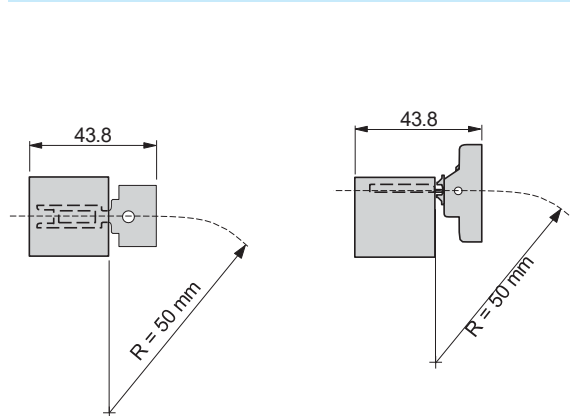
XCSZ84



XCSZ83

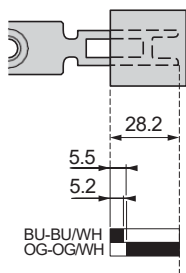


XCSZ85

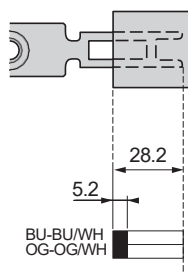


Functional diagrams

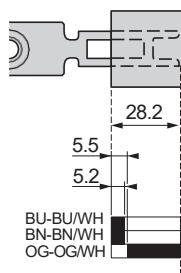
XCSMP59p



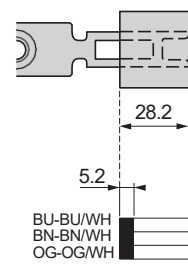
XCSMP79p



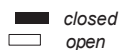
XCSMP70p



XCSMP80p



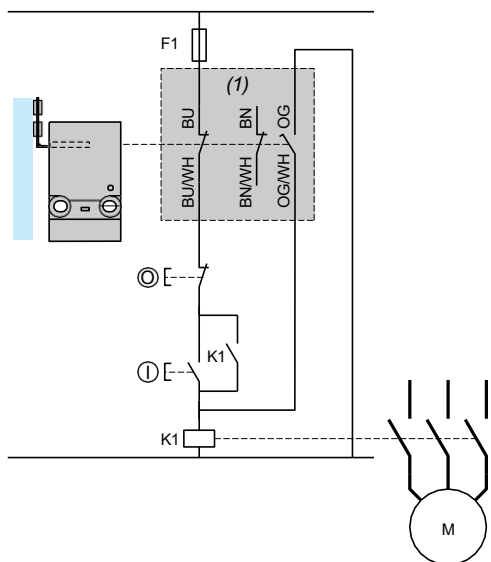
Contact operation



Schemes Note: These schemes are given as examples only, the designer should refer to the relevant safety standards for guidance.

Wiring up to PL=b, category 1 conforming to EN/ISO 13849-1

Example with 3-pole 2 NC + 1 NO contact and protection fuse to help prevent shunting of the NC contact, due to either cable damage or tampering.

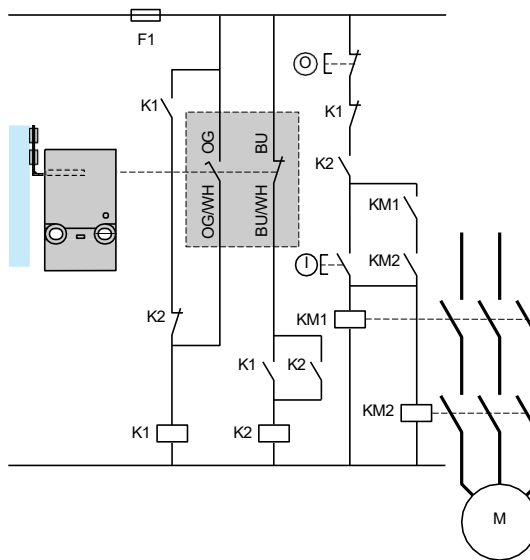


(1) Signaling contact

Wiring up to PL=d, category 3 conforming to EN/ISO 13849-1

Example with 2-pole 1 NC + 1 NO contact with mixed redundancy of the contacts and the associated control relays.

To activate K1, it is necessary to remove and re-insert the actuating key when the supply is switched on.

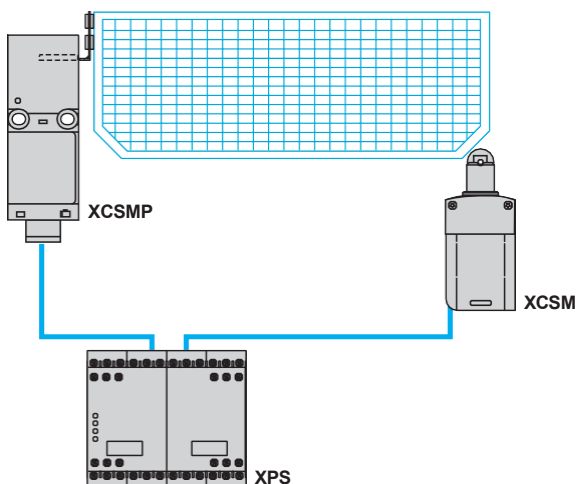


Wiring to PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061. Wiring method used in conjunction with a safety control unit.

(The guard switch should be used in conjunction with a safety limit switch to give electrical/mechanical redundancy).

Method for machines with quick rundown time (low inertia)

Locking or interlocking device based on the principle of redundancy and self-monitoring.
The safety control units provide these functions.



Locking of actuating key and operation in positive mode associated with a safety control unit.

Key-operated safety switches

XCSPA and XCSTA plastic, turret head

1 or 2 cable entries

Type of switch	Without locking of actuating key
	
XCSPA	XCSTA

References of switches without actuating key (4) (⊕ NC contact with positive opening operation) with 1 or 2 cable entries tapped ISO M16 x 1.5

2-pole 1 NC + 1 NO (2) break before make, slow break		XCSPA592	⊕	—
2-pole 1 NC + 1 NO (2) snap action		XCSPA192	⊕	—
2-pole 1 NO + 1 NC (2) make before break, slow break		XCSPA692	⊕	—
2-pole 2 NC (2) slow break		XCSPA792	⊕	—
2-pole 2 NC (2) snap action		XCSPA292	⊕	—
3-pole 1 NC + 2 NO (2) break before make, slow break		XCSPA892	⊕	XCSTA592 ⊕
3-pole 2 NC + 1 NO (2) break before make, slow break		XCSPA992	⊕	XCSTA792 ⊕
3-pole 2 NC + 1 NO (2) snap action		XCSPA492	⊕	—
3-pole 3 NC (2) slow break		—	—	XCSTA892 ⊕
Weight (kg)		0.110		0.160

References of switches without actuating key (4) (⊕ NC contact with positive opening operation) with 1 or 2 cable entries tapped Pg 11 or 1/2" NPT

To order a switch with 1 or 2 cable entries for Pg 11 cable gland (clamping capacity 7 to 10 mm), replace the last number (2) with 1 in the selected reference.

Example: XCSPA592 becomes **XCSPA591** (some Pg 11 references may not be available).

To order a switch with 1 or 2 cable entries for 1/2" NPT conduit (one Pg 11 tapped entry fitted with DE9RA1012 metal adapter), replace the last number (2) with 3 in the selected reference. Example: XCSTA592 becomes **XCSTA593** (some 1/2" NPT references may not be available).

Complementary characteristics not shown under general characteristics (page 38)

Actuation speed	Maximum: 0.5 m/s, minimum: 0.01 m/s
Resistance to forcible withdrawal of actuating key	XCSPA, XCSTA: 10 N (50 N using actuating keys XCSZ12 or XCSZ13 together with guard retaining device XCSZ21)
Mechanical durability	XCSPA, XCSTA: > 1 million operating cycles
Maximum operating rate	For maximum durability: 600 operating cycles per hour
Minimum force for positive opening	u 15 N
Cable entry	XCSPA: 1 entry tapped M16 x 1.5 for ISO cable gland. XCSTA: 2 entries tapped M16 x 1.5 for ISO cable gland.
Materials	Body and head: polyamide PA66, fibreglass impregnated

References of accessories

	Description	For use with	Unit reference	Weight (kg)
 XCSTA91	Blanking plug for operating head slot (Sold in lots of 10)	XCSPA, XCSTA	XCSZ28	0.050
 XCSTA200	Padlocking device to help prevent insertion of actuating key, for up to 3 padlocks (padlocks not included)	XCSPA, XCSTA	XCSZ91	0.053
	Actuating key centering device (3) (Fixing screws included)	XCSPA, XCSTA	XCSZ200	0.022

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.

(2) Schematic diagrams shown represent the contact states while the actuating key is inserted in the head of the switch.

(3) Not for use with XCSZ91.

(4) Actuating keys to be ordered separately (see page 45).

Other versions: please consult our Customer Care Center.

References of actuating keys and guard retaining device



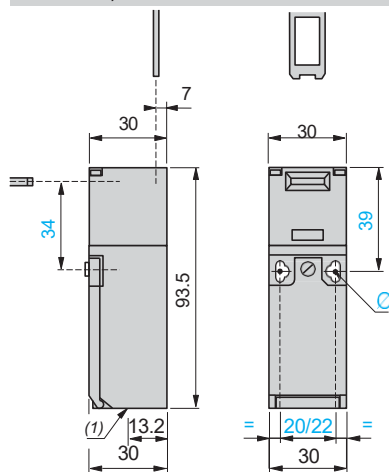
Description	Straight actuating key	Actuating key with wide fixing (1)		Pivoting actuating key	Right-angled actuating key	Guard retaining device (2)
For XCSPA and XCSTA key-operated safety switches	XCSZ11	XCSZ12	XCSZ15	XCSZ13	XCSZ14	XCSZ21
Weight (kg)	0.015	0.015	0.012	0.085	0.025	0.080

(1) 2 actuating key lengths, XCSZ12: L = 40 mm, XCSZ15: L = 29 mm.

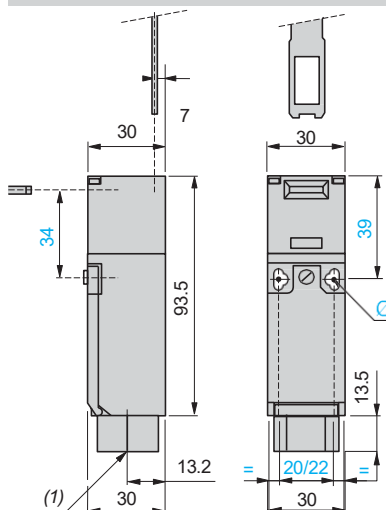
(2) Only for use with XCSPA and XCSTA key-operated switches (without XCSZ200 actuating key centering device) used in conjunction with XCSZ12, XCSZ13 or XCSZ15 actuating keys.

Dimensions

XCSPA.91, XCSPA.92



XCSPA.93



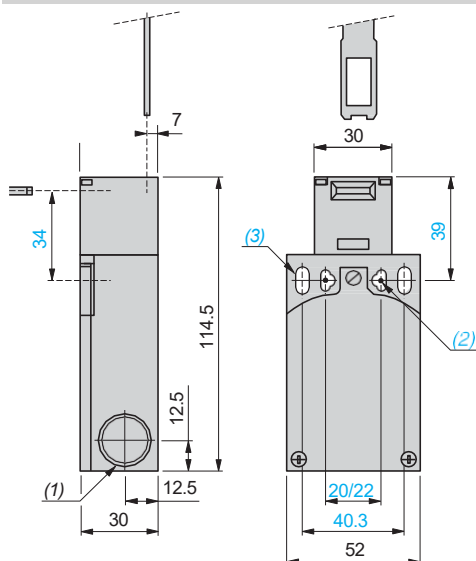
(1) 1 tapped entry for cable gland

Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers

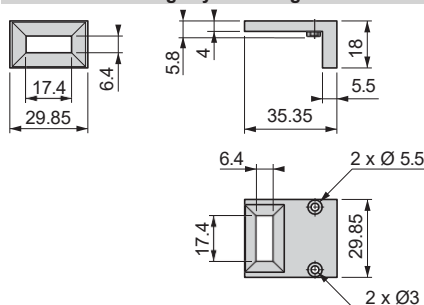
(1) 1 tapped entry for 1/2" NPT conduit

Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers

XCSTA.9.

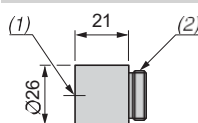


XCSZ200 actuating key centering device



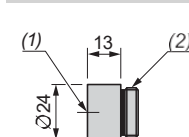
1/2" NPT conduit adapter

DE9RA1012



M16 x 1.5 adapter

DE9RA1016



(1) 2 tapped entries for cable gland or 1/2" NPT conduit adapter

(2) 2 elongated holes $\varnothing 4.3 \times 8.3$ on 22 centers,
2 holes $\varnothing 4.3$ on 20 centers

(3) 2 elongated holes $\varnothing 5.3 \times 13.3$

(1) Tapped entry for 1/2" NPT conduit

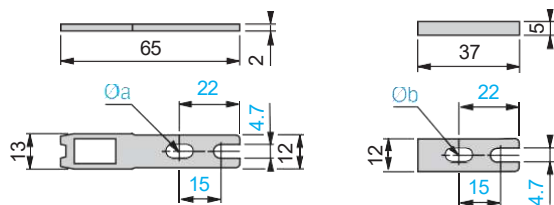
(2) Pg 11 threaded shank

(1) M16 x 1.5 tapped entry

(2) *Pg 11 threaded shank*

Dimensions (continued)

XCSP11

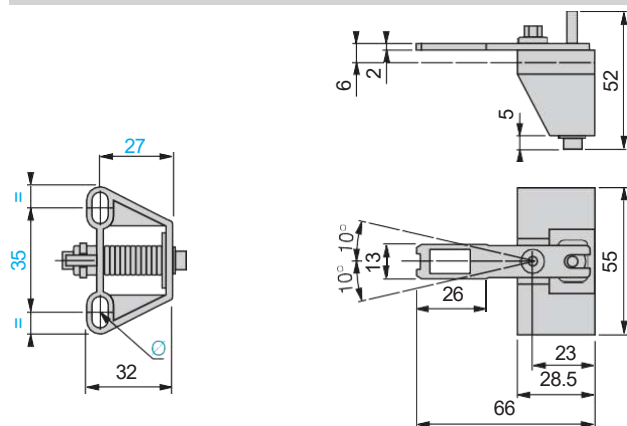


(1) Adapter (included with XCSZ11 actuating key) for replacing, without drilling an additional fixing hole, a legacy XCKP/T key-operated switch with XCKY01 actuating key by an XCSTA key-operated switch with XCSZ11 actuating key.

Ø a: 2 elongated holes Ø 4.7 x 10

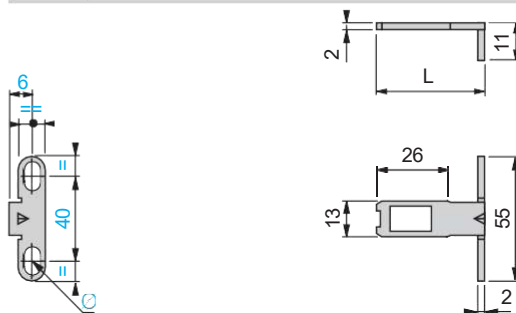
Ø b: 1 elongated hole for M4 or M4.5 screw

XCSZ13



Ø: 2 elongated holes Ø 4.7 x 10

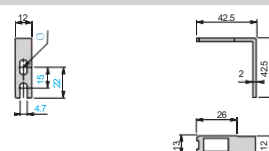
XCSZ12, XCSZ15



Ø: 2 elongated holes Ø 4.7 x 10

L = 40 mm (XCSZ12) or 29 mm (XCSZ15)

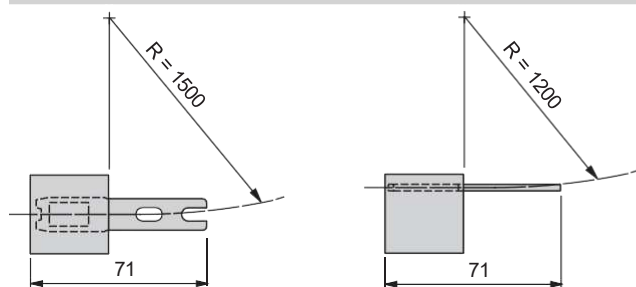
XCSZ14



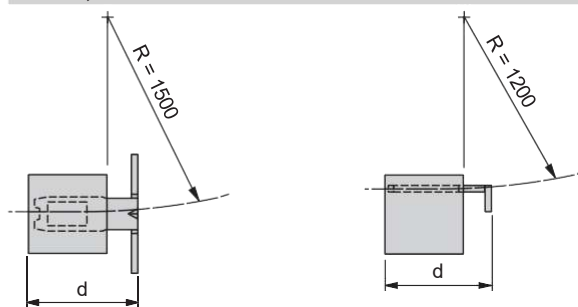
Ø: 1 elongated hole Ø 4.7 x 10

Operating radius required for actuating key

XCSP11

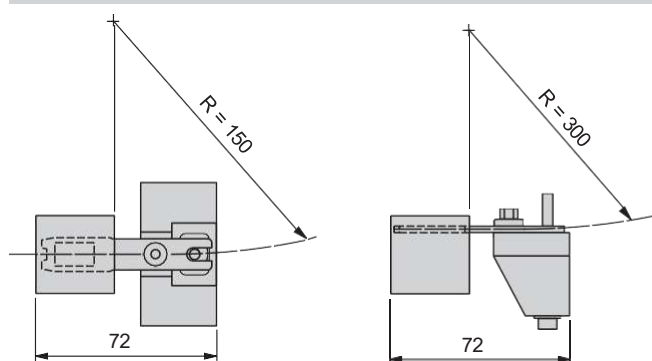


XCSZ12, XCSZ15

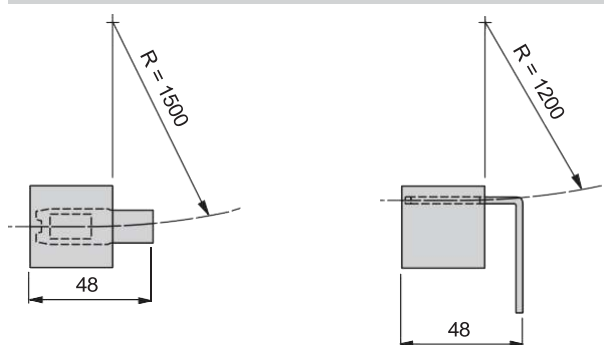


d = 46 mm (XCSZ12) or 35 mm (XCSZ15)

XCSZ13



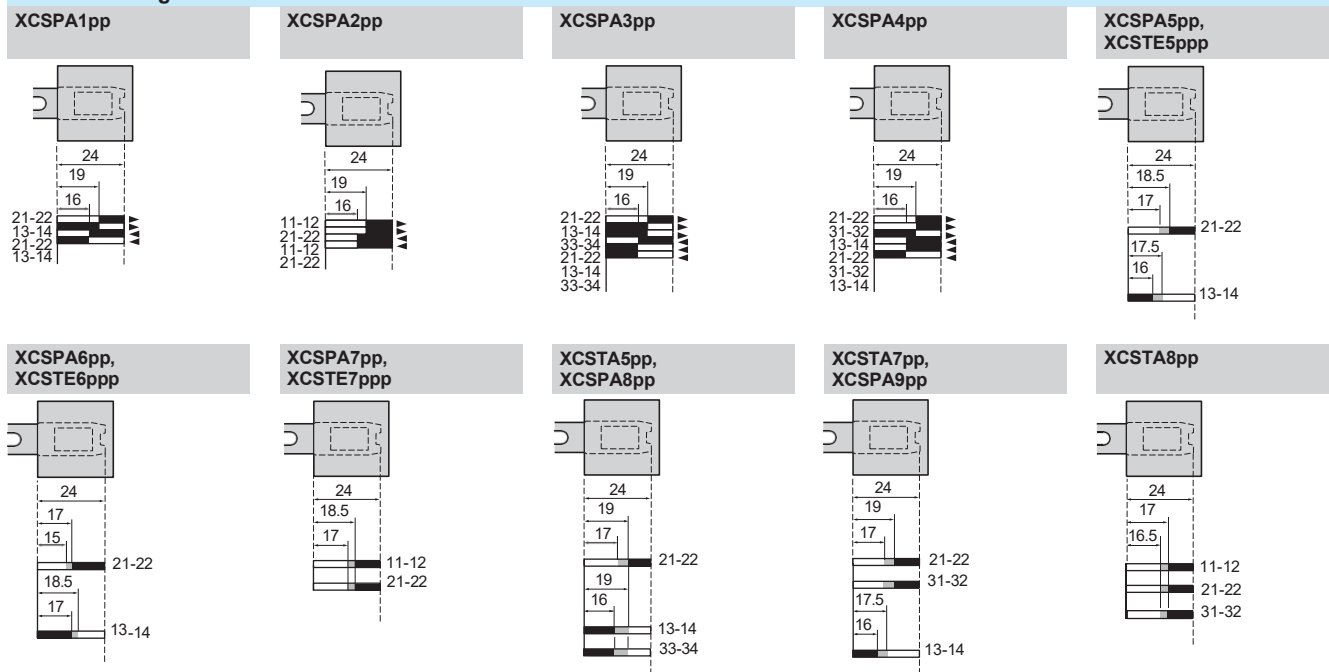
XCSZ14



R = minimum radius

Setting-up

Functional diagrams



Contact operation

□ Closed

□ Open

□ Transient state

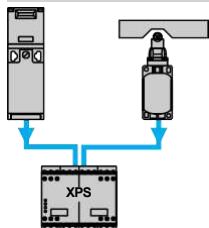
Schemes

Note: These schemes are given as examples only, the designer should refer to the relevant safety standards for guidance.

Wiring to PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061
Wiring method used in conjunction with a safety control unit

(The key-operated switch should be used in conjunction with a safety limit switch to give electrical/mechanical redundancy)

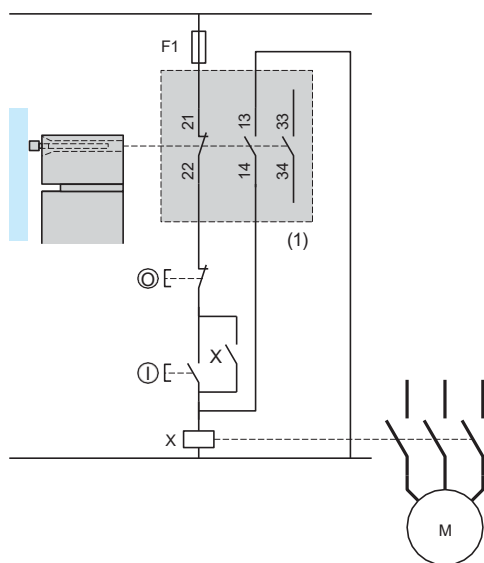
Method for machines with quick rundown time (low inertia)



Locking of actuating key and operation in positive mode associated with a safety control unit.

Wiring to PL=b, category 1 conforming to EN/ISO 13849-1

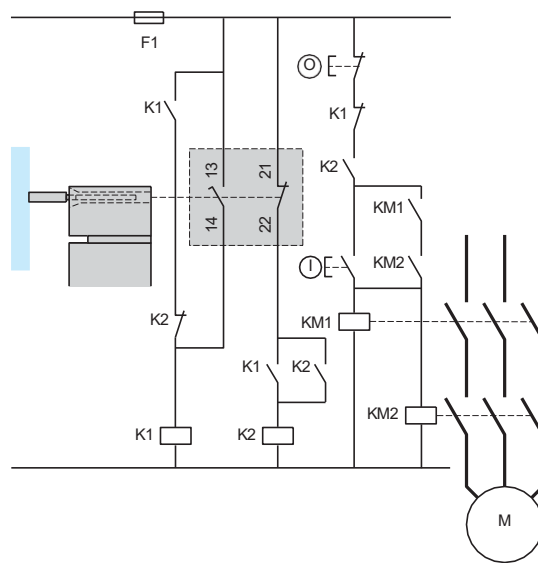
Example with 3-pole 1 NC + 2 NO contact and protection fuse to help prevent shunting of the NC contact, due to either cable damage or tampering.



(1) Signaling contact.

Wiring to PL=d, category 3 conforming to EN/ISO 13849-1

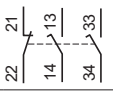
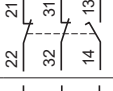
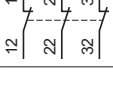
Example with 2-pole 1 NC + 1 NO contact with mixed redundancy of the contacts and the associated control relays. To activate K1, it is necessary to remove and re-insert the actuating key when the supply is switched on.



Type of switch	Without locking of actuating key		With locking of actuating key, manual unlocking (2)	
				
	XCSEA		XCSB	XCSC

LED indication on opening of NC contacts	No	1 orange LED 24/48 V z	1 orange LED 110/240 V a	No (4)	No (4)
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References of switches without actuating key (5) (⊕ NC contact with positive opening operation) with 1 cable entry tapped ISO M20 x 1.5

3-pole 1 NC + 2 NO break before make, slow break (3)		XCSEA502	XCSEA512	XCSEA522	XCSB502	XCSC502
3-pole 2 NC + 1 NO break before make, slow break (3)		XCSEA702	XCSEA712	XCSEA722	XCSB702	XCSC702
3-pole 3 NC slow break (3)		XCSEA802	-	-	XCSB802	XCSC802
Weight (kg)		0.440	0.440	0.440	0.475	0.480

References of switches without actuating key (5) with 1 cable entry tapped Pg 13.5

To order a switch with a Pg 13.5 cable entry, replace the last number (2) with 1 in the selected reference.

Example: XCSEA502 becomes **XCSEA501** (some Pg 13.5 references may not be available).

References of switches without actuating key (5) with 1 cable entry tapped 1/2" NPT

To order a switch with a 1/2" NPT cable entry, replace the last number (2) with 3 in the selected reference.

Example: XCSEA502 becomes **XCSEA503** (some 1/2" NPT references may not be available).

Complementary characteristics not shown under general characteristics (page 38)

Actuation speed	Maximum: 0.5 m/s, minimum: 0.01 m/s
Resistance to forcible withdrawal of actuating key (locked)	XCSB and XCSC: $F_{1max} = 1500$ N; $F_{2h} = 1150$ N
Mechanical durability	XCSEA: > 1 million operating cycles XCSB and XCSC: 0.6 million operating cycles
Maximum operating rate	For maximum durability: 600 operating cycles per hour
Minimum force for extraction of actuating key (not locked)	u 20 N
Cable entry	XCSEA, XCSB, XCSC: 1 cable entry Entry tapped ISO M20 x 1.5, clamping capacity 7 to 13 mm
Materials	Body: Zamak. Head: Zamak. Safety screws: 5-lobe torque. Protective plate: steel.

References of actuating keys

				
Description	Straight actuating key	Actuating key with wide fixing	Pivoting actuating key	Latch for sliding doors
For XCSEA, XCSB or XCSC key-operated switches	XCSZ01	XCSZ02	XCSZ03	XCSZ05
Weight (kg)	0.020	0.020	0.095	0.600

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.

(2) Unlocking by pushbutton for XCSB... and by key-operated lock for XCSC... (2 keys included with switch).

(3) Schematic diagrams shown represent the contact states while the actuating key is inserted in the head of the switch.

(4) 1 orange LED 24/48V a/c indicator available with the XCSZ31 accessory

1 orange LED 110/240V a indicator available with the XCSZ32 accessory

(5) Actuating keys to be ordered separately (see above).

Other versions: please consult our Customer Care Center.

Safety detection solutions

Key-operated switches

XCSEA, XCSB and XCSC metal, turret head

1 cable entry

Separate components



XCSZ3p



XCSZ90

Description	For use with	Supply voltage	Reference	Weight (kg)
1 kit including: - 1 orange LED indicator module - 1 cover - Seal - 2 fixing screws	XCSEA	a or 24/48 V c	XCSZ31	0.040
		110/240 V a	XCSZ32	0.040

Description	For use with	Unit reference	Weight (kg)
Blanking plugs for operating head slot (Sold in lots of 10)	XCSEA, XCSB, XCSC	XCSZ27	0.050

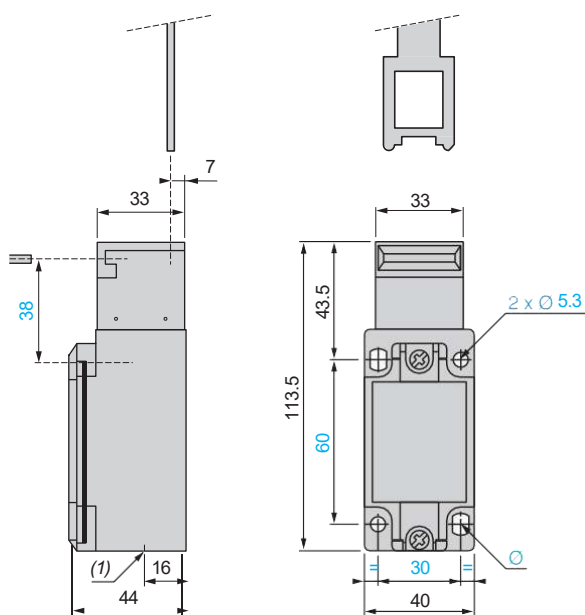
Keys for forced opening of interlocking device (Sold in lots of 10)	XCSB, XCSC	XCSZ25	0.100
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Padlocking device t helps to prevent insertion of actuating key, for up to 3 padlocks (padlocks not included)	XCSEA, XCSB, XCSC	XCSZ90	0.055
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Dimensions

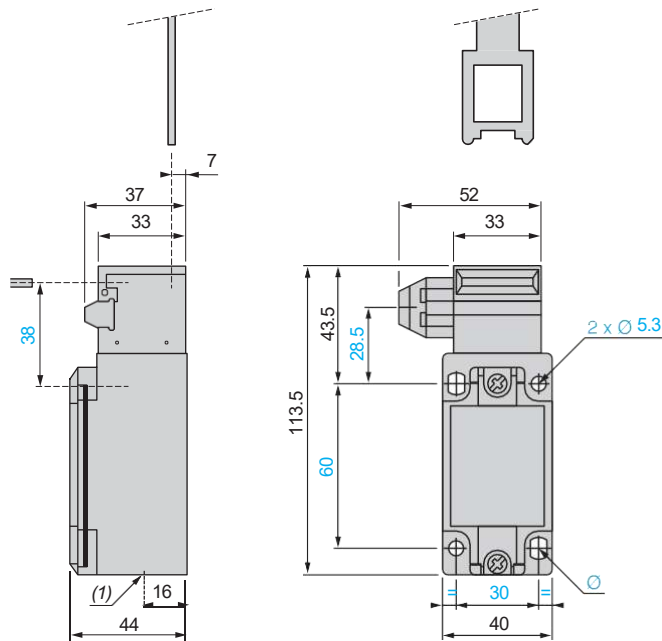
Key-operated switches

XCSEA



(1) 1 tapped entry for cable gland
Ø: 2 elongated holes Ø 5.3 x 7.3

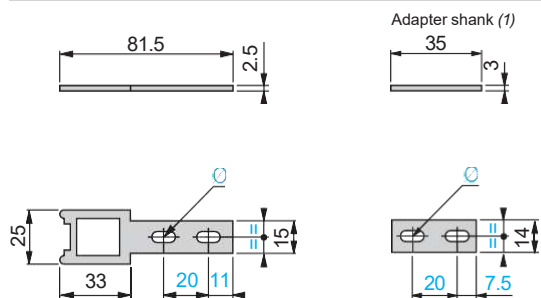
XCSB, XCSC



(1) 1 tapped entry for cable gland
Ø: 2 elongated holes Ø 5.3 x 7.3

Actuating keys

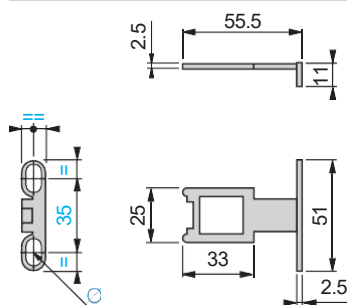
XCSZ01



(1) Adapter (included with XCSZ01 actuating key) for replacing, without drilling an additional fixing hole, an XCKJ guard switch with ZCKY07 actuating key by an XCSEA, XCSB or XCSC guard switch with XCSZ01 actuating key.

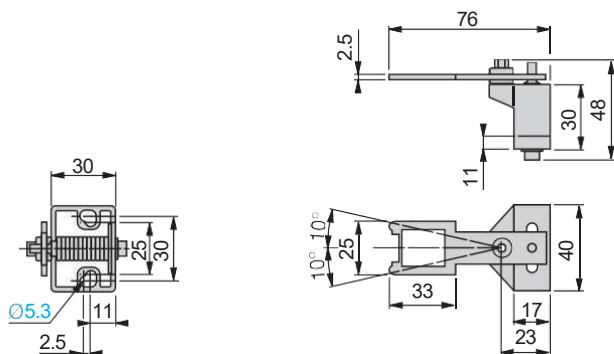
Ø: 2 elongated holes Ø 5.3 x 10

XCSZ02



Ø: 2 elongated holes Ø 5.3 x 10

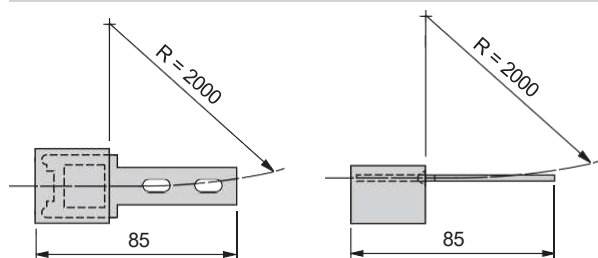
XCSZ03



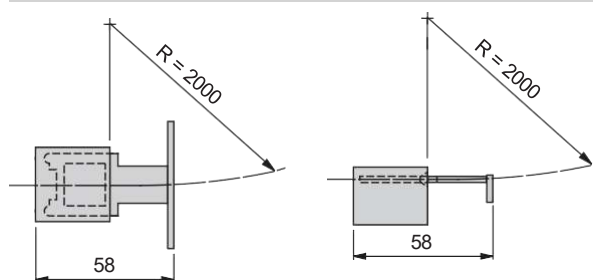
Fixing axis % related to actuating key.

Operating radius required for actuating key

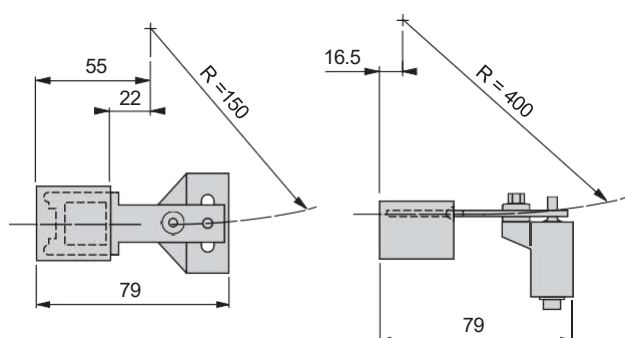
XCSZ01



XCSZ02



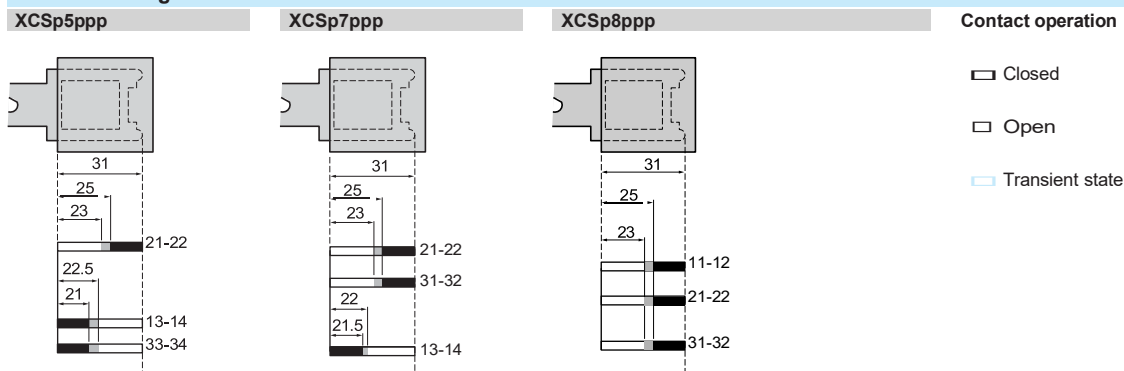
XCSZ03



R = minimum radius

Setting-up

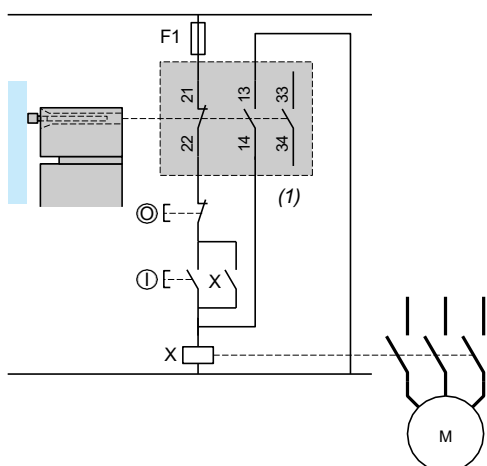
Functional diagrams



Schemes Note: These schemes are given as examples only, the designer should refer to the relevant safety standards for guidance.

Wiring up to PL=b, category 1 conforming to EN/ISO 13849-1

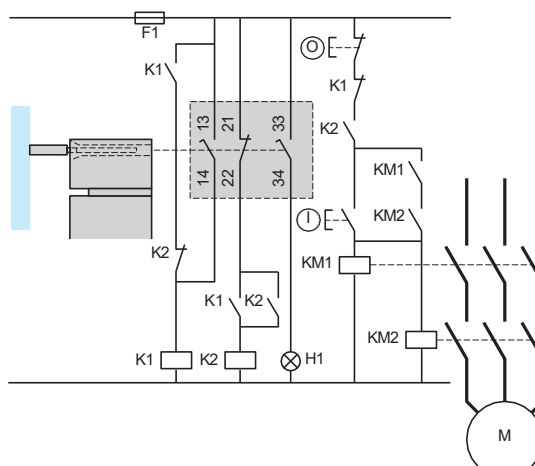
Example with 3-pole 1 NC + 2 NO contact and protection fuse to help prevent shunting of the NC contact, due to either cable damage or tampering.



(1) Signaling contact

Wiring up to PL=d, category 3 conforming to EN/ISO 13849-1

Example with 3-pole 1 NC + 2 NO contact with mixed redundancy of the contacts and the associated control relays. To activate K1, it is necessary to remove and re-insert the actuating key when the supply is switched on.

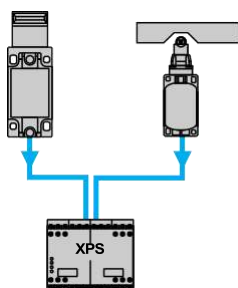


H1: "Actuating key not inserted" indicator

Wiring to PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061. Wiring method used in conjunction with a safety control unit. (The key-operated switch should be used in conjunction with a safety limit switch to give electrical/mechanical redundancy).

Method for machines with quick rundown time (low inertia)

Locking device based on the principle of redundancy and self-monitoring. The safety control units provide these functions.



Locking of actuating key and operation in positive mode associated with a safety control unit.

Safety detection solutions

Safety interlock switches

Key-operated with solenoid, turret head

XCSLF and XCSLE slim design

XCSLF metal

Safety interlock switches operated by actuating key

With emergency release mushroom head pushbutton



Pages 54 and 55

Pages 56 and 57

XCSLE plastic

Safety interlock switches operated by actuating key



Pages 58 and 59

Environmental characteristics			
Safety interlock switch type		XCSLF (metal)	XCSLE (plastic)
Conformity to standards	Products	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no. 14	
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119, EN/ISO 12100	
Product certifications		UL, CSA, CCC, EAC	
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061	
Reliability data B ₁₀₀		5,500,000 (value given for a service life of 20 years, limited by mechanical or contact wear)	
Ambient air temperature	For operation	-25 ...+60 °C	
	For storage	-40...+70 °C	
Vibration resistance		5 gn (10...500 Hz) conforming to EN/IEC 60068-2-6	
Shock resistance		10 gn (duration 11 ms) conforming to EN/IEC 60068-2-27	
Electric shock protection	Conforming to EN/IEC 61140	Class I (cable entries)	Class II (cable entries)
		Class I (M23 connector, 19 pins)	
Degree of protection		IP 65 (XCSL..... M3, versions with M23 connector) IP 66 and IP 67 (IP 66 for XCSLF4.. and for XCSLF6..) conforming to EN/IEC 60529 and EN/IEC 60947-5-1 (2)	
Connection		3 cable entries tapped M20 x 1.5 for ISO cable gland. Clamping capacity 7 to 13 mm or entries tapped for 1/2" NPT conduit or M23 19-pin connector output (18+1PE) 24 V c versions.	
Material		Zamak case	Polyamide case
		Actuating keys (all types): steel XC60, surface treated	

(1) Using an appropriate and correctly connected safety control unit.

(2) Live parts of these switches are protected to some extent against the penetration of dust and water. However, when installing take all necessary precautions to help prevent the penetration of solid bodies, or liquids with a high dust content, into the actuating key aperture. Use of XCSZ30 blanking plugs for unused key slots can reduce the penetration of unwanted elements (one blanking plug is delivered with the product). Not recommended for use in saline atmospheres.

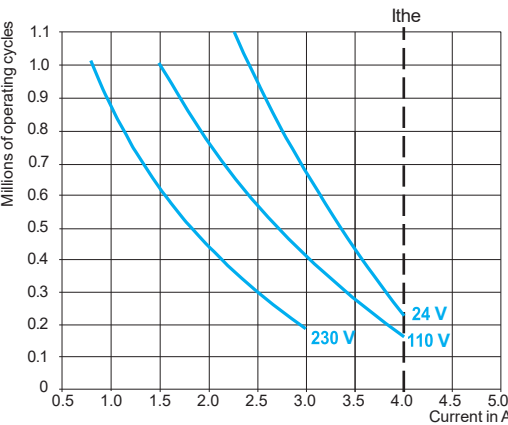
Contact block characteristics		
Safety interlock switch type	XCSLFppppp12 and XCSLEppppp12 (versions with 3 cable entries)	XCSLFppppppM3 and XCSLEppppppM3 (versions with M23 connector)
Rated operational characteristics	AC-15 a, C300: Ue = 240 V, Ie = 0.75 A DC-13 c, R300: Ue = 250 V, Ie = 0.1 A conforming to EN/IEC 60947-5-1	a AC-15, C300: Ue = 24 V, Ie = 1.5 A c DC-13, R300: Ue = 24 V, Ie = 0.22 A conforming to EN/IEC 60947-5-1
Conventional thermal current in enclosure	Ithe = 4 A (sum of the thermal currents y 15 A)	
Rated insulation voltage	Ui = 250 V degree of pollution 3 conforming to EN/IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 no. 14	Ui = 60 V degree of pollution 3 conforming to EN/IEC 60947-1 Ui = 50 V conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage	Uimp = 4 kV conforming to EN/IEC 60947-1	Uimp = 0.8 kV conforming to EN/IEC 60947-1
Positive operation	Contacts with positive opening operation conforming to EN/IEC 60947-5-1	
Minimum switching current	10 mA at 20 V	
Minimum switching voltage	17 V	
Short-circuit protection	4 A cartridge fuse gG (gl) or 6 A fast-blow fuse	
Connection	Clamping capacity on spring terminals: 2 x 0.5 mm² stripped flexible cables, 13 mm long 1 x 1.5 mm² flexible or rigid cable	
Additional characteristics		
Actuation speed	Maximum: 0.5 m/s, minimum: 0.01 m/s	
Resistance to forcible withdrawal of actuating key (locked)	XCSLF: F1max = 3000 N, FZh = 2300 N XCSLE: F1max = 1400 N, FZh = 1100 N	
Shock resistance	XCSLE: 1.2 J max. or 4.9 J depending on installation (see page 20) XCSLF: 6.4 J max. or 9.6 J (see page 20)	
Mechanical durability	XCSLF and XCSLE: > 1 million operating cycles Emergency release mushroom head pushbutton on XCSLF: 30,000 operating cycles	
Maximum operating rate	For maximum durability: 600 operating cycles per hour	
Minimum force for extraction of actuating key (not locked)	u 20 N	

Additional characteristics (continued)

Electrical durability

- b Conforming to EN/IEC 60947-5-1 Appendix C
- b Utilization categories AC-15 and DC-13
- b Maximum operating rate: 3,600 operating cycles/hour
- b Load factor: 0.5

AC supply
50/60 Hz **a**
○ inductive circuit



DC supply **c**
Power broken for 1 million
operating cycles

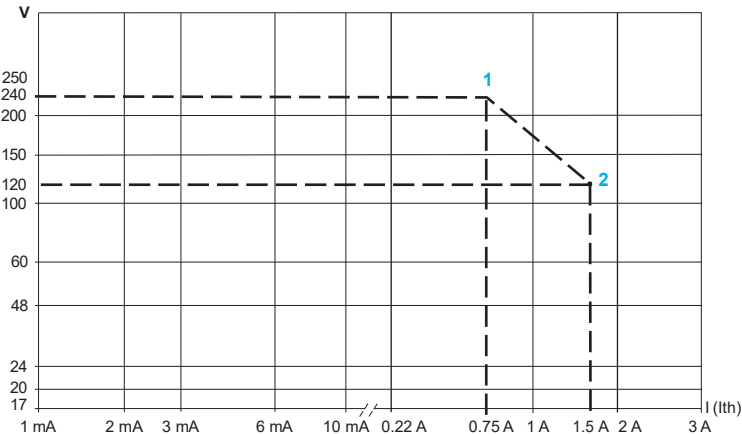
Voltage	V	24	48	120
○	W	16	28	38

Switching capacity

- b Conforming to EN/IEC 60947-5-1 Appendix C
- b Utilization categories AC-15 and DC-13

Switching capacity **1**:
C300 240 V 0.75 A
R300 250 V 0.1 A

Switching capacity **2**:
C300 120 V 1.5 A
R300 125 V 0.22 A



Type of switch	Locking on de-energization and unlocking on energization of solenoid (2)
----------------	--



LED indication	Orange LED: "guard open" indication Green LED: "guard closed and locked" indication				
Power supply for the solenoid and the LEDs	24 V c or a (50/60 Hz on a)				
Type of auxiliary contact actuated by the solenoid (locking contacts). Contact states represented with actuating key inserted and solenoid not energized.	1 NC + 1 NO break before make 	2 NC simultaneous 	1 NC + 2 NO break before make 	2 NC + 1 NO break before make 	3 NC simultaneous

References of switches without actuating key (3) (⊕ NC contact with positive opening operation)

Types of main contact actuated by the key

Contact states represented with actuating key inserted

With 3 cable entries tapped ISO M20 x 1.5

2-pole contact 1 NC + 1 NO break before make, slow break 	XCSLF2525312 ⊕	—	—	—	—
2-pole contact 2 NC simultaneous, slow break 	XCSLF2725312 ⊕	XCSLF2727312 ⊕	—	—	—
3-pole contact 1 NC + 2 NO break before make, slow break 	—	—	XCSLF3535312 ⊕	—	—
3-pole contact 2 NC + 1 NO break before make, slow break 	—	—	—	XCSLF3737312 ⊕	—
3-pole contact 3 NC simultaneous, slow break 	—	—	—	—	XCSLF3838312 ⊕
Weight (kg)	1.100	1.100	1.100	1.100	1.100

Solenoid and LED characteristics

Load factor	100%
Rated operational voltage (4)	24 V c or a or 120 V a or 230 V a
Voltage limits	Conforming to EN/IEC 60947-1 - 15%, + 10% of the rated operational voltage (including ripple on c)
Consumption	< 5.4 W at 20 °C and max. voltage

References of complete switches with solenoid supply voltage of 120 V or 230 V

To order a switch with a solenoid voltage of 110/120 V a, replace the sixth number in the selected reference with 3.

Example: XCSLF3535312 becomes **XCSLF3535332**. Some 110/120V a references may not be available.

To order a switch with a solenoid voltage of 220/240 V a, replace the sixth number in the selected reference with 4.

Example: XCSLF3535312 becomes **XCSLF3535342**. Some 220/240V a references may not be available.

References of switches with locking on energization and unlocking on de-energization

To order a safety interlock switch with locking on energization and unlocking on de-energization of the solenoid, replace the fifth number in the selected reference with 5. For these models, the auxiliary contact states are represented with key inserted and solenoid energized.

Example: XCSLF3535312 becomes **XCSLF3535512**. Some references with locking on energization may not be available.

References of complete switches with 3 cable entries tapped for 1/2" NPT conduit

To order a switch with three 1/2" NPT cable entries, replace the last number in the reference with 3.

Example: XCSLF3535312 becomes **XCSLF3535313**. Some 1/2" NPT references may not be available.

References of actuating keys and separate parts

See page 62.

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.

(2) A key-operated lock (2 keys included with switch) enables forced opening of the interlocking mechanism by authorized personnel, allowing withdrawal of the actuating key and subsequent opening of the NC safety contacts (auxiliary release).

(3) Actuating keys to be ordered separately (see page 62).

(4) Common power supply for the solenoid and the LEDs.

Other versions: consult your Customer Care Center.

Type of switch	Locking on de-energization and unlocking on energization of solenoid (2)
----------------	--



LED indication	Orange LED: "guard open" indication Green LED: "guard closed and locked" signaling		
Power supply for the solenoid and the LEDs	24 V c or a (50/60 Hz on a)		
Type of auxiliary contact actuated by the solenoid (locking contacts). Contact states represented with actuating key inserted and solenoid not energized.	1 NC + 2 NO break before make 	2 NC + 1 NO break before make 	3 NC simultaneous

References of switches without actuating key (3) (⊖ NC contact with positive opening operation)

Types of main contact actuated by the key

Contact states represented with actuating key inserted

With 19-pin (6 contacts) M23 connector output

3-pole contact 1 NC + 2 NO break before make, slow break 	XCSLF353531M3 ⊖	—	—
3-pole contact 2 NC + 1 NO break before make, slow break 	—	XCSLF373731M3 ⊖	—
3-pole contact 3 NC simultaneous, slow break 	—	—	XCSLF383831M3 ⊖
Weight (kg)	1.100	1.100	1.100

Solenoid and LED characteristics

Load factor	100%
Rated operational voltage (4)	24 V c or a
Voltage limits Conforming to EN/IEC 60947-1	- 15%, + 10% of the rated operational voltage (including ripple on c)
Consumption	< 5.4 W at 20 °C and max. voltage

References of switches with locking on energization and unlocking on de-energization

To order a safety interlock switch with locking on energization and unlocking on de-energization of the solenoid, replace the fifth number in the selected reference with 5.

For these models, the auxiliary contact states are represented with key inserted and solenoid energized.

Example: XCSLF373731M3 becomes **XCSLF373751M3**. Some references with locking on energization may not be available.

References of actuating keys and separate parts

See page 62.

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.

(2) A key-operated lock (two keys included with switch) enables forced opening of the interlocking mechanism by authorized personnel, allowing withdrawal of the actuating key and subsequent opening of the NC safety contacts (auxiliary release).

(3) Actuating keys to be ordered separately (see page 62).

(4) Common power supply for the solenoid and the LEDs.

Note : Due to existing cable connections and to increase your personal safety, safety screws have been used on the front of the product to help prevent unauthorized access.

Other versions: consult your Customer Care Center.

Safety detection solutions

Safety interlock switches

Key-operated with solenoid, turret head (1)
XCSLF metal, emergency release pushbutton,
3 cable entries

Type of switch	Locking on de-energization and unlocking on energization of solenoid (2) with emergency release by mushroom head pushbutton (3)
----------------	--



LED indication	Orange LED: "guard open" indication Green LED: "guard closed and locked" indication
----------------	--

Power supply for the solenoid and the LEDs	24 V c or a (50/60 Hz on a)
--	-----------------------------

Type of auxiliary contact actuated by the solenoid (locking contacts). Contact states represented with actuating key inserted and solenoid not energized.	1 NC + 2 NO break before make 	2 NC + 1 NO break before make 
--	--	--

References of switches without actuating key (4) (→ NC contact with positive opening operation)

Types of main contact actuated by the key

Contact states represented with actuating key inserted with trigger action mushroom head pushbutton, diameter 40 mm, "turn to release" reset
With 3 entries tapped ISO M20 x 1.5

3-pole contact 1 NC + 2 NO break before make, slow break 	XCSLF3535412 →	—
3-pole contact 2 NC + 1 NO break before make, slow break 	—	XCSLF3737412 →
Weight (kg)	1.220	1.220

Solenoid and LED characteristics

Load factor	100%
Rated operational voltage (5)	24 V c or a or 120 V a or 230 V a
Voltage limits	Conforming to EN/IEC 60947-1 - 15%, + 10% of the rated operational voltage (including ripple on c)
Consumption	< 5.4 W at 20 °C and max. voltage

References of switches with trigger action mushroom head pushbutton, diameter 40 mm, key no. 455 reset

To order a switch with trigger action mushroom head pushbutton, key no. 455 release, diameter 40 mm at the rear of the product, replace the fifth number in the selected reference with 6.

Example: XCSLF3535412 becomes XCSLF3535612. Some references with trigger action mushroom head pushbutton may not be available.

References of complete switches with solenoid supply voltage of 120 V or 230 V

To order a switch with a solenoid voltage of 110/120 V a, replace the sixth number in the selected reference with 3.

To order a switch with a solenoid voltage of 220/240 V a, replace the sixth number in the selected reference with 4.

Some 110/120V a and 220/240V a references may not be available.

References of complete switches with 3 cable entries tapped for 1/2" NPT conduit

To order a switch with 3 1/2" NPT cable entries, replace the last number in the reference with 3.

Example: XCSLF3737412 becomes XCSLF3737413. Some 1/2" NPT references may not be available.

References of actuating keys and separate parts

See page 62.

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.

(2) A key-operated lock (2 keys included with switch) enables forced opening of the interlocking mechanism by authorized personnel, allowing withdrawal of the actuating key and subsequent opening of the NC safety contacts (auxiliary release).

(3) Trigger action, diameter 40 mm, "turn to release" or "key no. 455" reset type.

(4) Actuating keys to be ordered separately (see page 62).

(5) Common power supply for the solenoid and the LEDs.

Other versions: consult your Customer Care Center.