

Limit Switches

OsiSense Optimum, XCKN and XCNR

Catalog
9007CT0801

2008

Class 9007



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Limit Switches

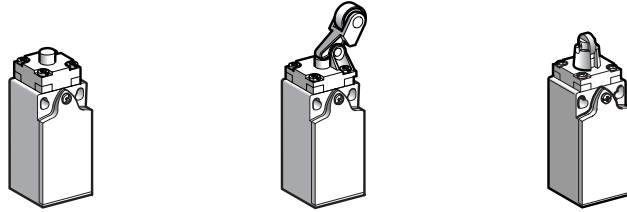
Limit Switches

Compact Design, Plastic, Type XCKN

■ XCKN

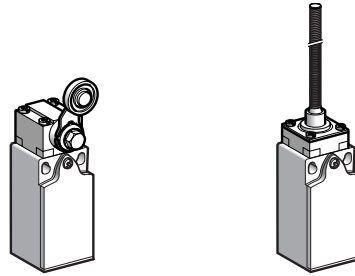
1 cable entry, conforming to CENELEC EN 5047

□ With head for linear movement (plunger)



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□ With head for rotary movement (lever) or multi-directional



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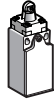




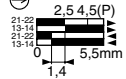


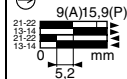
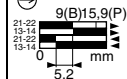

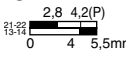
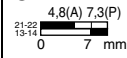
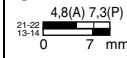
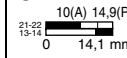
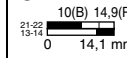

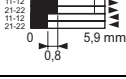
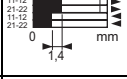

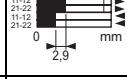
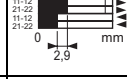



Limit Switches





Compact Design, Plastic, Type XCKN

Environmental characteristics		
Conforming to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications	Standard version	UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature		Operation: -25 to +70 °C (-32 to +21 °F); Storage: -40 to +70 °C (-40 to +21 °F)
Vibration resistance	Conforming to IEC 60068-2-6	25 G (10 to 500 Hz) except: XCKN••08, 10 gn; XCKN••39 and XCKN••49, 15 gn.
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms) except: XCKN2p49•• and XCKN••39, 15 gn; XCKN2•08••, 20 gn; and XCKN2•45••, 35 gn.
Electric shock protection		Class II conforming to IEC 61140 and NF C 20030
Degree of protection		IP 65 conforming to IEC 60529; IK 04 conforming to EN 50102
Cable entry		Depending on model: tapped entry for ISO M20 x 1.5 cable gland, Pg 11 cable gland, ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry. (1/2" NPT adapter available.)
Material	Bodies	Plastic
	Heads	Plastic
Contact block characteristics		
Rated operational characteristics		\sim AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A \equiv DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage		Ui = 500 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		Uimp = 6 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		N.C. contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to NF C 93-050 method A or IEC 60255-7 category 3
Short-circuit protection		10 A cartridge fuse type gG (gl) (Supplied by the user.)
Cabling	Screw clamp terminals	Clamping capacity: min., 1 x 0.34 mm ² ; max., 2 x 1.5 mm ²

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Compact Design, Plastic, Type XCKN

Type of head	Plunger				
					
Type of operator	Metal end plunger	Plastic roller plunger for lateral cam approach	Plastic roller plunger for cross cam approach	Thermoplastic roller-lever plunger, horizontal actuation in 1 direction	Thermoplastic roller-lever plunger, vertical actuation in 1 direction
Catalog numbers (Sold and packed in lots of 20)					
 2 pole N.C. + N.O. snap action	XCKN2110P20 	XCKN2102P20 	XCKN2103P20 	XCKN2121P20 	XCKN2127P20 
 2 pole N.C. + N.O. break before make, slow break	XCKN2510P20 	XCKN2502P20 	XCKN2503P20 	XCKN2521P20 	XCKN2527P20 
 2 pole N.C. + N.C. snap action	XCKN2910P20 	XCKN2902P20 	XCKN2903P20 	XCKN2921P20 	XCKN2927P20 
Weight, kg (lb)	0.065 (0.143)	0.065 (0.143)	0.065 (0.143)	0.070 (0.154)	0.070 (0.154)
Contact operation	 contact closed  contact open			(A) (B) = cam displacement (P) = positive opening point  N.C. contact with positive opening operation, when properly mounted and using a conforming operator.	

Characteristics					
Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s (1.64 ft/s)	0.3 m/s (0.99 ft/s)	0.1 m/s (3.28 ft/s)		
Minimum force of torque	For tripping	15 N (3.37 lb)	12 N (2.70 lb)	6 N (1.35 lb)	
	For positive opening	30 N (6.75 lb)	20 N (4.50 lb)	10 N (2.25 lb)	
Cable entry	P 20	1 entry tapped to M20 x 1.5 mm for ISO cable entry. Clamping capacity 7 to 13 mm (0.28 to 0.51 in)			
	PG 11	Replace P 20 with G11			
	1/2" NPT	Order switch with G 11 and adapter DE9RA1012			
For other cable entries, please consult your local sales office.					

Other contacts
 For other 2- and 3-pole configurations, please consult your local sales office.

Limit Switches

Compact Design, Plastic, Type XCKN

Type of head	Rotary				Multi-directional	
Type of operator	Thermoplastic roller-lever	Variable length thermoplastic roller-lever	Thermoplastic roller-lever, Ø 50 mm	Variable length thermoplastic roller-lever, Ø 50 mm	Spring rod	"Cat's whisker"
Catalog numbers (Sold and packed in lots of 20)						
 2 pole N.C. + N.O. snap action	XCKN2118P20 	XCKN2145P20 	XCKN2139P20 	XCKN2149P20 	XCKN2108P20 	XCKN2106P20
 2 pole N.C. + N.O. break before make, slow break	XCKN2518P20 	XCKN2545P20 	XCKN2539P20 	XCKN2549P20 	XCKN2508P20 	XCKN2506P20
 2 pole N.C. + N.C. snap action	XCKN2918P20 	XCKN2945P20 	XCKN2939P20 	XCKN2949P20 	XCKN2908P20 	XCKN2906P20
Weight, kg (lb)	0.085 (0.187)	0.090 (0.198)	0.110 (0.243)	0.115 (0.254)	0.085 (0.187)	0.075 (0.165)
Contact operation	N.C. contact with positive opening operation, when properly mounted and using a conforming operator.			contact closed contact open		(A) (B) = cam displacement (P) = positive opening point

Characteristics

Switch actuation	By 30° cam	By any moving part
Type of actuation		
Maximum actuation speed	1.5 m/s (4.92 ft/s)	1 m/s (3.28 ft/s), any direction
Minimum force of torque	For tripping: 0.1 N•m (0.89 lb-in) For positive opening: 0.15 N•m (1.33 lb-in)	0.13 N•m (0.11 lb-in)
Cable entry	P 20: 1 entry tapped to M20 x 1.5 mm for ISO cable entry. Clamping capacity 7 to 13 mm (0.28 to 0.51 in.) PG 11: Replace P 20 with G11 1/2" NPT: Order switch with G 11 and adapter DE9RA1012	

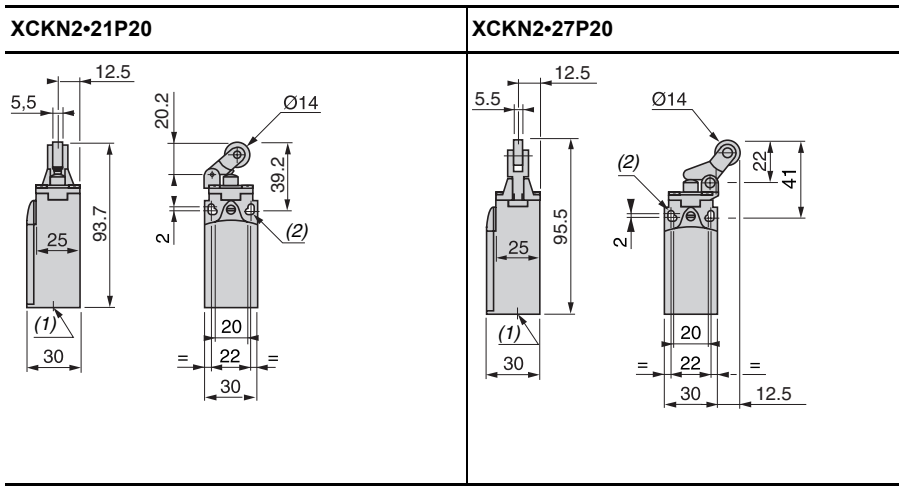
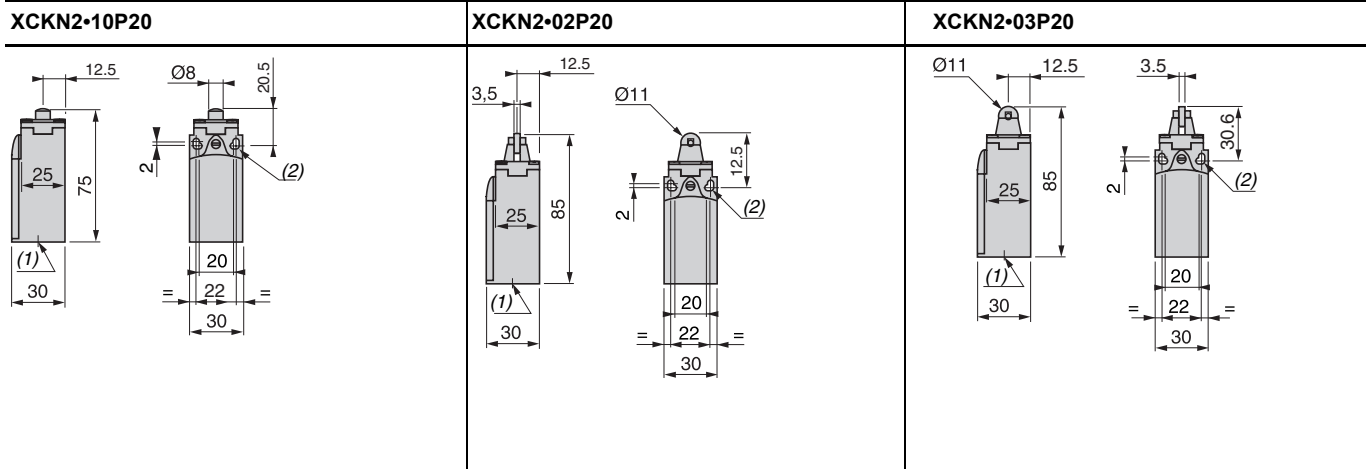
For other cable entries, please consult your local sales office.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult your local sales office.

Limit Switches

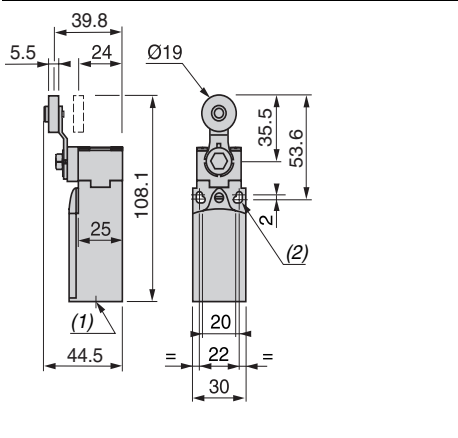
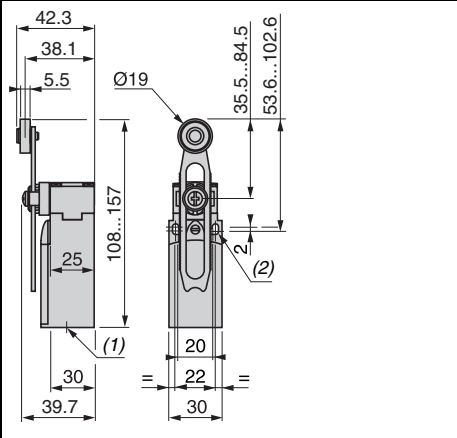
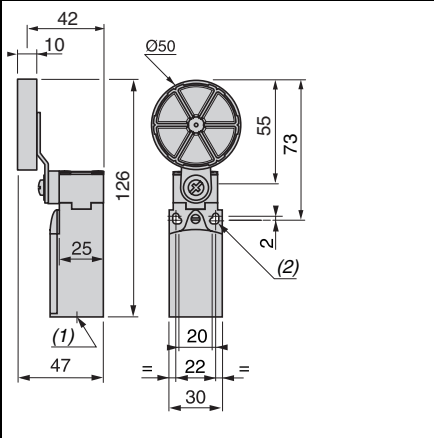
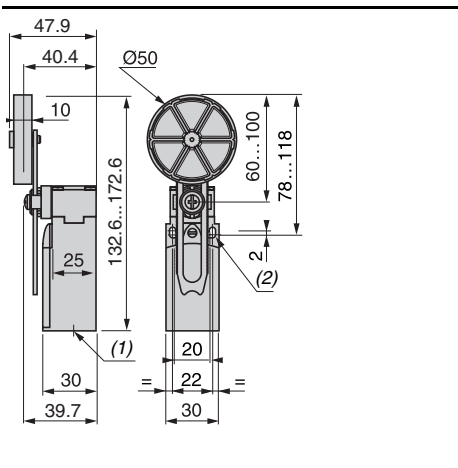
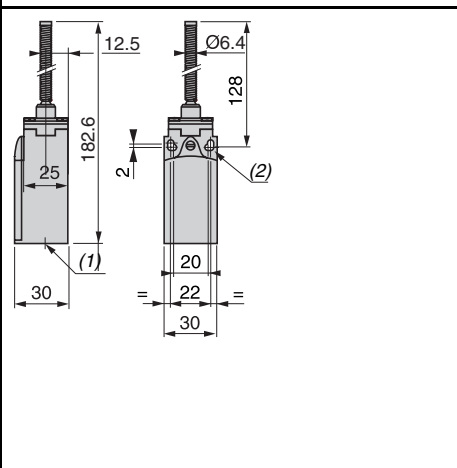
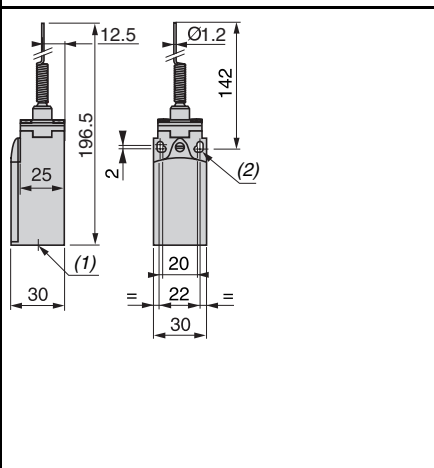
Compact Design, Plastic, Type XCKN



- (1) Tapped entry for ISO M20 x 1.5 or Pg 11 cable gland
- (2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm, 2 holes Ø 4.3 on 20 mm centers.

Limit Switches

Compact Design, Plastic, Type XCKN

XCKN2-18P20	XCKN2-45P20	XCKN2-39P20
		
XCKN2-49P20	XCKN2-06P20	XCKN2-08P20
		

(1) Tapped entry for ISO M20 x 1.5 or Pg 11 cable gland

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

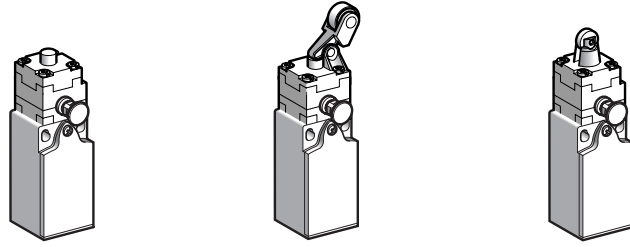
Limit Switches

Compact Design, Plastic, with Reset, Type XCNR

■ XCNR

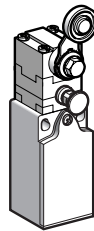
1 cable entry, conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



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□ With head for rotary movement (lever)



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Limit Switches

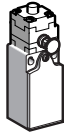
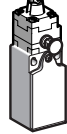
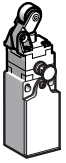

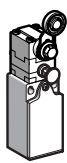

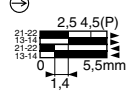
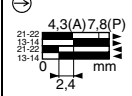
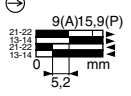
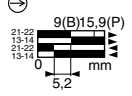
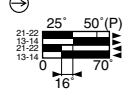

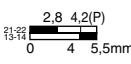
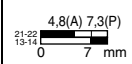
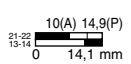
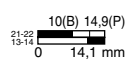
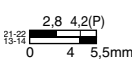

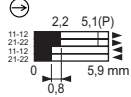
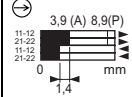
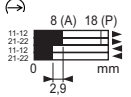
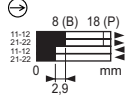
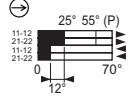



Compact Design, Plastic, with Reset, Type XCNR

Environmental characteristics		
Conforming to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications	Standard version	UL, CSA, CCC (pending)
Protective treatment	Standard version	"TC"
Ambient air temperature		Operation: - 25 to +70 °C (-32 to +21 °F); Storage: - 40 to +70 °C (-40 to +21 °F)
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10 to 500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20030
Degree of protection		IP 65 conforming to IEC 60529; IK 04 conforming to EN 50102
Cable entry		Depending on model: tapped entry for ISO M20 x 1.5 cable gland, Pg 11 cable gland, ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry. (1/2" NPT adapter available.)
Material	Bodies	Plastic
	Heads	Plastic






Contact block characteristics		
Rated operational characteristics		\sim AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A \equiv DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage		Ui = 500 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		Uimp = 6 kV conforming to IEC 60947-1, IEC 60664
Positive operation		N.C. contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Short-circuit protection		10 A cartridge fuse type gG (gl) (Supplied by the user.)
Cabling	Screw clamp terminals	Clamping capacity: min., 1 x 0.34 mm ² ; max., 2 x 1.5 mm ²

Limit Switches

Compact Design, Plastic, with Reset, Type XCNR

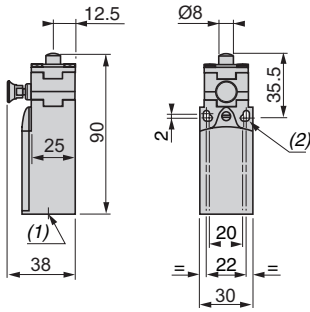
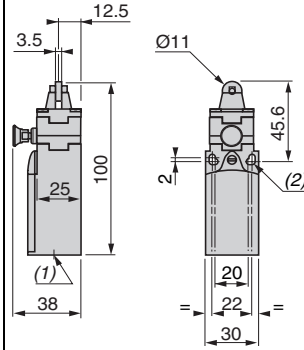
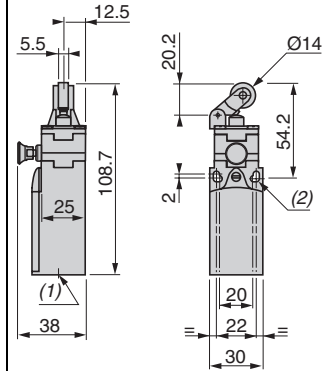
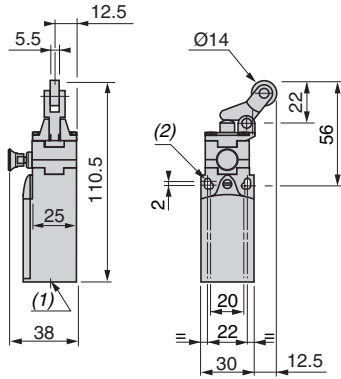
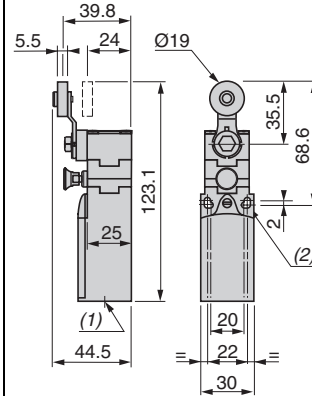
Type of head	Plunger			Rotary	
					
Type of operator	Metal end plunger	Plastic roller plunger	Thermoplastic roller-lever plunger, horizontal actuation in 1 direction	Thermoplastic roller-lever plunger, vertical actuation in 1 direction	Thermoplastic roller-lever plunger
Catalog numbers (Sold and packed in lots of 20)					
 2 pole N.C. + N.O. snap action	XCNR 2110P20 	XCNR 2102P20 	XCNR 2121P20 	XCNR 2127P20 	XCNR 2118P20 
 2 pole N.C. + N.O. break before make, slow break	XCNR 2510P20 	XCNR 2502P20 	XCNR 2521P20 	XCNR 2527P20 	XCNR 2518P20 
 2 pole N.C. + N.C. snap action	XCNR 2910P20 	XCNR 2902P20 	XCNR 2921P20 	XCNR 2927P20 	XCNR 2918P20 
Weight, kg (lb)	0.080 (0.18)	0.080 (0.18)	0.085 (0.19)	0.090 (0.20)	0.100 (0.22)
Contact operation	 contact closed  contact open (A) (B) = cam displacement (P) = positive opening point			 N.C. contact with positive opening operation, when properly mounted and using a conforming operator.	

Characteristics

Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s (1.64 ft/s)	0.3 m/s (0.99 ft/s)	0.1 m/s (3.28 ft/s)	1.5 m/s (4.92 ft/s)	
Minimum force of torque	For tripping	15 N (3.37 lb)	12 N (2.70 lb)	6 N (1.35 lb)	0.1 N•m (0.89 lb-in)
	For positive opening	30 N (6.74 lb)	20 N (4.50 lb)	10 N (2.25 lb)	0.15 N•m (1.33 lb-in)
Cable entry	P 20	1 entry tapped to M20 x 1.5 mm for ISO cable entry. Clamping capacity 7 to 13 mm (0.28 to 0.51 in)			
	PG 11	Replace P 20 with G 11			
	1/2" NPT	Order switch with G 11 and adapter DE9RA1012			
For other cable entries, please consult your local sales office.					

Other contacts

For other 2- and 3-pole configurations, please consult your local sales office.

XCNR2-10P20**XCNR2-02P20****XCNR2-21P20****XCNR2-27P20****XCNR2-18P20**

- (1) Tapped entry for ISO M20 x 1.5 or Pg 11 cable gland
- (2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm, 2 holes Ø 4.3 on 20 mm centers.