

Limit switches

Double insulated, types XCK-P and XCK-T

General characteristics

Environment

Conforming to standards	Products	IEC 947-5-1, IEC 337-1, EN 60 947-5-1, NF C 63-146, VDE 0660-200, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 204-1, EN 60 204-1, NF C 79-130
Approvals		CSA A300, UL A300 Listed, NEMKO FI 10 (4) A-400 V
Ambient air temperature		Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Electric shock protection		Class II conforming to IEC 536 and NF C 20-030
Degree of protection		IP 65 conforming to IEC 529 ; IP 653 conforming to NF C 20-010
Repeat accuracy		0.1 mm on the tripping points
Cable entry		XCK-P : 1 entry, tapped M16 x 1.5. XCK-T : 2 entries, tapped M16 x 1.5 For other threaded entries, please consult your Regional customer centre.

Contact block characteristics

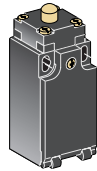
Rated operational characteristics	\sim AC-15 ; A300 (Ue = 240 V, Ie = 3 A) \equiv DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage	Ui = 500 V degree of pollution 3 conforming to IEC 947-1 and VDE 0110, group C conforming to NF C 20-040 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated withstand impulse voltage	U imp = 6 kV conforming to IEC 947-1, IEC 664
Short-circuit protection	10 A cartridge fuse type gG (gl)
Minimum actuation speed	XES-P●151 : 0.001 m/minute, XEN-P21●1 : 0.001 m/second
Electrical durability	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Maximum operating rate : 3600 operating cycles per hour. Load factor : 0.5

Limit switches

Double insulated, conforming to CENELEC EN 50047, type XCK-P
Complete switches with 1 cable entry, tapped M16 x 1.5

References, characteristics, function diagrams, dimensions

Type of operating head	Plunger
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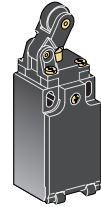
Metal plunger



Steel plunger with elastomer boot



Thermoplastic roller plunger



Thermoplastic roller lever plunger

References (⊖ N/C contact with positive opening operation)

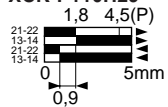
2-pole 1 N/C + 1 N/O snap action (XES-P2151)		XCK-P110H29 ⊖	XCK-P111H29 ⊖	XCK-P102H29 ⊖	XCK-P121H29 ⊖
2-pole 1 N/C + 1 N/O break before make slow break (XEN-P2151)		XCK-P510H29 ⊖	XCK-P511H29 ⊖	XCK-P502H29 ⊖	XCK-P521H29 ⊖
Weight (kg)		0.055	0.055	0.055	0.060

Complementary characteristics

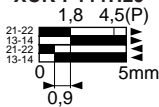
Switch actuation	On end	By 30° cam		
Maximum actuation speed	0.5 m/s	0.3 m/s	1 m/s	
Mechanical durability	15 million operating cycles	10 million operating cycles	15 million operating cycles	
Minimum force	for tripping	15 N	12 N	6 N
	for positive opening	45 N	36 N	18 N
Cable entry	1 entry tapped M16 x 1.5 for ISO cable gland. Clamping capacity : 4 to 8 mm.			

Function diagrams

XCK-P110H29



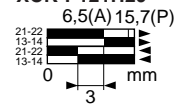
XCK-P111H29



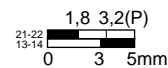
XCK-P102H29



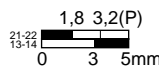
XCK-P121H29



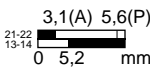
XCK-P510H29



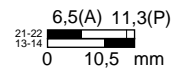
XCK-P511H29



XCK-P502H29



XCK-P521H29

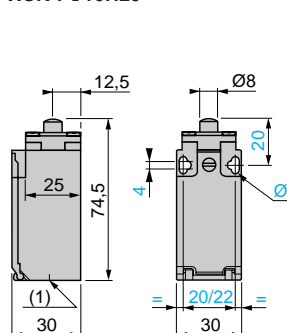


Contact operation
 contact closed
 contact open

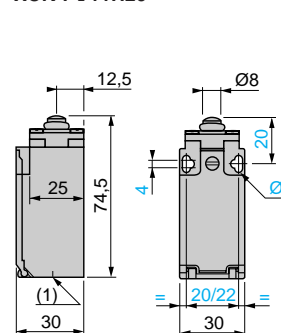
(A) = cam displacement
 (P) = positive opening point

Dimensions

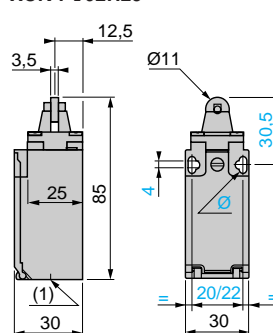
XCK-P●10H29



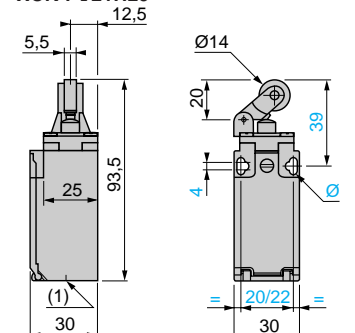
XCK-P●11H29



XCK-P●02H29



XCK-P●21H29



(1) 1 cable entry, tapped M16 x 1.5 for ISO cable gland

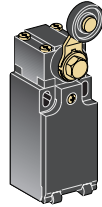
∅ : 2 elongated holes ∅ 4.3 x 8.3 on 22 centres, 2 holes ∅ 4.3 on 20 centres

Limit switches

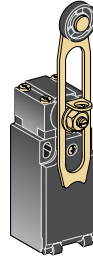
Double insulated, conforming to CENELEC EN 50047, type XCK-P
Complete switches with 1 cable entry, tapped M16 x 1.5

References, characteristics, function diagrams, dimensions

Type of operating head	Rotary
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Thermoplastic roller lever



Variable length thermoplastic roller lever

References (☞ N/C contact with positive opening operation)

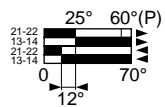
2-pole 1 N/C + 1 N/O snap action (XES-P2151)		XCK-P118H29 ☞	XCK-P145H29 ☞
2-pole 1 N/C + 1 N/O break before make slow break (XEN-P2151)		XCK-P518H29 ☞	XCK-P545H29 ☞
Weight (kg)		0.070	0.080

Complementary characteristics

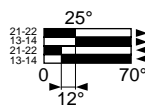
Switch actuation	By 30° cam	
Maximum actuation speed	1.5 m/s	1.5 m/s
Mechanical durability	10 million operating cycles	
Minimum torque	for tripping	0.1 N.m
	for positive opening	0.25 N.m
Cable entry	1 entry tapped M16 x 1.5 for ISO cable gland. Clamping capacity : 4 to 8 mm.	

Function diagrams

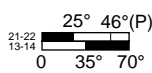
XCK-P118H29



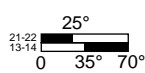
XCK-P145H29



XCK-P518H29



XCK-P545H29

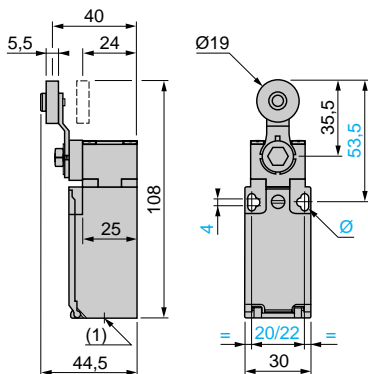


Contact operation

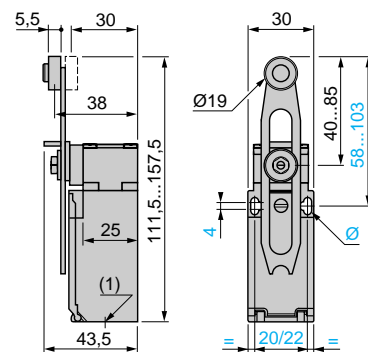
(P) = positive opening point

Dimensions

XCK-P●18H29



XCK-P●45H29



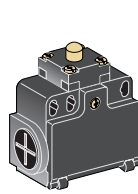
- (1) 1 cable entry, tapped M16 x 1.5 for ISO cable gland
- (2) 115 max.
- (3) 133 max.
- Ø : 2 elongated holes Ø 4.3 x 8.3 on 22 centres, 2 holes Ø 4.3 on 20 centres

Limit switches

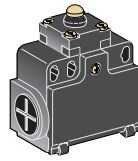
Double insulated, CENELEC EN 50047 compatible, type XCK-T
Complete switches with 2 cable entries, tapped M16 x 1.5

References, characteristics, function diagrams, dimensions

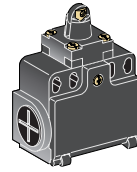
Type of operating head	Plunger
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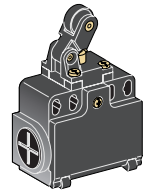
Metal plunger



Steel plunger with elastomer boot



Thermoplastic roller plunger



Thermoplastic roller lever plunger

References (⊖ N/C contact with positive opening operation)

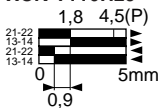
2-pole 1 N/C + 1 N/O snap action (XES-P3151)		XCK-T110H29 ⊖	XCK-T111H29 ⊖	XCK-T102H29 ⊖	XCK-T121H29 ⊖
2-pole 1 N/C + 1 N/O break before make slow break (XEN-P3151)		XCK-T510H29 ⊖	XCK-T511H29 ⊖	XCK-T502H29 ⊖	XCK-T521H29 ⊖
Weight (kg)		0.065	0.065	0.065	0.070

Complementary characteristics

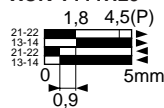
Switch actuation	On end	By 30° cam	
Maximum actuation speed	0.5 m/s	0.3 m/s	1 m/s
Mechanical durability	15 million operating cycles	10 million operating cycles	15 million operating cycles
Minimum force	for tripping: 15 N for positive opening: 45 N	12 N 36 N	6 N 18 N
Cable entry	2 entries tapped M16 x 1.5 for ISO cable gland. Clamping capacity : 4 to 8 mm. (Switch supplied with 1 entry fitted with blanking plug).		

Function diagrams

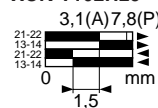
XCK-T110H29



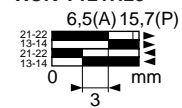
XCK-T111H29



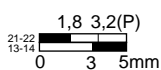
XCK-T102H29



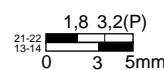
XCK-T121H29



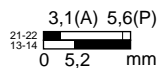
XCK-T510H29



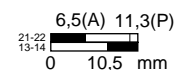
XCK-T511H29



XCK-T502H29



XCK-T521H29



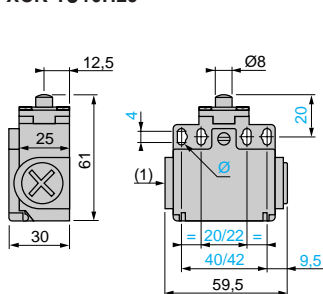
Contact operation

 ■ contact closed
 □ contact open

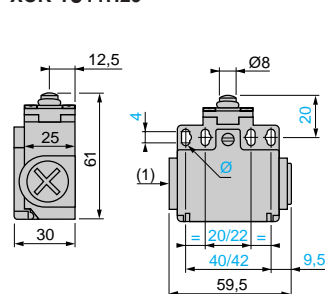
(A) = cam displacement
 (P) = positive opening point

Dimensions

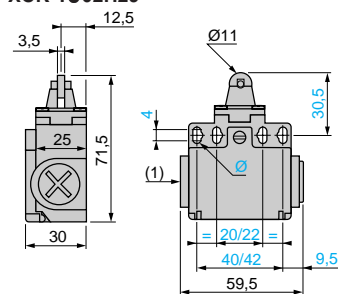
XCK-T●10H29



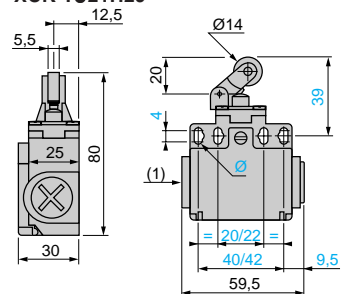
XCK-T●11H29



XCK-T●02H29



XCK-T●21H29



(1) 2 cable entries, tapped M16 x 1.5 for ISO cable gland

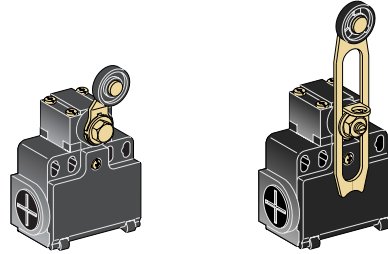
Ø : 4 elongated holes Ø 4.3 x 8.3 on 22/42 centres, 4 holes Ø 4.3 on 20/40 ctrs.

Limit switches

Double insulated, CENELEC EN 50047 compatible, type XCK-T
Complete switches with 2 cable entries, tapped M16 x 1.5

References, characteristics, function diagrams, dimensions

Type of operating head	Rotary
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Thermoplastic roller lever Variable length thermoplastic roller lever

References (⊖ N/C contact with positive opening operation)

2-pole 1 N/C + 1 N/O snap action (XES-P3151)		XCK-T118H29 ⊖	XCK-T145H29 ⊖
2-pole 1 N/C + 1 N/O break before make slow break (XEN-P3151)		XCK-T518H29 ⊖	XCK-T545H29 ⊖
Weight (kg)		0.080	0.090

Complementary characteristics

Switch actuation	By 30° cam	
Maximum actuation speed	1.5 m/s	1.5 m/s
Mechanical durability	10 million operating cycles	
Minimum torque	for tripping	0.1 N.m
	for positive opening	0.25 N.m
Cable entry	2 entries tapped M16 x 1.5 for ISO cable gland. Clamping capacity 4 to 8 mm. (Switch supplied with 1 entry fitted with blanking plug).	

Function diagrams

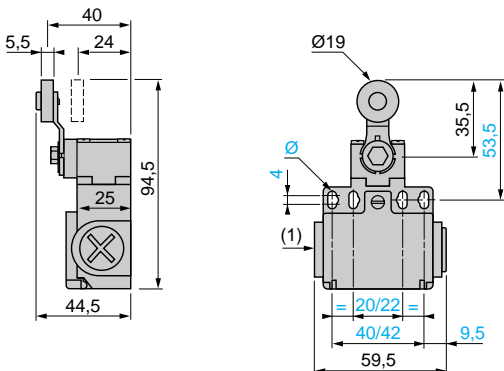


Contact operation
 contact closed
 contact open

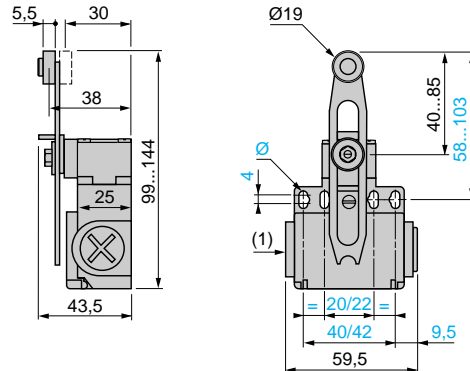
(P) = positive opening point

Dimensions

XCK-T●18H29



XCK-T●45H29

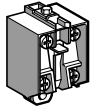


(1) 2 cable entries, tapped M16 x 1.5 for ISO cable gland
 (2) 115 max.

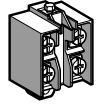
(3) 133 max.
 Ø : 4 elongated holes Ø 4.3 x 8.3 on 22/42 centres, 4 holes Ø 4.3 on 20/40 ctrs.

Limit switches

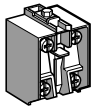
Replacement parts for XCK-P and XCK-T limit switches



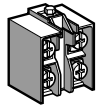
XES-P2151



XEN-P2151



XES-P3151



XEN-P3151

Replacement contact blocks

Type of contact	Scheme	For switch type	Positive operation (1)	Reference	Weight kg
2-pole 1 N/C + 1 N/O snap action		XCK-P1●●H29	⊕	XES-P2151	0.020
		XCK-T1●●H29	⊕	XES-P3151	0.015
2-pole 1 N/C + 1 N/O break before make slow break		XCK-P5●●H29	⊕	XEN-P2151	0.020
		XCK-T5●●H29	⊕	XEN-P3151	0.015

(1) ⊕ : N/C contact with positive opening operation.

Limit switches

Metal, types XCK-M

General characteristics

Environment

Conforming to standards	Products	IEC 947-5-1, IEC 337-1, EN 60 947-5-1, NF C 63-146, VDE 0660-200, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 204-1, EN 60 204-1, NF C 79-130
Approvals		CSA A300, UL A300 Listed, NEMKO FI 10 (4) A-400 V, BV, USSR
Ambient air temperature		Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Electric shock protection		Class I conforming to IEC 536 and NF C 20-030
Degree of protection		IP 66 conforming to IEC 529 ; IP 665 conforming to NF C 20-010
Repeat accuracy		0.05 mm on the tripping points
Cable entry		3 entries, tapped M20 x 1.5 For other threaded entries, please consult your Regional customer centre.

Contact block characteristics

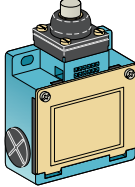
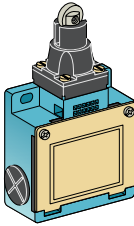
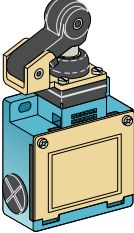
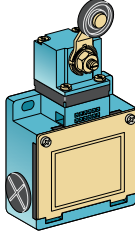
Rated operational characteristics	\sim AC-15 ; A300 (Ue = 240 V, Ie = 3 A) \equiv DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage	Ui = 500 V degree of pollution 3 conforming to IEC 947-1 and VDE 0110, group C conforming to NF C 20-040 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated withstand impulse voltage	U imp = 6 kV conforming to IEC 947-1, IEC 664
Short-circuit protection	10 A cartridge fuse type gG (gl)
Minimum actuation speed	XES-P2151 : 0.001 m/minute, XEN-P2151 : 0.001 m/second
Electrical durability	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Maximum operating rate : 3600 operating cycles per hour. Load factor : 0.5

Limit switches



Metal, type XCK-M

Complete switches with 3 cable entries, tapped M20 x 1.5

References, characteristics, function diagrams, dimensions

Type of operating head	Plunger	Plunger		Rotary
				
	Metal plunger	Steel roller plunger	Thermoplastic roller lever plunger	Thermoplastic roller lever

References (⊖ N/C contact with positive opening operation)

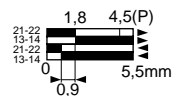
2-pole 1 N/C + 1 N/O snap action (XES-P2151)		XCK-M110H29 ⊖	XCK-M102H29 ⊖	XCK-M121H29 ⊖	XCK-M115H29 ⊖
2-pole 1 N/C + 1 N/O break before make slow break (XEN-P2151)		XCK-M510H29 ⊖	XCK-M502H29 ⊖	XCK-M521H29 ⊖	XCK-M515H29 ⊖
Weight (kg)		0.250	0.255	0.300	0.280

Complementary characteristics

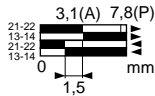
Switch actuation	On end	By 30° cam			
Maximum actuation speed	0.5 m/s	1.5 m/s			
Mechanical durability	20 million operating cycles			15 million operating cycles	
Minimum force or torque	for tripping	15 N	12 N	8 N	0.1 N.m
	for positive opening	45 N	36 N	24 N	0.25 N.m
Cable entry	3 entries tapped M20 x 1.5 for ISO cable gland. Clamping capacity : 7 to 13 mm. (Switch supplied with 2 entries fitted with blanking plugs).				

Function diagrams

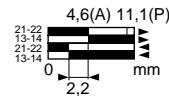
XCK-M110H29



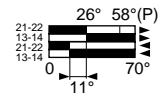
XCK-M102H29



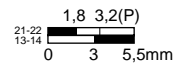
XCK-M121H29



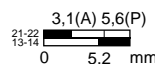
XCK-M115H29



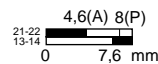
XCK-M510H29



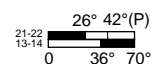
XCK-M502H29





XCK-M521H29



XCK-M515H29

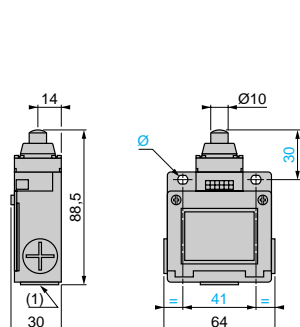


Contact operation
 contact closed
 contact open

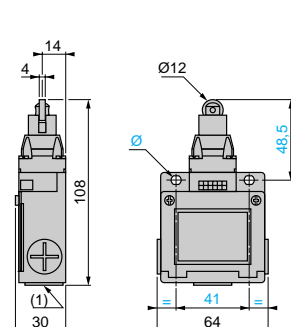
(A) = cam displacement
(P) = positive opening point

Dimensions

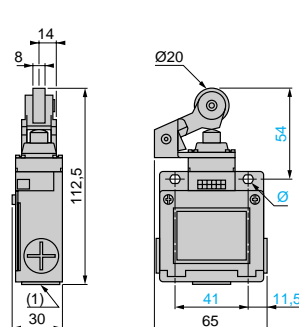
XCK-M●10H29



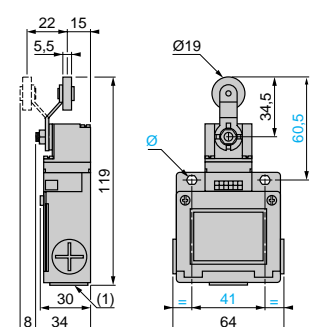
XCK-M●02H29



XCK-M●21H29



XCK-M●15H29



(1) 3 cable entries, tapped M20 x 1.5 for ISO cable gland

(2) 2 x Ø 4 H 11, depth 10

Ø : 2 elongated holes Ø 5.2 x 6.2

Limit switches

Metal, compact, type XCM

General characteristics

Environment

Conforming to standards	Products	IEC 947-5-1, IEC 337-1, EN 60 947-5-1, NF C 63-146, NF C 63-145 Class Y2, VDE 0660-200, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 204-1, EN 60 204-1, NF C 79-130
Approvals		Special version : XCM-A : CSA A150, and UL Recognized B300
Ambient air temperature		Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Electric shock protection		Class I conforming to IEC 536 and NF C 20-030
Degree of protection		IP 67 conforming to IEC 529 ; IP 675 conforming to NF C 20-010
Repeat accuracy		0.05 mm on the tripping points

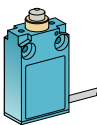
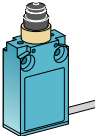
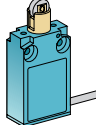
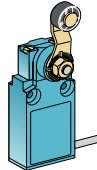
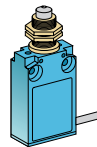
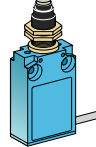

Contact block characteristics

Rated operational characteristics	\sim AC-15 ; B300 (Ue = 240 V, Ie = 1.5 A) \equiv DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage	Ui = 500 V degree of pollution 3 conforming to IEC 947-5-1 and VDE 0110, group C conforming to NFC 20-040 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	U imp = 4 kV conforming to IEC 947-1, IEC 664
Short-circuit protection	6 A cartridge fuse type gG (gl)
Cabling	Pre-cabled, 5 x 0.75 mm ²
Minimum actuation speed	0.002 m/minute
Electrical durability	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Maximum operating rate : 3600 operating cycles per hour. Load factor : 0.5

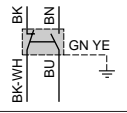
Limit switches

Metal, compact, type XCM
Complete switches, pre-cabled

References, characteristics, function diagrams, dimensions

Type of operating head	Plunger	Rotary	Plunger
		 	   
	Metal plunger	Steel plunger with elastomer boot Steel roller plunger	Thermo-plastic roller lever Metal plunger Metal plunger with elastomer boot Steel roller plunger

References

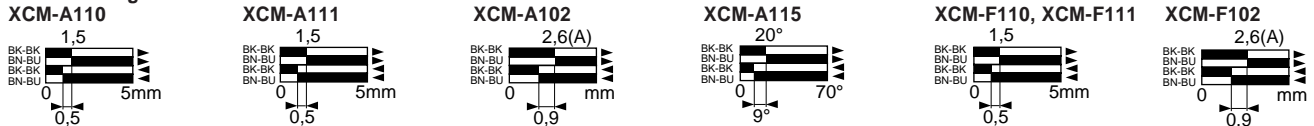
Single-pole 1 C/O snap action (1)	Fixing by the body				Fixing by the head		
	XCM-A110	XCM-A111	XCM-A102	XCM-A115	XCM-F110	XCM-F111	XCM-F102
	0.240	0.240	0.245	0.245	0.260	0.260	0.265

Complementary characteristics

Switch actuation	On end	By 30° cam		On end	By 30° cam	
Maximum actuation speed	0.5 m/s	0.1 m/s	1.5 m/s	0.5 m/s	0.1 m/s	
Mechanical durability	10 million operating cycles					
Minimum force or torque	for tripping	7.5 N	5 N	0.05 N.m	7.5 N	4.5 N
	for positive opening	37.5 N	25 N	0.15 N.m	37.5 N	22 N
Cabling	PVC cable, 5 x 0.75 mm ² , length 1 metre. For other cable lengths and special cables, please consult your Regional customer centre.					

(1) Also available with gold flashed contacts, please consult your Regional customer centre.

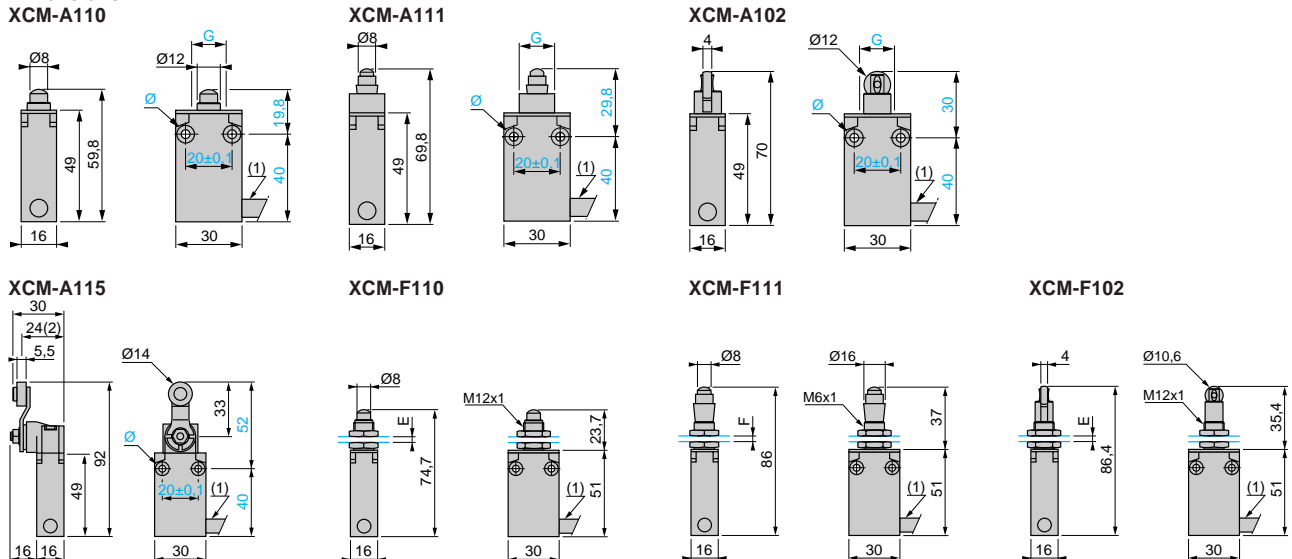
Function diagrams



Contact operation : ■ contact closed, □ contact open

(A) = cam displacement (P) = positive opening point

Dimensions



Ø : 2 fixing holes Ø 4.3, counterbored Ø 8.2 x 4 mm deep. G : Fixing by upper part of the body : 2 tapped holes M3, on 18 mm centres Ø 12.5 panel cut-out for passage of operating head. Maximum panel thickness : 5 mm.

(1) Pre-cabled, Ø 8 x 1 m length. (2) XCM-A111. E : 8 mm max., panel cut-out Ø 12.5 mm. F : 8 mm max., panel cut-out Ø 16.5 mm.

Limit switches

Double insulated, conforming to CENELEC EN 50041, type XCK-S

General characteristics

Environment

Conforming to standards	Products	IEC 947-5-1, IEC 337-1, EN 60 947-5-1, NF C 63-146, VDE 0660-200, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 204-1, EN 60 204-1, NF C 79-130
Approvals		Standard version : NEMKO FI 10 (4) A-400 V
Ambient air temperature		Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Electric shock protection		Class II conforming to IEC 536 and NF C 20-030
Degree of protection		IP 65 conforming to IEC 529 ; IP 653 conforming to NF C 20-010
Repeat accuracy		0.05 mm on the tripping points
Cable entry		1 entry, tapped M20 x 1.5 For other threaded entries, please consult your Regional customer centre.

Contact block characteristics

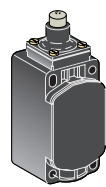
Rated operational characteristics	\sim AC-15 ; A300 (Ue = 240 V, Ie = 3 A) \equiv DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage	Ui = 500 V degree of pollution 3 conforming to IEC 947-1 and VDE 0110, group C conforming to NF C 20-040 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated withstand impulse voltage	U imp = 6 kV conforming to IEC 947-1, IEC 664
Short-circuit protection	10 A cartridge fuse type gG (gl)
Minimum actuation speed	XES-P2151 : 0.001 m/minute, XEN-P2151 : 0.001 m/second
Electrical durability	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Maximum operating rate : 3600 operating cycles per hour. Load factor : 0.5

Limit switches

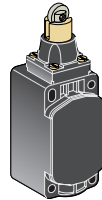
Double insulated, conforming to CENELEC EN 50041, type XCK-S
Complete switches with 1 cable entry, tapped M20 x 1.5

References, characteristics, function diagrams, dimensions

Type of operating head	Plunger	Rotary
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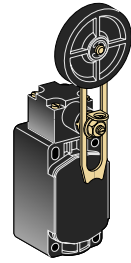
Metal plunger



Steel roller plunger



Thermoplastic roller lever



Variable length elastomer roller lever

References (⊖ N/C contact with positive opening operation)

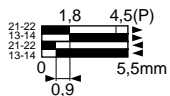
2-pole 1 N/C + 1 N/O snap action (XES-P2151)		XCK-S101H29 ⊖	XCK-S102H29 ⊖	XCK-S131H29 ⊖	XCK-S149H29
2-pole 1 N/C + 1 N/O break before make slow break (XEN-P2151)		XCK-S501H29 ⊖	XCK-S502H29 ⊖	XCK-S531H29 ⊖	XCK-S549H29
Weight (kg)		0.095	0.105	0.145	0.155

Complementary characteristics

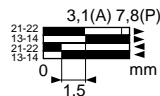
Switch actuation	On end	By 30° cam	
Maximum actuation speed	0.5 m/s	1.5 m/s	
Mechanical durability	25 million operating cycles	15 million operating cycles	20 million operating cycles
Minimum force for tripping	15 N	12 N	0.15 N.m
for positive opening	45 N	36 N	0.3 N.m
Cable entry	1 entry tapped M20 x 1.5 for ISO cable gland. Clamping capacity : 7 to 13 mm.		

Function diagrams

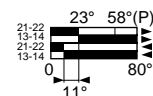
XCK-S101H29



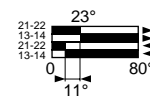
XCK-S102H29



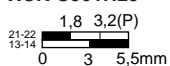
XCK-S131H29



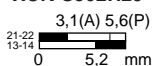
XCK-S149H29



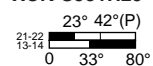
XCK-S501H29



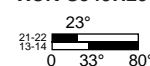
XCK-S502H29



XCK-S531H29



XCK-S549H29

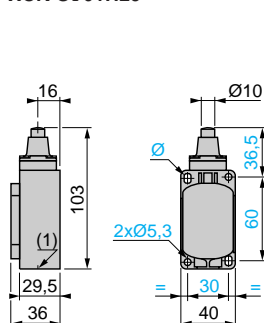


Contact operation

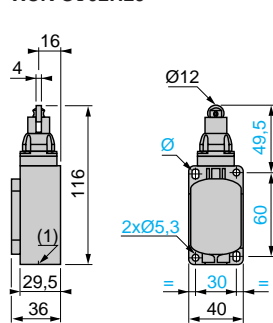
 (A) = cam displacement
 (P) = positive opening point

Dimensions

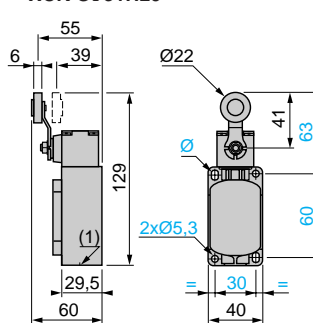
XCK-S●01H29



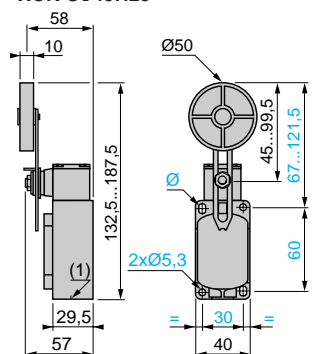
XCK-S●02H29



XCK-S●31H29



XCK-S●49H29



(1) 1 cable entry, tapped 20 mm ISO Ø : 2 elongated holes Ø 5.3 x 7.3

Limit switches

Metal, conforming to CENELEC EN 50041, type XCK-J

General characteristics

Environment

Conforming to standards	Products	IEC 947-5-1, IEC 337-1, EN 60 947-5-1, NF C 63-146, VDE 0660-200, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 204-1, EN 60 204-1, NF C 79-130
Approvals		CSA A300, UL A300 Listed, NEMKO FI 10 (4) A-400 V, GL, BV, USSR
Ambient air temperature		Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C Special sub-assemblies available for extreme operating temperatures (- 40 °C and + 120 °C). Please consult your Regional Sales Office.
Electric shock protection		Class I conforming to IEC 536 and NF C 20-030
Degree of protection		IP 66 conforming to IEC 529 ; IP 667 conforming to NF C 20-010
Repeat accuracy		0.01 mm on the tripping points
Cable entry		1 entry, tapped M20 x 1.5 For other threaded entries, please consult your Regional customer centre.

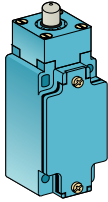
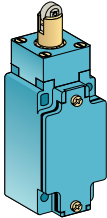
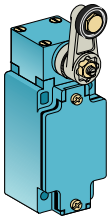
Contact block characteristics

Rated operational characteristics	\sim AC-15 ; A300 (Ue = 240 V, Ie = 3 A) \equiv DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage	Ui = 500 V degree of pollution 3 conforming to IEC 947-1 and VDE 0110, group C conforming to NF C 20-040 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	U imp = 6 kV conforming to IEC 947-1, IEC 664
Short-circuit protection	10 A cartridge fuse type gG (gl)
Minimum actuation speed	XES-P2151 : 0.001 m/minute, XEN-P2151 : 0.001 m/second
Electrical durability	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Maximum operating rate : 3600 operating cycles per hour. Load factor : 0.5



Limit switches

Metal, conforming to CENELEC EN 50041, type XCK-J
 Complete switches, fixed body
 1 cable entry, tapped M20 x 1.5

References, characteristics, function diagrams, dimensions

Type of operating head	Plunger	Rotary (switches supplied for actuation from left AND right)	
			
	Metal plunger	Steel roller plunger	Variable length thermo-plastic roller lever

References (⊖ N/C contact with positive opening operation)

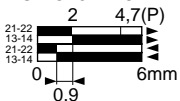
2-pole 1 N/C + 1 N/O snap action (XES-P2151)		XCK-J161H29 ⊖	XCK-J167H29 ⊖	XCK-J10511H29 ⊖	XCK-J10541H29
2-pole 1 N/C + 1 N/O break before make slow break (XEN-P2151)		XCK-J561H29 ⊖	XCK-J567H29 ⊖	XCK-J50511H29 ⊖	XCK-J50541H29
Weight (kg)	0.430	0.455	0.480	0.485	

Complementary characteristics

Switch actuation	On end	By 30° cam	
Maximum actuation speed	0.5 m/s	1 m/s	1.5 m/s
Mechanical durability	30 million operating cycles	25 million operating cycles	30 million operating cycles
Minimum force or torque	for tripping	20 N	16 N
	for positive opening	50 N	40 N
Cable entry	1 entry tapped M20 x 1.5 for ISO cable gland. Clamping capacity : 7 to 13 mm.		

Function diagrams

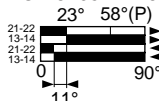
XCK-J161H29



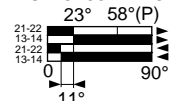
XCK-J167H29



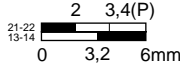
XCK-J10511H29



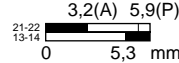
XCK-J10541H29



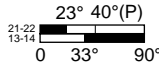
XCK-J561H29



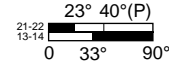
XCK-J567H29





XCK-J50511H29



XCK-J50541H29

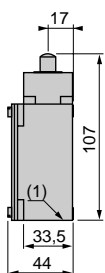


Contact operation
 contact closed,  contact open

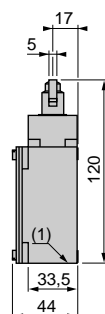
(A) = cam displacement
 (P) = positive opening point

Dimensions

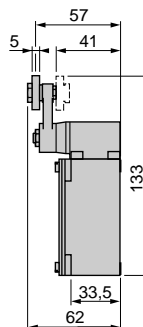
XCK-J●61H29



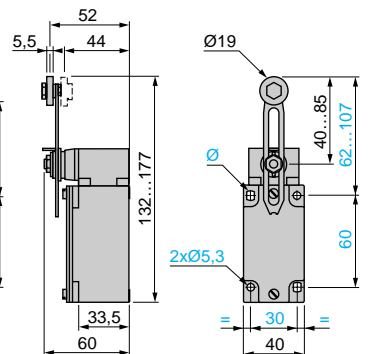
XCK-J●67H29



XCK-J●0511H29



XCK-J●0541H29



(1) 1 cable entry, tapped M20 x 1.5 for ISO cable gland \varnothing : 2 elongated holes \varnothing 5.3 x 7.3

Limit switches

Metal, type XC2-J

General characteristics

Environment

Conforming to standards	Products	IEC 947-5-1, IEC 337-1, EN 60 947-5-1, NF C 63-146, VDE 0660-200, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 204-1, EN 60 204-1, NF C 79-130
Approvals		Standard version : DEMKO, NEMKO, CSA 300 V $\overline{=}$ HD, \sim 60 W Special version : UL 250 V \sim HD Listed, CSA 300 V \sim HD, 60 W with 1/2" NPT threaded cable entry
Ambient air temperature		Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Electric shock protection		Class I conforming to IEC 536 and NF C 20-030
Degree of protection		IP 65 conforming to IEC 529 ; IP 657 conforming to NF C 20-010
Repeat accuracy		0.01 mm on the tripping points
Cable entry		1 entry, incorporating cable gland. Clamping capacity : 6 to 13.5 mm

Contact block characteristics

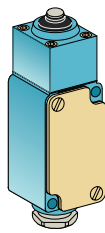
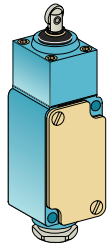
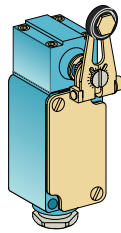
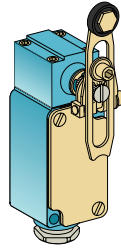
Rated operational characteristics	\sim AC-15 ; A300 (Ue = 240 V, Ie = 3 A) $\overline{=}$ DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage	500 V conforming to IEC 947-5-1, group C conforming to NF C 20-040 300 V conforming to CSA C22-2 n° 14
Short-circuit protection	10 A cartridge fuse type gG (gl)
Minimum actuation speed	0.001 m/minute
Electrical durability	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Maximum operating rate : 3600 operating cycles per hour. Load factor : 0.5

Limit switches


Metal, type XC2-J

Complete switches, fixed body, 1 cable entry incorporating cable gland

References, characteristics, function diagrams, dimensions

Type of operating head	Plunger	Rotary	
			
	Metal plunger	Steel roller plunger	Thermoplastic roller lever
			
			Variable length thermoplastic roller lever

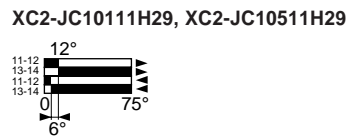
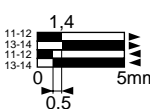
References



Single-pole 1 C/O snap action (XCK-Z01)		XC2-JC161H29	XC2-JC162H29	Actuation from left AND right
				XC2-JC10111H29 XC2-JC10131H29
Weight (kg)		0.555	0.560	Actuation from left OR right

Complementary characteristics

Switch actuation	On end	By 30° cam	By 30° cam
Maximum actuation speed	0.5 m/s		1.5 m/s
Mechanical durability	30 million operating cycles	25 million operating cycles	30 million operating cycles
Minimum force or torque for tripping	18 N		XC2-JC101●●H29 : 0.30 N.m ; XC2-JC105●●H29 : 0.20 N.m
Cable entry	1 tapped entry incorporating metal cable gland. Clamping capacity : 6 to 13.5 mm.		

Function diagrams

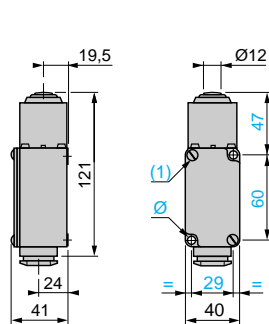


Contact operation
 contact closed,  contact open

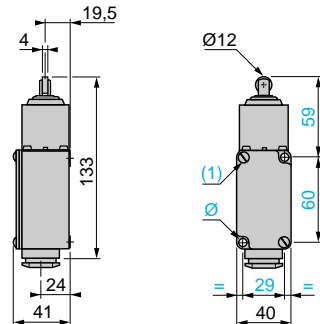
(A) = cam displacement
 (P) = positive opening point

Dimensions

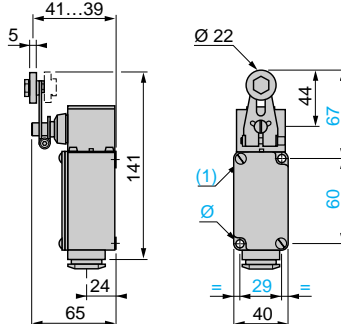
XC2-JC161H29



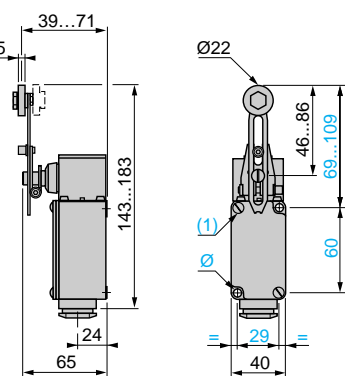
XC2-JC162H29



XC2-JC10111H29, XC2-JC10511H29



XC2-JC10131H29, XC2-JC10531H29



(1) Fixing from the rear : by 2 M5 screws
 Depth of thread : 10 mm


Ø : Fixing from the front via 2 holes Ø 5.5

Cable gland incorporated (all XC2-JC models)

Replacement contact block



XCK-Z01

Type	Scheme	Reference	Weight kg
Single-pole 1 C/O snap action		XCK-Z01	0.050

Limit switches

For hoisting and mechanical handling, type XCR

General characteristics

Environment

Conforming to standards	Products	IEC 947-5-1, IEC 337-1, EN 60 947-5-1, NF C 63-146, VDE 0660-200, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 204-1, EN 60 204-1, NF C 79-130
Approvals		XCR-A standard version : CSA A300, UL A300 Listed, NEMKO FI 10 (4) A-400 V, USSR XCR-A special version : CSA A300, UL A300 Listed 1/2" NPT
Ambient air temperature		Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Electric shock protection		Class I conforming to IEC 536 and NF C 20-030
Degree of protection		IP 54 conforming to IEC 529 ; IP 545 conforming to NF C 20-010
Cable entry		1 entry, tapped for Pg 13.5 cable gland

Contact block characteristics

Rated operational characteristics	\sim AC-15 ; A300 ($U_e = 240$ V, $I_e = 3$ A) \equiv DC-13 ; Q300 ($U_e = 250$ V, $I_e = 0.27$ A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1
Rated insulation voltage	$U_i = 500$ V degree of pollution 3 conforming to IEC 947-1 and VDE 0110, group C conforming to NF C 20-040 $U_i = 300$ V conforming to UL 508, CSA C22-2 n° 14
Rated withstand impulse voltage	$U_{imp} = 6$ kV conforming to IEC 947-1, IEC 664
Short-circuit protection	10 A cartridge fuse type gG (gl)
Minimum actuation speed	0.001 m/minute
Electrical durability	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Maximum operating rate : 3600 operating cycles per hour. Load factor : 0.5

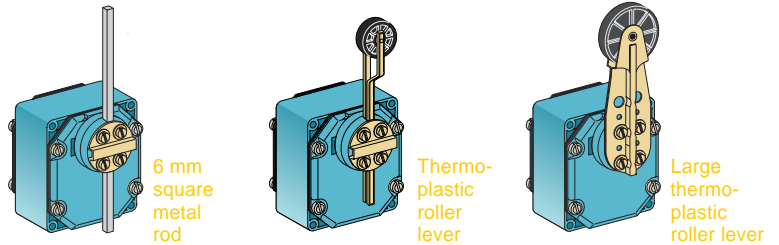
Limit switches

For hoisting and mechanical handling, type XCR
Complete switches with 1 cable entry

References, characteristics, function diagrams, dimensions

Type of operating head

Rotary with spring return to off position 55° in each direction



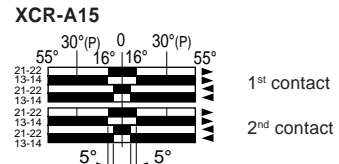
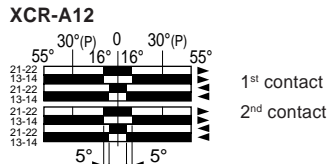
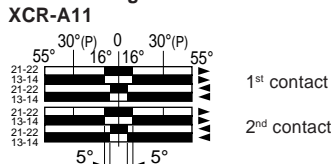
References (⊖ N/C contact with positive opening operation)

Two 2-pole 1 N/C + 1 N/O snap action (XES-P2151)	<p>1st contact</p>	<p>2nd contact</p>	Both contacts operate in each direction	XCR-A11 ⊖	XCR-A12 ⊕	XCR-A15 ⊕
Weight (kg)				1.110	1.145	1.155

Complementary characteristics

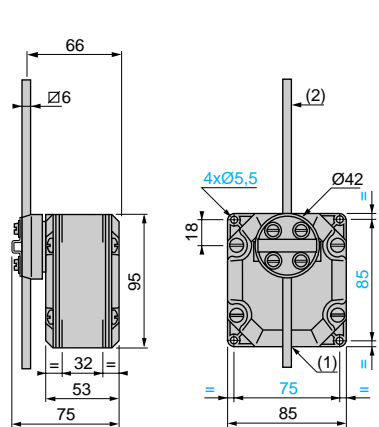
Maximum actuation speed	1.5 m/s
Mechanical durability	10 million operating cycles
Minimum torque for tripping	0.45 N.m
for positive opening	0.75 N.m
Cable entry	1 tapped entry for Pg 13.5 cable gland conforming to NF C 68-300. Clamping capacity : 9 to 12 mm.

Function diagrams

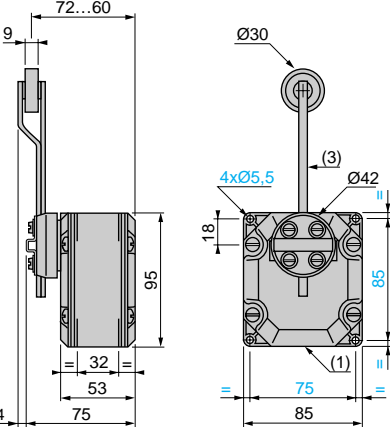


Dimensions

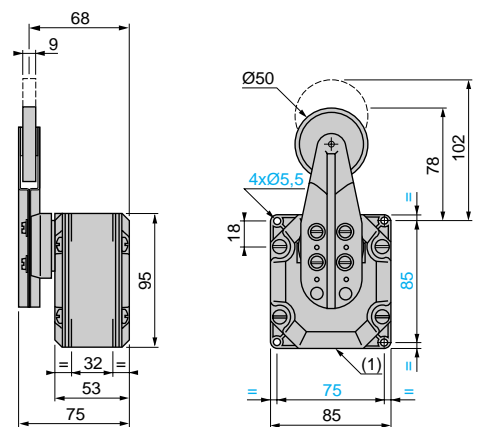
XCR-A11



XCR-A12



XCR-A15



(1) 1 cable entry, tapped for Pg 13.5 cable gland

(2) Rod length : 200 mm

(3) Rod + roller length : 160 mm

Replacement contact block assembly



XCR-Z12

Description	Type	Reference	Weight kg
Contact block (2 contacts) with mounting plate	2-pole 1 N/C + 1 N/O snap action	XCR-Z12	0.135