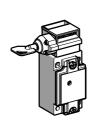
Guard switches, actuator operated Metal, types XCS A, XCS B, XCS C and XCS E Plastic, double insulated, turret head, types XCS MP or XCS PA or XCS TA and XCS TE

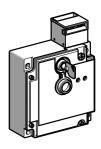
Metal, types XCS A, XCS B, XCS C, XCS E

Guard switches with or without locking of the actuator





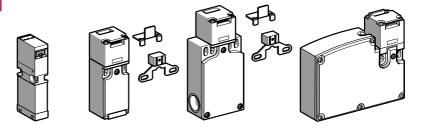




Pages 3/20 to 3/25

Plastic, types XCS MP, XCS PA XCS TA, XCS TE

Guard switches with or without locking of the actuator



Pages 3/32 and 3/36 to 3/41

Environment charact	teristics						
Guard switch type		XCS A, XCS B, XCS C, XCS E (metal)	XCS MP, XCS PA, XCS TA, XCS TE (plastic)				
Conformity to standards	Products	IEC/EN 60947-5-1, UL 508, CSA C22-2 n° 14					
	Machine assemblies	IEC/EN 60204-1, EN 1088/ISO 14119, EN/ISC	12100				
Product certifications		UL, CSA	UL, CSA (c UL for XCS MP)				
Protective treatment		Standard version: "TC"					
Ambient air temperature	For operation	- 25+ 70 °C (- 25+ 40 °C for XCS E and -2	25+ 60 °C for XCS TE)				
	For storage	- 40+ 70 °C (- 25+ 80 °C for XCS MP)	-40+ 70 °C (-25+ 80 °C for XCS MP)				
Vibration resistance		5 gn (10500 Hz) conforming to IEC/EN 6006	5 gn (10500 Hz) conforming to IEC/EN 60068-2-6 (6 gn (1055 Hz) for XCS MP)				
Shock resistance		10 gn (duration 11 ms) conforming to IEC/EN 6	10 gn (duration 11 ms) conforming to IEC/EN 60068-2-27 (50 gn (duration 11 ms) for XCS MP)				
Electric shock protection		Class I conforming to IEC/EN 60536	Class 2 conforming to IEC/EN 60536				
Degree of protection		IP 67 conforming to IEC/EN 60529 and IEC/EN 60947-5-1 (1)					
Cable entry		1 entry (XCS A, XCS B, XCS C) or 2 entries (XCS E) tapped for n° 13 (Pg 13.5) cable gland, tapped M20 or tapped 1/2" NPT	1 entry (XCS PA and XCS TE) or 2 entries (XCS TA) tapped for n° 11 (Pg 11) cable gland tapped M16 or tapped 1/2" NPT (with adaptor) for XCS TA and XCS TE				
Connecting cable		-	Pre-cabled, either 4 x 0.5 mm ² or 6 x 0.5 mm ² (XCS MP)				
Materials		XCS A/B/C/E Zamak case	XCS MP/PA/TA/TE/PL/TL/PR/TR Polyamide PA66 fibreglass impregnated enclosure				
		Actuators (all types): steel XC60, surface treated					

⁽¹⁾ Live parts of these switches are protected against the penetration of dust and water.

However, when installing take all necessary precautions to prevent the penetration of solid bodies, or liquids with a high dust content, into the actuator aperture. Not recommended for use in saline atmospheres.

Guard switches, actuator operated Metal, types XCS A, XCS B, XCS C and XCS E Plastic, double insulated, turret head, types XCS MP or XCS PA or XCS TA and XCS TE

Ue = 120 V, Ie = 6A XCS E, XCS TE: ~ AC-15, B300: Ue = 240 V, Ie = 1.5 A or Ue = 120 V, Ie = 3 A XCS MP: ~ AC-15, C300: Ue = 240 V, Ie = 0.75 A or Ue = 120 V, Ie = 0.55 A All models:	Ue = 120 V, Ie = 6A	Contact bl	ock chara	acteristics					
Conventional thermal current 3 contact, snap action XCS PA: ~AC-15, B300: Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A conforming to IEC/EN 60947-5-1 XCS PA: ~AC-15, B300: Ue = 240 V, Ie = 1.5 A; Ithe = 6 A DC-13, R300: Ue = 250 V, Ie = 0.1 A or Ue = 125 V, Ie = 0.55 A conforming to IEC/EN 60947-5-1 XCS A, XCS B, XCS C, XCS PA (2 & 3 slow break contact and 2 snap action contact versions XCS E, XCS TE, XCS PA (3 snap action contact version): Ithe = 6 A XCS MP: Ithe = 2.5 A 3 contact version): Ithe = 6 A XCS MP: Ithe = 2.5 A 3 contact version): Ithe = 6 A XCS MP: Ithe = 2.5 A 3 contact version): Ithe = 6 A XCS MP: Ithe = 2.5 A 3 contact version): Ithe = 6 A XCS MP: Ithe = 2.5 A 3 contact version): Ithe = 6 A XCS MP: Ui = 500 V conforming to IEC/EN 60947-1; Ui = 300 V conforming to UI 508, CSA C22-2 n° 1.	CDC-13, Q300: Uie = 250 V, Iie = 0.27 A or Uie = 125 V, Iie = 0.55 A conforming to IEC/EN 60947-5-1 CDC-13, R300: Uie = 240 V, Iie = 1.5 A; lithe = 6 A	Rated operational characteristics		2 and 3 contact, slow break	Ue = 120 V, Ie = 6 A XCS E, XCS TE:				
Conventional thermal current Crowding to IEC/EN 60947-5-1	CDC-13, R300: Ue = 250 V, le = 0.1 A or Ue = 125 V, le = 0.55 A conforming to IEC/EN 60947-5-1			2 contact, snap action	DC-13, Q300: Ue = 250 V, le = 0.27 A or Ue = 125 V, le = 0.55 A				
XCS E, XCS TE, XCS PA (3 snap action contact version): Ithe = 6 A XCS MP: Ithe = 2.5 A 3 contacts (XCS MP: Ithe = 2.5 A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): Ui = 500 V conforming to IEC/EN 60947-1; Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 Vi = 300 V conforming to UL 508, CSA C25 E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS PA, XCS PA	A contact Section			3 contact, snap action	DC-13, R300: Ue = 250 V, Ie = 0.1 A or Ue = 125 V, Ie = 0.55 A				
2 and 3 contacts (XCS MP): Ui = 500 V conforming to IEC/EN 60947-1; Ui = 300 V conforming to UL 508, CSA C22-2 n° 1- XCS PA and XCS TE: Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 Rated impulse withstand voltage 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): Uimp = 6 kV conforming to IEC/EN 60947-5-1 XCS PA: Uimp = 4 kV conforming to IEC/EN 60947-5-4 N/C contact(s) with positive operation conforming to IEC/EN 60947-5-1, Section 3 Resistance across terminals Short-circuit protection 2 and 3 contact 3 contact (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gl) XCS PA: 4 x CS PA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end	2 and 3 contacts (XCS MP): Ui = 500 V conforming to IEC/EN 60947-1; Ui = 300 V conforming to UL 508, CSA C22-2 n° 1 3 contact XCS PA and XCS TE: Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): Uimp = 6 kV conforming to IEC/EN 60947-5-1 3 contact XCS PA: Uimp = 4 kV conforming to IEC/EN 60947-5-4 N/C contact(s) with positive opening operation conforming to IEC/EN 60947-5-1, Section 3 esistance across terminals hort-circuit protection 2 and 3 contact 3 contact XCS PA: 2 and 3 contact 4 xCS PA: 2 and 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gI) XCS PA: 6 A cartridge fuse type gG (gI) XCS PA: 6 A cartridge fuse type gG (gI) XCS PA: Clamp terminals 4 x 0.5 mm² or 6 x 0.5 mm² (XCS MP), PVC XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end 3 contact XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end		nermal curren	t					
Ui = 300 V conforming to UL 508, CSA C22-2 n° 14	Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 ated impulse withstand oltage 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): Uimp = 6 kV conforming to IEC/EN 60947-5-1 3 contact XCS PA: Uimp = 4 kV conforming to IEC/EN 60947-5-4 ositive operation N/C contact(s) with positive opening operation conforming to IEC/EN 60947-5-1, Section 3 esistance across terminals 430 mΩ conforming to IEC/EN 60947-5-4 one of the impulse of the impulse opening operation conforming to IEC/EN 60947-5-1, Section 3 esistance across terminals 430 mΩ conforming to IEC/EN 60947-5-4 a contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gl) A contact (XCS PA, XCS MP), PVC XCS PA, XCS TA Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² A contact (XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1	Rated insulation voltage		2 and 3 contact	2 and 3 contacts (XCS MP):				
2 and 3 contacts (XCS MP): Uimp = 6 kV conforming to IEC/EN 60947-5-1 3 contact XCS PA: Uimp = 4 kV conforming to IEC/EN 60947-5-4 Positive operation N/C contact(s) with positive opening operation conforming to IEC/EN 60947-5-1, Section 3 Resistance across terminals \$30 mΩ conforming to IEC/EN 60947-5-4 Short-circuit protection 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS PA) 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS PA) 2 contacts (XCS PA, XCS TE) 6 A cartridge fuse type gG (gI) 4 x 0.5 mm² or 6 x 0.5 mm² (XCS PA) 2 contacts (XCS PA, XCS TA) 2 contacts (XCS PA, XCS TE) 2 contacts (XCS PA, XCS TA) 2 contacts (XCS PA, XCS TE) 2 contacts (XCS PA, XCS TA) 2 contacts (XCS PA, XCS TE) 3 co	2 and 3 contacts (XCS MP): Uimp = 6 kV conforming to IEC/EN 60947-5-1 XCS PA: Uimp = 4 kV conforming to IEC/EN 60947-5-4 Ositive operation Resistance across terminals N/C contact(s) with positive opening operation conforming to IEC/EN 60947-5-1, Section 3 3 contact 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gl) Onnection Pre-cabled Pre-cabled Screw clamp terminals 2 contact, snap action Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end 3 contact XCS PA: Uimp = 6 kV conforming to IEC/EN 60947-5-4 N/C contact(s) with positive opening operation conforming to IEC/EN 60947-5-1, Section 3 4 x 0 s mΩ conforming to IEC/EN 60947-5-4 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²			3 contact					
Uimp = 4 kV conforming to IEC/EN 60947-5-4	Ulimp = 4 kV conforming to IEC/EN 60947-5-4 Ositive operation N/C contact(s) with positive opening operation conforming to IEC/EN 60947-5-1, Section 3 Ositive operation Sesistance across terminals S 30 mΩ conforming to IEC/EN 60947-5-4 Ositive opening operation conforming to IEC/EN 60947-5-1, Section 3 Ositive opening operation conforming to IEC/EN 60947-5-4 Ositive opening operation conforming to IEC/EN 60947-5-1, Section 3 Ositive opening operation conforming to IEC/EN 60947-5-4 Ositive opening operation conforming to IEC/EN 60947-5-4 Ositive opening operation conforming to IEC/EN 60947-5-1, Section 3 Ositive opening operation conforming to IEC/EN 60947-5-1, Section 3 Ositive opening operation conforming to IEC/EN 60947-5-4 Ositive opening operation conforming to IEC/EN 60947-5-1, Section 3 Ositive opening operation conforming to IEC/EN 60947-5-1, Section 3 Ositive opening operation conforming to IEC/EN 60947-5-4 Ositive opening o		withstand	2 and 3 contact					
Resistance across terminals Short-circuit protection 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gI) XCS PA: 6 A cartridge fuse type gG (gI) Connection Pre-cabled 4 x 0.5 mm² or 6 x 0.5 mm² (XCS MP), PVC Screw clamp terminals 2 contact, snap action XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end	Source			3 contact	222.7.11				
Short-circuit protection 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gl) XCS PA: 6 A cartridge fuse type gG (gl) 4 x 0.5 mm² or 6 x 0.5 mm² (XCS MP), PVC Screw clamp terminals 2 and 3 contact XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 3 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end	hort-circuit protection 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE), 2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gl) 3 contact XCS PA: 6 A cartridge fuse type gG (gl) 4 x 0.5 mm² or 6 x 0.5 mm² (XCS MP), PVC Screw clamp terminals 2 contact, snap action Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² Without cable end 3 contact XCS PA, XCS TA: Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: 1	Positive operat	ion		N/C contact(s) with positive opening operation conforming to IEC/EN 60947-5-1, Section 3				
2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gl) XCS PA: 6 A cartridge fuse type gG (gl) Connection Pre-cabled Screw clamp terminals 2 contact, snap action Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 3 contacts (XCS PA, XCS TA: Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end	2 and 3 contacts (XCS MP): 10 A cartridge fuse type gG (gI) 3 contact XCS PA: 6 A cartridge fuse type gG (gI) 4 x 0.5 mm² or 6 x 0.5 mm² (XCS MP), PVC Screw clamp terminals 2 and 3 contact XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: 6 A cartridge fuse type gG (gI) 4 x 0.5 mm² (XCS MP), PVC XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: 6 A cartridge fuse type gG (gI) 4 x 0.5 mm² (XCS MP), PVC XCS PA, XCS MP), PVC XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²	Resistance acr	oss terminals		\leq 30 m Ω conforming to IEC/EN 60947-5-4				
Connection Pre-cabled Screw clamp terminals 2 and 3 contact Screw clamp terminals 4 x 0.5 mm² or 6 x 0.5 mm² (XCS MP), PVC XCS PA, XCS TA: Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 3 contacts (XCS PA, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end	Pre-cabled Screw clamp terminals 2 and 3 contact 3 contact Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end 3 contact XCS PA: CS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² with or without cable end XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²	Short-circuit pr	otection	2 and 3 contact					
Screw clamp terminals 2 contact, snap action Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 3 contacts (XCS PA, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end	Screw clamp terminals 2 contact, snap action 2 contact, snap action 2 contact, snap action 2 contact, snap action 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end 3 contact 3 co			3 contact					
clamp terminals 2 and 3 contact Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end	clamp terminals terminals 2 and 3 contact Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² 2 and 3 contact 3 contacts (XCS A, XCS B, XCS C, XCS E, XCS TA), 2 contacts (XCS PA, XCS TE): Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end 3 contact XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²	Connection	Pre-cabled		4 x 0.5 mm ² or 6 x 0.5 mm ² (XCS MP), PVC				
Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end	Clamping capacity, min: 1 x 0.5 mm², max: 2 x 1.5 mm² with or without cable end 3 contact XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²			2 contact, snap action					
3 contact XCS PA: clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²			terminals	2 and 3 contact					
	Electrical durability			3 contact	XCS PA: clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²				

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

Only applicable to XCS MP: Conforming to IEC/EN 60947-5-1 Appendix C.

2

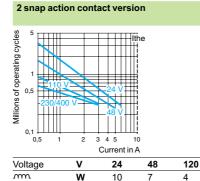
m

Utilisation categories AC-15 and DC-13.

3 contact version XCS A/B/C/E/TA and 2 slow break contact version

Maximum operating rate: 900 operating cycles/hour.

a.c. supply $\sim 50/60 \, \text{Hz}$ m inductive circuit



Millions of operating cycles 0,5 0,5

Voltage ν 120 w 13

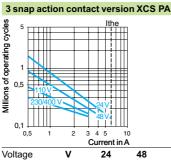
3 slow break contact version XCS PA

5 million operating cycles. For XE2S P●151 on \sim or ==, N/C and N/O contacts simultaneously loaded to the values shown with reverse polarity.

a.c. supply ∼ 50/60 Hz m inductive circuit

Power broken in W for

d.c. supply ===



Millions of operating cycles 2 0,5 0,2 Current in A Voltage 24 120

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

0,5	1	2	3 4 5 Current	10 in A		
Voltage		٧	24	48	120	
m		W	3	2	1	

References, characteristics

Safety detection solutions

Guard switches Metal, turret head (1), types XCS A, XCS B, XCS C and XCS E 1 or 2 cable entries M20 x 1.5 (2)

Without locking of actuator With locking of actuator, manual unlocking (3) Type of switch

LED indication on openion of N/C contacts	LED indication on opening of N/C contacts		1 orange LED	Without	Without
References of sv	vitches with	out actuator (⊖ N/C o	ontact with positive ope	ning operation)	
3-pole N/C + N/O + N/O (2 N/O staggered) slow break (4)	22 24 14 13 34 13 34 13 34	XCS A502	XCS A512	XCS B502	XCS C502
3-pole N/C + N/C + N/O (N/O staggered) slow break (4)	22 22 4 4 4 7 13 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	XCS A702 ⊖	XCS A712 ⊖	XCS B702 ⊖	XCS C702 ⊕
3-pole N/C + N/C + N/C slow break (4)	12 22 22 21 32 31	XCS A802	-	-	-
Weight (kg)		0.440	0.440	0.475	0.480

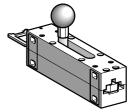
Complementary characterist	Complementary characteristics not shown under General characteristics (3/19)						
Actuation speed	Maximum: 0.5 m/s, minimum: 0.01 m/s						
Resistance to forcible withdrawal of actuator	XCS B and XCS C: 1500 N; XCS E: 2000 N						
Mechanical durability	XCS A and XCS E: > 1 million operating cycles XCS B and XCS C: 0.6 million operating cycles						
Maximum operating rate	For maximum durability: 600 operating cycles per hour						
Minimum force for extraction of actuator	≥ 20 N						
Cable entry	XCS A, XCS B, XCS C: 1 cable entry. XCS E: 2 cable entries Entries tapped M20 x 1.5 for ISO cable gland. Clamping capacity 7 to 13 mm						
Materials	Body: zamak. Head: zamak. Safety screws: 5-lobe torque. Protective plate: steel.						

References of actuators









Description	Straight actuator	Actuator with wide fixing		Latch for sliding doors (Padlockable in open position)
For guard switches XCS A, B, C, E	XCS Z01	XCS Z02	XCS Z03	XCS Z05
Weight (kg)	0.020	0.020	0.095	0.600

- (1) Head adjustable in 90° steps throughout 360°. Blanking plug for operating head slot included with switch.
 (2) For cable entries tapped for n° 13 (Pg 13.5) cable gland, replace the last number in the reference (2) by 1 (see page 3/22). Example: XCS A502 becomes XCS A501.
- (3) Unlocking by pushbutton for XCS Bood and by key operated lock for XCS Cood.
 (4) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.

Other versions: please consult your Regional Sales Office.

Dimensions:	Schemes:
page 3/27 and 3/28	page 3/29

Safety detection solutions

Guard switches Metal, turret head (1), types XCS A, XCS B, XCS C and XCS E 1 or 2 cable entries M20 x 1.5 (2)

ype of switch	With interlocking, locking by solenoid

March to to de alle

Type of interlocking		Locking on de-energisation and unlocking on energisation of solenoid (3). To order a guard switch with locking on energisation and unlocking on de-energisation of the solenoid, replace the 2nd number (3) by 5 in the references shown below. Example: XCS E5312 becomes XCS E5512							
LED indication			guard open" sigr uard closed and		ng.				
Supply voltage of solenoi	d	∼ or 24 V (50/60 Hz on ∼	~)	∼ or 48 V (50/60 Hz on ∼)	∼ or 110/120 (50/60		~)	∼ or 220/240 V <i>(4)</i> (50/60 Hz on ↑	~)
Type of contact on soleno		N/C + N/O	2 N/C	N/C + N/O	N/C + N		2 N/C	N/C + N/O	2 N/C
References of sw	itches without	actuator (⊖	N/C contact	with positive	openin	g opei	ration)		
3-pole N/C + N/O + N/O (2 N/O staggered) slow break (5)	22 4 4 5 21 34 33 33	XCS E5312 ⊖	-	-	-		-	XCS E5342	-
3-pole N/C + N/C + N/O (N/O staggered) slow break (5)	22 32 14 14 14 13	XCS E7312	XCS E73127 ⊖	-	XCS E	7332	XCS E73327	XCS E7342 ⊖	XCS E73427 ⊖
3-pole N/C + N/C + N/C slow break (5)	12 22 32 32 31 11	XCS E8312	XCS E83127 ⊖ (6)	XCS E8322	-		-	-	-
Weight (kg)		1.140	1.140	1.140	1.140			1.140	
Solenoid characte	eristics								
Load factor		100%							
Rated operational voltage	•	\sim or 24 V	\sim or $$ 24 V	∼ or 48 V	∼ or 110/12			\sim or $=$ 220/240 V	
Voltage limits			of the rated opera EC/EN 60947-1		including	ripple o	n)		
Service life		20 000 hours							
Consumption		Inrush: 10 VA.	Sealed: 10 VA						
LED indicator cha	aracteristics								
Rated insulation voltage		50 V conforming to IEC/EN 60947-1 250 V conforming to IEC/EN 609			C/EN 60947-1				
Current consumption		7 mA			7 mA				
Rated operational voltage		\sim or $=$ 24/48 $^{\circ}$			\sim 110/240 V				
Voltage limits		∼ or 2052	ple)		\sim 95264 V (including ripple)				
Service life		100 000 hours				100 00	0 hours		
Protection against overvo	ltages	Yes				Yes			

- (1) Head adjustable in 90° steps throughout 360°. Blanking plug for operating head slot included with switch.
 (2) For cable entries tapped for n° 13 (Pg 13.5) cable gland, replace the last number in the reference (2) by **1** (see page 3/23). Example: XCS E5312 becomes XCS E5311.
- (3) A key operated lock enables forced opening of the interlocking mechanism, by authorised personnel, allowing withdrawal of the actuator and subsequent opening of the N/C safety contacts.
 (4) For use on == 110/120 V or == 220/240 V, remove the LED indicator module.
- (5) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.
- (6) Switches supplied with a single green LED.

Other versions: please consult your Regional Sales Office.

References, characteristics

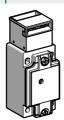
Safety detection solutions

Guard switches Metal, turret head (1), types XCS A, XCS B, XCS C and XCS E Cable entries tapped for n° 13 (Pg 13.5) cable gland

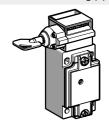
Type of switch

Without locking of actuator









LED indication on opening of N/C contacts		Without	1 orange LED	1 orange LED ∼ 110/240 V	Without	1 orange LED	Without	1 orange LED	
References of sv	References of switches without actuator (→ N/C contact with positive opening operation)								
3-pole N/C + N/O + N/O	33 13 13	XCS A501	XCS A511	XCS A521	XCS B501	XCS B511	XCS C501	XCS C511	
(2 N/O staggered) slow break (3)	8 4 8	Θ	\ominus	Θ	Θ	Θ	Θ	⊖	
3-pole N/C + N/C + N/O (N/O staggered) slow break (3)	22 32 - 21 14 - 13	XCS A701 ⊖	XCS A711 ⊖	XCS A721 ⊖	XCS B701	-	XCS C701	-	
3-pole N/C + N/C + N/C slow break (3)	22 51 11 32 21 31 11	XCS A801	_	-	XCS B801 ⊖	-	XCS C801	-	
Weight (kg)		0.440	0.440	0.440	0.475	0.475	0.480	0.480	
^ I t		41			(0140)				

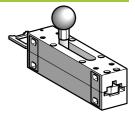
						1	1		
Complementary characteristics not shown under General characteristics (3/19)									
Actuation speed	Maximum: 0.5 n	Maximum: 0.5 m/s, minimum: 0.01 m/s							
Resistance to forcible withdrawal of actuator	XCS B and XCS	XCS B and XCS C: 1500 N; XCS E: 2000 N							
Mechanical durability			perating cycles operating cycles						
Maximum operating rate	For maximum d	urability: 600 ope	rating cycles per	hour					
Minimum force for extraction of actuator	≥ 20 N								
Cable entry	XCS E: 2 cable		,	NF C 68-300 (DI	N Pg 13.5). Clam	nping capacity 9 to	o 12 mm		
Materials	Body: zamak. H	ead: zamak. Saf	ety screws: 5-lobe	e torque. Protecti	ve plate: steel.				

References of actuators









Description	Straight actuator	Actuator with wide fixing	Pivoting actuator	Latch for sliding doors (Padlockable in open position)
For guard switches XCS A, B, C, E	XCS Z01	XCS Z02	XCS Z03	XCS Z05
Weight (kg)	0.020	0.020	0.095	0.600

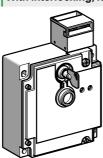
- (1) Head adjustable in 90° steps throughout 360°. Blanking plug for operating head slot included with switch.
 (2) Unlocking by pushbutton for XCS B••• and by key operated lock for XCS C•••.
 (3) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.

Other versions: please consult your Regional Sales Office.

Safety detection solutions

Guard switches Metal, turret head (1), types XCS A, XCS B, XCS C and XCS E Cable entries tapped for n° 13 (Pg 13.5) cable gland

With interlocking, locking by solenoid Type of switch



Type of interlocking	Locking on de-energisation and unlocking on energisation of solenoid (2). To order a guard switch with locking on energisation and unlocking on de-energisation of the solenoid, replace the 2nd number (3) by 5 in the references shown below. Example: XCS E5311 becomes XCS E5511.							
LED indication	Orange LED: " Green LED: "g	guard open" sigi uard closed and	nalling. locked" signalli	ng.				
Supply voltage of solenoid	∼ or 24 V (50/60 Hz on ∼	~)	∼ or == 48 V (50/60 Hz on 2	~)	∼ or == 110/12 (50/60 Hz on 2		∼ or == 220/2 (50/60 Hz on 2	
Type of contact on solenoid	N/C + N/O	2 N/C	N/C + N/O	2 N/C	N/C + N/O 2 N/C		N/C + N/O	2 N/C
References of switche	es without	actuator (e	N/C contact	with positive	opening ope	eration)		
3-pole	XCS E5311	-	XCS E5321	-	XCS E5331	-	XCS E5341	-
(2 N/O staggered) Slow break (4) 2 4 5	⊖		⊖		Θ		Θ	
3-pole $\nabla = \nabla $	XCS E7311	XCS E73117	XCS E7321	XCS E73217	XCS E7331	XCS E73317	XCS E7341	XCS E73417
(N/O staggered) Slow break (4) $8 \times 4 \times $	⊖	⊖	Θ	\ominus	Θ	\ominus	\ominus	\ominus
3-pole =	XCS E8311	XCS E83117	-	Ī-	XCS E8331	XCS E83317	-	XCS E83417
N/C + N/C + N/C slow break (4)	⊕ (5)	→ (5)			⊕ (5)	\ominus		Θ
Weight (kg)	1.140		1.140		1.140			
Solenoid characterist	ics							
Load factor	100%							
Rated operational voltage	\sim or $=$ 24 V		~ or == 48 V		~ or ::: 110/120 V			240 V
Voltage limits		of the rated opera EC/EN 60947-1		including ripple	on)			
Service life	20 000 hours							
Consumption	Inrush: 10 VA.	Sealed: 10 VA						
LED indicator charact	eristics							
Rated insulation voltage		ng to IEC/EN 609	947-1		250 V conforming to IEC/EN 60947-1			
Current consumption	7 mA				7 mA			
Rated operational voltage	∼ or == 24/48	v			∼ 110/240 V			
Voltage limits	∼ or 2052	V (including rip	ple)		∼ 95264 V	(including ripple)		
Service life	100 000 hours				100 000 hours	3		
Protection against overvoltages	Yes				Yes			

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

Other versions: please consult your Regional Sales Office.

⁽²⁾ A key operated lock enables forced opening of the interlocking mechanism, by authorised personnel, allowing withdrawal of the actuator and subsequent opening of the N/C safety contacts.

⁽³⁾ For use on ... 110/120 V or ... 220/240 V, remove the LED indicator module.

(4) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.

(5) Switches supplied with a single green LED.

References, characteristics

Safety detection solutions

Guard switches Metal, turret head (1), types XCS A, XCS B, XCS C and XCS E Cable entries tapped 1/2" NPT

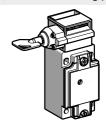
Type of switch

Without locking of actuator

With locking of actuator, manual unlocking (2)







LED indication on openin	g of N/C contacts	Without	1 orange LED	1 orange LED ∼ 110/240 V	Without	1 orange LED ≈ 24/48 V	1 orange LED ∼ 110/240 V	Without	
References of sw	References of switches without actuator (→ N/C contact with positive opening operation)								
3-pole N/C + N/O + N/O	33 13	XCS A503	-	XCS A523	XCS B503	-	-	-	
(2 N/O staggered) slow break (3)	2 2 2	Θ		⊖	⊖				
3-pole N/C + N/C + N/O	13 31 13	XCS A703	XCS A713	XCS A723	XCS B703	XCS B713	XCS B723	XCS C703	
(N/O staggered) slow break (3)	8 8 5	Θ	⊖	⊖	⊖	⊖	⊖	⊖	
3-pole N/C + N/C + N/C	12 F F	XCS A803	-	-	XCS B803	-	-	XCS C803	
slow break (3)	2 8 8	⊖			Θ			⊖	
Weight (kg)		0.440	0.440	0.440	0.475	0.475	0.475	0.480	

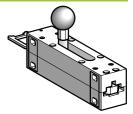
Complementary characteristics not shown under General characteristics (page 3/19)									
Actuation speed	Maximum: 0.5 m/s, m	laximum: 0.5 m/s, minimum: 0.01 m/s							
Resistance to forcible withdrawal of actuator	XCS B and XCS C: 1	CS B and XCS C: 1500 N; XCS E: 2000 N							
Mechanical durability	XCS A and XCS E: > 1 million operating cycles XCS B and XCS C: 0.6 million operating cycles								
Maximum operating rate	For maximum durabil	For maximum durability: 600 operating cycles per hour							
Minimum force for extraction of actuator	≥ 20 N								
Cable entry	XCS A, XCS B, XCS XCS E: 2 cable entrie Entries tapped for 1/2	s							
Materials	Body: zamak. Head: z	zamak. Safety so	crews: 5-lobe tor	que. Protective	plate: steel.				

References of actuators









Description	Straight actuator	Actuator with wide fixing	Pivoting actuator	Latch for sliding doors (Padlockable in open position)
For guard switches XCS A, B, C, E	XCS Z01	XCS Z02	XCS Z03	XCS Z05
Weight (kg)	0.020	0.020	0.095	0.600

- (1) Head adjustable in 90° steps throughout 360°. Blanking plug for operating head slot included with switch.
 (2) Unlocking by pushbutton for XCS B••• and by key operated lock for XCS C•••.
 (3) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.

Other versions: please consult your Regional Sales Office.

Safety detection solutions

Guard switches Metal, turret head (1), types XCS A, XCS B, XCS C and XCS E Cable entries tapped 1/2" NPT

			tapped 1/2	INI I				
Type of switch		With interlockin	g, locking by solen	oid				
Type of interlocking		To order a guard sw solenoid, replace th	ritch with locking on ene	n the references shown	on de-energisation of the			
LED indication		Orange LED: "guard	d open" signalling. closed and locked" sigr	nalling				
Supply voltage of solenoid		∼ or 24 V (50/60 Hz on ∼)	olocod and locked olgi	∼ or c 110/120 V ((50/60 Hz on ∼)	(3)			
Type of contact on solenoid		N/C + N/O	2 N/C	N/C + N/O	2 N/C			
References of switch	hes without actuato	r (⊖ N/C contact with	n positive opening o	operation)				
3-pole N/C + N/O + N/O (2 N/O staggered)	2 2 8	XCS E5313 →	-	XCS E5333	-			
slow break (4)	34 14 34							
3-pole N/C + N/C + N/O (N/O staggered) slow break (4)	22 4 2 21 13 31 21	XCS E7313 ⊖	XCS E73137 ⊖	XCS E7333 →	XCS E73337 ⊖			
3-pole N/C + N/C + N/C slow break (4)	22 22 23 1 24 24 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	XCS E8313 ⊕ (5)	-	-	-			
Weight (kg)		1.140	ı	l .				
Solenoid characteris	stics							
Load factor		100 %						
Rated operational voltage		~ or 24 V		∼ or 110/120 V	∼ or == 110/120 V			
Voltage limits		- 20%, + 10% of the conforming to IEC/I		ge (including ripple on)			
Service life		20 000 heures Inrush: 10 VA. Seal	·					
Consumption	Consumption							
LED indicator chara	cteristics							
Rated insulation voltage		50 V conforming to	IEC/EN 60947-1	250 V conforming	to IEC/EN 60947-1			
Current consumption		7 mA		7 mA				
Rated operational voltage		~ or == 24/48 V		\sim 110/240 V				
Voltage limits		∼ or 2052 V (ii	ncluding ripple)	∼ 95264 V (incl	uding ripple)			
Service life		100 000 hours		100 000 hours				

- Protection against overvoltages
- (1) Head adjustable in 90° steps throughout 360°. Blanking plug for operating head slot included with switch.
 (2) A key operated lock enables forced opening of the interlocking mechanism, by authorised personnel, allowing withdrawal of the actuator and subsequent opening of the N/C safety contacts.

Yes

- (3) For use on == 110/120 V, remove the LED module.
- (4) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.
- (5) Switches supplied with a single green LED.

Other versions: please consult your Regional Sales Office.

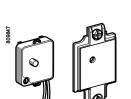
Dimensions: Schemes page 3/27 and 3/28 page 3/29

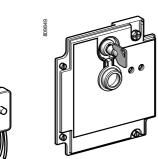


Yes

Safety detection solutions Guard switches

Guard switches
Metal, turret head, types XCS A, XCS B, XCS C and
XCS E





Separate components								
Description	For use with	Supply voltage	Reference	Weight kg				
1 orange LED indicator module	XCS A XCS B	\sim or 24/48 V	XCS Z31	0.040				
with cover, seal and 2 fixing screws	XCS C	∼ 110/240 V	XCS Z32	0.040				
1 orange LED + 1 green LED indicator module with cover + lock (1), seal and 4 fixing screws (2 keys included for lock)	XCS E73●●	∼ or 24/48 V	XCS Z43	0.175				

(1) Lock incorporated as standard on guard switches XCS E: key withdrawal in LOCK and UNLOCK positions.



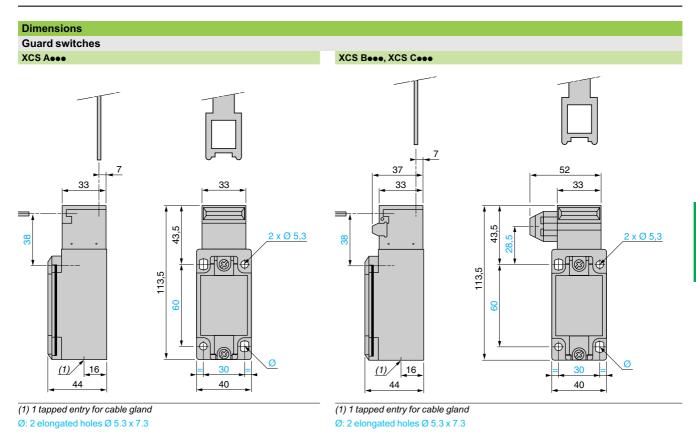
XCS Z4

Description	For use with	Key withdrawal positions from lock	Unit reference	Weight kg
Blanking plugs for operating head slot (Sold in lots of 10)	XCS A, XCS B, C, XCS E	-	XCS Z27	0.050
Keys for interlock "forced opening" device (Sold in lots of 10)	XCS B, C, XCS E	-	XCS Z25	0.100
Padlocking device to prevent insertion of actuator, for up to 3 padlocks (padlocks not included)	XCS A, XCS B, C, XCS E	-	XCS Z90	0.055

Description	For use with	Unit reference	Weight kg
1/2" NPT conduit adaptor (Sold in lots of 5)	XCS A, XCS B, XCS C, XCS E	DE9 RA2012	0.048
M20 x 1.5 adaptor (Sold in lots of 5)	XCS A, XCS B, XCS C, XCS E	DE9 RA13520	0.010

Safety detection solutionsGuard switches

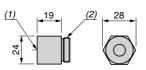
Metal, turret head, types XCS A, XCS B, XCS C and XCS E



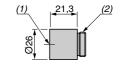


M20 x 1.5 adaptor DE9 RA13520

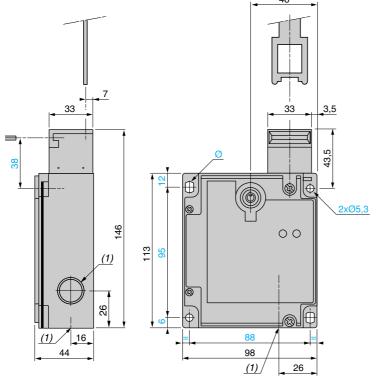
1/2" NPT conduit adaptor DE9 RA2012



(1) M20 x 1.5 tapped entry (2) Pg 13.5 threaded shank



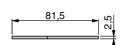
- (1) Tapped entry for 1/2" NPT
- (2) M20 x 1.5 threaded shank



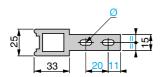
(1) 1 tapped entry for cable gland

Ø: 2 elongated holes Ø 5.3 x 7.3

References: pages 3/20 to 3/25



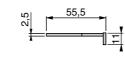


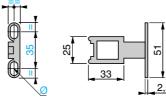




(1) Adaptor (included with actuator XCS Z01) for replacing, without drilling additional fixing hole, a guard switch XCK J with actuator ZCK Y07 by a guard switch XCS A, B, C or E with actuator XCS Z01.

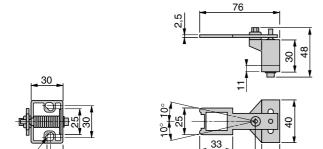
XCS Z02



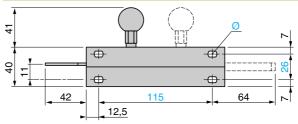


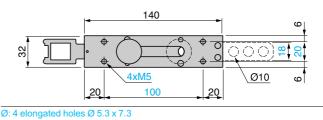
Ø: 2 elongated holes Ø 5.3 x 10

XCS Z03



Ø: 2 elongated holes Ø 5.3 x 10



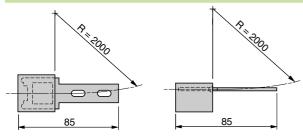


Fixing axis % related to actuator.

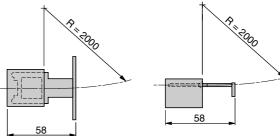
Operating radius required for actuator

XCS Z01

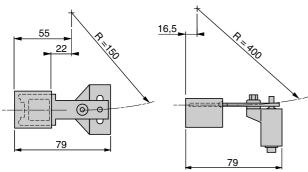
2,5



XCS Z02



XCS Z03



R = minimum radius

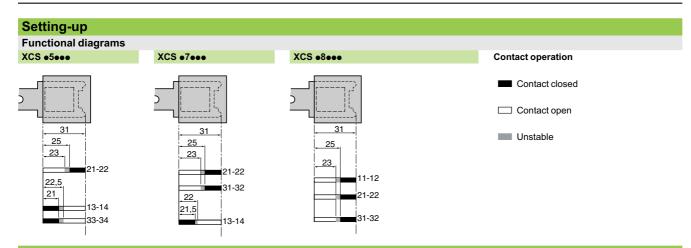
References: pages 3/20 to 3/25

Schemes page 3/29

3

Guard switches

Metal, turret head, types XCS A, XCS B, XCS C and XCS E



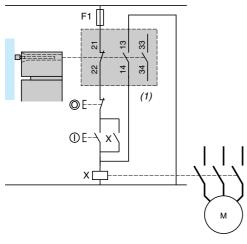
Schemes Note: These schemes are given as examples only, the designer must refer to the relevant safety standards for guidance

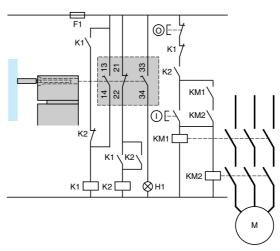
Wiring to category 1 conforming to EN 954-1/ ISO 13849-1

Example with 3-pole N/C + N/O + N/O contact and protection fuse to prevent shunting of the N/C contact, either by cable damage or by tampering.

Wiring to category 3 conforming to EN 954-1/ISO 13849-1

Example with 3-pole N/C + N/O + N/O contact with mixed redundancy of the contacts and the associated control relays. To activate K1, it is necessary to remove and re-insert the actuator when the supply is switched on.





Method for machines with long rundown time (high inertia)

(1) Signalling contact

H1: "actuator not inserted" indicator

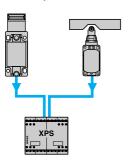
Wiring to category 4 conforming to EN 954-1/ISO 13849-1. Wiring method used in conjunction with Preventa safety module

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

 $\label{lem:machines with quick rundown time (low inertia)} \label{lem:machines with quick rundown time (low inertia)}$

Locking or interlocking device based on the principle of redundancy and self-monitoring.

The safety modules ensure these functions.





XPS VNE XPS

Locking of actuator and operation in positive mode associated with a safety module.

Interlocking device for actuator fitted on guard and zero speed detection.

References: pages 3/20 to 3/25

Dimensions: pages 3/27 and 3/28

Safety detection solutionsGuard switches with solenoid interlocking

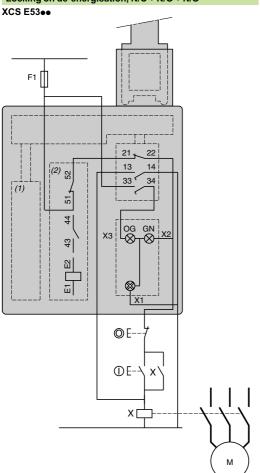
Metal, turret head, type XCS E

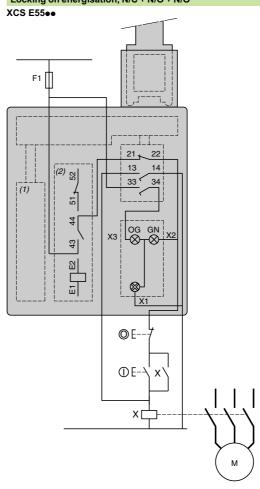
Wiring to category 1 conforming to EN 954-1/ISO 13849-1

Wiring examples with protection fuse to prevent shunting of the N/C contact, either by cable damage or by tampering.

Locking on de-energisation, N/C + N/O + N/O

Locking on energisation, N/C + N/O + N/O





(1) Solenoid

(2) Auxiliary contact

E1-E2: Solenoid supply

43-44: Solenoid signalling contact

13-14: Safety contact, available for redundancy

33-X1: LED (orange): actuator withdrawn

51-X1: LED (green): actuator inserted and locked

21-52: Safety pre-wiring obligatory

(1) Solenoid

(2) Auxiliary contact

E1-E2: Solenoid supply

51-52: Solenoid signalling contact

13-14: Safety contact, available for redundancy

33-X1: LED (orange): actuator withdrawn

43-X1: LED (green): actuator inserted and locked 21-44: Safety pre-wiring obligatory

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

Safety detection solutionsGuard switches with solenoid interlocking

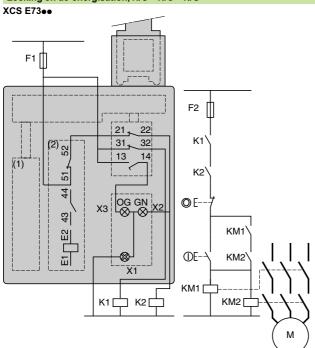
Metal, turret head, type XCS E

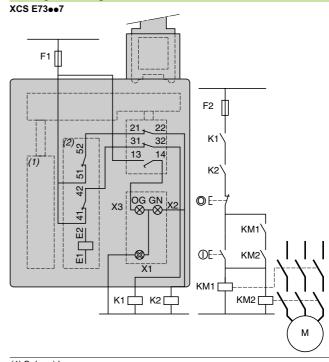
Wiring to category 3 conforming to EN 954-1/ISO 13849-1

Wiring examples with redundancy for the guard switch contacts, without monitoring or redundancy in the power circuit

Locking on de-energisation, N/C + N/C + N/O

Locking on de-energisation, N/C + N/C + N/O

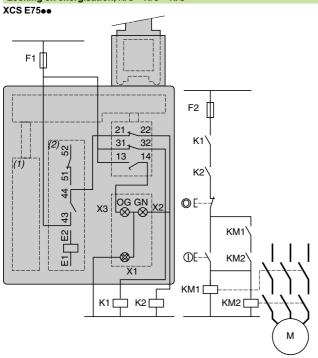




- (1) Solenoid
- (2) Auxiliary contact
- E1-E2: Solenoid supply
- 43-44: Solenoid signalling contact
- 21-22 and 31-32: Safety contacts, available for redundancy
- 13-X1: LED (orange): actuator withdrawn
- 51-X1: LED (green): actuator inserted and locked
- 21-52: Safety pre-wiring obligatory

- (1) Solenoid
- (2) Auxiliary contact
- E1-E2: Solenoid supply
- 41-42 and 51-52: Solenoid signalling contacts
- 21-22 and 31-32: Safety contacts, available for redundancy
- 13-X1: LED (orange): actuator withdrawn
- 51-X1: LED (green): actuator inserted and locked 21-52 and 42-31: Safety pre-wiring obligatory

Locking on energisation, N/C + N/C + N/O



- (1) Solenoid
- (2) Auxiliary contact
- E1-E2: Solenoid supply
- 51-52: Solenoid signalling contact
- 21-22 and 31-32: Safety contacts, available for redundancy
- 13-X1: LED (orange): actuator withdrawn
- 43-X1: LED (green): actuator inserted and locked
- 21-44: Safety pre-wiring obligatory

References: pages 3/20 to 3/25

Dimensions: pages 3/27 and 3/28

Safety detection solutions

Guard switches Plastic, turret head (1), types XCS PA, XCS TA and XCS TE 1 or 2 cable entries M16 x 1.5 (2)

Type of switch	With interlocking, locking by solenoid
Type of switch	With interiorking, tooking by solehold
Type of interlocking	Locking on de-energisation and unlocking on energisation of solenoid (3). To order a guard switch with locking on energisation and unlocking on de-energisation of the solenoid, replace the 2nd number (3) by 5 in the references shown below. Example: XCS TE5312 becomes XCS TE5512.
Supply voltage of solenoid	∼ or 24 V (50/60 Hz on ∼)
References of switches without actuator (N/C contact with positive opening operation)
2-pole N/C + N/O (4) $\begin{array}{c c} & & & & & & & \\ & & & & & \\ & & & & & $	XCS TE5312
2-pole N/C + N/C (4) $\begin{array}{c c} \hline z \\ \hline - \\ \hline z \\ \hline \approx \\ \hline \end{array}$	XCS TE7312
Weight (kg)	0.360
Solenoid characteristics	
Load factor	100 %
Rated operational voltage	~ or ::: 24 V
Voltage limits	-20%, +10% of the rated operational voltage (including ripple on) conforming to IEC/EN 60947-1
Service life	20 000 hours
Consumption	10 VA max.
References of actuators and guard retaining	g device











Description	Straight actuator	Actuator w fixing (5)	vith wide	Pivoting actuator	Right-angled actuator	Guard retaining device (6)
For guard switches XCS PA, TA, TE	XCS Z11	XCS Z12	XCS Z15	XCS Z13	XCS Z14	XCS Z21
Weight (kg)	0.015	0.015	0.012	0.085	0.025	0.080

- (1) Head adjustable in 90° steps throughout 360°. Blanking plug for operating head slot included with switch.
- (2) For cable entries tapped for n° 11 (Pg 11) cable gland, replace the last number in the reference (2) by 1 (see page 3/39).
 Example: XCS TE5312 becomes XCS TE5311.
 (3) A special tool included with the guard switch enables forced opening of the interlocking mechanism, by authorised personnel, allowing withdrawal of the actuator and subsequent opening of the N/C safety contacts.
- (4) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.
- (5) 2 actuator lengths, XCS Z12: L = 40 mm, XCS Z15: L = 29 mm.
- (6) Only for use with guard switches XCS PA and XCS TA (without the actuator centering device XCS Z200), used in conjunction with actuators XCS Z12, XCS Z13 or XCS Z15.

Other versions: please consult your Regional Sales Office.

Safety detection solutions

Guard switches Plastic, turret head (1), types XCS PA, XCS TA and XCS TE Cable entries tapped for n° 11 (Pg 11) cable gland

Type of switch		With interlocking, loc	cking by solenoid	
Type of interlocking Locking on de-energisation and unl To order a guard switch with locking or solenoid, replace the 2nd number (3) t Example: XCS TE5311 becomes XCS				inlocking on de-energisation of the
Supply voltage of solenoid		\sim or $$ 24 V (50/60 Hz on \sim)	∼ or 120 V (50/60 Hz on ∼)	\sim or == 230 V (50/60 Hz on \sim)
References of switche	es without actua	ator (⊖ N/C contact with pos	itive opening operation)	
2-pole N/C + N/O (3) break before make slow break	22 4 	XCS TE5311 ⊖	XCS TE5331 ⊖	XCS TE5341 ⊖
2-pole N/O + N/C (3) make before break slow break	22 4 2 4 2 5 1	XCS TE6311 ⊖	-	-
2-pole N/C + N/C (3) slow break	2 2 7 7 7 7 7 7 7 7	XCS TE7311 →	XCS TE7331 ⊖	XCS TE7341 →
Weight (kg)		0.360	0.360	0.360
Solenoid characterist	ics			
Load factor		100 %		
Rated operational voltage		\sim or == 24 V	\sim or == 120 V	\sim or $=$ 230 V
Voltage limits		- 20%, + 10% of the rated conforming to EN/IEC 609	operational voltage (including ripp 947-1	ple on)
Service life		20 000 hours		
Consumption		10 VA max.		











Description	Straight actuator	Actuator w fixing (5)	vith wide	Pivoting actuator	Right-angled actuator	Guard retaining device (4)
For guard switches XCS PA, TA, TE	XCS Z11	XCS Z12	XCS Z15	XCS Z13	XCS Z14	XCS Z21
Weight (kg)	0.015	0.015	0.012	0.085	0.025	0.080

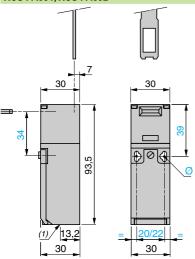
- (1) Head adjustable in 90° steps throughout 360°. Blanking plug for operating head slot included with switch.
- (2) A special tool included with the guard switch enables forced opening of the interlocking mechanism, by authorised personnel, allowing withdrawal of the actuator and subsequent opening of the N/C safety contacts.
- (3) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.
 (4) Only for use with guard switches XCS PA and XCS TA (without the actuator centering device XCS Z200), used in conjunction with actuators XCS Z12, XCS Z13
- (5) 2 actuator lengths, XCS Z12: L = 40 mm, XCS Z15: L = 29 mm.

Other versions: please consult your Regional Sales Office.

Safety detection solutions Guard switches

Guard switches
Plastic, turret head, types XCS PA,
XCS TA and XCS TE

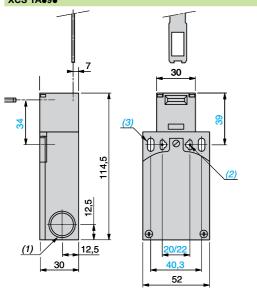
Dimensions XCS PA•91, XCS PA•92



(1) 1 tapped entry for cable gland

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

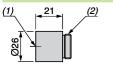
XCS TA•9•



- (1) 2 tapped entries for cable gland or 1/2" NPT conduit adaptor
- (2) 2 elongated holes Ø 4.3 x 8.3 on 22 centres, 2 holes Ø 4.3 on 20 centres

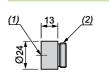
(3) 2 elongated holes Ø 5.3 x 13.3

1/2" NPT conduit adaptor DE9 RA1012



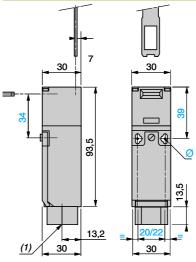
(1) Tapped entry for 1/2" NPT conduit (2) Pg 11 threaded shank

M16 x 1.5 adaptor DE9 RA1016



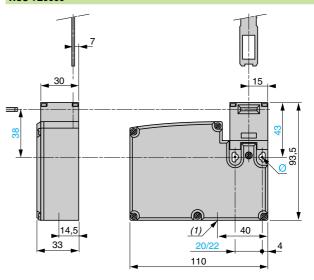
(1) M16 x 1.5 tapped entry (2) Pg 11 threaded shank

XCS PA●93



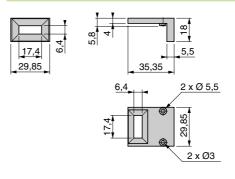
- (1) 1 tapped entry for 1/2" NPT conduit
- Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centres, 2 holes Ø 4.3 on 20 centres

XCS TE



- (1) 1 tapped entry for cable gland or 1/2" NPT conduit adaptor
- Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centres, 2 holes Ø 4.3 on 20 centre

Actuator centering device XCS Z200



References: pages 3/36 to 3/41

Schemes: page 3/44

41

Guard switches

Plastic, turret head, type XCS TE

Schemes (continued)

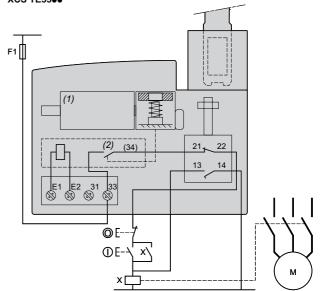
Wiring to category 1 conforming to EN 954-1/ISO 13849-1

Wiring examples with protection fuse to prevent shunting of the N/C contact, either by cable damage or by tampering

Locking on de-energisation

Locking on energisation

N/C + N/O XCS TE55



- (1) Solenoid
- (2) Auxiliary contact
- E1-E2: Solenoid supply
- 13-14: Safety contact, available for redundancy or signalling
- (1) Solenoid
- (2) Auxiliary contact
- E1-E2: Solenoid supply
- 13-14: Safety contact, available for redundancy or signalling

Wiring to category 3 conforming to EN 954-1/ISO 13849-1

Wiring examples with redundancy for the guard switch contacts, without monitoring

Locking on de-energisation N/C + N/C

XCS TE73••

F1

F2

K1

K2

KM1

KM2

KM1

KM2

KM1

KM2

KM1

KM2

KM1

KM2

- Locking on energisation N/C + N/C

- (1) Solenoid
- (2) Solenoid auxiliary contact
- E1-E2: Solenoid supply
- 11-12: Safety contact, available for redundancy

- (1) Solenoid
- (2) Solenoid auxiliary contact
- E1-E2: Solenoid supply
- 11-12: Safety contact, available for redundancy

References: pages 3/36 to 3/41 Dimensions: pages 3/42 and 3/43