

Door accessories

Door switches



Door switch for floor-standing enclosures

- The switch is mounted to the enclosure structure.
- Drilled M20 cable entry for cable gland.
- NC + NO contact, 10 A / 500 V.



Supply: 1 door switch and mounting hardware.

Catalog number	For ranges
NSYDCM20	SF & SFX
NSYMDCM20	SM
NSYSNLPLA	PLA



Door switch for wall-mounting enclosures

- Switch/commutator equipped with support and hardware for direct mounting to the enclosure.
- Can be used to control lighting, air-conditioning units, etc.
- Not compatible with the 19" swing rack and the internal door.
- NC + NO contact, 10 A / 500 V.



Supply: 1 door switch and mounting hardware.

Catalog number
NSYINLCRN

For ranges
CRN, S3DC,
S3X

Limit switches
Osiswitch® Optimum
Compact design XCKN
EN 50047 format

Catalogue
February

08



Simply Smart !

telemecanique.com



This international site allows you to access all the Telemecanique products in just 2 clicks via comprehensive range data-sheets, with direct links to:

- Complete library: technical documents, catalogs, certificates, FAQs, brochures...
- Selection guides from the e-catalog.
- Product discovery sites and their Flash animations.

You will also find illustrated overviews, news to which you can subscribe, a discussion forum, the list of country contacts...

To live automation solutions every day!



Flexibility

- Interchangeable modular functions, to better meet the requirements for extensions
- Software and accessories common to multiple product families



Ingenuity

- Auto-adapts to its environment, "plug & play"
- Application functions, control, communication and diagnostics embedded in the products
- User-friendly operation either directly on the product or remotely



Simplicity

- Cost effective "optimum" offers that make selection easy for most typical applications
- Products that are easy to understand for users, electricians and automation specialists
- User-friendly intuitive programming



Compactness

- High functionality in a minimum of space
- Freedom in implementation



Openness

- Compliance with field bus, connection, and software standards
- Enabling decentralised or remote surveillance via the web with Transparent Ready products

Limit switches Osiswitch® Optimum Design compact

- **Presentation** *pages 2 and 3*

- **Compact design - Plastic, type XCKN, EN 50047 format**
 - Presentation, general characteristics, references, characteristics, dimensions. *pages 4 to 9*

- **Compact design - Plastic, with reset, type XCNR**
 - Presentation, general characteristics, references, characteristics, dimensions. *pages 10 to 13*

An *economic* version offering *first-class* reliability

Simply Smart!

Leveraging
ingenuity
and intelligence
for **ease of use**

The new range of CENELEC EN 50047 format *Osiswitch Optimum compact limit switches* combines the *reliability* of Telemecanique products with an offer that is both *comprehensive* and *economical*.

Economical: Increase your profits

- A particularly economical product intended for Machine manufacturers (OEMs).
- Sold in boxes of 20.

High performance: Performance guaranteed to suit your needs

- Interchangeable (standard EN 50047 format) and capable of up to 10 million operations, it is also fully sealed (IP 65) and has a mechanical shock resistance of IK 04.

Reliable: The guarantee of quality

- The electrically separated contact poles and positive opening operation contacts assure safety detection for the machine.
- Combined with the guarantee of quality provided by the Telemecanique brand, it has established itself as a gilt-edged security on the market.

CENELEC EN 50047

10 million operations

Extensive range:

Choice
and availability

- A selection of the most common configurations (11 types of “automatic spring return version” and 5 types of “manual reset version” heads) with the choice of 3 contact arrangements and 2 cable entries for each model.



11 complete switches

with automatic spring return operator:

- Metal end plunger or roller plunger
- Roller lever
- Spring rod



3 contact arrangements:

- 2-pole N/C + N/O, snap action
- 2-pole N/C + N/O, slow break
- 2-pole N/C + N/C, snap action



2 alternative cable cables:

- M20 x 1
- Pg 11

5 complete switches with manually reset operator:

- Metal end plunger or roller plunger
- Roller lever

Comprehensive range... and more if necessary: Quick adaptation to your specific requirement

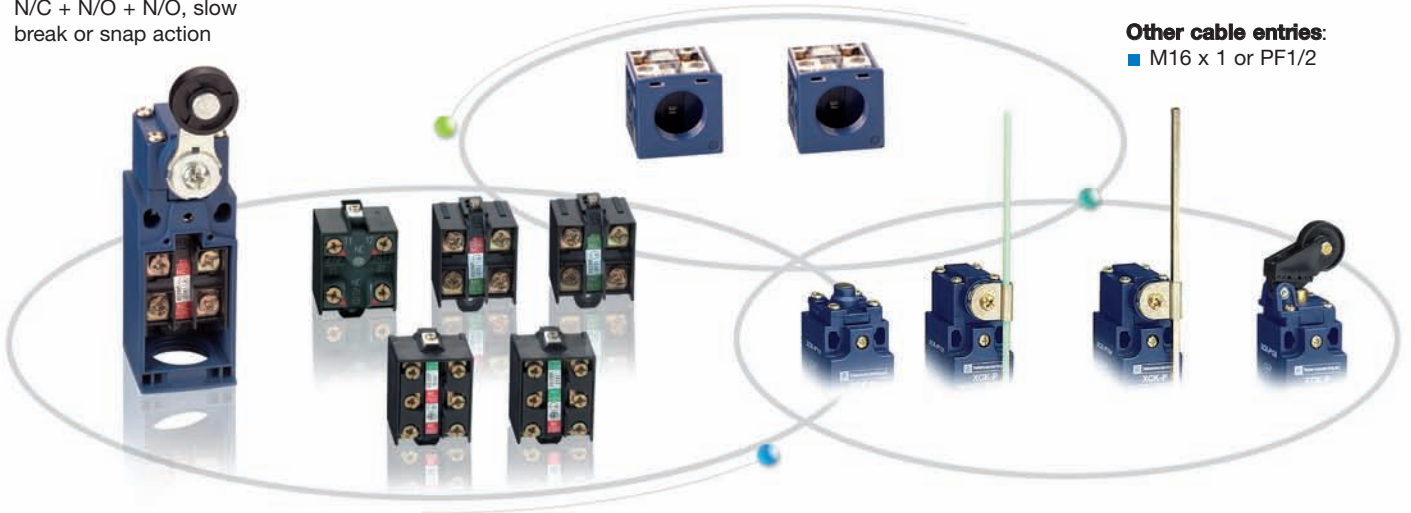
Other contact arrangements:

- N/C + N/C, N/O + N/C and N/O + N/O, slow break,
- N/C + N/C + N/O and N/C + N/O + N/O, slow break or snap action

- A comprehensive range with very quick adaptation of additional customisable versions per lot (other heads, other operators, other contacts, other cable entries...).

Other cable entries:

- M16 x 1 or PF1/2



IP 65 / IK 04



Positive operation

A *Global offer* of limit switches to meet your individual needs.

XCK P range

- variable composition
- Same format EN 50047 as XCK N higher with performance, flexible composition and plastic or metal versions.
 - Enables replacement of XCK N switches throughout the world via the distributor network Schneider Electric.
 - 5000 points of sale in 190 countries.



- **XCM N range**
economical
Miniature format



- **XCK N range**
economical
CENELEC EN 50047
format



- **XCK S range**
economical
CENELEC EN 50041
format

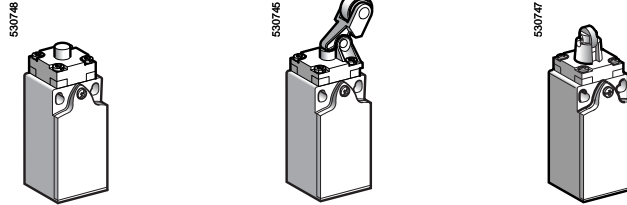


Limit switches

Osiswitch® Optimum
Compact design, plastic, type XCK N

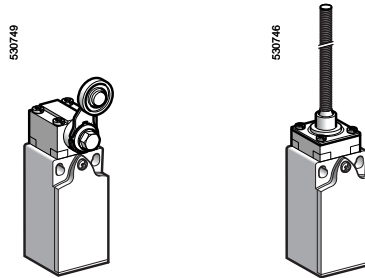
■ XCK N
with 1 cable entry
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



Page 6

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



Page 6

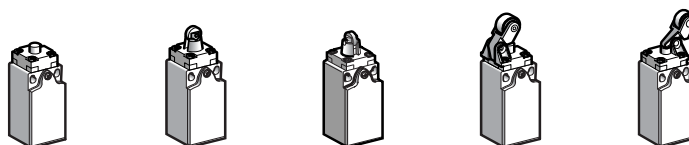
Environment characteristics		
Conforming to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Version	Standard "TC"
Ambient air temperature	Operation	- 25...+ 70 °C
	Storage	- 40...+ 70 °C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10...500 Hz) except XCK N●●08: 10 gn, XCK N●●39 and XCK N●●49: 15 gn
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms) except XCK N2●49●● and XCK N●●39: 15 gn, XCK N2●08●●: 10 gn and XCK N2●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.
Materials	Bodies	Plastic
	Heads	Plastic
Contact block characteristics		
Rated operational characteristics		~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ≡ 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		U imp = 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)
Cabling	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²

Limit switches

Osiswitch® Optimum

Compact design, plastic, type XCK N
Complete switches with 1 ISO M20 x 1.5 cable entry

Type of head | **Plunger, fixing by the body**



Type of operator	Metal end plunger	Plastic roller plunger for lateral cam approach	Plastic roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction
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References of complete switches with 1 ISO M20 x 1.5 cable entry (1)

	2 pole N/C + N/O snap action	XCK N2110P20 2.5 4.5(P) 5.5mm 1.4	XCK N2102P20 4.3(A) 7.8(P) 2.4	XCK N2103P20 4.3(A) 7.8(P) 2.4	XCK N2121P20 9(A) 15.9(P) 5.2	XCK N2127P20 9(B) 15.9(P) 5.2
	2 pole N/C + N/O break before make, slow break	XCK N2510P20 2.8 4.2(P) 5.5mm 4	XCK N2502P20 4.8(A) 7.3(P) 7 mm	XCK N2503P20 4.8(A) 7.3(P) 7 mm	XCK N2521P20 10(A) 14.9(P) 14.1 mm	XCK N2527P20 10(B) 14.9(P) 14.1 mm
	2 pole N/C + N/C snap action	XCK N2910P20 2.2 5.1(P) 5.9 mm 0.8	XCK N2902P20 3.9 (A) 8.9(P) 1.4	XCK N2903P20 3.9 (A) 8.9(P) 1.4	XCK N2921P20 8 (A) 18 (P) 2.9	XCK N2927P20 8 (B) 18 (P) 2.9
Weight (kg)		0.065	0.065	0.065	0.070	0.070

Contacts operation N/C contact with positive opening operation

Characteristics

Switch actuation	On end	By 30° cam	
Type of actuation			
Maximum actuation speed	0.5 m/s	0.3 m/s	1 m/s
Mechanical durability (in millions of operating cycles)	10		
Minimum force of torque	For tripping 15 N	12 N	6 N
	For positive opening 30 N	20 N	10 N
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm		

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by G11.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult your Regional Sales Office.

Other contacts

For complete switches with the following 2-pole contacts:
N/C + N/C simultaneous, slow break,
N/O + N/C make before break, slow break,
N/O + N/O simultaneous, slow break, please consult your Regional Sales Office.

For complete switches with the following 3-pole contacts:
N/C + N/O + N/O snap action,
N/C + N/C + N/O snap action,
N/C + N/C + N/O break before make, slow break,
N/C + N/O + N/O break before make, slow break, please consult your Regional Sales Office.

(1) Sold and packed in lots 20.

Limit switches

Osiswitch® Optimum

Compact design, plastic, type XCK N

Complete switches with 1 ISO M20 x 1.5 cable entry

Type of head	Rotary, fixing by the body				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"

References of complete switches with 1 ISO M20 x 1.5 cable entry (1)

	2 pole N/C + N/O snap action	XCK N2118P20 	XCK N2145P20 	XCK N2139P20 	XCK N2149P20 	XCK N2108P20 	XCK N2106P20
	2 pole N/C + N/O break before make, slow break	XCK N2518P20 	XCK N2545P20 	XCK N2539P20 	XCK N2549P20 	XCK N2508P20 	XCK N2506P20
	2 pole N/C + N/C snap action	XCK N2918P20 	XCK N2945P20 	XCK N2939P20 	XCK N2949P20 	XCK N2908P20 	XCK N2906P20
Weight (kg)	0.085	0.090	0.110	0.115	0.085	0.075	
Contacts operation				(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	1 m/s any direction
Mechanical durability	10 millions operating cycles	5 millions operating cycles
Minimum force of torque	For tripping: 0.1 N.m For positive opening: 0.15 N.m	0.13 N.m
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by G11.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult your Regional Sales Office.

Other contacts

For complete switches with the following 2-pole contacts:

N/C + N/C simultaneous, slow break,
N/O + N/C make before break, slow break,
N/O + N/O simultaneous, slow break, please consult your Regional Sales Office.

For complete switches with the following 3-pole contacts:

N/C + N/O + N/O snap action,
N/C + N/C + N/O snap action,
N/C + N/C + N/O break before make, slow break,
N/C + N/O + N/O break before make, slow break, please consult your Regional Sales Office.

(1) Sold and packed in lots 20.

Limit switches

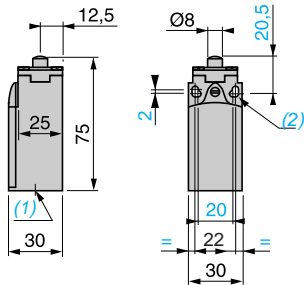
Osiswitch® Optimum

Compact design, plastic, type XCK N

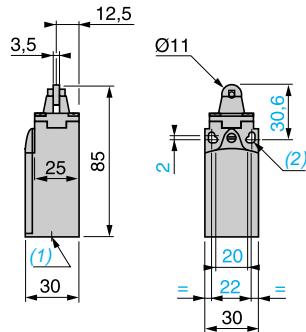
Complete switches with 1 ISO M20 x 1.5 cable entry

Dimensions

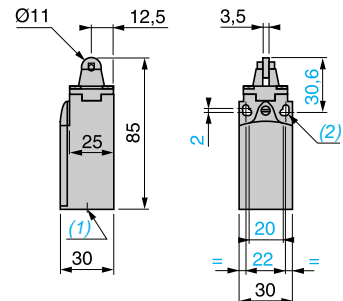
XCK N2●10P20



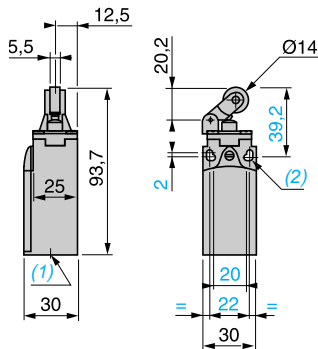
XCK N2●02P20



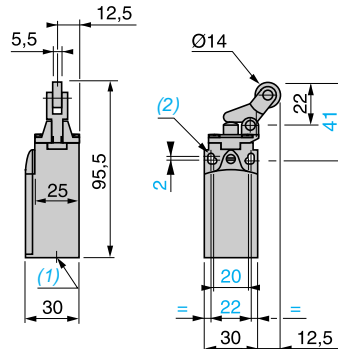
XCK N2●03P20



XCK N2●21P20



XCK N2●27P20



(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 centres.

Limit switches

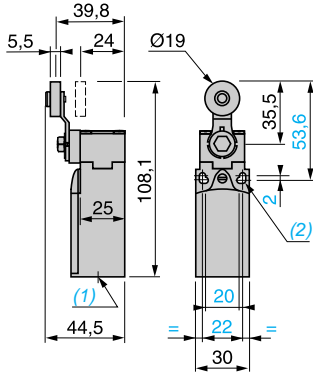
Osiswitch® Optimum

Compact design, plastic, type XCK N

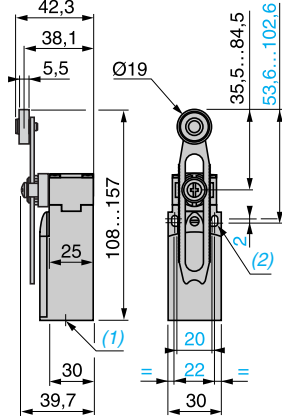
Complete switches with 1 ISO M20 x 1.5 cable entry

Dimensions

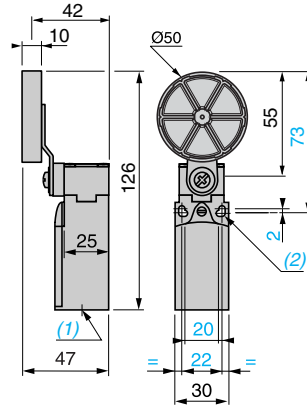
XCK N2•18P20



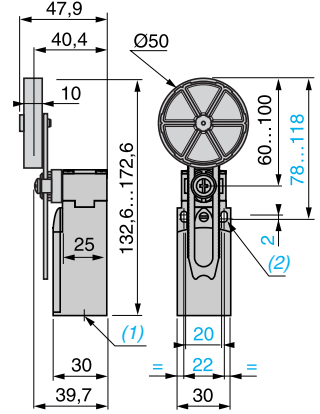
XCK N2•45P20



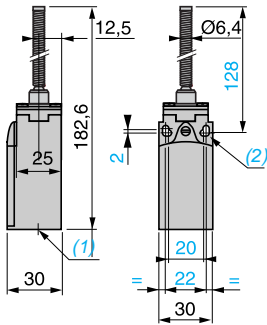
XCK N2•39P20



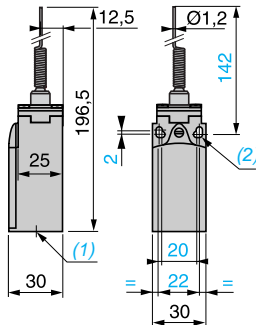
XCK N2•49P20



XCK N2•08P20



XCK N2•06P20



(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 centres.

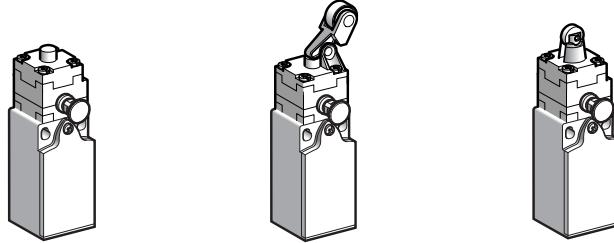
Limit switches

Osiswitch® Optimum

Compact design, plastic, with reset, type XCNR

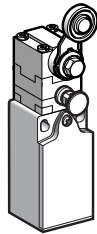
■ XCNR
with 1 cable entry

□ With head for linear movement (plunger)



Page 12

□ With head for rotary movement (lever)



Page 12

Environment characteristics		
Conformity 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		UL, CSA, CCC (pending)
Protective treatment	Version	Standard "TC"
Ambient air temperature	For operation	- 25...+ 70 °C
	For storage	- 40...+ 70 °C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10...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.
Materials	Bodies	Plastic
	Heads	Plastic
Contact block characteristics		
Rated operational characteristics		~ AC-15; A300 (U _e = 240 V, I _e = 3 A); I _{the} = 10 A ≡ DC-13; R300 (U _e = 250 V, I _e = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage		U _i = 500 V degree of pollution 3 conforming to IEC 60947-1 U _i = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage		U _{imp} = 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)
Connection	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²

Limit switches

Osiswitch® Optimum

Compact design, plastic, with reset, type XCNR

Complete switches with 1 cable entry

Type of head	Plunger, fixing by the body	Rotary, fixing by the body
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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
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References of complete switches with 1 ISO M20 x 1.5 cable entry (1)

<p>2 pole N/C + N/O snap action</p>	<p>XCNR 2110P20</p>	<p>XCNR 2102P20</p>	<p>XCNR 2121P20</p>	<p>XCNR 2127P20</p>	<p>XCNR 2118P20</p>
<p>2 pole N/C + N/O break before make, slow break</p>	<p>XCNR 2510P20</p>	<p>XCNR 2502P20</p>	<p>XCNR 2521P20</p>	<p>XCNR 2527P20</p>	<p>XCNR 2518P20</p>
<p>2 pole N/C + N/C snap action</p>	<p>XCNR 2910P20</p>	<p>XCNR 2902P20</p>	<p>XCNR 2921P20</p>	<p>XCNR 2927P20</p>	<p>XCNR 2918P20</p>
Weight (kg)	0.080	0.080	0.085	0.090	0.100
Contacts operation	contact closed (A) (B) = cam displacement contact open (P) = positive opening point			N/C contact with positive opening operation	

Characteristics

Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s	0.3 m/s	1 m/s		1.5 m/s
Mechanical durability	100 000 operating cycles				
Minimum force of torque	For tripping For positive opening	15 N 30 N	12 N 20 N	6 N 10 N	0.1 N.m 0.15 N.m
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm				

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by G11.
 Example : XCNR 2110P20 becomes **XCNR 2110G11**.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult your Regional Sales Office.

Other contacts

For complete switches with the following 2-pole contacts:
 N/C + N/C simultaneous, slow break,
 N/O + N/C make before break, slow break,
 N/O + N/O simultaneous, slow break, please consult your Regional Sales Office.

For complete switches with the following 3-pole contacts:
 N/C + N/O + N/O snap action,
 N/C + N/C + N/O snap action,
 N/C + N/C + N/O break before make, slow break,
 N/C + N/O + N/O break before make, slow break, please consult your Regional Sales Office.

(1) Sold and packed in lots 20.

Limit switches

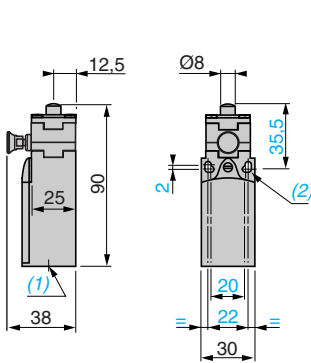
Osiswitch® Optimum

Compact design, plastic, with reset, type XCNR

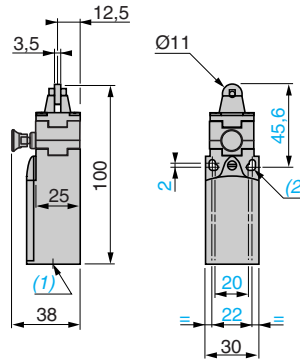
Complete switches with 1 cable entry

Dimensions

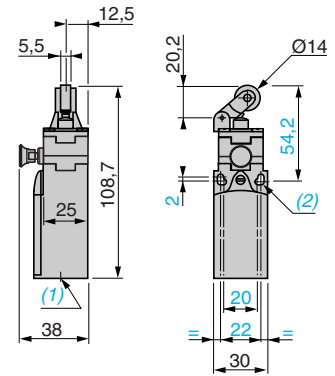
XCNR 2•10P20



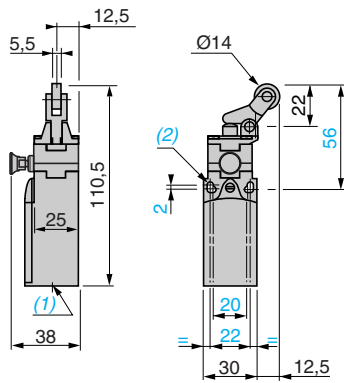
XCNR 2•02P20



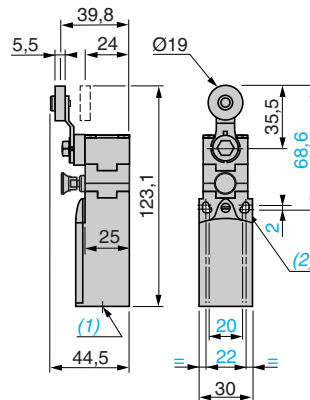
XCNR 2•21P20



XCNR 2•27P20



XCNR 2•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 centres.

The efficiency of Telemecanique branded solutions

Used in combination, Telemecanique products provide quality solutions, meeting all your Automation and Control applications requirements.



A worldwide presence

Constantly available

- More than 5 000 points of sale in 190 countries.
- You can be sure to find the range of products that are right for you and which complies fully with the standards in the country where they are used.

Technical assistance wherever you are

- Our technicians are at your disposal to assist you in finding the optimum solution for your particular needs.
- Schneider Electric provides you with all necessary technical assistance, throughout the world.

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