Limit switches XC Standard range

Catalogue



Simply easy!™



Limit switches XC Standard range

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 Presentation	

XC Basic

- Miniature d Complete
- Miniature de Complete
- Compact de Complete
- Complete
- Compact de Complete

- Metal, XCk Complete
- Metal, XCK Complete
- Metal, 2 x 2 Complete
- Metal, XCK Variable
- Adaptabl

XC Standard, EN 50041 format

- Plastic, dou
 - Complete
 - Variable
- Adaptabl

- Metal, XCk
 - Complet
 - Fixed b - Fixed b
 - Fixed b
 - Variable
 - Adaptab
 - Bodies,
 - For low
 - For high

Product re





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eference index

Selection guide

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Design/Applications		Miniature format	Miniature format for mobile equipments	Compact format, CENELEC EN 50047			Compact format, CENELEC B
		Metal, pre-cabled	Metal, pre-cabled	Plastic, 1 cable entry			Plastic, 2 cable entries
				2. D'-30			00.00
				Element			
Enclosure		Metal	Metal	Plastic, double insulated			Plastic, double insulated
Modularity		Head, body and connection modularity	Head and body modularity	Head, body and cable entry modularity			Head and body modularity
Conformity/Certifications	5	C€, UL, CSA, CCC, EAC	CE, UL, CSA	CENELEC EN 50047 UL, CSA, CCC, EAC			CENELEC EN 50047, UL, CSA
Body dimensions (w x h x	c d) in mm	30 x 50 x 16	30 x 50 x 20.5	31 x 65 x 30			58 x 51 x 30
Head		Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirec Same heads for ranges XCM	tional D, XCMV, XCKD, XCKP and XCI	кт			Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectic Same heads for ranges XCMD
Contact blocks 2 electrically separate contacts	snap action with positive opening operation	•	•	•	22	A. C.	
	slow break with positive opening operation	•	•	•			•
2 same polarity contacts	snap action	-	-	- /			-
	slow break	-	-	- ()			-
3 electrically separate contacts	snap action with positive opening operation	•	-	•			•
	slow break with positive opening operation	•	-	•			•
4 electrically separate contacts	snap action with positive opening operation	•	-	-			-
	slow break with positive opening operation	-	-	-			-
4 contacts (2 x 2 same polarity contacts)	snap action	-	•	-			-
Degree of protection IP/IP	< compared with the second sec	IP 66, IP 67, IP 68, IK 06	IP 66, IP 67, IP 69, IK 04, IK 0 depending on model	6 IP 66, IP 67, IK 04,			IP 66, IP 67, IK 04
Operating temperature		- 25 °C + 70 °C, -40°C depe					- 25 °C + 70 °C
Raccordement Screw te	rminals	-	-	1 entry for ISO M16 or M20, Pg 11, Pg 13.5 cable gland or 1/2" NPT, PF 1/2			2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)
Pre-cabl	ed	Ø 7.5 PvR, CEI, halogen free, depending on model	Ø 6,4 PvR	-			-
Connect	or	Integral or remote M12 or remote 7/8"-16UN	M12, Deutsch DT04-4P or AMP Superseal 1.5	M12			-
Type reference		XCMD	XCMV	ХСКР			ХСКТ
Pages		28	50	82 and 86			94



Compact format, with reset	
Plastic, 1 cable entry	Plastic, 2 cable entries
Plastic, double insulated	
-	
CE, UL, CSA, EAC	
31 x 65 x 30	58 x 51 x 30
Linear movement (plunger) Rotary movement (lever)	
•	•
•	•
-	-
-	-
-	-
-	-
-	-
-	-
IP 66, IP 67, IK 04	
1 entry for ISO M20 or Pg 13.5 cable gland or 1/2" NPT	2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)
-	
XCPR	XCTR
104	106

Limit switches XC Standard range

Selection guide

Design		"Classic" format		Industrial EN 50041 f	ormat		Miniature format	
			Metal, 3 cable entries	Metal, 1 cable entry	Plastic, 1 cable entry	Metal, 1 cable entry or connector		Plastic, pre-cabled
Enclosure			Metal		Plastic, double	Metal		Plastic, double in
Modularity			Head, body and ope	erator modularity	insulated			-
Conformity/Cer	tifications		CE, UL, CSA, CCC, EAC	C€, UL, CSA, EAC	CENELEC EN 50041 UL, CSA, CCC, EAC			CE, cULus, CCC
Body dimensior	ns (w x h x d) in	mm	63 x 64 x 30	52 x 72 x 30	40 x 72.5 x 36	40 x 77 x 44 42.5 x 84 x 36		30 x 50 x 16
Head			Linear movement (p Rotary movement (l Rotary movement, n	ever)				Linear movemen Rotary movemen Rotary movemen
Contact blocks								
2 electrically sepa contacts	ot	nap action with positive pening operation	•	•	•	•		•
		ow break with positive bening operation	•	•	•	• (/)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-
2 same polarity c		nap action	-	-	-	•		•
		ow break	-	-	-	- / //		-
3 electrically sepa contacts	ot	hap action with positive bening operation	•	•	•	• •		-
	ot	ow break with positive bening operation	•	•	•	•		-
4 electrically sepa contacts		nap action with positive bening operation	-	-	-	-		-
		ow break with positive bening operation	-	-	-	-		-
4 contacts (2 x 2 polarity contacts)	same sr	nap action	-	-	•	•		-
Degree of prote	ction IP/IK		IP 66, IK 06		IP 65, IK 03	IP 66, IK 07		IP 66, IP 67, IK 0
Operating temp	erature		- 25°C + 70°C			- 25°C + 70°C - 40°C or + 120°C depending on model		- 25 °C + 70 °C
Connection	Screw termina (entry for cabl		3 entries for ISO M2 Pg 11 cable gland or 1/2" NPT	0, 1 entry incorporating cable gland or tapped 1/2" NPT	1 entry for ISO M20, Pg 13.5 cable gland or 1/2" NPT	1 entry for ISO M20, Pg 13.5 cable gland or 1/2" NPT		-
	Pre-cabled		-					
	Connector		-			Integral M12 or 7/8"-16UN		Ø 4.2 mm PvR, lateral or a output, dependir
Type reference			ХСКМ	XCKL	XCKS	ХСКЈ		XCMH

Miniature format		Compact format EN 50	Compact format, with res knob	
Plastic, pre-cabled		Plastic, 1 cable entry	Plastic, 2 cable entries	Plastic, 1 cable entry
Plastic, double insulated				
-				
C€, cULus, CCC	C€, UL, CSA, CCC, EAC	CENELEC EN 50047, U	IL, CSA, CCC, EAC	C€, UL, CSA, CCC, EAC
30 x 50 x 16	30 x 50 x 16	31 x 65 x 30	59 x 51 x 30	31 x 65 x 30
Linear movement (plunger) Rotary movement (lever) Rotary movement, multidired	tional			
for.				•
•	•	•	•	•
-	-	•	•	•
•	-	-	-	-
-	-	-	•	-
-	-	•	-	•
-	-	•	-	•
-	-	-	-	
_	-	_	_	
-	-	-	-	
IP 66, IP 67, IK 04	IP 65, IK 04			
- 25 °C + 70 °C				
-	-	1 entry for ISO M20 or Pg 11 cable gland Other cable entries: ISO M16 x 1.5 or PF 1/2 (G1/2)	2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)	1 entry for ISO M20 or Pg 11 cable gland Other cable entries: ISO M16 x 1.5 or PF 1/2 (G1/2)
Ø 4.2 mm PvR, lateral or axial cable output, depending on model	Ø 7.5 PvR, CEI, halogen free, depending on model	-		
	XCMN	XCKN	XCNT	XCNR
ХСМН				



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Telemecanique Sensors

Limit switches XC Basic range

Selection guide

Limit switches XC Special range

		Metal or polyester, 1 cable entry		Metal or plastic, 3 cable entries	Pi
	6			1	
Enclosure N	Metal	Metal or polyester		Metal or plastic	Po
Modularity	Head and body modularity	-			-
Conformity/Certifications		CE, CSA (XCR) CCC (XCR), EAC		C€, UL, CSA, CCC, EAC	C
Body dimensions (w x h x d) in mm	40 x 81 x 41	85 x 95 x 75	1 40 ¹⁵⁰	118 x 77 x 59 (metal) 118 x 77 x 67 (plastic)	D
Head	Linear movement (plunger) or rotary movement (lever)	Rotary movement (lever)		Rotary movement (lever)	-
Contact blocks		1			
2 electrically separate contacts snap action with positive opening operation	_			-	-
slow break with positive opening operation		-		-	-
2 same polarity contacts					
snap action	•	-		-	•
slow break	-	-		-	-
	-	-		-	-
	-	-		-	-
4 electrically separate contacts					
snap action with positive opening operation		•		•	-
	•	•		-	-
action	-				
Degree of protection IP/IK	IP 65, IK 08	IP 54, IK 07 or IP 65, depending on model		IP 66, IK 07 (metal) IP 65, IK 04 (plastic)	IP IP
Operating temperature -	- 25°C + 70°C; - 40° C or + 120° C (XC2J depending on m	odel)			
Connection		1 tapped entry for Pg 13.5 cable gland		3 tapped entries for Pg 13.5 cable gland or tapped M20 x 1.5, depending on mode	l Ta
Pre-cabled -	-				
	-				
Type reference	XC2J	XCR		XCKMR	X
		XCRT		XCKVR	
Pages F	Please refer to our catalogue "Limit switches XC Specia			Please refer to our catalogue "Limit switches XC Special".	



Subminiature format and microswitch. Applications requiring high precision and a low operating force

Plastic, pre-cabled



XEP

Telemecanique Sensors

Selection guide

Safety detection solutions XCS safety switches

Switch type		XCS safety limit switches				XCS lever or spindle-operated safety switches	
Applications		Protection of operators by stopping the machines with quick rundown time.	achine when the gate is op	ened.		Protection of operators by stopping the machine when the operating lever (attached to hinged machine guard) is displaced by 5°. All light industrial machines fitted with hinged or rotary protective covers with small opening radius.	he Protection of o All light industr
Design		Miniature format	Compact format			Compact format	
		Pre-cabled	With 1 cable entry			With 1 or 2 cable entries	
Case		Metal	Plastic N	/letal		Plastic, double insulated	
Features		-			/	2 types of lever: straight or elbowed (flush with rear of switch 3 lever positions: to left, center or to right) 2 types of spindl
Conformity to standards	Products	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC	62061, UL 508, CSA C22-2	no. 14		EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508	, CSA C22-2 no.14,
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119				EN/IEC 60204-1, EN/ISO 14119	
Product certifications		UL, CSA, CCC, EAC				UL, CSA, CCC, EAC	
Dimensions	Switch	30 x 50 x 16	31 x 34 x 89			30 x 87.5 x 30	30 x 96 x 30
(w x h x d) in mm	Fixings Centers	20	20/22	_		20/22	20/22
Head		Plunger or rotary head Head adjustable in 15° steps through 360° Linear (plunger) or rotary (lever) actuation.		\cap		Turret head: 4 positions Rotary actuation (lever)	Turret head: 4 po Rotary actuation
Contact blocks		NC contacts with positive opening operation		1		Slow break safety contacts with positive opening operation NC contacts open when lever or spindle displaced by more the	nan 5°
		2 NC + 1 NO break before make, slow break 2 NC + 1 NO and 2 NC + 2 NO snap action	XCSD: 2 NC + 1 NO brea break or snap action XCSP: 2 NC + 1 NO snap			1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make	1 NC + 1 NO bre 2 NC 1 NC + 2 NO bre 2 NC + 1 NO bre
Degree of protection		IP 66, IP 67 and IP 68	IP 66 and IP 67			IP 67	
Ambient air temperature	For operation	-25+70 °C				-25+70 °C	
Connection	Screw terminals (cable entry via cable gland)	-	Tapped entry for Pg 13.5, I or tapped 1/2" NPT	ISO M20 cable gland		1 tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" \ensuremath{NPT}	1 tapped entry fo tapped 1/2" NPT
	Pre-cabled	L = 1, 2 or 5 m	-			-	-
Type reference		XCSM	XCSP >	CSD		XCSPL	XCSPR
Pages		Please refer to our catalogue "Safety switche	es XCS range"			Please refer to our catalogue "Safety switches XCS range".	

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operators by stopping the machine when the guard hinge rotates through 5°. strial machines fitted with hinged access doors.



	XCSTR
	-
Pg 11, ISO M16 cable gland or	2 tapped entries for Pg 11, ISO M16 cable gland or tapped 1/2" NPT
ak before make ak before make ak before make	1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC
sitions (spindle)	
	20/22 or 40.3
	52 x 117 x 30
IS C4520	
: length 30 mm or 80 mm	

Selection guide (continued)

Safety detection solutions XCS safety switches

Switch type Applications Design

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





Case		Plastic		
Features		Without locking of actuating key.	Witl Opt	
Conformity to standards	Products	EN/IEC 60947-5-1, EN/ISO 138	849-1	
	Machine assemblies	EN/IEC 60204-1, EN/ISO 1411	9	
Product certifications		cULus	UL,	
Dimensions	Switch	30 x 87 x 15	30>	
(w x h x d) in mm	Fixings	Centers: 20/22	Cer	
Head		Fixed head: 2 positions for insertion of actuating key.	Turi	
Contact blocks		Safety contacts actuated by the Slow break and NC positive op		
		1 NC + 1 NO break before make 2 NC 2 NC + 1 NO break before make 3 NC	1 N con or n acti 2 N acti 2 N con or s 1 N con or s	
Degree of protection		IP 67		
Ambient air temperature	For operation	-25+70 °C		
Connection	Screw terminals (cable entry via cable gland)	-	Tap NP	
	Pre-cabled	L = 2, 5 or 10 m	-	
Type reference		XCSMP	XC	
Pages		Please refer to our catalogue "	Safe	

ithout locking of actuating key. ptional accessory: guard retaining device.					
9-1, EN/IEC 62061, UL 508, C	SA C22-2 no. 14				
L, CSA, CCC, EAC					
) x 93.5 x 30	52 x 114.5 x 30				
enters: 20/22	Centers: 20/22 or 40.3				

ety switches XCS range".

XCS key-operated safety switches All heavy industrial machines with quick rundown time (1) Industrial format with or without locking With 1 cable entry, without locking



Without locking of actuating key.

Metal



		n s			
	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no.14				
	EN/IEC 60204-1, EN/ISO 14119				
Ş	UL, CSA, CCC, EAC				
	40 x 113.5 x 44	5			
	30 x 60	3			
	Turret head: 8 positions for insertion of actuating key.	Т			
	Safety contacts actuated by the actuating key. Slow break and NC positive opening operation.				
	1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	1 2 3			
	IP 67				
	-25+70 °C				
	Screw clamp terminals. Tapped entry for Pg 13.5, ISO M20 cable gland or tapped 1/2" NPT	S			
	-	-			
	XCSA	X			

Discourse for the sum anticle such	10-f-h	with the VOO	
Please refer to our catalogue	Salety	y switches XCS	range.

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

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Telemecanique

With 1 cable entry and manual locking/unlocking





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

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

52 x 113.5 x 44

30 x 60

Turret head: 8 positions for insertion of actuating key.

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

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

3 NC

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

XCSB

XCSC

Selection guide (continued)

Safety detection solutions

XCS safety switches

Switch type Applications

Design

Case

Features

Conformity to standards

Product certifications

Resistance to forcible

Degree of protection Ambient air temperature

Connection

Type reference

Pages

12

withdrawal of the actuator

Contact blocks or outputs

nensions (w x h x d or Ø) in mm

Head

Products

XCS key-operated safety switches, locking and unlocking by solenoid Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All industrial machines with long rundown time (1) Slim format With 3 cable entries With 3 cable entries



Locking and unlocking of actuating key using

a solenoid (either on energization or on

Manual unlocking (auxiliary release using special tool) of actuating key in abnormal

de-energization).

conditions.



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

1 Émergency release mushroom head XCSLF000600).

EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508 and CSA C22-2 no. 14 EN/IEC 60204-1, EN/ISO 14119

Machine assemblies	EN/IEC 60204-1, EN/ISO 14119			
	UL, CSA, CCC, EAC			
Switch	51 x 205 x 43.5			
Fixings Centers	30 x 153.3			
	Turret head: 8 positions for insertion of actuati	ng key.		
F _{1max}	1400 N	3000 N		
Fzh	1100 N	2300 N		
	Main safety contacts actuated by the actuating key; auxiliary contacts actuated by solenoid. Contact states given with key inserted and solenoid not energized. Slow break and NC positive opening operation			
Main contacts	1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC			
Auxiliary contacts	1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC			
	IP 66/IP 67			
For operation	-25+60 °C			
For storage	-40+70 °C			
Terminals	Spring terminals, 3 cable entries. Tapped entry for ISO M20 cable gland or tapped 1/2" NPT.			
Connector	M23 (18 + 1 PE)			
	XCSLE	XCSLF		

Please refer to our catalogue "Safety switches XCS range".

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



industrial machines with long rundown time (1)

Rectangular

XCSTE

Please refer to our catalogue "Safety switches XCS range".



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

Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All

With 2 cable entries



Metal

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

UL, CSA, CCC, EAC
98 x 146 x 44
88 x 95
2600 N
2000 N

1 NC + 2 NO break b 2 NC + 1 NO break b 3 NC	
1 NC + 1 NO 2 NC	
-25+40 °C	
-40+70 °C	
Screw clamp termina tapped 1/2" NPT.	als. 2 tapped entries for Pg 13.5 ISO M20 cable gland or
-	

XCSE

Selection guide (continued)

Safety detection solutions XCS safety switches

Switch type Applications

Design

XCSR contactless RFID safety switches

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

M12 connector





Case

			1 01	,
Features			Contactless system comp factory-paired with a uniqu	
	Assured opera distance (Sao		15 mm	
	Assured release distance (Sar)		35 mm	
	Type of switch		Standalone RFID switch	Daisy direct
	Operating mod	de	Possible functioning witho association with a safety control unit (Integrated Ex Device Monitoring (EDM) Start/Restart function)	PL=e ternal
Conformity to standards	Products		EN/IEC 60947-5-2, EN/IE SIL 3 (IEC 61508), SILCL	
	Machine asse	mblies	EN/IEC 60204-1, EN/ISO	14119
	RFID protocol		Based on ISO 15693	
Product certifications			CE, cULus, TÜV, FCC, EA	C, IC, RCM,
Dimensions	Switch		30 x 108.3 x 15	30 x 1
(w x h x d or Ø) in mm	Transponder		50 x 15 x 15	
	Fixings	Centers	-	
		Reader	7478	
		Transponder	3034	
Contact blocks	Safety output		2 OSSDs (Safety outputs	PNP NO). C
or outputs			Maximum current 400mA	Maxii
	Contact states of magnet	given in presence	-	
			-	
Degree of protection			-	
		EN/IEC 60529	IP 65, IP 66, IP 67	
	Conforming to	DIN 40050	IP 69K	
Ambient air temperature	For operation For storage		-25+70 °C -40+85 °C	
0	Ŭ		4000 0	
Connection	Pre-cabled Connector		-	
		EN/IEC 60947-5-2- 61076	1 M12 8-pin connector (A coding)	2 M12 (A co
Type reference			XCSRCe1eM12	xcs
Pages			Please refer to our catalo	
r ages			i lease relei to oul catalo	gue Galety

Thermoplastic housing (Valox TM)

15 mm		
35 mm		
Standalone RFID switch	Daisy-chain RFID switch for direct series connection	Single RFID switch for point-to-point connection
Possible functioning without association with a safety control unit (Integrated External Device Monitoring (EDM) and Start/Restart function)	Functioning in combination with PL=e/Cat4 - SIL 3	n a safety control unit
EN/IEC 60947-5-2, EN/IEC 6094 SIL 3 (IEC 61508), SILCL 3 (IEC		3849-1)
EN/IEC 60204-1, EN/ISO 14119	9	
Based on ISO 15693		
CE, cULus, TÜV, FCC, EAC, IC,	RCM, E2, ECOLAB	
30 x 108.3 x 15	30 x 118.6 x 5	30 x 108.3 x 15
50 x 15 x 15		
-		
7478		
3034		
2 OSSDs (Safety outputs PNP I Maximum current 400mA	NO). OSSDs are in the ON state Maximum current 200 mA	e when the gate is closed
	,	e when the gate is closed
	,	e when the gate is closed
	,	e when the gate is closed
Maximum current 400mA - -	,	e when the gate is closed
	,	e when the gate is closed
Maximum current 400mA - - - IP 65, IP 66, IP 67	,	e when the gate is closed
Maximum current 400mA - - - IP 65, IP 66, IP 67 IP 69K	,	e when the gate is closed
Maximum current 400mA - - - IP 65, IP 66, IP 67 IP 69K -25+70 °C	,	e when the gate is closed
Maximum current 400mA - - - IP 65, IP 66, IP 67 IP 69K -25+70 °C	,	e when the gate is closed
Maximum current 400mA - - - IP 65, IP 66, IP 67 IP 69K -25+70 °C	,	e when the gate is closed

XCS safety coded magnetic safety switches for detection without Protection of operators by stopping the machine when the gate is opened All light industrial machines fitted with access gates with imprecise guidan This Safety sensor is suitable for machine with low inertia.

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



3 approach directions		1 approach direction
5 mm	8 mm	
15 mm	20 mm	
-		
EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061,	UL 508 and CSA C22-2 no. 14	
EN/IEC 60204-1, EN/ISO 14119		
-		
UL, CSA, EAC, ECOLAB		
16 x 51 x 7	25 x 88 x 13	Ø 30, L 38.5
-		
16	78	-
-		
-		
-		
1 NC + 1 NO staggered 2 NC staggered Independent Reed-type contacts operated by coded magnet.	1 NC + 1 NO staggered 2 NC staggered 2 NC + 1 NO (NC staggered) 1 NC + 2 NO (NO staggered)	1 NC + 1 NO staggered 2 NC staggered
To be used with safety control units.		
IP 66 and IP 67 for pre-cabled version, IP 67 for conn	ector on flying lead version	
-		
- -25+85 °C		
L = 2, 5 or 10 m		
M8, on 0.15 m flying lead	M12, on 0.15 m flying lead	
-	-	-
XCSDMC	XCSDMP	XCSDMR
Please refer to our catalogue "Safety switches XCS	range".	

14

contact	
ce and/or subjected to fre	quent washing
mat	Cylindrical format
ector on flying lead	



Limit switches

XC range Variable composition: simplicity through innovation

Principle

Variable composition principle

■ The Miniature design XCMD and XCMV, and Compact design XCKD, XCKP and XCKT ranges benefit from the variable composition concept.

- A worldwide detection first for improving productivity.
- A complete offer for resolving the most commonly encountered detection problems:
- □ product selection simplified,
- □ product availability simplified,
- □ installation and setting-up simplified,
- □ maintenance simplified.

Heads

■ A single metal operating head type for the Miniature design XCMD and XCMV, and Compact design XCKD, XCKP and XCKT ranges.



Interchanging of heads achieved by simple operation of forked metal latch.





All the heads can be adjusted in 15° steps throughout 360°, in relation to the body.

All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

Limit switches

XC range Variable composition: simplicity through innovation

Principle (continued)	Cable entries	
	 The cable entries for Compact des simple cabling due to unrestricted 	ign XCKD and XCKP switches enable: access to contacts,
	 simple adaptation to the various w 6 models are available: 	orldwide markets:
		□ ISO M16 x 1.5 □ Pg 11
		□ ISO M20 x 1.5 □ Pg 13.5 □ 1/2" NPT □ PF 1/2 (G 1/2)
		Each model is available in metal or plastic, respectively suited to Compact design XCKD and XCKP.
	Connection components	
0		 The miniature XCMD range allows interchanging of these pre-cabled connection components: a 1/4 of a turn is all that is required for removing the connection component on XCMD bodies with 2 and 3 contacts, 6 alternative cable lengths are available as standard.
		The miniature XCMD range also includes an integral or remote connector solution.
	Contact block or bodies with contact	act
		2 and 3 snap action and slow break contact blocks, with positive opening operation, are interchangeable between the Compact design XCKD and XCKP and Classic XCKJ, XCKS, XCKM and XCKL ranges.
		 For the miniature design XCMD range, the contacts are an integral part of the body: 2 and 3 snap action and slow break

□ 2 and 3 snap action and slow break contacts, with positive opening operation, and interchangeable connection component,

□ 4 snap action contacts, with positive opening operation, with monolithic body and connection components.

Presentation, terminology

Limit switches XC range General

Presentation

Electromechanical detection

Limit switches are used in all automated installations and also in a wide variety of applications, due to the numerous advantages inherent to their technology. They transmit data to the logic processing system regarding:

□ presence/absence,

- precence, a
 passing,
 positioning,
- □ end of travel.

Simplicity of installation, advantages

- From an electrical viewpoint
- □ galvanic separation of circuits,
- models suitable for low power switching combined with good electrical durability,
- □ very good short-circuit withstand in coordination with appropriate fuses,
- total immunity to electromagnetic interference,
- high rated operational voltage.
 From a mechanical viewpoint
- NC contacts with positive opening operation,
 high resistance to the different ambient conditions encountered in industry (standard tests)
- and specific tests under laboratory conditions), □ high repeat accuracy, up to 0.01 mm on the tripping points.

Detection movements



Terminology

Rated value of a quantity	 This replaces the term "nominal value". It is the fixed value for a specific function.
Utilisation categories:	 AC-15 replaces AC-11: control of an electromagnet on AC, test 10 le/le. AC-12: control of a resistive load on AC or static load isolated by opto-coupler. DC-13 replaces DC-11: control of an electromagnet on DC, test le/le.
Positive opening travel	 Minimum travel from the initial movement of contact actuator t the position required to accomplish positive opening operation
Positive opening force	The force required on the contact actuator to accomplish positive opening operation.
Switching capacity	 Ithe is no longer a rated value but a conventional current used for heating tests. Example: for category A300 the corresponding operational current, le maximum, is 6 A-120 V or 3 A-240 V, the equivalent lthe being 10 A.
Positive opening operation	 A limit switch complies to this specification when all the closed contact elements of the switch can be changed, with certainty, to the open position (no flexible link between the moving contacts and the operator of the switch, to which an actuating force is applied). All limit switches incorporating either a slow break contact block or a snap action NC + NO (form Zb), NC + NO + NO, NC + NC + NO, NC + NC + NO, NC + NC + NO contact block are positive opening operation, in complete conformity with standard IEC 60947-5-1 Appendix K.

Limit switches XC range General

Contact blocks

Snap action contacts

- Snap action contacts are characterised by different tripping and reset points (differential travel).
- The displacement speed of the moving contacts is not related to the speed of the operator. This feature ensures satisfactory electrical performance in applications involving low speed



Unactuated state Approach travel Slow break contacts

- Slow break contacts are characterised by identical tripping and resetting points.
 The displacement speed of the moving contacts is equal, or proportional, to the speed of the operator (which must not be less than 0.1 m/s = 6 m/minute).

Contact change of state

Positive opening

The opening distance is also dependent on the distance travelled by the operator.



Electrical durability for normal loads

Normally, for inductive loads, the current value is less than 0.1 A (sealed), i.e. values of 3 to 40 VA sealed and 30 to 1000 VA inrush, depending on the voltage.

For this type of application the electrical durability will exceed 10 million operating cycles. Application example: XCKJ161 + LC1D12eeee (7 VA sealed, 70 VA inrush). Electrical durability = 10 million operating cycles.

Switching capacity

3

4

1 2 Normal industrial PLC input type 1 (PLC: industrial programmable logic controllers) Normal industrial PLC input type 2

2	Normal industrial PLC input type 2									
3	Switching capacity conforming to IEC 60947-5-5, utilisation category AC-15, DC-13									
	A300	240 V	3 A	B300	240 V	1.5 A				
	Q300	250 V	0.27 A	R300	250 V	0.13 A				
ļ	Switching of	capacity	conforming to IE	C 60947-5-1, u	tilisation	category AC-15, DC-13				
	A300	120 V	6 A	B300	120 V	3 A				
	Q300	125 V	0.55 A	R300	125 V	0.27 A				

Electrical durability for small loads

- The use of limit switches with programmable controllers is becoming more common.
- With small loads, limit switches offer the following levels of reliability: □ failure rate of less than 1 for 100 million operating cycles using snap action contacts (contacts XE2SP),
- □ failure rate of less than 1 for 20 million operating cycles using slow break contacts (contacts XE NP and XE3SP).
- □ failure rate of less than 1 for 5 million operating cycles using contacts XCMD.



		Range	ofuse
Standard contacts	XE2SP2151, P3151		
	XE2NP ••••		
Continuous service (frequent switching)	Contacts of XCMD XE3•P••••		
Gold flashed contacts on resistive load	Occasional service Infrequent switching, ≤ 1 operating cycle/ day, and/or corrosive atmosphere	(1))

(1) Usable up to 48 V/10 mA.



Contact blocks (continued)

Limit switches XC range

General



Functional diagrams of snap action contacts

Example: NC + NO

- A Maximum travel of operator in millimetres or degrees.
- B Tripping travel of contact.
- C Resetting travel of contact.
- D Differential travel = B C
- P Point from which positive opening is assured.

□ Linear movement (plunger)

- 1 Resetting point of contact.
- 2 Tripping point of contact.
- A Maximum travel of operator in millimetres.
- B Tripping travel of contact.
- C Resetting travel of contact. D Differential travel = B C.
- P Point from which positive opening is assured.

□ Rotary movement (lever)

- 1 Resetting point of contact.
- 2 Tripping point of contact.
- A Maximum travel of operator in degrees
- B Tripping travel of contact.
- C Resetting travel of contact.
- D Differential travel = B C
- P Point from which positive opening is assured.

Functional diagrams of slow break contacts

- Example: NC + NO break before make
- A Maximum travel of operator in millimetres or degrees.
- B Tripping and resetting travel of contact 21-22.
- C Tripping and resetting travel of contact 13-14. P Point from which positive opening is assured.

□ Linear movement (plunger)

- 1 Tripping and resetting points of contact 21-22.
- 2 Tripping and resetting points of contact 13-14. A Maximum travel of operator in millimetres.

- B Tripping and resetting travel of contact 21-22. C Tripping and resetting travel of contact 13-14.
- P Positive opening point.

□ Rotary movement (lever)

- 1 Tripping and resetting points of contact 21-22.
- 2 Tripping and resetting points of contact 13-14.
- A Maximum travel of operator in degrees.
 B Tripping and resetting travel of contact 21-22.
 C Tripping and resetting travel of contact 13-14.
 P Positive opening point.



Contact blocks (continued), mounting

Limit switches

XC range General

Contact blocks (continued)



XE2•P screw clamp terminal connections



XE3•P screw clamp terminal connections

Mounting



- Tightening torque:
- minimum tightening torque ensuring the nominal characteristics of the contact: 0.8 N.m,
 maximum tightening torque without damage to the terminals: 1.2 N.m for XE2•P, 1 N.m for

 - XE3•P.
- Connecting cable: cable preparation lengths:
 for XE2•P, L = 22 mm,
 for XE2•P3•••, L = 45 mm,



□ for **XE3**●**P**, L = 14 mm, L1 = 11 mm.



Sweep of connecting cable

 Recommended
 To be avoided Recommended



Position of cable gland

1 2 Recommended To be avoided





9°6

Type of cam Recommended 1 2 1 2 To be avoided 30

Mounting and fixing limit switches by the head

1 Recommended 2 Forbidden XCKD, XCKP, XCKT, XCMD, XCMH and XCMN

9°0





Limit switches XC range General

Setting-up

Tightening torque

The minimum torque is that required to ensure correct operation of the switch.
 The maximum torque is the value which, if exceeded, will damage the switch.

Range	Item	Torque	(N.m)	Torque (Ib-in)		
		Min.	Max.	Min.	Max.	
Compact design XCKD, XCKP, XCKT	Cover	0.8	1.2	7.08	10.62	
	Fixing screw for lever on rotary head	1	1.5	8.85	13.27	
Miniature design XCMD, XCMH, XCMN, XCMV	Fixing screw for the product	1	1.5	8.85	13.27	
	Fixing screw for lever on rotary head	1	1.5	8.85	13.27	
Compact design XCKN	Cover	0.8	1.2	7.08	10.62	
	Fixing screw for lever on rotary head	1	1.5	8.85	13.27	
Classic design XCKJ	Cover	1	1.5	8.85	13.27	
	Fixing nut for lever on rotary head	1	1.5	8.85	13.27	
Classic design XCKS	Cover	0.8	1.2	7.08	10.62	
	Fixing nut for lever on rotary head ZCKD	1	1.5	8.85	13.27	
	Fixing nut for lever on rotary head XCKS	0.8	1.2	7.08	10.62	
	Fixing head on body	0.8	1.2	7.08	10.62	
Classic design XCKM, XCKML, XCKL	Cover	0.8	1.2	7.08	10.62	
	Fixing nut for lever on rotary head	1	1.5	8.85	13.27	

XCKD, XCKP, XCKT, XCMD, XCMV

XCMH, XCMN



(2) 2 screws Ø 4mm (not included).

in 15° steps throughout 360°, in relation to the body.

All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

XCKJ

- Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting. 1 Reversed $\alpha = 5^{\circ}$
- **2** Forward α = 45°



Limit switches

XC range General



Reminder of the standards Limit switches

Limit switches XC range General



Limit switches

(continued)

Reminder of the standards

XC range General





Limit switches

XC Standard range Miniature design, metal, XCMD

■ XCMD pre-cabled

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





Complete switches: page 28. Variable composition: page 30

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



Complete switches: page 28. Variable composition: page 30

With head for rotary movement (lever) or multi-directional. Fixing by the body



Complete switches: page 29. Variable composition: page 31

■ XCMD with connector

With head for linear movement (plunger)

Fixing by the body

Fixing by the head







Complete switches: page 36. Variable composition: page 38

With head for rotary movement (lever) or multi-directional. Fixing by the body



Complete switches: page 37. Variable composition: page 39

General characteristics

Limit switches

XC Standard range Miniature design, metal, XCMD

Environment characteristics						
Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC				
	Machine assemblies	IEC 60204-1, EN 60204-1				
Product certifications		UL, CSA (except products with special cables), CCC				
Protective treatment		Standard version: "TC"				
Ambient air temperature For operation		- 25+ 70°C (- 40+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)				
	For storage	- 40+ 70°C				
Vibration resistance		XCMD snap action: 5 gn. XCMD slow break: 25 gn (10500 Hz) conforming to IEC 60068-2-6				
Shock resistance		25 gn (18 ms) conforming to IEC 60068-2-27 except head ZCE08: 15 gn (18 ms)				
Electric shock protection		Class I conforming to IEC 61140 and NF C 20-030				
Degree of protection		IP 66, IP 67 and IP 68 (1) conforming to IEC 60529; IK 06 conforming to IEC 62262				
Materials		Bodies: Zamak, heads: Zamak				
Repeat accuracy		0.05 mm on the tripping points, with 1 million operations for head with end plunger				
		(1) Protection against prolonged immersion: the test conditions are subject to agreement				

between the manufacturer and the user. **Contact block characteristics** ∼ AC-15; B300 (Ue = 240 V, le = 1.5 A) DC-13; R300 (Ue = 250 V, le = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1 Rated operational Switches with 2 contacts characteristics Switches with 3 and 4 contacts \sim AC-15; C300 (Ue = 240 V, le = 0.75 A) DC-13; R300 (Ue = 250 V, le = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1 Pre-cabled switches Ithe = 6 A for 2 contacts, 4 A for 3 contacts, 3 A for 4 contacts Switches with M12, 4-pin Ui = 250 V, Ie = 3 A maximum, Ithe = 3 A connector Switches with M12, 5-pin Ui = 60 V, le = 4 A maximum, Ithe = 4 A connector Switches with 7/8"-16UN, Ui = 250 V, le = 6 A maximum, lthe = 6 A 5-pin connector Rated insulation voltage Ui = 400 V degree of pollution 3 conforming to IEC 60947-5-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 U imp = 4 kV conforming to IEC 60947-1, IEC 60664 Rated impulse withstand voltage NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1 Positive operation (depending on model) $\leq 25 \text{ m}\Omega$ conforming to IEC 60255-7 category 3 **Resistance across terminals** Short-circuit protection 6 A cartridge fuse type gG (gl) Minimum actuation speed Snap action contact: 0.01 m/minute, (for head with end plunger) slow break contact: 6 m/minute Electrical durability Conforming to IEC 60947-5-1 Appendix C Utilisation categories AC-15 and DC-13 Maximum operating rate: 3600 operating cycles/hour Load factor: 0.5 AC supply XCMD snap action (NC + NO, XCMD slow break (NC + NO, NC + NC, NC + NC + NO, 50/60 Hz ~ NC + NC + NO contacts) .m. inductive circuit NC + NC + NO + NO contacts) 5 4 Millions of operating cycles Millions of operating cycles Ithe Ithe 3 2 2 230 0.5 0.5

DC supply	Power brok 5 million ope					Power brok 5 million op					
	Voltage	V	24	48	120	Voltage	V	24	48	120	
	m	w	3	2	1	m	w	4	3	3	_

Current in A

2 3 4 5 6 10

0.1

0.5

2

3

1

4 5 6

10

Current in A



0.1

0.5

1

References, characteristics

Limit switches

XC Standard range Miniature design, metal, XCMD Complete units Pre-cabled



(1) Nitrile for indoor use

References, characteristics (continued)

Limit switches

XC Standard range Miniature design, metal, XCMD Complete units Pre-cabled



(1) Value taken with actuation by moving part at 100 mm from the fixing.



References, characteristics

Limit switches

XC Standard range Miniature design, metal, XCMD Modular units Pre-cabled

Type of head	Plunger (fixing by the body) Plunger (fixing by the head)								
		0.00							
Type of operator	Metal end plunger	Metal end plunger with elastomer boot (1)	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot (1)	M12 with steel roller plunger		
References (comb	ined with rer		ninal block)	1					
2-pole NC + NC	ZCMD29L1+	ZCMD29L1+	ZCMD29L1 +	ZCMD29L1+	ZCMD29L1+	ZCMD29L1+	ZCMD29L1 +		
snap action Mail 요. GN-YE HAT 호 쇼	ZCE10	ZCE11 () 1.8 4.2 (P) 1.8 4.2 (P)	ZCE02 3.1(A) 7(P) BC-BC-WH RD-RD-WH 0 1.4	ZCE24 () 11.2(A) 25(P)	ZCEF0 1.8 4.2 (P) BCR.WH RD-RD.WH 0.8 5 mm	ZCEG1 → 1.8 4.2 (P) BR RRWH RD-RDWH 0.8 5 mm 0.8	ZCEF2 BK-BK-WH BC-RD-WH BC-RD-WH 0 1.4		
3-pole NC + NC + NO snap action	ZCMD39L1 + ZCE10 → READWIN BNRU BNRU BNRU 0,8 5 mm	ZCMD39L1 + ZCE11 → BN8J BN8J BN8J BN8J D5 mm	ZCMD39L1+ ZCE02	2CMD39L1 + 2CE24 → 11.2(A) 25(P) 53	ZCMD39L1+ ZCEF0	ZCMD39L1+ ZCEG1 → RCCON RCC	ZCMD39L1 + ZCEF2 ↔ 3.1(A) 7(P BK-BC-WH BK-BC-WH BK-BC-WH BK-BC-WH BK-BC-WH BK-BC-WH DK-BC-WH		
 m m² 3-pole NC + NC + NO break before make, slow break 	ZCMD29L1 + ZCE10 ⊖	ZCMD37L1 + ZCE11 ⊖	ZCMD37L1 + ZCE02 ⊖	ZCMD37L1 + ZCE24 ⊖	ZCMD37L1 + ZCEF0 ⊖	ZCMD37L1 + ZCEG1 ⊖	ZCMD37L1 + ZCEF2 ⊖		
	1.8 3.1(P)		3.1(A) 5.6(P)	BRANNH BU-BN 0 16 mm	1.8 3.1(P) RCBRVWH ENBU 0 2.6 5 mm	1.8 3.1(P) RCBR/WH DR-BU 0 2.6 5 mm	•		
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205		
4-pole 2 NC + 2 NO snap action	ZCMD4DL1 + ZCE10 ⊖	ZCMD4DL1 + ZCE11 ⊖	ZCMD4DL1 + ZCE02 →	ZCMD4DL1 + ZCE24 ⊖	ZCMD4DL1 + ZCEF0 ⊖	ZCMD4DL1+ ZCEG1 ⊖	ZCMD4DL1 + ZCEF2 ⊖		
	1.8 4.2(P) R 80 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	BK-BK-WH RD-RDWH WT-KDWH WT-KDWH BN-BU VT-VT-WH 0 5 mm 0.8	3.1(A) 7(P) BK-BK-WH BK-BD-WH BK-BU-WH BK-BU-WH BK-BU-WH BK-BU-WH BK-BU-WH BK-BU-WH BK-BU-WH BK-BU-WH BK-BK-WH	11.2(A) 25(P)	1.8 4.2(P) BNBU VTVLTWH BKBWH VTVTVTWH 0 0 5 mm	1.8 4.2(P) BN-80 VT-VT-WH BN-80 VT-VT-WH 0 0 5 mm	3.1(A) 7(P) BKBK/WH BKBK/WH BKBK/WH BKBK/WH WT/VT/WH H 1.4		
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185		
References (comb	1	1							
4-pole 2 NC + 2 NO snap action	ZCMD41L1 + ZCE10 →	ZCMD41L1 + ZCE11 ⊖	ZCMD41L1 + ZCE02 ightarrow	ZCMD41L1 + ZCE24 ⊖	ZCMD41L1 + ZCEF0 ⊖	ZCMD41L1 + ZCEG1 ⊖	ZCMD41L1 + ZCEF2		
	1.8 4.2(P) BK BK WH BK BK WH BK BK WH BK BK WH DK W	1.8 4.2(P) BN-BU-WH BN-BU-WH BN-BU-WH VT-VT-WH U 0 5 mm	3.1(A) 7(P)	11.2(A) 25(P)	1.8 4.2(P)	1.8 4.2(P) BD-RD-WH BN-BU BN-BU VT-VT-WH BN-BU VT-VT-WH 0 0.8	ВКВСИН ВУБО ИН ВУБО ИН ВУБО ИН ВКСКК RB-BD //H MT/M/WH 0 1.4		
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185		
Contact operation	closed		(A) = cam displace (P) = positive open		→ NC contact with	h positive opening c	operation		
Complementary cl		s not shown			stics (see page	e 27)			
Switch actuation	On end		By 30° cam		On end		By 30° cam		
Type of actuation					l∎ r≏n				
Maximum actuation speed	0.5 m/s		•		· · ·		0.1m/s		
Mechanical durability	10 million operati	ng cycles							
Minimum For tripping force or	8.5 N		7 N	2.5 N	8.5 N		7 N		
torque For positive opening	42.5 N		35 N	12.5 N	42.5 N		35 N		
Cabling			or 2-pole contact ve other lengths, see p	ersions, 7 x 0.5 mm ² page 48.	length 1 m for 3-pole	e contact versions, 9	x 0.34 mm ² length		
1) Nitrile for indoor use									

(1) Nitrile for indoor use



References, characteristics (continued)

Limit switches

XC Standard range Miniature design, metal, XCMD Modular units Pre-cabled

Type of head	Rotary (fixing	by the body)			Multi-directional
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)
References (combined with removable terr	minal block)	1	1		
2-pole NC + NC snap action ☆ 兄 // GN-YE	$\begin{array}{c} \text{ZCMD29L1 +} \\ \text{ZCE01 +} \\ \text{ZCY15} \textcircled{\rightarrow} \\ \end{array}$	ZCMD29L1+ ZCE01+ ZCY16 ↔ 25° 70°(P) 8780WH 8480WH	ZCMD29L1+ ZCE01+ ZCY17 ↔ 25° 70°(P) BRRWH BRRWH	ZCMD29L1 + ZCE01 + ZCY45 ↔ 25° 70°(P) BKR0WH BKR0WH	2CMD29L1+ 2CE06
	0 90°	0 90° 12°	0 90° 12°	0 90° 12°	▶ <u>10°</u>
3-pole NC + NC + NO snap action ☆ 문 공 /	ZCMD39L1 + ZCE01 + ZCY15 ↔	ZCMD39L1 + ZCE01 + ZCY16 ↔ 25° 70°(P)	ZCMD39L1 + ZCE01 + ZCY17 → ^{25°} 70°(P)	ZCMD39L1 + ZCE01 + ZCY45 ↔ 25° 70°(P)	20°
	BN-BU BK-BK-WH BN-BU 12°	BN-BU BC-RD-WH BC-RD-WH BN-BU 0 12° 90°	BR8K-WH R0-BD-WH R0-BD-WH BR-8U M BR-8U M BR-8U M 	RDRDAWH BH-BU RD-RDAWH BK-BK-WH BK-BK-WH BK-BK-WH BK-BK-WH BK-BU D 12°	BK-BK-WH BU-BN BK-BK-WH RD-RD-WH BU-BN BU-BN
3-pole NC + NC + NO break before make, slow break 満 요 교	ZCMD37L1 + ZCE01 + ZCY15	ZCMD37L1 + ZCE01 + ZCY16 ⊖	ZCMD37L1 + ZCE01 + ZCY17 ⊖	ZCMD37L1 + ZCE01 + ZCY45 ⊖	ZCMD37L1 + ZCE06
	25° 45°(P) BK-BK-WH BN-BU 0 36° 90°	25° 45°(P) BK-BK-WH RD-RD-WH BN-BU 0 36° 90°	25° 45°(P) BK-BK-WH RD-RD-WH BN-BU 0 36° 90°	25° 45°(P) BK-BK-WH BN-BU 0 36° 90°	20° BK-BK-WH RD-RD-WH BN-BU 40°
Weight (kg)	0.220 ZCMD4DL1 +	0.225 ZCMD4DL1 +	0.220 ZCMD4DL1 +	0.230 ZCMD4DL1 +	0.180 ZCMD4DL1 +
4-pole 2 NC + 2 NO snap action M □ Ω □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	2CE01 + 2CY15 ↔ 25' 70'(P) 88% ↓ 12' 90'	2CE01 + 2CY16 ↔ 25' 70'(P) 0 12' 90'	2CE01 + 2CY17 ↔ 25' 70'(P) 8880% 90' 12' 90'	2CE01 + 2CY45 ↔ 25' 70'(P) 888000 12' 90'	
Weight (kg)	0.200	0.205	0.200	0.210	0.160
References (combined with fixed terminal	block)				
4-pole 2 NC + 2 NO snap action 満 윤 윤 동	ZCMD41L1 + ZCE01 + ZCY15 ⊖	ZCMD41L1 + ZCE01 + ZCY16 ⊖	ZCMD41L1 + ZCE01 + ZCY17 ⊖	ZCMD41L1 + ZCE01 + ZCY45 ⊖	ZCMD41L1 + ZCE06
	25° 70°(P) BK-BK-WH BK-BD-WH HD-DD-WH BD-DD-DD-WH BD-DD-DD-WH BD-DD-WH BD-DD-WH BD-DD-WH BD-DD-WH BD-DD-WH BD-D	25° 70°(P) BK-BK-WH BB-BK-WH B	25° 70°(P) BK-BK-WH BK-BW-WH BK-B	25° 70°(P) BK-BK-WH BK-BK-BK-BK-BK-BK-BK-BK-BK-BK-BK-BK-BK-B	20° BURDAWN BURDAWN BURDAWN BURDAWN BURDAWN BURDAWN UNIVERSIT
Weight (kg)	0.200	0.205	0.200	0.210	0.160
Contact operation	closed	(A) = cam displace		0	ith positive opening
Complementary characteristics not shown		(P) = positive oper		operation	
Switch actuation	By 30° cam		istics (see pag	<u>je 21)</u>	By any moving part
Type of actuation					
Maximum actuation speed	1.5 m/s				1 m/s
Mechanical durability	10 million operati	ng cycles			5
Minimum force or torque For tripping	0.1 N.m				
For positive opening Cabling			for 2-pole contact ve n² length 1 m for 4-p		- ² length 1 m for ns. For other lengths,
(1) Value taken with actuation by moving part at 100 mm from the t					

(1) Value taken with actuation by moving part at 100 mm from the fixing.





Limit switches

XC Standard range Miniature design, metal, XCMD Complete units Pre-cabled



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep (2) External diameter of cable 7.5 mm

(3) Fixing nut thickness 3.5 mm e: 8 mm max, panel cut-out Ø 12.5 mm f: 8 mm max, panel cut-out Ø 16.5 mm

Dimensions (continued), mounting

Limit switches

XC Standard range Miniature design, metal, XCMD Complete units Pre-cabled



Mounting: distance required for connection

XCMD2eeeL1



d: 20 mm min.

Note: For modular switches ZCMD4D, ZCMD4DLe and ZCMC4DLe: d: 35 mm min.

(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep

(2) External diameter of cable 7.5 mm

e: 8 mm max, panel cut-out Ø 12.5 mm f: 8 mm max, panel cut-out Ø 16.5 mm



Dimensions

Limit switches

XC Standard range Miniature design, metal, XCMD Modular units Pre-cabled



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep (2) External diameter of cable 7.5 mm

e: 8 mm max, panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm. f: 8 mm max, panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Dimensions (continued)

Limit switches

XC Standard range Miniature design, metal, XCMD Modular units Pre-cabled



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep

(2) External diameter of cable 7.5 mm
 e: 8 mm max, panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
 f: 8 mm max, panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.



References, characteristics

Limit switches

XC Standard range Miniature design miniature, metal, XCMD Complete units Connector



(1) Nitrile for indoor use.

References, characteristics (continued)

Limit switches

XC Standard range Miniature design miniature, metal, XCMD Complete units Connector

Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the \bigcirc symbol because they are single-pole CO.

Type of head		Rotary (fixing	by the body)			Multi-directional
Type of operator		Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)
References		1				
Single-pole CO si With integral M12		XCMD2115M12	XCMD2116M12	XCMD2117M12	XCMD2145M12	XCMD2106M12
ileadi ÷		25° 70°(P) 1-4 1-4 0 12° 90°	25° 70°(P) 1-4 1-4 1-4 0 12° 90°	25° 70°(P) 12° 90°	25° 70°(P) 14 14 14 14 14 14 14 14 14 14	20°
2-pole NC + NO si With integral M12 5		XCMD2115C12 → 25° 70°(P) → → 0 12° 90°	XCMD2116C12 25° 70°(P) 12° 90°	XCM D2117C12	XCMD2145C12 → 25° 70°(P) +2 34 0 12° 90°	20°
Weight (kg)		0.125	0.130	0.125	0.135	0.085
Contact operation		closed	(A) = cam displacer (P) = positive openi	ng point	→ NC contact with operation	positive opening
	racteristics not shown		rai charactei	istics (see pa	ge 27)	Duamum
Switch actuation		By 30° cam				By any moving part
Type of actuation		÷_0 ⊡				
Maximum actuation speed		1.5 m/s				1 m/s
Mechanical durability		10 million operati	ng cycles			5
Minimum force or torque	For tripping	0.1 N.m				
	For positive opening	0.5 N.m				-

(1) Value taken with actuation by moving part at 100 mm from the fixing.

Positive operation



References, characteristics

Limit switches

XC Standard range Miniature design miniature, metal, XCMD Modular units Connector



References, characteristics (continued)

Limit switches

XC Standard range Miniature design miniature, metal, XCMD Modular units Connector

References Single-pole CO snap action With integral M12 4-pin connector 2-pole NC + NO snap action With integral M12 5-pin connector 2-pole NC + NC snap action With integral M12 5-pin connector 2-pole NC + NC snap action With integral M12 5-pin connector 2-pole NC + NC snap action With integral M12 5-pin connector 2-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead With M12 5-pin connector on 0.8 m flying lead With M12 5-pin connector on 0.8 m flying lead Yeight (kg) Quite Connector Quite Connector <th>12° MD29C12 + E01 + Y15 ⊕ 25° 70°(P) 90° 12°</th> <th>Steel roller lever $\begin{array}{c} CMD21M12 + \\ CCE01 + \\ CCY16 \\ \hline 25^{\circ} & 70^{\circ}(P) \\ \hline 12^{\circ} & 90^{\circ} \end{array}$ $\begin{array}{c} CMD21C12 + \\ CCE01 + \\ CCY16 \\ \hline 25^{\circ} & 70^{\circ}(P) \\ \hline 12^{\circ} & 90^{\circ} \end{array}$ $\begin{array}{c} CMD29C12 + \\ CCE01 + \\ CCY16 \\ \hline 90^{\circ} & 90^{\circ} \end{array}$ $\begin{array}{c} CMD29C12 + \\ CCE01 + \\ CCY16 \\ \hline 90^{\circ} & 90^{\circ} \end{array}$ $\begin{array}{c} CMD29C12 + \\ CCE01 + \\ CCY16 \\ \hline 90^{\circ} & 90^{\circ} \end{array}$</th> <th>ball bearing mounted roller $\begin{array}{c} zcMD21M12 + zcE01 + zcY17 \\ \hline zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD21C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD21C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$</th> <th>+ ZCE01 + ZCY45 ⊖</th> <th>Cat's whisker" (Cat's whisker" (Cat's</th>	12° MD29C12 + E01 + Y15 ⊕ 25° 70°(P) 90° 12°	Steel roller lever $ \begin{array}{c} CMD21M12 + \\ CCE01 + \\ CCY16 \\ \hline 25^{\circ} & 70^{\circ}(P) \\ \hline 12^{\circ} & 90^{\circ} \end{array} $ $ \begin{array}{c} CMD21C12 + \\ CCE01 + \\ CCY16 \\ \hline 25^{\circ} & 70^{\circ}(P) \\ \hline 12^{\circ} & 90^{\circ} \end{array} $ $ \begin{array}{c} CMD29C12 + \\ CCE01 + \\ CCY16 \\ \hline 90^{\circ} & 90^{\circ} \end{array} $ $ \begin{array}{c} CMD29C12 + \\ CCE01 + \\ CCY16 \\ \hline 90^{\circ} & 90^{\circ} \end{array} $ $ \begin{array}{c} CMD29C12 + \\ CCE01 + \\ CCY16 \\ \hline 90^{\circ} & 90^{\circ} \end{array} $	ball bearing mounted roller $\begin{array}{c} zcMD21M12 + zcE01 + zcY17 \\ \hline zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD21C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD21C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$ $\begin{array}{c} zcMD29C12 + zcE01 + zcY17 \\ \hline 0 \\ 12^{\circ} \end{array}$	+ ZCE01 + ZCY45 ⊖	Cat's whisker" (Cat's
References ZCI Image: Single-pole CO snap action With integral M12 4-pin connector ZCI Image: Single-pole CO snap action With integral M12 4-pin connector ZCI Image: Single-pole NC + NO snap action With integral M12 5-pin connector ZCI Image: Single-pole NC + NC snap action With integral M12 5-pin connector ZCI Image: Single-pole NC + NC snap action With integral M12 5-pin connector ZCI Image: Single-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead CCI Image: Single-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead ZCI Image: Single-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead ZCI Image: Single-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead ZCI Image: Single-pole NC + NO snap action With 7/8"-16 UN 5-pin connector on 0.8 m flying lead ZCI	er lever $MD21M12 + E01 + Y15 \Rightarrow 25^{\circ} 70^{\circ}(P)$ 12° $MD21C12 + E01 + Y15 \Rightarrow 25^{\circ} 70^{\circ}(P)$ 12° $MD221C12 + E01 + Y15 \Rightarrow 90^{\circ}$ 12° $MD29C12 + E01 + Y15 \Rightarrow 25^{\circ} 70^{\circ}(P)$ 12° $25^{\circ} 70^{\circ}(P)$ 12° $25^{\circ} 70^{\circ}(P)$ 12°	$\begin{array}{c} \text{ZCMD21M12} + \\ \text{ZCE01} + \\ \text{ZCY16} \\ \begin{array}{c} \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 22^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} \begin{array}{c} 0 \\ 12^{\circ} \end{array} \\ \begin{array}{c} 25^{\circ} & 70^{\circ}(\text{P}) \\ \hline \\ 12^{\circ} \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} $ \\ \begin{array}{c} 0 \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 0 \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array}	ball bearing mounted roller $\begin{array}{c} $	thermoplastic roller lever $\begin{array}{c} zcmD21M12 + zce01 + zcy45 \textcircled{r}{} \\ zcy45 \rule{r}{} \\ zcy45 \rule{r}{}$	ZCMD21M12 + 20° 12 20° 10° 20° 20° 10° 20° 20° 10° 20° 20° 20° 20° 20° 20° 20° 2
Single-pole CO snap action With integral M12 4-pin connector ZCR ZCR ZCR ZCR ZCR ZCR ZCR ZCR ZCR ZCR	E01 + Y15 \bigcirc 25° 70°(P) 12° MD21C12 + E01 + Y15 \bigcirc 25° 70°(P) 12° MD29C12 + E01 + Y15 \bigcirc 25° 70°(P) 25° 70°(P) 25° MD29LL08R12 CE01 + Y15 \bigcirc 25° 70°(P)	ZCE01 + ZCY16 → 1^{2} 70°(P) 1^{2} 90° ZCMD21C12 + ZCY16 → 25° 70°(P) 1^{2} 90° ZCMD21C12 + ZCY16 → 1^{2} 90° 1^{2} 90°	$\begin{array}{c} \begin{array}{c} \text{ZCE01} + \\ \text{ZCY17} & {}{}{}{}{}{}{}{}{}{}{}{}{}{}{}{}{}{}$	ZCE01 + ZCY45 \bigcirc 25° 70°(P) 12° 90° ZCMD21C12 + ZCY45 \bigcirc 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 12° 90°	ZCE06 20° 120 120 120 120 10° ZCMD21C12 + ZCE06 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 120 10° 20° 10° 20° 10° 20° 10° 20° 10° 20° 10° 20° 10° 20° 20° 10° 20° 10° 20° 10° 20° 20° 20° 20° 20° 20° 20° 2
Single-pole CO snap action With integral M12 4-pin connector ZCR ZCR ZCR ZCR ZCR ZCR ZCR ZCR ZCR ZCR	E01 + Y15 \bigcirc 25° 70°(P) 12° MD21C12 + E01 + Y15 \bigcirc 25° 70°(P) 12° MD29C12 + E01 + Y15 \bigcirc 25° 70°(P) 25° 70°(P) 25° MD29LL08R12 CE01 + Y15 \bigcirc 25° 70°(P)	ZCE01 + ZCY16 → 1^{2} 70°(P) 1^{2} 90° ZCMD21C12 + ZCY16 → 25° 70°(P) 1^{2} 90° ZCMD21C12 + ZCY16 → 1^{2} 90° 1^{2} 90°	$\begin{array}{c} \begin{array}{c} \text{ZCE01} + \\ \text{ZCY17} & {}{}{}{}{}{}{}{}{}{}{}{}{}{}{}{}{}{}$	ZCE01 + ZCY45 \bigcirc 25° 70°(P) 12° 90° ZCMD21C12 + ZCY45 \bigcirc 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 25° 70°(P) 12° 90° 12° 90°	ZCE06 20° 120 120 120 120 10° ZCMD21C12 + ZCE06 20° 10° 20° 20° 20° 20° 20° 20° 20° 2
2-pole NC + NO snap action With integral M12 5-pin connector ZCI ZCI ZCI ZCI ZCI ZCI ZCI ZCI ZCI ZCI	$\begin{array}{c} & & & \\$	12 90° 25° 70°(P) 12° 90° 12° </td <td>$\begin{array}{c} \begin{array}{c} & & \\$</td> <td>$\frac{2}{12^{\circ}} = 90^{\circ}$ $\frac{2}{12^{\circ}} = 90^{\circ}$</td> <td>¹² ZCMD21C12 + ZCMD21C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD21L08R12 + ZCMD21C12 + ZCMD21C12 + ZCMD29C12 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C1</td>	$\begin{array}{c} \begin{array}{c} & & \\ $	$\frac{2}{12^{\circ}} = 90^{\circ}$	¹² ZCMD21C12 + ZCMD21C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD29C12 + ZCMD21L08R12 + ZCMD21C12 + ZCMD21C12 + ZCMD29C12 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C10 + ZCMD29C1
With integral M12 5-pin connector ZCE 2-pole NC + NC snap action ZCI With integral M12 5-pin connector ZCI With integral M12 5-pin connector ZCI Peight (kg) 0.12 2-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead With M12 5-pin connector on 0.8 m flying lead ZCI With 7/8"-16 UN 5-pin connector on 0.8 m flying lead ZCI	E01 + Y15 \bigcirc 25° 70°(P) 12° MD29C12 + E01 + Y15 \bigcirc 25° 70°(P) 25° MD21L08R12 CE01 + Y15 \bigcirc 25° 70°(P) 25° 70°(P)	ZCE01 + ZCY16 \bigcirc 25° 70°(P) 12° 90° ZCMD29C12 + ZCE01 + ZCY16 \bigcirc 12° 90° 12° 0.130 ZCMD21L08R12 + ZCE01 + ZCY16 \bigcirc 25° 70°(P) 12° 0.130 ZCMD21L08R12 + ZCE01 + ZCY16 \bigcirc	$\begin{array}{c} 2CE01 + \\ 2CY17 \Rightarrow \\ 25^{\circ} & 70^{\circ}(P) \\ 12^{\circ} & 90^{\circ} \\ 12^{\circ} & 90^{\circ} \\ \hline \\ 2CMD29C12 + \\ 2CE01 + \\ 2CY17 \Rightarrow \\ 0 & 12^{\circ} \\ \hline \\ 0 &$	$\begin{array}{c} \textbf{ZCE01 +} \\ \textbf{ZCY45 } \textcircled{)} \\ \hline \\ \textbf{ZCY45 } \textcircled{)} \\ \hline \\ \textbf{25}^{\circ} 70^{\circ}(\textbf{P}) \\ \hline \\ \textbf{12}^{\circ} \\ \textbf{90}^{\circ} \\ \textbf{22}^{\circ} \\ \textbf{90}^{\circ} \\ \textbf{22}^{\circ} \\ \textbf{21}^{\circ} \\ \textbf{21}^{\circ} \\ \textbf{21}^{\circ} \\ \textbf{22}^{\circ} \\ \textbf{135} \\ \textbf{2CMD29C12 +} \\ \textbf{2CY45 } \textcircled{)} \\ \hline \\ \textbf{0.135} \\ \textbf{2CMD21L08R12} \\ \textbf{+} \\ \textbf{2CE01 +} \\ \textbf{2CY45 } \textcircled{)} \\ \textbf{2CY45 } \textcircled{)} \\ \end{array}$	ZCE06 20° 10° 20° 10° 20° 20° 20° 10° 20° 20° 20° 20° 20° 20° 20° 2
2-pole NC + NC snap action With integral M12 5-pin connector ZCI ZCI ZCI ZCI ZCI ZCI ZCI ZCI ZCI ZCI	90° 12° MD29C12 + E01 + Y15 ↔ 25° 70°(P) 25° MD21L08R12 CE01 + Y15 ↔ 25° 70°(P) 25° 70°(P)	1/2 90° ZCMD29C12 + 2CE01 + ZCY16 → 90° 1/2° 90°	12° 34 34 34 34 34 34 34 34 34 34	ZCMD29C12 + ZCE01 + ZCY45 ↔ 0_12° 25° 70°(P) 12° 0.135 ZCMD21L08R12 + ZCE01 + ZCY45 ↔	ZCMD29C12 + ZCE06 20° 10° 0.085 ZCMD21L08R12 + ZCE06
With integral M12 5-pin connector ZCR eight (kg) 0.12 2-pole NC + NO snap action ZCR With M12 5-pin connector on 0.8 m flying lead ZCR 2-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead With 7/8"-16 UN 5-pin connector on 0.8 m flying lead ZCR	E01 + Y15 ↔ 25° 70°(P) 12° 90° 25 MD21L08R12 CE01 + Y15 ↔ 25° 70°(P)	ZCE01 + ZCY16 → 25° 70°(P) 12° 0.130 ZCMD21L08R12 + ZCE01 + ZCY16 → 25° 70°(P)	$2CE01 + 2CY17 \Rightarrow 25^{\circ} 70^{\circ}(P)$ $25^{\circ} 70^{\circ}(P)$ $12^{\circ} 90^{\circ}$ 0.125 $2CMD21L08R12 + 2CE01 + 2CY17 \Rightarrow$	ZCE01 + ZCY45 → 25° 70°(P) 12° 90° 0.135 ZCMD21L08R12 + ZCE01 + ZCY45 →	20° 10° 0.085 20° 10° 10° 20° 10° 20° 10° 20° 20° 20° 20° 20° 20° 20° 2
eight (kg) 0.12 2-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead 2CN + ZC 2-pole NC + NO snap action With 7/8"-16 UN 5-pin connector on 0.8 m flying lead 2CN + ZC	90° 12° 25 MD21L08R12 CE01 + Y15 ↔	12° 0.130 ZCMD21L08R12 + ZCY16 ↔ 25° 70°(P)	0 125 0.125 2 ZCMD21L08R12 + ZCE01 + ZCY17 ↔	0.135 ZCMD21L08R12 + ZCE01 + ZCY45 ↔	0.085 ZCMD21L08R12 + ZCE06
Z-pole NC + NO snap action With 7/8"-16 UN 5-pin connector on 0.8 m flying lead ZCN	Y15 ⊖ 25° 70°(P)	ZCY16 → 25° 70°(P) ¹² ³⁴	ZCY17 🍚	ZCY45 🔿	
2-pole NC + NO snap action With 7/8"-16 UN 5-pin connector on 0.8 m i flying lead		0 90° 12°	¹⁻² 3-4 0 90°	25° 70°(P) ¹⁻² ³⁻⁴ ³⁻⁴ ³⁻⁴ ³⁻⁴ ³⁻⁴ ³⁻⁴ ^{90°}	1-2 3-4 1-2 3-4
	MD21L08U78 CE01 + Y15 ⊖	ZCMD21L08U78 + ZCE01 + ZCY16 ⊖	3 ZCMD21L08U78 + ZCE01 + ZCY17 →	ZCMD21L08U78 + ZCE01 + ZCY45 ⊖	ZCMD21L08U7 + ZCE06
	25° 70°(P) 90°	25° 70°(P) 1-2 1-2 1-2 0 90°	25° 70°(P) 1-2 4-5 1-2 90° 12°	25° 70°(P) ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻² ⁴⁻⁵ ¹⁻²	20° 4-5 4-5 1-2 1-2
Veight (kg) 0.20		0.205	0.200	0.210	0.160
		(A) = cam displace (P) = positive oper		NC contact with operation	positive opening
Complementary characteristics not shown un				age 27)	
	30° cam				By any moving p
ype of actuation $=$					
· · · · · · · · · · · · · · · · · · ·	m/s				1 m/s
inimum force or torque For tripping 0.1	million operatir N.m N.m	ng cycles			5
	in connector c			tches, the switches	incorporating an N ingle-pole CO.

Sensors

References, connections, dimensions

Limit switches XC Standard range

Miniature design, metal, XCMD Connector cabling accessories





Limit switches

XC Standard range Miniature design, metal, XCMD Complete units Connector



Dimensions (continued)

Limit switches

XC Standard range Miniature design, metal, XCMD Modular units Connector



(1) Linking index 9 4: Linking counterported by the minor of the second seco
Dimensions (continued)

Limit switches

XC Standard range Miniature design, metal, XCMD Modular units Connector



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep. e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm. f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.



Presentation

Limit switches

XC Standard range Miniature design, metal, XCMD Variable composition



(1) A minimum 5 mm of threaded length must be maintained inside the head. Plunger length can be adjusted from 30.5 to 35.5 mm. (2) Nitrile boot for indoor use.

(3) Silicone boot for outdoor use.

(4) Connection components: replace the "•" in the reference with the required cable length in metres (1, 2, 3, 5, 7 or 10 m).

For example, ZCMC21Le becomes ZCMC21L7 for a 7 m cable. Note: Only cable lengths of 1, 2 and 5 m are available for connection components ZCMC37Le, ZCMC39Le and ZCMC4DLe

(5) Suitable with bodies: ZCMD21, ZCMD29, ZCMD39, ZCMD41, ZCMD4D, ZCMD21C12, ZCMD21M12, ZCMD29C12 or ZCMD21L08 •• •





XC Standard range Miniature design, metal, XCMD Body/contact assemblies



ZCMD6• ZCMD7• ZCMD4D

Type of contact	Positive operation (1)	Scheme	Type of contact	Reference	Weigh k
2-pole					
NC + NO snap action	\ominus	GN-YE	Standard	ZCMD21	0.0
		BK-WH BN	Gold plated	ZCMD61	0.0
NC + NC snap action	\ominus	₩ 문 	Standard	ZCMD29	0.05
		BK-WH RD- <u>WH</u>	Gold plated	ZCMD69	0.05
NC + NO break before make, slow break	\ominus	₩ 8 /\GN-YE	Standard	ZCMD25	0.0
		BK-WH	Gold plated	ZCMD65	0.0
3-pole					
NC + NC + NO break before make, slow break	⊖	₩ ₽ 8 	Standard	ZCMD37	0.0
2		BK-WH RD-WH BN	Gold plated	ZCMD77	0.0
NC + NC + NO snap action	\ominus	출 문 교 //_GN-YE	Standard	ZCMD39	0.0
		BK-WH RD-WH BN	Gold plated	ZCMD79	0.0
4-pole					
2 NC + 2 NO snap action	\ominus		Standard	ZCMD4D	0.0

(1) \bigcirc bodies with contacts assuring positive opening operation.

References (continued)

Limit switches

XC Standard range Miniature design, metal, XCMD Pre-cabled body/contact assemblies

52023	

ZCMDeeLe

	Body/contac	ct asser	mblies with rem	ovable ca	able	
	Type of contact	Positive operation (1)	Scheme	Length of cable in metres	Reference	Weight kg
	2-pole					
	NC + NO snap action	\ominus		1	ZCMD21L1	0.160
			IJ GN-YE ₹ Z ↓	2	ZCMD21L2	0.250
			BK-WH	5	ZCMD21L5	0.520
	NC + NC snap action	\ominus	월 집	1	ZCMD29L1	0.160
			[// GN-YE 동 동	2	ZCMD29L2	0.250
			RD-WH	5	ZCMD29L2	0.520
	NC + NO break before	\ominus		1	ZCMD25L1	0.160
	make, slow break		H Z L L	2	ZCMD25L2	0.250
			BK-WH	5	ZCMD25L5	0.520
	3-pole					
	NC + NC + NO break before	Θ	A DA DA	1	ZCMD37L1	0.160
	make, slow break		[] GN-YE 된 품 곱 +	2	ZCMD37L2	0.250
	1		BK-WH RD-WH BN	5	ZCMD37L5	0.520
	NC + NC + NO snap action	Θ	꽃[집[평	1	ZCMD39L1	0.160
			[//\GN-YE 뒷	2	ZCMD39L2	0.250
			BK-WH RD-WH BN	5	ZCMD39L5	0.520
1	4-pole					
69	2 NC + 2 NO snap action	\ominus	₩ ₽ @ 5 7	1	ZCMD4DL1	0.160
			RD-WH TT-WH	2	ZCMD4DL2	0.250
				5	ZCMD4DL5	0.520
	Pre-cabled b	odies/o	contact assemb	lies (fixe	d cable)	
	4-pole 2 NC + 2 NO	\bigcirc		1	ZCMD41L1	0.160
	snap action	Θ	満 <u>문</u>	I	ZCINID4TET	0.100
			BK-WH RD-WH VT-WH	2	ZCMD41L2	0.250
				5	ZCMD41L5	0.520
	Pre-cabled b	odies v	with gold contac	ts (fixed	cable)	
	4-pole					
	2 NC + 2 NO	Θ	₩ <u></u> ₩ ₩ ₩	1	ZCMD81L1	0.160
	snap action			2	ZCMD81L2	0.250
			BK-WH RD-WH VT-WH	5	ZCMD81L5	0.520

(1) \ominus bodies with contacts assuring positive opening operation.

Limit switches

XC Standard range Miniature design, metal, XCMD Connection components

	Pre-cabled o	onnection compon	ents with	PVC cable	
	2-pole				
	NC + NO	A B	1	ZCMC21L1	0.100
	snap action	ШЦ ∕\ GN-YЕ	2	ZCMC21L2	0.190
			3	ZCMC21L3	0.280
		BK-WH	5	ZCMC21L5	0.460
ZCMC2•L••		ш	7	ZCMC21L7	0.700
ZCMC3•L••			10	ZCMC21L10	0.970
	NC + NC	묏 집	1	ZCMC29L1	0.100
	snap action	Ш <u>Г</u>	2	ZCMC29L2	0.190
			3	ZCMC29L3	0.280
		RD-WH	5	ZCMC29L5	0.460
			7	ZCMC29L7	0.700
			10	ZCMC29L10	0.970
	NC + NO	AB BI	1	ZCMC25L1	0.100
	break before make	, 7-1 GN-YE	2	ZCMC25L2	0.190
	slow break		3	ZCMC25L3	0.280
		BK-WH	5	ZCMC25L5	0.460
			7	ZCMC25L7	0.700
			10	ZCMC25L10	0.970
	3-pole		4		
	NC + NC + NO	뛰 집	1	ZCMC37L1	0.100
	break before make		2	ZCMC37L2	0.190
	slow break		5	ZCMC37L5	0.460
		RD-WH			
	NC + NC + NO	·····································	1	ZCMC39L1	0.100
	snap action	₩ <u>L</u> ₩L_₩ //-/-\ GN-YE	2	ZCMC39L2	0.190
				ZCMC39L5	0.460
	4-pole				
	2 NC + 2 NO	뛰면 명 기	1	ZCMC4DL1	0.100
	snap action	/	2	ZCMC4DL2	0.190
		RD-WH T	5	ZCMC4DL5	0.460
ZCMC4DL•					
		connection compon	ents with	CEI cable	
	-	trotecnico Italiano) (1)	1 the st	D. f	141-1-1-1
	Type of contact 2-pole	Scheme	Length of CEI cable in metres	Reference	Weight kg
	NC + NO	XI 3	1	ZCMC21E1	0.100
	snap action	₩ <u></u> /\ gn-ye	2	ZCMC21E2	0.190
			3	ZCMC21E3	0.280
		BK-WH	5	ZCMC21E5	0.460
ZCMC21E•		ш	7	ZCMC21E7	0.700
			10	ZCMC21E10	0.970
	Dro pobled a	onnection compon	onte with	halogon froe	cable (a)
	Type of contact	Positive Scheme	Length	Reference	Weight
	Type of contact	operation	of cable in metres	Reference	kg
	2-pole	(3)	mmetres		
	NC + NO	⊖ ¹ ³	0.6	ZCMC25T06	0.080
	break before make, slow break				
- 3	NC + NO	\rightarrow 1 3	1	ZCMC21T1	0.130
ZCMC25T06	snap action	5	2	ZCMC21T2	0.250

ZCMC25T06 ZCMC21T•

(1) Cable not UL or CSA certified.
 (2) For other types of contacts and cable, please contact our Customer Care Centre.

5

ZCMC21T5

0.520

(3) \bigcirc bodies with contacts assuring positive opening operation.

Telemecanique

Sensors

References (continued)

Limit switches

XC Standard range Miniature design, metal, XCMD Separate parts

PERSONAL PROVIDENCE	Bodies with	-			Deferrere	Mainht
000	Type of contact	Positive operation (1)		Connector	Reference	Weight kg
	2-pole	(1)				
	NC + NO snap action	-	 7\	M12 5-pin	ZCMD61C12	0.065
			1-1, ÷			
	NC + NC snap action	-		M12 5-pin	ZCMD69C12	0.065
	Single-pole					
ZCMD61•••	CO	_	1 1	M12	ZCMD61M12	0.065
	snap action		┣ <u></u>	4-pin		
	Accessories					
	Description		Positive operation (1)	Suitable levers for use with head	Reference	Weight kg
ATT THE PARTY OF T	Rotary head, witho	ut lever,	Θ	ZCY12, ZCY15,	ZCE05	0.045
	spring return, for a from right AND left from right OR left			ZCY16, ZCY17, ZCY18, ZCY19, ZCY22, ZCY23, ZCY25, ZCY26, ZCY39, ZCY53,		
			Reg.	ZCY54, ZCY55, ZCY81		
XCMZ06 XCMZ07	Spacer for mountir multi-track XCMD	Ig	<u></u>	-	XCMZ06	0.005
	Spacer for angular positioning of head	19 J.S.	-	_	XCMZ07	0.005
	other than -90°, 0° a					
	zty [×]	ody/con Positive	Scheme	Length of cable	rotary head (Reference	Weight
	Pre-cabled b operating lever) Type of contact	ody/con	Scheme			-
	Pre-cabled b operating lever) Type of contact 2-pole	Ody/con Positive operation (1)	Scheme	Length of cable in metres	Reference	Weight kg
	Pre-cabled b operating lever) Type of contact	ody/con Positive operation	Scheme	Length of cable in metres		Weight
XCMD2•01L1	Pre-cabled b operating lever) Type of contact 2-pole NC + NO	ody/con Positive operation (1) ↔	Scheme	Length of cable in metres	Reference	Weight kg
XCMD2•01L1	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make slow break	ody/con Positive operation (1) ⊕	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1	Weight kg 0.180
	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make, slow break	ody/con Positive operation (1) ⊕	Scheme	Length of cable in metres	Reference XCMD2101L1	Weight kg 0.180
	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make slow break	ody/con Positive operation (1) ⊖ t assemi Positive operation	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1	Weight kg 0.180
	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make slow break Body/contact connector Type of contact	ody/con Positive operation (1) ⊕ t assemi Positive	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1 (without operatin	Weight kg 0.180 0.180
	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make slow break	ody/con Positive operation (1) ⊖ t assemi Positive operation	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1 (without operatin	Weight kg 0.180 0.180
	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make, slow break Body/contact Connector Type of contact 2-pole NC + NO snap action	ody/con Positive operation (1) ↔ t assemt Positive operation (1)	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1 (without operating Reference	Weight kg 0.180 0.180
	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make, slow break Body/contact Connector Type of contact 2-pole NC + NO snap action Single-pole CO	ody/con Positive operation (1) ↔ t assemt Positive operation (1)	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1 (without operating Reference	Weight kg 0.180 0.180
	Pre-cabled b operating lever) Type of contact2-pole NC + NO snap actionNC + NO break before make, slow breakBody/contact connector Type of contact2-pole NC + NO snap actionSingle-pole	ody/con Positive operation (1) ↔ t assemt Positive operation (1)	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1 (without operation Reference XCMD2101C12	Weight kg 0.180 0.180 0.180 weight kg 0.110
	Pre-cabled b operating lever) Type of contact 2-pole NC + NO snap action NC + NO break before make, slow break Body/contact Connector Type of contact 2-pole NC + NO snap action Single-pole CO	ody/con Positive operation (1) ⊕ t assemt Positive operation (1) ⊕ -	Scheme	Length of cable in metres	Reference XCMD2101L1 XCMD2501L1 (without operating Reference) XCMD2101C12 XCMD2101M12	Weight kg 0.180 0.180 0.180 weight kg 0.110

Presentation

Limit switches XC Standard range

Miniature design, metal, XCMV for mobile equipment



Presentation (continued)

Limit switches

XC Standard range Miniature design, metal, XCMV for mobile equipment



Characteristics

Limit switches

XC Standard range Miniature design, metal, XCMV for mobile equipment

Environmental cha	aracteristics					
Product certifications		CE, cURus				
Conformity to standards	Products	EN/IEC 60947-5-1, UL 508, CSA C22-2 n°14, GB/T 14048.5				
	Machine assemblies	EN/IEC 60204-1				
Protective treatment		Standard version: "TC"				
Ambient air temperature	For operation	- 25+ 70 °C (- 40+ 70 °C with ZCE106, Z	CE026 and ZCE016 heads)			
	For storage	- 40+ 70 °C				
Vibration resistance		± 1.76 mm (1060 Hz), 25 gn (61500 Hz)	conforming to IEC 60068-2-6			
Shock resistance		40 gn (11 ms) conforming to IEC 60068-2-27				
Protection against electric	shock	Class III conforming to IEC 61140, class 2 co				
Degree of protection	Switches with 4-pin M12 connector	IP 66, IP 67 and IP 69 conforming to EN/IEC				
	Switches with 4-pin Deutsch DT04-4P or AMP Superseal 1.5 connector	IP 66, IP 67 and IP 69 conforming to EN/IEC	60529 ; IK 06 conforming to EN 62262			
	Pre-cabled swiches	IP 66 and IP 67 conforming to EN/IEC 60529				
Materials		Body: Zamak, heads: Zamak, connectors: the	ermoplastic, cable: PvR			
Repeat accuracy		0.1 mm on the tripping points, with 1 million o	perating cycles for head with end plunger			
Contact block cha	racteristics					
Rated operational characteristics	Switches with 4-pin M12 connector Pre-cabled swiches or switches with 4-pin Deutsch DT04-4P or	\sim AC-14; Ue = 24 V, Ie = 3 A, Ith = 4 A \therefore DC-13; Ue = 24 V, Ie = 1 A, conforming to I \sim AC-14; Ue = 24 V, Ie = 3 A, Ith = 6 A \therefore DC-13; Ue = 24 V, Ie = 1 A, conforming to				
	AMP Superseal 1.5 connector					
Rated insulation voltage		Ui = 36 V degree of pollution 3 conforming to Ui = 36 V conforming to UL 508, CSA C22-2 r				
Rated impulse withstand v	oltage	U imp = 0.8 kV conforming to IEC 60947-1, IE	EC 60664			
Positive operation (depend	ing on model)	NC contacts with positive opening operation	conforming to IEC 60947-5-1			
Resistance across termina	ls	$\leq 25 \text{ m}\Omega$ conforming to IEC 60255-7 category	y 3			
Short-circuit protection.		6 A cartridge fuse type gG (gl)				
Minimum actuation speed	(for head with end plunger)	Snap-action contact: 0.01 m/minute, slow-break contact: 6 m/minute				
Electrical durability	, ()	 Conforming to IEC 60947-5-1 Appendix C Utilisation categories AC-14 and DC-13 Maximum operating rate: 3600 operating of Load factor: 0.5 				
	AC supply	XCMV snap-action	XCMV slow-break			
	\sim 50/60 Hz	(NC+NO contact)	(NC+NO contact)			
	.m inductive circuit	Switches with M12 connector				
		So 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	5 4 1 1 1 1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1			
		Pre-cabled switches or switches with Deu	tsch DT04-4P or AMP Superseal 1.5 connector			
		Store of the second sec	S S S S S S S S S S S S S S			
	DC supply	Power broken in W for 0.1 million operating cycles Voltage V 24 mn A 2	Voltage V 24 Mono A 0.5			

Telemecanique



XC Standard range Miniature design, metal, XCMV Complete units for mobile equipment

Type of head		Plunger (fixing by the be	Plunger (fixing by the body)		
Form conforming to EN 50	0047	В	С	А	
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (1)	
Positive operation		\ominus	\ominus	\ominus	
References of con	mplete units with male D				
2-pole NC + NO snap actio	on	XCMV2110D44	XCMV2102D44	XCMV2115D44	
		1,8 4,2(P) 1,2 1,2 1,2 1,2 1,2 1,2 1,2 1,2	3,1(A) 7(P) 3,4 1,2 3,4 0 1,4 mm	25° 70°(P) 1-2 1-2 1-2 1-2 3-4 0 12° 90°	
2-pole NC + NO break befo	ore make, slow break	XCMV2510D44	XCMV2502D44	XCMV2515D44	
		1,8 3,1(P) 12 0 2,6 5 mm	3.1(A) 5.6(P) ^{1.2} ^{3.4} 0 4,6 mm	25° 45°(P) 1-2 3-4 0 36° 90°	
Weight (kg)		0.090	0.090	0.130	
Contact operation	X	closed open		(A) = cam displacement (P) = positive opening point	
	characteristics not show			51)	
Switch actuation		On end	By 30° cam		
Type of actuation		l₩ r≏n			
Maximum actuation speed		0.5 m/s	0.5 m/s	1.5 m/s	
Mechanical durability (in millions of operating cycl	es)	10			
	For tripping	8.5 N	7 N	0.1 N.m	
Minimum force or torque					



XC Standard range Miniature design, metal, XCMV Complete units for mobile equipment

Type of head	Plunger (fixing by the	Plunger (fixing by the body)				
Form conforming to EN 50047	В	C	А			
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever (1)			
Positive operation	\ominus	\ominus	\ominus			
References of complete units with m	ale AMP Superseal 1.5 o	connector				
2-pole NC + NO snap action	XCMD2110AM4	XCMD2102AM4	XCMD2115AM4			
	1,8 4,2(P) 3,4 1,2 3,4 0 5mm 0,8	3,1(A) 7(P) 12 14 14 14 14 14 14 14 14 14 14	25° 70°(P) 42 42 42 42 42 42 42 90° 12°			
2-pole NC + NO break before make, slow break	XCMD2510AM4	XCMD2502AM4	XCMD2515AM4			
	1,8 3,1(P) ¹² 0 2,6 5 mm	3,1(A) 5,6(P) ¹⁻² 3-4 0 4,6 mm	$\begin{array}{cccccccccccccccccccccccccccccccccccc$			
Weight (kg)	0.090	0.090	0.130			
Contact operation	closed		(A) = cam displacement (P) = positive opening point			
Characteristics						
Switch actuation	On end	By 30° cam				
Type of actuation	l⊎ r≏n					
Maximum actuation speed	0.5 m/s	0.5 m/s	1.5 m/s			
Mechanical durability (in millions of operating cycles)	10					
Minimum force or torque For tripping	8.5 N	7 N	0.1 N.m			
For positive opening	42.5 N	35 N	0.5 N.m			

(1) Can be adjusted throughout 360° in 15° steps.



XC Standard range Miniature design, metal, XCMV Complete units for mobile equipment

Type of head		Plunger (fixing by the body	y)	Rotary (fixing by the body)	
Form conforming to EN 5	0047	В	С	A	
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (1)	
Positive operation		\ominus	Θ	\ominus	
References of co	mplete units with M12 co				
2-pole NC + NO snap acti	on	XCMV2110M12	XCMV2102M12	XCMV2115M12	
		1.8 4,2(P) 1.4 1.2 1.4 1.2 1.4 1.2 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4	3,1(A) 7(P) 34 34 34 1.2 34 1.2 34 1.2 34 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	25° 70°(P) ¹⁻² ³⁻⁴ ³⁻⁴ 90° 12°	
2-pole NC + NO break bef	ore make, slow break	XCMV2510M12	XCMV2502M12	XCMV2515M12	
		1,8 3,1(P) 12 0 2,6 5 mm	3,1(A) 5,6(P) 1-2 3-4 0 4,6 mm	25° 45°(P) 1-2 3-4 0 36° 90°	
Weight (kg)		0.090	0.090	0.130	
Contact operation		closed			
Complementary	characteristics not show	open n under general chara	acteristics (see nage	(<i>P</i>) = positive opening point	
Switch actuation		On end	By 30° cam	,	
Type of actuation			-		
Maximum actuation speed	1	0.5 m/s	0.5 m/s	1.5 m/s	
Mechanical durability (in millions of operating cyc	eles)	10		,	
Minimum force or torque	For tripping	8.5 N	7 N	0.1 N.m	
	For positive opening	42.5 N	35 N	0.5 N.m	
(1) Can be adjusted throug	hout 360° in 15° steps				

Limit switches

XC Standard range Miniature design, metal, XCMV Modular units for mobile equipment

Type of head	Plunger (fixing) by the body)					Plunger (fixing by the head)		Plunger (fixing by the head)		Rotary (fixing b	y the body)				Multi-directional
															ZCY45	
Type of operator	Metal end plunger	Metal end plunger - 40 °C <i>(1)</i>	Metal end plunger with elastomer boot (2)	Steel roller plunger	Steel roller plunger - 40 °C (1)	Retractable steel roller lever plunger	M12 with metal end plunger		M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C (1)	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (3)
References of mo	odular units (I	ody with male	Deutsch DT04-4	P connector an	d removable te	rminal block)			1	1						
2-pole NC + NO snap action	ZCMV21D44+ ZCE10⊖	ZCMV21D44 + ZCE106 ⊖	ZCMV21D44 + ZCE11 ⊖	ZCMV21D44+ ZCE02⊖	ZCMV21D44 + ZCE026⊖	ZCMV21D44 + ZCE24 ⊖	ZCMV21D44 + ZCEF0 ⊖		ZCMV21D44 + ZCEG1 ⊖	ZCMV21D44 + ZCEF2 ⊖	ZCMV21D44 + ZCE01 + ZCY15 ⊖	ZCMV21D44 + ZCE016 + ZCY15 ⊖	ZCMV21D44 + ZCE01 + ZCY16 ⊖	ZCMV21D44 + ZCE01 + ZCY17 ⊖	ZCMV21D44 + ZCE01 + ZCY45 ⊖	ZCMV21D44 + ZCE06
	1,8 4,2(P) 1,2 4,2(P) 1,2 4,2(P) 1,2 5mm 0,8 5mm	1,8 4,2(P) 1,2 4,2(P) 1,2 4,2(P) 1,2 4,2(P) 1,2 4,2(P) 1,2 4,2(P) 1,2 4,2(P) 1,2 4,2(P) 5 mm	1,8 4,2(P) 1,8 4,2(P) 1,2 1,2 1,2 1,2 1,3 1,8 4,2(P) 5mm	3,1(A) 7(P) 3,4 1,4 3,1(A) 7(P) 1,2 3,4 0 1,4	3,1(A) 7(P) 1-2 3-4 0 1,4 0 1,4	11,2(A) 25(P) 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	1,8 4,2(P) 1,2 4,2(P)		1,8 4,2(P) 1,2 4,2(P)	3,1(A) 7(P) 1-2 3-4 1-2 3-4 0 1,4 mm	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 90° 12°	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 90° 12°	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 90° 12°	25° 70°(P) 1-2 1-2 1-2 1-2 	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 1-2 90° 12°	20° 1-2 3-4 3-4 3-4 10°
2-pole NC + NO break before make, slow break	ZCMV25D44+ ZCE10⊖	ZCMV25D44 + ZCE106 ⊖	ZCMV25D44 + ZCE11 ⊖	ZCMV25D44+ ZCE02⊖	ZCMV25D44+ ZCE026⊖	ZCMV25D44 + ZCE24 ⊖	ZCMV25D44 + ZCEF0 →		ZCMV25D44 + ZCEG1 ⊖	ZCMV25D44 + ZCEF2 ⊖	ZCMV25D44 + ZCE01 + ZCY15 ⊖	ZCMV25D44 + ZCE016 + ZCY15 ⊖	ZCMV25D44 + ZCE01 + ZCY16 ⊖	ZCMV25D44 + ZCE01 + ZCY17 ⊖	ZCMV25D44 + ZCE01 + ZCY45 ⊖	ZCMV25D44 + ZCE06
	1,8 3,1(P) 1,2 3,4 1,2 3,4 0 2,6 5 mm	1,8 3,1(P) 1.2 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4	1,8 3,1(P) ¹⁻²	3,1(A) 5,6(P) 3.4 0 4,6 mm	3,1(A) 5,6(P) 3-4 0 4,6 mm	11,2(A) 19,5(P) 34 0 16 mm	1,8 3,1(P) 1,2	A ³⁻¹⁰ ⁴⁰	1,8 3,1(P) 1-2 3-4 0 2,6 5 mm	3,1(A) 5,6(P) ¹⁻² ³⁻⁴ 0 4,6 mm	25° 45°(P) ¹⁻² ³⁻⁴ 0 36° 90°	25° 45°(P) ¹⁻² ³⁻⁴ 0 36° 90°	25° 45°(P) ¹⁻² ³⁻⁴ 0 36° 90°	25° 45°(P) ¹⁻² ³⁻⁴ 0 36° 90°	25° 45°(P) ¹⁻² ³⁻⁴ 0 36° 90°	20° 3-4 40°
2-pole NC + NC snap action	ZCMV29D44+ ZCE10 ↔	ZCMV29D44 + ZCE106 ⊖	ZCMV29D44 + ZCE11 ⊖	ZCMV29D44+ ZCE02 ⊖	ZCMV29D44 + ZCE026 ⊖	ZCMV29D44 + ZCE24 ↔	ZCMV29D44+ ZCEF0 ⊖		ZCMV29D44 + ZCEG1 ⊖	ZCMV29D44 + ZCEF2 ⊖	ZCMV29D44 + ZCE01 + ZCY15 ⊖	ZCMV29D44 + ZCE016 + ZCY15 ⊖	ZCMV29D44 + ZCE01 + ZCY16 ⊖	ZCMV29D44 + ZCE01 + ZCY17 ⊖	ZCMV29D44 + ZCE01 + ZCY45 ⊖	ZCMV29D44 + ZCE06
	1,8 4,2 (P) 1,2 1,2 1,2 1,2 1,2 1,2 1,2 1,2	1,8 4,2 (P) 1,2 3,4 1,2 3,4 0 5 mm 0,8	1,8 4,2 (P) 1,2 1,2 1,2 1,2 1,2 1,2 1,2 1,2	3,1(A) 7(P) 3,1(A) 7(P) 3,1(A) 7(P) 1,2 3,1(A) 7(P) 1,2 1,2 1,2 1,2 1,2 1,2 1,2 1,2	3,1(A) 7(P) 3,1(A) 7(P) 3,1(A) 7(P) 1,2 3,1(A) 7(P) 1,2 1,2 1,2 1,2 1,2 1,2 1,2 1,2	11,2(A) 25(P) 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	1,8 4,2 (P) 1,2 1,2 1,2 1,2 1,2 1,2 1,2 1,2		1,8 4,2 (P) 1,8 4,2 (P) 1,2 1,2 1,2 1,2 1,2 1,2 1,2 1,2	3,1(A) 7(P) 34 12 34 0 1,4	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 90°	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 1-2 1-2 90°	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 1-2 90°	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 1-2 90°	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 1-2 90°	20° 12 12 12 12 12 12 12 12 12 12 12 12 12
Contact operation			(A) = cam displa (P) = positive op	cement	⊖ NC contact w	vith positive opening	operation				(A) = cam displac (P) = positive ope			⊖ NC contact wi	th positive opening o	peration
Osmularita	a la ava a fa sta da		() / /	0,1					c open		(r) – positive ope					
Complementary of		s not snown	i under gene		ISTICS (see pa	ige 51)	On and		On and	D:: 20%						Duanua
Switch actuation Type of actuation	On end			By 30° cam			On end		On end	By 30° cam	≠~; r;					By any moving part
Maximum actuation speed	0.5 m/s								0.5 m/s	0.1 m/s	1.5 m/s				1.5 m/s	1 m/s
Mechanical durability	10 million operat	ting cycles							10 million operating	g cycles					10 million	5 million
Nominal For tripping	8.5 N			7 N		2.5 N	8.5 N		8.5 N	7 N.m	0.1 N.m				0.1 N.m	0.1 N.m
force or torque For positive opening	42.5 N			35 N		12.5 N	42.5 N		42.5 N	35 N.m	0.5 N.m				0.5 N.m	-
Connection	Deutsch DT04-4	P connector		•		_			Deutsch DT04-4P o	connector	-					
(1) For use at -40 °C. (2) Nitrile for indoor use.																

(3) Value taken with actuation by moving part at 100 mm from the fixing.

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Telemecanique Sensors

Limit switches

XC Standard range Miniature design, metal, XCMV Modular units for mobile equipment



(E) Telemecanique

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E Telemecaníque Sensors

			Multi-directional
		2018	
Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (3)
ZCMD21AM4+ ZCE01+ ZCY16 ⊖	ZCMD21AM4+ ZCE01+ ZCY17 ⊖	ZCMD21AM4 + ZCE01 + ZCY45 ⊖	ZCMD21AM4 + ZCE06
25° 70°(P) 12 34 90° 12°	25° 70°(P) ¹² ³⁴ ³⁴ 90° 12°	25° 70°(P) 12 34 34 9 12° 90°	20°
ZCMD25AM4 + ZCE01 + ZCY16 ⊖	ZCMD25AM4 + ZCE01 + ZCY17 ⊖	ZCMD25AM4 + ZCE01 + ZCY45 ⊖	ZCMD25AM4 + ZCE06
25° 45°(P) 34 0 36° 90°	25° 45°(P) 1-2 3-4 0 36° 90°	25° 45°(P) 34 0 36° 90°	20° 1-2 3-4 40°
ZCMD29AM4+ ZCE01+ ZCY16 ⊖	ZCMD29AM4 + ZCE01 + ZCY17 ⊖	ZCMD29AM4 + ZCE01 + ZCY45 ⊖	ZCMD29AM4 + ZCE06
25° 70°(P) 12 34 0 12° 90°	25° 70°(P) 12 34 90° 12°	25° 70°(P)	20°



	By any moving part
	+
1.5 m/s	1 m/s
10 million	5 million
0.1 N.m	0.1 N.m
0.5 N.m	-

Limit switches

XC Standard range Miniature design, metal, XCMV Modular units for mobile equipment



(3) Value taken with actuation by moving part at 100 mm from the fixing.



E Telemecaníque Sensors

			Multi-directional
		2014	
Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (3)
ZCMV21M12 + ZCE01 + ZCY16 ⊖	ZCMV21M12 + ZCE01 + ZCY17 ⊖	ZCMV21M12 + ZCE01 + ZCY45 ⊖	ZCMV21M12 + ZCE06
25° 70°(P) ¹² ³⁴ ³⁴ ³⁴ ⁹ ¹² ^{90°}	25° 70°(P) 12° 90° 12°	25° 70°(P) 1-2 3-4 3-4 90° 12°	20°
ZCMV25M12 + ZCE01 + ZCY16 ⊖	ZCMV25M12 + ZCE01 + ZCY17 ⊖	ZCMV25M12 + ZCE01 + ZCY45 ⊖	ZCMV25M12 + ZCE06
25° 45°(P) 34 0 36° 90°	25° 45°(P) 34 0 36° 90°	25° 45°(P) 34 0 36° 90°	20° ¹⁻² 3-4 40°
ZCMV29M12 + ZCE01 + ZCY16 ⊖	ZCMV29M12 + ZCE01 + ZCY17 ⊖	ZCMV29M12 + ZCE01 + ZCY45 ⊖	ZCMV29M12 + ZCE06
25° 70°(P) 12 12 12 12°	25° 70°(P) 12 90° 12°	25° 70°(P) 14 14 14 14 14 14 14 14 14 14	20°

↔ NC contact with positive opening operation

	By any moving part
1.5 m/s	1 m/s
10 million	5 million
0.1 N.m	0.1 N.m
0.5 N.m	-

Limit switches

XC Standard range Miniature design, metal, XCMV Modular units for mobile equipment



(3) Value taken with actuation by moving part at 100 mm from the fixing.

			Multi-directional
		ZCY15	
Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (3)
ZCMV41L03 + ZCE01 + ZCY16 ⊖	ZCMV41L03 + ZCE01 + ZCY17 ⊖	ZCMV41L03 + ZCE01 + ZCY45 ⊖	ZCMV41L03 + ZCE06
25° 70°(P) BC-BD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-MD-MM BD-M	25° 70°(P) BD-BD-WM BD-B	25° 70°(P)	20° BK BK WH BY SD BAN BY SD BAN W SD SD BAN W SD SD BAN W SD S
	⊖ NC contact with	positive opening op	eration

	By any moving part
1.5 m/s	1 m/s
10 million	5 million
0.1 N.m	0.1 N.m
0.5 N.m	-

XC Standard range Miniature design, metal, XCMV Complete units for mobile equipment



(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.
 (2) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

Dimensions (continued), connections

Limit switches

XC Standard range Miniature design, metal, XCMV Complete units for mobile equipment





XC Standard range Miniature design, metal, XCMV Modular units for mobile equipment



ZCMV41L03



Dimensions of heads			
ZCE106, ZCE10	ZCE11	ZCE02, ZCE026	
ZCE24			
12 19			



(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.
(2) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(3) External diameter of cable 6.4 mm.

XC Standard range Miniature design, metal, XCMV Modular units for mobile equipment



f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.



Complete units

pre-cabled

Limit switches

XC Basic range Miniature design, plastic, XCMH Pre-cabled

Pages 70 et 71

Page 71

With head for multi-directional movement, lateral cable output



Page 72

D With head for linear movement (plunger), lateral or axial cable output

 $\hfill\square$ With head for rotary movement (lever), lateral or axial cable output



General characteristics

Limit switches

XC Basic range Miniature design, plastic, XCMH Pre-cabled

Environment chara	Icteristics				
Conformity to standards	Products	C€, 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		cULus, CCC, UKCA			
Protective treatment	Standard version	"TC"			
Ambient air temperature	For operation	- 25+ 70 °C			
	For storage	- 40+ 70 °C			
Vibration resistance	Conforming to IEC 60068-2-6	5 gn (10500 Hz)			
Shock resistance	Conforming to IEC 60068-2-27	25 gn (18 ms)			
Electric shock protection		Class II conforming to IEC 61140 and NF C 20-030			
Degree of protection		IP 66, IP67 conforming to IEC 60529 IK 04 conforming to IEC 50102			
Materials	Bodies	Plastic			
	Heads	Zamak			
Contact block char	acteristics				
Rated operational character	istics	∼ AC-15 ; C300 (Ue = 240 V, Ie = 0.75 A) ; Ith = 3 A			
		DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix C, EN 60947-5-1			
Rated insulation voltage	1.0	Ui = 300 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 vo	Itage	U imp = 4 kV conforming to IEC 60947-1, IEC 60664			
Short-circuit protection		6 A cartridge fuse type gG (gl)			

References, characteristics

Limit switches

XC Basic range Miniature design, plastic, XCMH Pre-cabled

Type of hea	ad	Plunger (fixing	by the body)					-
Type of oper	ator	Metal end plunge	r	Metal end plunger with silicone boot (1)	Steel roller plunger approach	for lateral cam	Steel roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizonta actuation in 1 direction
Cable output	t	Lateral	Axial	Lateral	Lateral	Axial	Lateral	Lateral
Referen	ces	1		1	1	1	1	
뛰 빙	2-pole NC + NO snap action	XCMH2110L1 → XCMH2110L2 →	XCMH2110LA1 ♠ ⊖	XCMH211AL05 ⊖ XCMH211AL1 ⊖	XCMH2102L1 ⊖ XCMH2102L2 ⊖	XCMH2102LA1 ♠ ⊖	XCMH2103L1 → XCMH2103L2 →	XCMH2121L1 ⊖ XCMH2121L2 ⊖
2. –		CCMH2110L3 ⊖		0	XCMH2102L3 → XCMH2102L5	TV A	CCMH2103L3 ⊖ XCMH2103L5	XCMH2121L5 ⊖
					⊖ XCMH2102L6 ⊖	e. Con.	⊖ XCMH2103L8 ⊖	
					XCMH2102L7 → XCMH2102L8 → XCMH2102L9 →			
	2-pole NC + NC snap action	XCMH2910L1 → XCMH2910L2 → XCMH2910L3 →	Ś	-) ••,	XCMH2902L1 → XCMH2902L5 →	-	XCMH2903L1 ⊖	-
		1,8 4,2(P) BN-BU B	1,8 4,2(P) BK-BK-WH BK-BK-WH BK-BK-WH BN-BU 0,5 5mm 0,8	1,8 4,2(P) BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU D D D D D D D D D D D D D D D D D D D	3,1(A) 7(P) BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU D D D D D D D D D D D D D D D D D D D	3,1(A) 7(P) BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU D D D D M M M	3,1(A) 7(P) BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU D D M M M M	65(A) 14 (P) BN-BU
	0.5 m cable (L05)	_	-	0.055	-	-	-	-
	1 m cable (L1)	0.064	0.064	0.069	0.070	0.070	0.070	0.077
	2 m cable (L2)	0.092	-	-	0.099	-	0.099	0.106
	3 m cable (L3)	0.120	-	-	0.127	-	0.127	-
	5 m cable (L5)	-	-	-	0.184	-	0.184	0.191
	6 m cable (L6)	-	-	-	0.212	-	-	-
	7 m cable (L7)	-	-	-	0.240	-	-	-
	8 m cable (L8)	-	-	-	0.269	_	0.269	-
	9 m cable (L9)	-	-	-	0.297	-	-	-
Contact ope		closed open		(A) = cam displace (P) = positive oper		⊖ NC contact wit	h positive opening	operation
Complex	mentary char		ot chown u		81	tics (and many	60)	
	-		or shown u	ider general		lics (see page	09)	
Switch actua		On end			By 30° cam			
Type of actua	ation							
Maximum ac	tuation speed	0.5 m/s		1.5 m/s	0.5 m/s			0.5 m/s
Mechanical of		5 million operating	q cycles					
Minimum	For tripping	8.5 N.m		0.1 N.m	7 N.m			2.5 N.m
	For positive	42.5 N.m		0.5 N.m	35 N.m			12.5 N.m
force or torque	opening							

(1) Silicone boot for outdoor use.

Available 1st quarter 2024.

References, characteristics

Limit switches

XC Basic range Miniature design, plastic, XCMH Pre-cabled

		_	_		_		
Type of he	ad	Plunger (fixing	Plunger (fixing by	y the head)	Rotary (fixing b	y the body)	
		by the body)					
			Terretaria				
Type of oper	ator	Thermoplastic roller lever plunger, horizontal actuation in 1 direction Head oriented at 270°	M12 with metal end plunger	M12 with steel roller plunger for lateral cam approach	Thermoplastic rolle	er lever	Thermoplastic roller lever Head oriented at 180°
Cable outpu	t	Lateral	Lateral	Lateral	Lateral	Axial	Lateral
Referen	ces	1	1			1	1
₩ <u></u>	2-pole NC + NO snap action	XCMH2121L1R0 ⊖	XCMH21F0L1 ⊖	XCMH21F2L1 ⊖		XCMH2115LA1 ▲ ⊖	XCMH2115L1L0 ⊖
M N N N N N			XCMH21F0L2 ⊖	XCMH21F2L2 ⊖	XCMH2115L2 → XCMH2115L3 →	_	XCMH2115L2L0 ⊖ XCMH2115L3L0 ⊖
			20		XCMH2115L8 ⊖		
		65(A) 14(P) BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU 0 0 2,8	1,8 4,2(P) BN-BU BN-BU BK-BK-WH BN-BU 0,8 5mm	3,1(A) 7(P) BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU D 1,4	25° 70°(P) BN-BU BN-BU BN-BU BN-BU D BN-BU 0 90°	25* 70*(P) BN-BU BK-BK-WH BN-BU BN-BU 12*	25* 70*(P) BN-BU BN-BU BN-BU BN-BU BN-BU BN-BU D D D D D D D D D D D D D D D D D D D
Weight (kg)	1 m cable (L1)	0.077	0.081	0.091	0.106	0.106	0.106
	2 m cable (L2)	-	0.110	0.120	0.134	-	0.134
	3 m cable (L3)	-	-	-	0.163	-	0.163
	8 m cable (L8)		-		0.304	-	-
Contact ope	ration	closed open	(A) = cam displacem (P) = positive openin		⊖ NC contact with	positive opening opera	ation
Comple	mentary cha	racteristics not	shown under	general chara	acteristics (see	page 69)	
Switch actua	ation	By 30° cam	On end	By 30° cam°			
Type of actu	ation						
Maximum ac	tuation speed	0.5 m/s	0.5 m/s	0.1 m/s	0.1 m/s	1.5 m/s	
Mechanical	durability	5 million operating cy					
Minimum	For tripping	2.5 N.m	8.5 N.m	7 N.m	0.1 N.m	0.1 N.m	
force or torque	For positive opening	12.5 N.m	42.5 N.m	35 N.m	0.5 N.m	0.5 N.m	
Cabling		PvR cable, 4 x 0.34 n	1m²				
Available 1	st quarter 2024						

Available 1st quarter 2024.

References, characteristics

Limit switches

XC Basic range Miniature design, plastic, XCMH Pre-cabled

Type of head		Rotary (fixing by	the body)	Multi-directional	
Type of operator		Variable length thermoplastic roller lever	Round thermoplastic rod lever, Ø 6 mm (1)	Spring lever with thermoplastic end (1)	"Cat's whisker" (1)
Cable output		Lateral	Lateral	Lateral	Lateral
References				л. Г	
	2-pole NC + NO snap action	XCMH2145L1 ⊖	XCMH2159L1	XCMH2107L1	XCMH2106L1
H R		XCMH2145L2 ⊖	XCMH2159L2	XCMH2107L2	XCMH2106L2
		, n h	100	XCMH2107L3	
		25' 70'(P) BK-BK/W- B	25° BK-BKWH BK-BKWH BK-BU BK-BU 0 12°	20° BU-BN BU-BN BU-BN BU-BN	BC BK WH BC BR WH BC BK WH BU-BN
Weight (kg)	1 m cable (L1)	0.115	0.070	0.079	0.068
	2 m cable (L2)	0.144	0.099	0.107	0.096
	3 m cable (L3)	-	-	0.136	-
Contact operation	closed	(A) = cam displaceme (P) = positive opening	point	⊖ NC contact with p	ositive opening operation
Complementar	y characteristics no	ot shown under gene	ral characteristics	s (see page 69)	
Switch actuation		By 30° cam	By any moving part		
Type of actuation					
Maximum actuation sp	need	1.5 m/s	1 m/s	1 m/s (any direction)	
Maximum actuation sp Mechanical durability		5 million operating cy		This (any unection)	
				0.4 N	0.4 N
Minimum	For tripping	0.1 N.m	0.1 N.M	0.1 N.M	0.1 N.M
force or	For tripping For positive	0.1 N.m 0.5 N.m	0.1 N.m –	0.1 N.m -	0.1 N.m -
	For tripping For positive opening	0.1 N.m 0.5 N.m PvR cable, 4 x 0.34 r	-		

(1) Value taken with actuation by moving part at 100 mm from the fixing.

XC Basic range Miniature design, plastic, XCMH Pre-cabled



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

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(2) External diameter 4.2 mm.

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XC Basic range Miniature design, plastic, XCMH Pre-cabled

Dimensions (continued) XCMH21F0L1 and XCMH21F0L2



e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm. XCMH2115L1, XCMH2115L2, XCMH2115L5 and XCMH2115L8







e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

XCMH2115LA1



XCMH2115L1L0, XCMH2115L2L0 and XCMH2115L3L0



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

(2) External diameter 4.2 mm.

(3) Fixing nut thickness 3.5 mm.



Dimensions (continued)

Limit switches

XC Basic range Miniature design, plastic, XCMH Pre-cabled

XCMH2145L1 and XCMH2145L2 33,7 Ø 16 5,8 ..83,5 33,5.. 103 53.. 143 93... (1)50 (2)9 20 16 30 34,74 XCMH2107L1, XCMH2107L2 and XCMH2107L3



Mounting: distance required for connection Limit switches with cable lateral output



d: min. 15 mm.

(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

(2) External diameter 4.2 mm.

XCMH2159L1 and XCMH2159L2



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XCMH2106L1 and XCMH2106L2



Limit switches with cable axial output





■ XCMN

pre-cabled

Limit switches

XC Basic range Miniature design, plastic, XCMN

Image: With head for linear movement (plunger). Fixing by the body Page 78 Image: With head for linear movement (plunger). Fixing by the head Image: With head for linear movement (plunger). Fixing by the head Image: With head for linear movement (plunger). Fixing by the head Image: With head for rotary movement (lever) or multi-directional Image: With head for rotary movement (lever) or multi-directional Image: With head for rotary movement (lever) or multi-directional Image: With head for rotary movement (lever) or multi-directional Image: With head for rotary movement (lever) or multi-directional



General characteristics

Limit switches

XC Basic range Miniature design, plastic, XCMN

Conformity to standards	Products	C€, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25+ 70°C
	For storage	-40+70°C
/ibration resistance	Conforming to IEC 60068-2-6	5 gn (10500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	25 gn (18 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 IEC 62262
Materials	Bodies	Plastic
	Heads	Zamak
Contact block char	actoristics	
Rated operational character		∼ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 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 = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage		U imp = 4 kV conforming to IEC 60947-1, IEC 60664
		6 A cartridge fuse type gG (gl)

References, characteristics, dimensions

Limit switches

XC Basic range Miniature design, plastic, XCMN Pre-cabled



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep

(2) External diameter 7.5 mm.

e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

References, characteristics, dimensions (continued)

Limit switches

XC Basic range Miniature design, plastic, XCMN Pre-cabled



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(2) External diameter 7.5 mm.

Presentation, general characteristics

Limit switches

XC Standard range Compact design, plastic, XCKP and XCKT Compact design, metal, XCKD



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Environment chara	cteristics	
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
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25+ 70°C (- 40+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)
	For storage	- 40+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10…500 Hz) except product with head ZCE24: 20 gn
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms) except head ZCE08: 15 gn (11 ms) and ZCE24: 30 gn (18 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20-030 for XCKP and XCKT
		Class I conforming to IEC 61140 and NF C 20-030 for XCKD
Degree of protection		IP 66 and IP 67 conforming to IEC 60529; IK 04 conforming to IEC 62262 for XCKP and XCKT, IK 06 conforming to IEC 62262 for XCKD
Repeat accuracy		0.1 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry or connector	Depending on model	Either tapped entry for n° 11 or n° 13 cable gland, tapped ISO M16 x 1.5 or ISO M20 x 1.5, tapped 1/2" NPT or PF 1/2 (G1/2) or M12 connector
Materials		XCKD Zamak bodies and heads, XCKP and XCKT plastic bodies, Zamak heads

Telemecanique

General characteristics (continued)

Limit switches

XC Standard range Compact design, plastic, XCKP and XCKT Compact design, metal, XCKD

Contact block chara	acteristics		
Rated operational characteristics	XE2•P	\sim AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conform	ning to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3•P	\sim AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conform	
Rated insulation voltage	XE2•P	Ui = 500 V degree of pollution 3 conforming to II Ui = 300 V conforming to UL 508, CSA C22-2 n ^o	
	XE3•P	Ui = 400 V degree of pollution 3 conforming to II Ui = 300 V conforming to UL 508, CSA C22-2 n ^o	
Rated impulse	XE2•P	U imp = 6 kV conforming to IEC 60947-1, IEC 6	0664
withstand voltage	XE3•P	U imp = 4 kV conforming to IEC 60947-1, IEC 6	0664
Positive operation (depending	g on model)	NC contacts with positive opening operation confo	rming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3	
Short-circuit	XE2•P	10 A cartridge fuse type gG (gl)	
protection	XE3•P	6 A cartridge fuse type gG (gl)	
Connection	XE2SPe151 and XE2SP2141	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x	1.5 mm ²
(screw clamp terminals)	XE2NP21e1 and XE2NP31e1	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2	.5 mm ²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x	1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed		XE2SPe151, XE2SP2141 and XE3SP: 0.01 m/	minute
(for head with end plunger)		XE2NP21 •1, XE2NP31 •1 and XE3NP: 6 m/min	nute
Electrical durability		 Conforming to IEC 60947-5-1 Appendix C Utilisation categories AC-15 and DC-13 Maximum operating rate: 3600 operating cyc Load factor: 0.5 	les/hour
		XE2SPe151, XE2SP2141	XE2NP21e1, XE2NP31e1
	AC supply		
	50/60 Hz ~	5 5 6 1 1 1 1 1 1 1 1 1 1 1 1 1	5 3 2 2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2
	DC supply =	Current in A Power broken in W for 5 million operating	Current in A Power broken in W for 5 million operating
	DC supply ===	cycles.	cycles.
		Voltage V 24 48 120	Voltage V 24 48 120
		$\frac{1}{1000}$ W 10 7 4	Mm. W 13 9 7
		For XE2SPe151 on \sim or $=$, NC and NO contact with reverse polarity.	
		XE3SP••••	XE3NP
	AC supply 50/60 Hz \sim mm inductive circuit	5 1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7
	DC supply	Current in A Power broken in W for 5 million operating	Power broken in W for 5 million operating
		cycles. Voltage V 24 48 120	cycles. Voltage V 24 48 120
		$\frac{1}{120}$ M 3 2 1	$\frac{1}{120}$ W 4 3 2
			•• • J Z

References, characteristics

Limit switches

XC Standard range Compact design, plastic, XCKP Complete switches with 1 cable entry

Type of head	Plunger (fixing by the body)					
	Form B (1)		Form C (1)	Form E (1)		
	-	A	@	Ð	Ø	D
	Ô	ľ	ľ			
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 direction
References of complete switc	hes with 1 IS	O M16 x 1.5 c				
	XCKP2110P16 ⊖	XCKP2111P16 ⊖	XCKP2102P16 ⊖	XCKP2121P16 ⊖	XCKP2127P16 ⊖	XCKP2128P16 ⊖
²⁵ ⁴⁷	1.8 4.6(P) 13-14 21-22 13-14 0 0.9 5mm	1.8 4.6(P) 13-14 13-14 0 0.9 5mm	3.1(A)7.8(P) ²¹⁻²² ¹³⁻¹⁴ 0 mm 1.5	6.5(A) 15.7(P)	6.5(B) 15.7(P) 13-14 13-14 0 mm 3	9.8(A)22.5(P) ²¹⁻²² ¹³⁻¹⁴ 0 mm 4.9
$\begin{array}{c c} & & \\ & & \\ \hline \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline & & \\ \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline \hline & & \\ \hline \hline & & \\ \hline \hline \\ \hline & & \\ \hline \hline \\ \hline & & \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \hline \\ \hline \hline$	XCKP2510P16 ⊖	XCKP2511P16 ⊖	XCKP2502P16 ⊖	XCKP2521P16 ⊖	XCKP2527P16 ⊖	XCKP2528P16 ⊖
[4] [8]	1.8 3.2(P) ²¹⁻²² ¹³⁻¹⁴ 0 3 5mm	1.8 3.2(P) 13-14 0 3 5mm	3.1(A) 5.6(P) ²¹⁻²² ¹³⁻¹⁴ 0 5.2 mm	6.5(A) 11.3(P) ²¹⁻²² ¹³⁻¹⁴ 0 10.5 mm	6.5(B) 11.3(P) ²¹⁻²² ¹³⁻¹⁴ 0 10.5 mm	9.8(A) 17.2(P) ²¹⁻²² ¹³⁻¹⁴ 0 16.1 mm
□ 2-pole NC + NC snap action □ □ □ □ □	ZCP29 + ZCPEP16 + ZCE10 → 1.8 4.6(P) 1.2 0 5 5 mm	ZCP29 + ZCPEP16 + ZCE11 → 1.8 4.6(P) 1122 → 1122 → 1122 → 0.9 →	ZCP29 + ZCPEP16 + ZCE02 3.1(A)7.8(P)	ZCP29 + ZCPEP16 + ZCE21 \bigcirc 6.5(A) 15.7(P)	ZCP29 + ZCPEP16 + ZCE27 \ominus 6.5(B) 15.7(P) 11-22 11-22 11-22 0 3 0 3 0 3 0 3 0 3 0 3 0 3 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5	ZCP29 + ZCPEP16 + ZCE28 9.8(A)22.5(P) 9.8(A)22.5(P) 4.9 4.9 mm
E 2-pole NC + NC simultaneous, Slow break (XE2NP2141) E	ZCP27 + ZCPEP16 + ZCE10 ↔ 1.8 3.2(P) 1.2 → 0 5mm	ZCP27 + ZCPEP16 + ZCE11 → 1.8 3.2(P) 1112 0 5mm	1.5 ZCP27 + ZCPEP16 + ZCE02 → 3.1 5.6(P) 1122 0 mm	ZCP27 + ZCPEP16 + ZCE21 ⊕ 6.6(A) 11.6(P) 1:32 0	ZCP27 + ZCPEP16 + ZCE27 ↔ 6.6(B) 11.6(P) 11.22 0 mm	ZCP27 + ZCPEP16 + ZCE28 → 5.3(A) 11:22 0 mm
E 3-pole NC + NC + NO snap action (XE3SP2141) 8	ZCP39 + ZCPEP16 + ZCE10 → 1.8 4.6(P)	ZCP39 + ZCPEP16 + ZCE11 ④ 1.8 4.6(P)	ZCP39 + ZCPEP16 + ZCE02 → 3.1(A) 7.8(P)	ZCP39 + ZCPEP16 + ZCE21 \ominus 6.5(A) 15.7(P)	ZCP39 + ZCPEP16 + ZCE27 6.5(B) 15.7(P) 4134 4134 4134 4134 4134 4134 4134 413	ZCP39 + ZCPEP16 + ZCE28 9.8(A) 22.5(P) 9.8(A) 22.5(P) 4.9 mm
$ \begin{array}{c c} \hline & \hline $	ZCP37 + ZCPEP16 + ZCE10 → 1.8 3.2(P) 21-22 1-33 1-34 0 3 5mm	ZCP37 + ZCPEP16 + ZCE11 → 1.8 3.2(P)	ZCP37 + ZCPEP16 + ZCE02 → 3.1(A) 5.6(P) 1122 1123 0 5.2 mm	ZCP37 + ZCPEP16 + ZCE21 → 6.5(A)11.3(P)	ZCP37 + ZCPEP16 + ZCE27 → 6.5(B)11.3(P) 13.55 0 10.5 mm	ZCP37 + ZCPEP16 + ZCE28 ↔ 9.8(A) 17.2(P) 1314 0 16.1 mm
Weight (kg)	0.090	0.090	0.095	0.105	0.100	0.105
References of complete switc		•	-			
For an entry tapped for a n° 11 cable gland, repla Contact operation	ce P16 in the referen closed open	ice by G11. Example	:: XCKP2110P16 bec (A) (B) = cam displ (P) = positive open	acement	11 or ZCPEP16 becc → NC contact wit operation	
Characteristics						
Switch actuation	On end		By 30° cam			
Type of actuation	.₩ F					
Maximum actuation speed	0.5 m/s			1 m/s		
Mechanical durability (in millions of operating cycles)	15		10	15		
Minimum force or torque For tripping For positive opening For positive opening	15 N 45 N		12 N 36 N	6 N 18 N		
Cable entry (3) (1) Form conforming to EN 50047, see page 24		16 x 1.5 mm for ISO	cable gland, clampi	ing capacity 4 to 8 m	ım	

(1) Form conforming to EN 50047, see page 24.
(2) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

References, characteristics (continued)

Limit switches

XC Standard range Compact design, plastic, XCKP Complete switches with 1 cable entry






XC Standard range Compact design, plastic, XCKP Complete switches with 1 cable entry



Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
 2 x Ø 3 holes for support studs, depth 4 mm.
 Fixing nut thickness 3.5 mm.

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12.5

16

Limit switches

XC Standard range Compact design, plastic, XCKP Complete switches with 1 cable entry



12.5

JATH

References, characteristics, connections, dimensions

Limit switches

XC Standard range Compact design, plastic, XCKP M12 connector



References, characteristics, dimensions

Limit switches

XC Standard range Compact design, plastic, XCKP M12 connector



References, characteristics

Limit switches

XC Standard range Compact design, metal, XCKD Complete switches with 1 cable entry

Type of he		Plunger (fixing Form B (1)	by the body)	Form C(4)	Form E (1)		
		Form B (1)		Form C (1)	Form E (1)		•
		Ĉ			Ê	Ĉ	B
Type of oper	rator	Metal end plunger	Metal end plunger with elastomer boot (2)	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 direction
Referen	ces of complete sw	vitches with 1	ISO M16 x 1	.5 cable entr	y (3)		
14 13 2221 2221	2-pole NC + NO snap action (XE2S P2151)	XCKD2110P16 → 1.8 4.6(P) 21-22 13-14 0 5mm	XCKD2111P16 → 1.8 4.6(P) 21.22 13.44 1.8 4.6(P) 21.22 13.44 0 5mm	3.1(A)7.8(P)	XCKD2121P16 $ \bigcirc $ 6.5(A) 15.7(P) $ \bigcirc $ 1242 1244 1244 0 mm	XCKD2127P16 → 6.5(B) 15.7(P) 21-22 13-14 0 → mm	XCKD2128P16 9.8(A)22.5(P) 9.8(A)22.5(P) 13-14 13-14 0 mm
√ <u>1</u> 13	2-pole NC + NO break before make, slow	0.9 XCKD2510P16 ⊖	0.9 ⁴ XCKD2511P16 ⊖	×CKD2502P16	XCKD2521P16 ⊖	xckD2527P16 ⊖	4.9 XCKD2528P16 ⊖
22	break (XE2N P2151)	1.8 3.2(P) ²¹⁻²² ¹³⁻¹⁴ 0 3 5mm	1.8 3.2(P) ²¹⁻²² ¹³⁻¹⁴ 0 3 5mm	3.1(A) 5.6(P) ²¹⁻²² ¹³⁻¹⁴ 0 5.2 mm	6.5(A) 11.3(P) ²¹⁻²² ¹³⁻¹⁴ 0 10.5 mm	6.5(B) 11.3(P) ²¹⁻²² ¹³⁻¹⁴ 0 10.5 mm	9.8(A) 17.2(P) 13-14 0 16.1 mm
22 22 	2-pole NC + NC snap action (XE2S P2141)	ZCD29 + ZCDEP16 + ZCE10 → 1.8 4.6(P) 1412 2122 0 5 5 mm	ZCD29 + ZCDEP16 + ZCE11 \bigoplus 1.8 4.6(P) 1.22 1.22 0 0.9 5mm	ZCD29 + ZCDEP16 + ZCE02 → 3.1(A)7.8(P) 1.5	ZCD29 + ZCDEP16 + ZCE21 \ominus 6.5(A)15.7(P) 1112 \rightarrow 0 \rightarrow 3 mm	ZCD29 + ZCDEP16 + ZCE27 6.5(B) 15.7(P)	ZCD29 + ZCDEP16 + ZCE28 9.8(A)22.5(P) 1122 1122 0 4.9 mm
25 27 11 23 24 24 24	2-pole NC + NC simultaneous, slow break (XE2N P2141)	ZCD27 + ZCDEP16 + ZCE10 1.8 3.2(P) 1.2 3.2(P) 1.2 5 mm	ZCD27 + ZCDEP16 + ZCE11 → 1.8 3.2(P) 11-12 0 5mm	ZCD27 + ZCDEP16 + ZCE02 → 3.1 5.6(P) ¹¹⁻¹² 2 ¹⁻²² 0 5mm	ZCD27 + ZCDEP16 + ZCE21 ↔ 6.6(A) 11.6(P) 11-2 0 5mm	ZCD27 + ZCDEP16 + ZCE27 ↔ 6.6(B) 11.6(P) 11-22 0 5mm	ZCD27 + ZCDEP16 + ZCE28 ↔ 5.3(A) 1:32 0 5mm
32 31 22 1 14 1 13	3-pole NC + NC + NO snap action (XE3S P2141)	ZCD39 + ZCDEP16 + ZCE10 → 1.8 4.6(P) 1.8 4.6(P) 0.9 5mm	ZCD39 + ZCDEP16 + ZCE11 → 1.8 4.6(P) 1.8 4.6(P) 0.9 5mm	ZCD39 + ZCDEP16 + ZCE02 → 3.1(A) 7.8(P)	ZCD39 + ZCDEP16 + ZCE21 6.5(A) 15.7(P) 1343 0 3 mm	ZCD39 + ZCDEP16 + ZCE27 6.5(B) 15.7(P)	ZCD39+ ZCDEP16+ ZCE28 ↔ 9.8(A) 22.5(P) 9.8(A) 22.5(P) 0 4.9
32 32 14 14 14 13 13	3-pole NC + NC + NO break before make, slow break (XE3N P2141)	ZCD37 + ZCDEP16 + ZCE10 ↔ 1.8 3.2(P) 1.4 3.2(P) 1.4 3 5mm	ZCD37 + ZCDEP16 + ZCE11 ↔ 1.8 3.2(P)	ZCD37 + ZCDEP16 + ZCE02 → 3.1(A) 5.6(P)	ZCD37 + ZCDEP16 + ZCE21 ↔ 6.5(A)11.3(P) 10.5 mm	ZCD37 + ZCDEP16 + ZCE27 → 6.5(B)11.3(P) 0 10.5 mm	ZCD37 + ZCDEP16 + ZCE28 → 9.8(A)17.2(P) 0 16.1 mm
Weight (kg)		0.180	0.180	0.185	0.195	0.190	0.195
	ces of complete sw		· · · · · · · · · · · · · · · · · · ·				
For an entry f	apped for a n° 11 cable gland	l, replace P16 in the	e reference by G11.	Example: XCKD21	10P16 becomes XCF	(D2110G11 or ZCDE	P16 becomes
Contact ope		closed open		(A) (B) = cam displ (P) = positive oper		⊖ NC contact with µ operation	oositive opening
Character Switch actua		On end		By 30° cam			
Type of actu		Unenu		By 50 Carri			
				→			
	tuation speed	0.5 m/s			1 m/s		
Mechanical (in millions of	durability operating cycles)	15		10	15		
Minimum for	rce For tripping	15 N		12 N	6 N		
or torque	For positive opening	45 N	6 x 1 E	36 N	18 N		
Cable entry (1) Form cons (2) Nitrile for	forming to EN 50047, see pag		o x 1.5 mm for ISO	caple gland, clamp	ing capacity 4 to 8 mr	n	

(2) Nitrile for indoor use.
 (3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.



References, characteristics (continued)

Limit switches

XC Standard range Compact design, metal, XCKD Complete switches with 1 cable entry

Type of head	Plunger (fixing	g by the head)	Rotary (fixing	by the body)			Multi- directional	
	Ĉ	Ĉ	Form A (1)	Í		P		
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker" (2)	
References of compl	lete switche	s with 1 ISO	M16 x 1.5 ca	able entry (3)				
 ♀ 5 2-pole NC + NO snap action ★ 8 (XE2S P2151) 	XCKD21H0P16 1.8 4.6(P) 21:22 13:44 21:22 13:44 0,9 5mm		XCKD2118P16 → 25° 70°(P) 1311 1312 0 120° 90°	XCKD2145P16 → 25° 70'(P) 13-14 0 120° 90°	XCKD2139P16 → 25° 70°(P) 12° 70°(P) 12° 90°	XCKD2149P16 → 25° 70°(P) 1247 1247 1344 0 120° 90°	XCKD2106P16	
Image: Constraint of the second se	5.5 XCKD25H0P16 → 1.8 3.2(P) ²¹⁻²² 1.3'14 0 3 5mm	XCKD25H2P16 → 3.1(A) 5.6(P) ²¹⁻²² ¹³⁻¹⁴ 0 5.2 mm	XCKD2518P16 → 25° 46°(P) 21.22 13-14 0 42° 90°	$\begin{array}{c} \textbf{XCKD2545P16} \\ {} \\ {} \\ \hline \\ $	XCKD2539P16 → ^{25°} 46°(P) ^{21:22} 0 42° 90°	XCKD2549P16 25° 46°(P) 21:22 13:44 0 42° 90°	21-22 21-22 13-14 0 45°	
□ 2-pole NC + NC □ □ □ □ □ □ □ □ □ □	ZCD29 + ZCDEP16 + ZCEH0 ⊖	ZCD29 + ZCDEP16 + ZCEH2 ⊖	ZCD29 + ZCDEP16 + ZCE01 + ZCY18 →	ZCD29 + ZCDEP16 + ZCE01 + ZCY45 →	ZCD29 + ZCDEP16 + ZCE01 + ZCY39 →	ZCD29 + ZCDEP16 + ZCE01 + ZCY49 ⊖	ZCD29 + ZCDEP16 + ZCE06	
	1.8 4.6(P) 11-12 21-22 11-12 21-22 0 5mm 0.9	3.1(A)7.8(P) ¹¹⁻¹² ²¹⁻²² ²¹⁻²² ²¹⁻²² ¹¹⁻¹² ²¹⁻²² ¹¹⁻¹²	25° 70°(P) 11-22 11-22 11-22 11-22 0 12° 90°	25° 70°(P) 21:22 21:22 21:22 12:22 12:22 12:22 12:22 12:22 90°	25° 70°(P) 11-12 11-12 11-12 11-12 11-12 11-12 11-12 90° 90°	25° 70°(P) ¹¹⁻¹² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²² ¹²⁻²²	20° 11-12 11-12 11-12 11-12 11-12 11-12 11-12 15°	
2-pole NC + NC simultaneous, slow break 2- 2- 2- 2- 2- 2-	ZCD27 + ZCDEP16 + ZCEH0 ↔	ZCD27 + ZCDEP16 + ZCEH2 ↔ 3.1 5.6(P)	ZCD27 + ZCDEP16 + ZCE01 + ZCY18 → 25° 46°(P)	ZCD27 + ZCDEP16 + ZCE01 + ZCY45 → 25° 46°(P)	ZCD27 + ZCDEP16 + ZCE01 + ZCY39 → 25° 46°(P)	ZCD27 + ZCDEP16 + ZCE01 + ZCY49 ↔ 25° 46°(P)	ZCD27 + ZCDEP16 + ZCE00 3.1(A) 7.8(P)	
	11-12 21-22 0 5mm	11-12 21-22 0 5mm	11-12 21-22 0 90°	11-12 21-22 0 90°	11-12 21-22 0 90°	11-12 21-22 0 90°	1.5 mm	
$\begin{array}{c c} \hline & \hline $	ZCD39 + ZCDEP16 + ZCEH0 ⊖	ZCD39 + ZCDEP16 + ZCEH2 →	ZCD39 + ZCDEP16 + ZCE01 + ZCY18 ⊖	ZCD39 + ZCDEP16 + ZCE01 + ZCY45 ↔	ZCD39 + ZCDEP16 + ZCE01 + ZCY39 ⊖	ZCD39 + ZCDEP16 + ZCE01 + ZCY49 ⊖	ZCD39 + ZCDEP16 + ZCE06	
	1.8 4.6(P) 1.3 4.4 1.3 4.4	3.1(A) 7.8(P)	25° 70°(P) 3133 3134 13-14 90° 12°	25° 70°(P)	25° 70°(P)	25° 70°(P)	20° 13.72 13.74 13.74 15.°	
Image: Second state state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image: Second state Second state Second state Second state Image:	ZCD37+ ZCDEP16 + ZCEH0 ⊖	ZCD37 + ZCDEP16 + ZCEH2 ⊖	ZCD37 + ZCDEP16 + ZCE01 + ZCY18 →	ZCD37 + ZCDEP16 + ZCE01 + ZCY45 ⊖	ZCD37 + ZCDEP16 + ZCE01 + ZCY39 →	ZCD37 + ZCDEP16 + ZCE01 + ZCY49 ⊖	ZCD37 + ZCDEP16 + ZCE06	
(XE3N P2141)	1.8 3.2(P) 21:22 31:32 13:14 0 3 5mm 0.220	3.1(A) 5.6(P) 21-22 13-32 13-32 13-14 0 5.2 mm 0.220	25° 46°(P) 21:22 3:32 13:14 0 42° 90° 0.225	25° 46°(P) 21:22 3:32 13:14 0 42° 90° 0.235	25° 46°(P) 21-22 31-32 13-14 0 42° 90° 0.235	25° 46°(P) 21-22 13-14 0 42° 90° 0.245	20° 21-22 31-32 13-14 0 45° 0.175	
References of compl								
For an entry tapped for a n° 11 cabl	le gland, replace P1	6 in the reference by	y G11 . Example: XC	KD21H0P1 6 becom	nes XCKD21H0G11	or ZCDEP16 beco	mes ZCDEG11.	
Contact operation	closed open		(A) = cam displace (P) = positive oper		⊖ NC contact wit	h positive opening	operation	
Characteristics			. , ,	<u>,</u>				
Switch actuation	On end	By 30° cam					By any moving par	
Type of actuation			<u>⇒~</u> 0 Г01				→	
Maximum actuation speed	0.5 m/s		1.5 m/s				1 m/s (any direct.)	
Mechanical durability	10 million operati	1	0.41				5 million	
Minimum For tripping force or For positive opening	15 N 45 N	10 N 36 N	0.1 N.m 0.25 N.m				0.13 N.m	
torque							[
Cable entry (1) Form conforming to EN 5004		16 X 1.5 mm for IS	C cable gland, cla	mping capacity 4 to	o o mm			
Cable entry 1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm (1) Form conforming to EN 50047, see page 24. (2) Value taken with actuation by moving part at 100 mm from the fixing. (3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.								

XC Standard range Compact design, metal, XCKD Complete switches with 1 cable entry



(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.

(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.
(4) Fixing nut thickness 3.5 mm.

Dimensions (continued)

Limit switches

XC Standard range Compact design, metal, XCKD Complete switches with 1 cable entry



References, characteristics, connections, dimensions

Limit switches

XC Standard range Compact design, metal, XCKD M12 connector



Felemecanique

References, characteristics, dimensions (continued)

Limit switches

XC Standard range Compact design, metal, XCKD M12 connector



References, characteristics, dimensions

Limit switches

XC Standard range Compact design, plastic, XCKT Complete switches with 2 cable entries

Type of head	Plunger (fixing	by the body)			Multi-directional
	Form B (1)		Form C (1)	Form E (1)	ļ
		-	~	R	
	CO P	00000	60000	E CONTRACTOR	20000
				Q	
Type of operator	Metal end plunger	Metal end plunger	Steel roller plunger	Thermoplastic roller	"Cat's whisker" (3)
		with elastomer boot (2)		lever plunger, horizonta actuation in 1 direction	I
References of complete swit	ches with 2 IS		ble entries (4)		
2 2-pole NC + NO	XCKT2110P16 →	XCKT2111P16 →	XCKT2102P16 →	XCKT2121P16 →	XCKT2106P16
,/ snap action ,/ (XE2SP3151)	1.8 4.6(P)	1.8 4.6(P)	3.1(A)7.8(P)	6.5(A) 15.7(P)	20° 21-22 13-14
-	21:22 13:14 0 5mm 0.9	21-22 13-14 0 5mm 0.9	21-22 13-14 0 mm	21-22 13-14 0 mm	
o ₅₀ 2-pole NC + NO	0.9 ZCT25P16+	0.9 ZCT25P16+	71.5 ZCT25P16+	ZCT25P16+	ZCT25P16 +
break before make,	ZCE10	ZCE11	ZCE02	ZCE21	ZCE06
$\left \frac{1}{2}\right \approx \left \frac{1}{2}\right $ slow break (XE2NP3151)	1.8 3.2(P)	1.8 3.2(P)	3.1(A) 5.6(P)	6.5(A) 11.3(P)	20°
	0 3 5mm	0 3 5mm	¹³⁻¹⁴ 0 5.2 mm	0 10.5 mm	0 45°
$\frac{1}{\sqrt{2}} \begin{array}{c} 2 \\ \pm 2 \\ \pm 2 \\ \end{array} $ break, slow break	ZCT26P16 + ZCE10 ↔	ZCT26P16 + ZCE11 ↔	ZCT26P16 + ZCE02 →	ZCT26P16 + ZCE21 ↔	ZCT26P16 + ZCE06
S ₹ (XE2NP3161)	3 4.4(P)	3 4.4(P)	5.2 7.6(P)	10.9(A) 16(P)	45°
	0 1.8 5mm	²¹⁻²² 13-14 0 1.8 5mm	0 3.1 mm	²¹⁻²² 13-14 0 6.6 mm	21-22 13-14 0 20°
$\frac{1}{100} \frac{1}{100} \frac{1}$	ZCT27P16 +	ZCT27P16+	ZCT27P16+	ZCT27P16+	ZCT27P16+
y y (XE2NP2141) simultaneous, slow break	ZCE10 → 1.8 3.2(P)	ZCE11 → 1.8 3.2(P)	3.1 5.6(P)	ZCE21 → 6.6(A) 11.6(P)	20°
- 0	11-12 21-22 0 5mm	11-12 21-22 0 5mm	11-12 21-22 0 mm	11-12 21-22 0 mm	11-12 21-22 0
$2 \underset{\sim}{\infty} $ 2-pole NO + NO simultaneous,	ZCT28P16 +	ZCT28P16+	ZCT28P16 +	ZCT28P16+	ZCT28P16 +
└───┘ slow break (XE2NP3131)	ZCE10	ZCE11	ZCE02	ZCE21	ZCE06
[5]	1.8 13-14 0 5mm	1.8 13-14 23-24 0 5mm	3.1(A) ¹³⁻¹⁴ 0 mm	6.6(A) ¹³⁻¹⁴ 0 mm	20° 13-14 23-24 0
Veight (kg)	0.100	0.100	0.105	0.115	0.095
References of complete swit			· · · · · · · · · · · · · · · · · · ·		
For entries tapped for n° 11 cable gland, repl Contact operation	ace P16 in the referer	(A) = cam displaceme		-	
	open	(P) = positive opening		⊖ NC contact with posit	ive opening operation
Characteristics Switch actuation	On end		By 30° cam		By any moving part
Type of actuation				→ <i>(</i>)	
			-		
Maximum actuation speed	0.5 m/s		40	1 m/s	1 m/s (any direction)
Iechanical durability in millions of operating cycles)	15		10	15	5
linimum force For tripping	15 N		12 N	6 N	0.3 N.m
r torque For positive opening Cable entry (3)	2 entries tapped M	16 x 1.5 for ISO cable		18 N	-
	Clamping capacity	4 to 8 mm (1 entry fitte			
 Form conforming to EN 50047, see page Value taken with actuation by moving part at 			contacts or eyelet type	connections: please consult	t our Customer Care Centr
Dimensions ZCT2oP16	ZCE10		ZCE11	ZCE	21
		07	12.5	Ø8	21
	▶ 12.5				12.5 Ø14
					50.2
		7000		1000	
30 \approx $= 20/22 = (3)$ 40/42	ZCE02		ZCE06		
			12.5	Ø1.2	00000
	12.5	<u>Ø11.6</u>			-
	3.5			142	
 1) Tapped entry for ISO M16 x 1.5 or Pg 11 					
		VAXA A			
able gland.					

Telemecanique Sensors

References, characteristics, dimensions (continued)

Limit switches

XC Standard range Compact design, plastic, XCKT Complete switches with 2 cable entries

Tupo of boad	Diupson /fiving	by the head)	Rotary (fixing by the second s	ha hadu)	
Type of head	Plunger (fixing by the head)			le bouy)	
			Form A (1)		
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm
References of complete swite	ches with 2 IS	O M16 x 1.5 cabl	le entries (2)		1
₽ 5 2-pole NC + NO snap action 2 8 (XE2SP3151)	XCKT21H0P16 	XCKT21H2P16 3.1(A)7.8(P) 3.1(A)7.8(P) 1424 1444 1444 1.5 mm	XCKT2118P16 → 25° 70°(P) 12° 90°	XCKT2145P16 25° 70°(P) 1314 90° 90°	XCKT2139P16 → 25° 70°(P) 1314 1314 90° 90°
minipage 2-pole NC + NO break before break before time time time time time time time time	ZCT25P16 + ZCEH0 ↔ 1.8 3.2(P) 3 5mm	ZCT25P16 + ZCEH2 → 3.1(A) 5.6(P) 0 5.2 mm ZCT36P16 +	ZCT25P16 + ZCE01 + ZCY18 ↔ 25° 46°(P) 0 42° 90° ZCT26P16 +	ZCT25P16 + ZCE01 + ZCY45 \bigoplus $25^{\circ} 46^{\circ}(P)$ $0 42^{\circ} 90^{\circ}$	ZCT25P16 + ZCE01 + ZCY39 \bigoplus $25^{\circ} 46^{\circ}(P)$ $0 42^{\circ} 90^{\circ}$
□ 2-pole NO + NC make before break, slow break □ □ □	ZCT26P16 + ZCEH0 → 3 4.4(P) ²¹⁻²² 0 1.8 5mm	ZCT26P16 + ZCEH2 → 5.2 7.6(P) 3.1 mm ZCT272P16 +	ZCT26P16 + ZCE01 + ZCY18 → 43° 66°(P) 13°4 → 25° 90°	ZCT26P16 + ZCE01 + ZCY45 43° 66°(P) 13.42 0 25° 90° ZCT27P16 +	$\begin{array}{c} \text{ZCT26P16} + \\ \text{ZCE01} + \text{ZCY39} \leftrightarrow \\ & 43^{\circ} 66^{\circ}(\text{P}) \\ \hline & 1344 \\ 0 25^{\circ} 90^{\circ} \end{array}$
F 2-pole NC + NC simultaneous, Slow break slow break Slow (XE2NP2141)	ZCT27P16 + ZCEH0 → 1.8 3.2(P) 1 ¹⁻¹² 0 5mm	ZCT27P16 + ZCEH2 → 3.1 5.6(P) ¹¹⁺² 0 mm	$2CT27P16 + 2CE01 + 2CY18 \bigoplus$ $25^{\circ} 46^{\circ}(P)$ $11 + 20 = 0$ $0 = 00^{\circ}$	$ \begin{array}{c} \textbf{ZCE01 + ZCY45} \textcircled{0} \\ \overset{25^{\circ}}{1} \overset{46^{\circ}(P)}{1} \\ \overset{11:22}{0} \\ \overset{0}{90^{\circ}} \\ \end{array} $	ZCT27P16 + ZCE01 + ZCY39 ↔ 25° 46°(P) 1122 → 0 0 90°
 m m 2-pole NO + NO simultaneous, slow break (XE2NP3131) 	ZCT28P16 + ZCEH0 1.8 13-14 23-24 0 5mm	ZCT28P16 + ZCEH2 3.1(A) 13-14 0 mm	ZCT28P16 + ZCE01 + ZCY18 25° 23:44 0 90°	ZCT28P16 + ZCE01 + ZCY45 25° 23:24 0 90°	ZCT28P16 + ZCE01 + ZCY39 25° 23:44 0 90°
Weight (kg)	0.145	0.145	0.145	0.155	0.160
References of complete swite	ches with 2 er	ntries for n° 11 ca	able gland		
For entries tapped for n° 11 cable gland, repla Contact operation	closed	(A) = cam displacemen	t	$\bigcirc NC \text{ contact with pos}$	itive opening operation
Characteristics	open open	(P) = positive opening p	John		
Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s	·	1.5 m/s		
Mechanical durability	10 million operatin	<u> </u>			
Minimum force or torque For tripping For positive opening For positive opening	15 N 45 N	10 N 36 N	0.1 N.m 0.25 N.m		
Cable entry (3)	2 entries tapped M	16 x 1.5 for ISO cable gla	and		
(1) Form conforming to EN 50047, see page 2 (2) Switches with gold contacts or eyelet type	24.	consult our Customer C			
Dimensions	,				
ZCEH0	ZCE01 + ZCY18	B ZCE01 -	+ ZCY39	ZCE01 + ZCY4	45
2CEH2 3.5 12.5 M18x1(4) COCCO 2CEH2					216 916 918 918 918 916 916 916 916 916 916 916 916
(4) Fixing nut thickness 3.5 mm.					

Presentation

Limit switches

XC Standard range Compact design, XCKD, XCKP and XCKT Variable composition



References

Limit switches

XC Standard range Compact design, metal, XCKD or plastic, XCKP Adaptable sub-assemblies: bodies with contacts

520710	
	R.

ZCD••



ZCP••



ZCP21D44



Bodies with co	ntacts, XCK	D and XC	KP (1)		
Type of contact	Positive operation (2)	Scheme	Body material	Reference	Weight kg
2-pole					
NC + NO snap action	\ominus	7 13	Metal	ZCD21	0.140
(XE2SP2151)		22	Plastic	ZCP21	0.070
NC + NC snap action	\ominus	₽Ĺ 2ĺ	Metal	ZCD29	0.140
XE2SP2141)		55 33	Plastic	ZCP29	0.070
NC + NO break before make,	\ominus	513	Metal	ZCD25	0.140
slow break (XE2NP2151)		5 4	Plastic	ZCP25	0.070
NO + NC make before break,	Θ	21	Metal	ZCD26	0.140
slow break (XE2NP2161)	/	4 22 22	Plastic	ZCP26	0.070
NC + NC simultaneous,	Θ	⁴]1	Metal	ZCD27	0.140
slow break (XE2NP2141)	$\langle \rangle$	22 23	Plastic	ZCP27	0.070
NO + NO simultaneous,		23 13	Metal	ZCD28	0.140
slow break (XE2NP2131)	A B ROAL	4 4 2 2 2	Plastic	ZCP28	0.070
3-pole					
NC + NO + NO snap action (XE3SP2151)	\ominus	ا≏ ∞ ∞ ∞ ≈	Metal	ZCD31	0.140
(AE33F2131)		(14 (37) (14 (37) (15)	Plastic	ZCP31	0.070
NC + NC + NO snap action	\ominus	13 13 13 13	Metal	ZCD39	0.140
(XE3SP2141)		32	Plastic	ZCP39	0.070
NC + NC + NO break before make,	\ominus	2 J 3 3 3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5	Metal	ZCD37	0.140
slow break (XE3NP2141)		4 33	Plastic	ZCP37	0.070
NC + NO + NO break before make,	\ominus	21 23 33 13	Metal	ZCD35	0.140
slow break (XE3NP2151)		4 (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Plastic	ZCP35	0.070

Components for connection using DEUTSCH connector Bodies with contacts for DEUTSCH connector

Type of contact	Positive operation (2)	Scheme	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)	Ð	22 13	Connector	ZCP21D44	0.065
DEUTSCH male cor DT04-4P	nnector			ZCPED44	0.015

(1) Bodies with gold contacts or eyelet type connections: please consult your Regional Sales Office.
 (2) ⊕: bodies with contacts assuring positive opening operation.

References (continued)

Limit switches

XC Standard range Compact design, plastic, XCKT Adaptable sub-assemblies: bodies with contacts

Weight kg

0.085

0.085

0.085

0.085

0.085

0.085

0.085

0.085

0.085

0.085

Weight kg

	Bodies with conta	cts, XCK1	plastic,	2 cable er	ntries
	Type of contact	Positive operation (1)	Scheme	Cable entries	Reference
60	2-pole				
	NC + NO snap action (XE2SP3151)	\ominus	5 3	ISO M16 x 1.5	ZCT21P16
			22	Pg 11	ZCT21G11
Ra	NC + NO break before make,	\ominus	2 2 3 3	ISO M16 x 1.5	ZCT25P16
	slow break (XE2NP3151)		22	Pg 11	ZCT25G11
	NC + NC simultaneous,	\ominus	<u>الحلم</u>	ISO M16 x 1.5	ZCT27P16
	slow break (XE2NP3141)		22	Pg 11	ZCT27G11
	NO + NO simultaneous,	_	[3] [3]	ISO M16 x 1.5	ZCT28P16
	slow break (XE2NP3131)	1.	54 4	Pg 11	ZCT28G11
	NO + NC make before break,	\ominus	5 13 51 13	ISO M16 x 1.5	ZCT26P16
	slow break (XE2NP3161)	A.IV	52 [4	Pg 11	ZCT26G11
	Bodies with conta	cts, XCK	plastic,	2 cable er	ntries with
	NPT adaptor	\$ S	,		
	Type of contact	Positive operation (1)	Scheme		Reference
	2-pole				
	NC + NO snap action (XE2SP3151)	\ominus	22 21		ZCT21N12
a C	NC + NO break before make,	Θ	21		ZCT25N12
	slow break (XE2NP3151)		22 4		
	NC + NC	\ominus	33,13		ZCT27N12

ntries with 1/2"

2-pole				
NC + NO snap action (XE2SP3151)	\ominus	22 22	ZCT21N12	0.130
NC + NO break before make, slow break (XE2NP3151)	\ominus	14 13 2221	ZCT25N12	0.130
NC + NC simultaneous, slow break (XE2NP3141)	Ð	22 22 	ZCT27N12	0.130
NO + NO simultaneous, slow break (XE2NP3131)	_	14 7 23 23	ZCT28N12	0.130
NO + NC make before break, slow break (XE2NP3161)	\ominus	22 22 22 21 21	ZCT26N12	0.130

(1) \ominus : bodies with contact assuring positive opening operation.



ZCT



ZCT••N12



References (continued)

56127

561392

Limit switches

XC Standard range Compact design, metal, XCKD or plastic, XCKP and XCKT Adaptable sub-assemblies: bodies with contacts

Unit

reference

ZCE05

XALZ09

XCMZ07

Weight

kg

0.045

0.010

0.002



alues other than - 90°, 0°					
daptor for 1/2" NPT cond nale Pg 11 / female 1/2" NF		Sold in lots of	10 D	E9RA1012	0.050
Bodies with conta	icts, XCK	(P plastic	, with rot	ary head (wit	hout
operating lever)					
Type of contact	Scheme	Positive operation (2)	Cable entry	Reference	Weight kg
2-pole					
C + NO nap action (XE2SP2151)	£ 5	Θ	ISO M16 x 1.5	XCKP2101P16	0.115
	52 [7	\ominus	Pg 11	XCKP2101G11	0.115
		$\overline{\Theta}$	M12 connector	XCKP2101M12	0.125
C + NO reak before make,	13 13	\ominus	ISO M16 x 1.5	XCKP2501P16	0.115
ow break (E2NP2151)	22	$\overline{\ominus}$	Pg 11	XCKP2501G11	0.115
Bodies with conta	icts, XCK	(D metal,	with rota	ry head (with	out
operating lever)				Ē	
Type of contact	Scheme	Positive operation (2)	Cable entry	Reference	Weight kg
2-pole					
C + NO nap action (XE2SP2151)	£ ≥	\ominus	ISO M16 x 1.5	XCKD2101P16	0.185
	52 [4	\ominus	Pg 11	XCKD2101G11	0.185
		\ominus	M12	XCKD2101M12	0.195

		C	connector	
IC + NO reak before make,	۲ ۲ ۲	\ominus	ISO M16 x 1.5 XCKD2501P16 0	.185
low break XE2NP2151)	55 4	\ominus	Pg 11 XCKD2501G11 0	.185

Bodies with contacts, XCKT plastic, with rotary head (without

operating lever)					
Type of contact	Scheme	Positive operation (2)	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP3151)	³³	\ominus	ISO M16 x 1.5	XCKT2101P16	0.130
	5 3	$\overline{\ominus}$	Pg 11	XCKT2101G11	0.130
NC + NO break before make,	2 5 7 5	\ominus	ISO M16 x 1.5	XCKT2501P16	0.130
slow break (XE2NP3151)	5 4	Θ	Pg 11	XCKT2501G11	0.130

(1) For programming see page 18.

 $(2) \bigoplus$: bodies with contact assuring positive opening operation.

XCKT2•01••

G

References



XE2••21••



XE3••21••

Limit switches

XC Standard range Compact design, metal, XCKD or plastic, XCKP and XCKT Adaptable sub-assemblies: contact blocks

Contact blocks w	ith screw c	lamp terminals f	for XCKD and X	СКР
Type of contact	Positive operation (1)	Scheme	Reference for standard contacts	Weight kg
2-pole				
NC + NO snap action	\ominus	22 13	XE2SP2151	0.020
NC + NC simultaneous, snap action	€	22 11	XE2SP2141	0.020
NC + NO break before make, slow break	\ominus	22	XE2NP2151	0.020
NO + NC make before break, slow break	\ominus	22	XE2NP2161	0.020
NC + NC simultaneous, slow break	\ominus	22 22 1 21 21	XE2NP2141	0.020
NO + NO simultaneous, slow break 3-pole		$\frac{14}{24} + \frac{13}{23}$	XE2NP2131	0.020
NC + NO + NO	0		XE3SP2151	0.035
snap action	\ominus			0.000
NC + NC + NO snap action	\ominus	14 13 14 13	XE3SP2141	0.035
NC + NC + NO break before make, slow break	\ominus	32 32 14 14 13	XE3NP2141	0.035
NC + NO + NO break before make, slow break	\ominus	22 21 14 13 13 13 13	XE3NP2151	0.035
Contact blocks v	with screw	clamp terminal	s for XCKT	
Type of contact		Scheme	Reference for standard contacts	Weight kg
2-pole NC + NO snap action	⊖	22	XE2SP3151	0.015
NC + NO break before make, slow break	\ominus	22 21	XE2NP3151	0.015
NO + NC make before break, slow break	\ominus	22 23	XE2NP3161	0.015
NC + NC simultaneous, slow break	€	22 1	XE2NP3141	0.015
NO + NO simultaneous, slow break	-	$ \frac{14}{24} \frac{14}{23} $	XE2NP3131	0.015

(1) \bigcirc : contact blocks assuring positive opening operation.



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XC Standard range Compact design, plastic, with reset, XCPR and XCTR



Characteristics

Limit switches

XC Standard range Compact design, plastic, with reset, XCPR and XCTR

Conformity to standards	Products	C€, EN/IEC 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	EN/IEC 60204-1
Product certifications		UL, CSA
Protective treatment	Standard version	"TC"
mbient air temperature	For operation	- 25+ 70 °C (- 40+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)
	For storage	- 40+ 70 °C
/ibration resistance	Conforming to IEC 60068-2-6	25 gn (10500 Hz)
hock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms)
lectric shock protection		Class II conforming to IEC 61140 and NF C 20-030
egree of protection		IP 66 and IP 67 conforming to IEC 60529 IK 04 conforming to IEC 62262
Repeat accuracy		0.1 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry	Depending on model	Either: tapped entry for n° 13 cable gland, tapped ISO M20 x 1.5 or tapped 1/2" NPT
/laterials		Plastic bodies, Zamak heads
Contact block charac	teristics	
Rated operational characteristi	cs	∼ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to EN/IEC 60947-5-1 Appendix A
Rated insulation voltage		Ui = 500 V degree of pollution 3 conforming to IEN/IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltag	je	U imp = 6 kV conforming to EN/IEC 60947-1, IEC 60664
Positive operation (depending o	n model)	NC contacts with positive opening operation conforming to EN/IEC 60947-5-1 Appendix K
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection		10 A cartridge fuse type gG (gl)
Connection	XE2SP2151	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²
screw clamp terminals)	XE2NP2151	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
linimum actuation speed		XE2SP2151: 0.01 m/minute
for head with end plunger)	Z.O	XE2NP2151: 6 m/minute

References, characteristics

Limit switches

XC Standard range Compact design, plastic, with reset, XCPR Complete switches with 1 cable entry

Type of head	Plunger (fixing	by the body)			Rotary (fixing I	by the body)
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever	Steel roller lever
References of complete switch	nes with 1 ISC	O M20 x 1.5 c	able entry			
$\begin{array}{c c} & & & \\ \hline \\ \hline$	XCPR2110P20	3.1(A)7.8(P) 3.1(A)7.8(P) 3.1(A)7.8(P) 3.1(A)7.8(P) 1.22 1.24 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	XCPR2121P20	XCPR2127P20	XCPR2118P20	XCPR2119P20
∞ 2-pole NC + NO ∇ break before make, 2 slow break 2 ∞ 2 $(XE2NP2151)$	XCPR2510P20 	XCPR2502P20 → 3.1(A) 5.6(P) ²¹⁻²² 13-14 0 5.2 mm	XCPR2521P20 → 6.5(A) 11.3(P) 21-22 13-14 0 10.5 mm	XCPR2527P20 → 6.5(B) 11.3(P) 21:52 0 10.5 mm	$\begin{array}{c} \textbf{XCPR2518P20} \\ \\ 25^{\circ} & 46^{\circ} & (P) \\ 21-22 & & & & \\ 3-14 & & & & & \\ 0 & 42^{\circ} & 90^{\circ} \end{array}$	$\begin{array}{c} \textbf{XCPR2519P20} \\ \\ 25^{\circ} & 46^{\circ} & (P) \\ 21-22 & & & \\ 3-14 & & & & \\ 0 & 42^{\circ} & 90^{\circ} \end{array}$
2-pole NC + NC ↓ <	XCPR2910P20 1.8 4.6(P) 1.22 1.22 1.22 0.9 5mm	XCPR2902P20	XCPR2921P20 ↔ 6.5(A) 15.7(P) 1222 0 3 mm	SCPR2927P20 6.5(B) 15.7(P) 11-12	XCPR2918P20 $\xrightarrow{25^{\circ}} 70^{\circ}(P)$ $\xrightarrow{11222}{1222} 90^{\circ}$	-
Weight (kg)	0.115	0.115	0.125	0.120	0.155	-

References of complete switches with 1 Pg 13.5 cable entry

For complete switches with 1 Pg 13.5 cable entry replace P20 by G13. Example: XCPR2110P20 becomes XCPR2110G13.

References of complete switches with 1 entry for 1/2" NPT conduit

For complete switches with 1 entry for 1/2" NPT conduit replace P20 by N12. Example: XCPR2110P20 becomes XCPR2110N12.

Contact operation		closed open		(A) (B) = cam displa (P) = positive openi		⊖ NC contact with positive opening operation
Characterist	tics					
Switch actuation		On end	By 30° cam			
Type of actuation						
Maximum actuatio	n speed	0.5 m/s		1 m/s		1.5 m/s
Minimum force or	For tripping	15 N	12 N	6 N		0.1 N.m
torque	For positive opening	45 N	36 N	18 N		0.25 N.m
Cable entry		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped Pg 13.5 for cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT (USAS B2-1) conduit				mm
Other versions Complete switches with cable ent			s with cable entrie	s other than those lis	ted above.	

please consult our Customer Care Centre.

Dimensions

Limit switches

XC Standard range Compact design, plastic, with reset, XCPR Complete switches with 1 cable entry



XCPR2e27eee





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

References, characteristics

Limit switches

XC Standard range Compact design, plastic, with reset, XCTR Complete switches with 2 cable entries

Type of head		Plunger (fixing by	the body)		Rotary (fixing by the body)
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger
References of comp	lete switches with 2 IS	O M16 x 1.5 cabl	e entries		
E 5 E 5 E 5 E 5 E 6 E 6		XCTR2110P16 ↔ 1.8 4.6(P) 1.3 4.6(P) 1.3 5mm 0.9	XCTR2102P16 3.1(A)7.8(P) 3.3(A)7.8(P) 1.5 0 1.5	XCTR2121P16 ↔ 6.5(A) 15.7(P) 1342 1342 1344 0 3 3 mm	XCTR2118P16 ↔ 25° 70° (P) 13'14 0 12° 90°
♡ ↓ 2-pole NC + NO break before make ↓ ↓ <th>(e,</th> <th>XCTR2510P16 ↔ 1.8 3.2(P) 13-14 0 3 5mm</th> <th>XCTR2502P16 ↔ 3.1(A) 5.6(P) 21-22 13-14 0 5.2 mm</th> <th>XCTR2521P16 ↔ 6.5(A) 11.3(P) 21-22 13-14 → 0 10.5 mm</th> <th>XCTR2518P16 \bigcirc 25° 46°(P) $^{21-22}_{13-14}$ \bigcirc 42° 90°</th>	(e,	XCTR2510P16 ↔ 1.8 3.2(P) 13-14 0 3 5mm	XCTR2502P16 ↔ 3.1(A) 5.6(P) 21-22 13-14 0 5.2 mm	XCTR2521P16 ↔ 6.5(A) 11.3(P) 21-22 13-14 → 0 10.5 mm	XCTR2518P16 \bigcirc 25° 46°(P) $^{21-22}_{13-14}$ \bigcirc 42° 90°
Weight (kg)		0.120	0.125	0.135	0.165
For complete switches with 2 Pg Example: XCTR2110P16 becom		11.	A A A A A A A A A A A A A A A A A A A		
•	lete switches with 2 en tries for 1/2" NPT conduit replace F nes XCTR2110N12.		1/2" NPT condu	it	
Contact operation		closed	 (A) = cam displacement (P) = positive opening p ⊖ NC contact with positive 	oint	
Characteristics					
Switch actuation		On end	By 30° cam	· · · · · · · · · · · · · · · · · · ·	
Type of actuation	X				
Maximum actuation speed		0.5 m/s		1 m/s	1.5 m/s
Minimum force or torque	For tripping	15 N	12 N	6 N	0.1 N.m
For positive opening 45 N 36 N 18 N 0.25 N.m Cable entry (1 entry fitted with blanking plug) 2 entries tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 7 to 10 mm 2 entries tapped for 1/2" NPT (USAS B2-1) conduit using Pg 11 - 1/2" NPT daptor DE9RA1012				to 8 mm	



XC Standard range Compact design, plastic, with reset, XCTR Complete switches with 2 cable entries

Dimensions XCTR2e10eee







(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or tapped 1/2" NPT.
 (2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm centres, 4 holes Ø 4.3 on 20/40 mm centres

(4) Tapped entry for support studs, depth 4 mm.
(4) Tapped entry for 1/2" NPT conduit.
(5) Pg 11 threaded sleeve.





(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or 1/2" NPT conduit.
 (2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm centres, 4 holes Ø 4.3 on 20/40 mm centres.
 (3) 2 x Ø 3 holes for support studs, depth 4 mm.



XC Basic range Compact design, plastic, XCKN and XCNT



General characteristics

Limit switches

XC Basic range Compact design, plastic, XCKN and XCNT

Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
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 (10500 Hz) except XCKNee08: 10 gn, XCKNee39 and XCKNee49: 15 gn
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms) except XCKN2e49ee and XCKNee39: 15 gn, XCKN2e08ee: 20 gn and XCKN2e45ee: 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 IEC 62262
Cable entry		Depending on model: tapped entry for ISO M20 x 1.5 or Pg 11 cable gland, ISO M 16 x 1.5 cable gland or PF 1/2 (G 1/2).
Materials	Bodies	Plastic
	Heads	Plastic
Contact block char	acteristics	No. A
Rated operational character	stics	\sim AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A
		DC-13; R300 (Ue = 250 V, Ie = 0.1 Å), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	2-pole contact	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	2-pole contact	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
Positive operation		NC 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)





XC Basic range Compact design, plastic, XCKN Complete switches with 1 cable entry

Sold and packed in lots of 20 </th <th>Type of head</th> <th></th> <th>Plunger (fixing</th> <th>by the body)</th> <th></th> <th></th> <th></th>	Type of head		Plunger (fixing	by the body)			
plunger plunger for tasten Sold and packed in lots of 20							
References of complete switches with 1 ISO M20 x 1.5 cable entry 2-pole NC + NO snap action XCKN210P20 a 4 307 ZPP a	Гуре of operator			plunger for lateral	plunger for traverse cam	roller lever plunger, horizontal actuation in	roller lever plunger, vertica actuation in
$\frac{1}{2} - \frac{1}{N}$ $\frac{2 - \text{pole NC + NO}}{\frac{1}{N}}$ $\frac{2 - \text{pole NC + NC simultaneous,}}{\frac{1}{N}}$ $\frac{2 - \text{pole NC + NC }}{\frac{1}{N}}$ $\frac{2 - \text{pole NC + NC }$				1	20	20	20
Image action Image action <td< td=""><td>References of compl</td><td>ete switches with 1 l</td><td>SO M20 x 1.5 c</td><td>able entry</td><td></td><td></td><td></td></td<>	References of compl	ete switches with 1 l	SO M20 x 1.5 c	able entry			
Image: Section of the section of th	$ \begin{array}{c} - & \\ & \\ & \\ & \\ & \end{array} $ snap action		2.5 4.5(P)	4.3(A) 7.8(P) 21-22 13-14 21-22 13-14 0 mm	4.3(A) 7.8(P) 13-14 21-22 13-14 0 mm	9(A)15.9(P)	21-22 13-14 21-22 13-14 0 mm
$\frac{1}{2}$ <td>다 break before mak 문 원</td> <td>·</td> <td>2.8 4.2(P) ²¹⁻²² 0 4 5.5mm</td> <td>4.8(A) 7.3(P) 13-14 0 7 mm</td> <td>4.8(A) 7.3(P) 4.8(A) 7.3(P) 4.8(A) 7.3(P) 7 mm</td> <td>0 14.9(P)</td> <td>0 14.1 mm</td>	다 break before mak 문 원	·	2.8 4.2(P) ²¹⁻²² 0 4 5.5mm	4.8(A) 7.3(P) 13-14 0 7 mm	4.8(A) 7.3(P) 4.8(A) 7.3(P) 4.8(A) 7.3(P) 7 mm	0 14.9(P)	0 14.1 mm
Image: constraint of the second se	Image: provide state Some state <	multaneous,	2.8 4.2(P) 11-12 0 5mm	4.8 7.3 (P) 11-12 0 mm	4.8 7.3 (P) 11-12 21-22 0 mm	10 14.9(P) 11-12 21-22 0 mm	11-12 21-22 0 mm
Contact operation Closed open (A) (B) = cam displacement operation Image: Closed open open open open open open open open	-4 snap action		2.2 5.1(P)	3.9 (A) 8.9(P)	3.9 (A) 8.9(P)	8 (A) 18 (P)	11-12 21-22 11-12 21-22
Open (P) = positive opening point operation Open (P) = positive opening point operation Characteristics Switch actuation Type of actuation Image: speed s	Weight (kg)	(0.065	0.065	0.065	0.070	0.070
Switch actuation On end By 30° cam Type of actuation Image: speed spee	Contact operation						positive opening
Type of actuation Image: Constraint of the second seco	Characteristics						
Maximum actuation speed 0.5 m/s 0.3 m/s 1 m/s Maximum actuation speed 0.5 m/s 0.3 m/s 1 m/s Mechanical durability (in millions of operating cycles) 10 10 Minimum force or torque For tripping 15 N 12 N 6 N For positive opening 30 N 20 N 10 N	Switch actuation		On end	By 30° cam			
Mechanical durability (in millions of operating cycles) 10 Minimum force or torque For tripping 15 N 12 N 6 N For positive opening 30 N 20 N 10 N	Type of actuation	X	lt ſĊŊ				
Minimum force or torque For tripping 15 N 12 N 6 N For positive opening 30 N 20 N 10 N	Maximum actuation speed		0.5 m/s	0.3 m/s		1 m/s	
For positive opening 30 N 20 N 10 N							
	Minimum force or torque						
	Cable entry	For positive opening			cable gland, clamp		mm

ith 1 Pg 11 Example: XCKN2110P20 becomes XCKN2110G11.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

For complete switches with 2-pole contacts:

- NO + NC make before break, slow break, NO + NO simultaneous, slow break, please consult our Customer Care Centre.

For complete switches with 3-pole contacts: NC + NO + NO snap action, NC + NC + NO snap action, NC + NC + NO break before make, slow break, NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

References, characteristics

Limit switches

XC Basic range Compact design, plastic, XCKN Complete switches with 1 cable entry

Type of head		Rotary (fixing	by the body)			Multi-direction	nal
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"
Sold and packed in lo		20	20	20	20	20	20
References of	complete switc	1	1				
2-pole N snap ac		XCKN2118P20 25° 50°(P) 21-22 13-14 0 16°	XCKN2145P20 25° 50°(P) 21-22 13-14 0 16° 70°	XCKN2139P20 25° 50°(P) 14-22 14-22 13-14 0 16° 70°	XCKN2149P20 25° 50°(P) 21-22 13-14 21-22 13-14 0 16° 70°	XCKN2108P20	XCKN2106P20
2-pole N break be slow break	efore make,	XCKN2518P20 28° 47°(P) 21-22 0 38° 70°	$\begin{array}{c} \textbf{XCKN2545P20} \\ & _{23,24} \\ & _{23,14} \\ & _{0} \\ & 38^{\circ} \\ & 70^{\circ} \end{array}$	XCKN2539P20 28° 47°(P) 21-22 0 38° 70°	$\begin{array}{c} \textbf{XCKN2549P20} \\ & \\ 28^{\circ} 47^{\circ}(P) \\ 21344 \\ 0 \\ 38^{\circ} 70^{\circ} \end{array}$	XCKN2508P20 28° 21-22 13-14 0 40°	XCKN2506P20 28° 21-22 13-14 0 40°
2-pole N 5-27 5-27 5-27 5-27 5-27 5-27 5-27 5-27	IC + NC simultaneous, eak	XCKN2718P20 → 28° 47°(P) 11-22 0 90°		XCKN2739P20 → 28° 47°(P) ¹¹⁻¹² 0 90°	$\begin{array}{c} \textbf{XCKN2749P20} \\ \hline \\ 28^{\circ} \ 47^{\circ}(P) \\ \hline \\ 21+22 \\ 0 \\ 90^{\circ} \end{array}$	XCKN2708P20	XCKN2706P20
2-pole N snap ac		XCKN2918P20	XCKN2945P20 25° 55° (P) 11-12 11-2	XCKN2939P20 25° 55° (P) 1122 25°20 12° 70°	XCKN2949P20 25° 55° (P) 11-12 11-1	25° 11:12 21:22 1:12 21:22 0 15°	XCKN2906P20
Weight (kg)		0.085	0.090	0.110	0.115	0.085	0.075
Contact operation		closed	147	(A) (B) = cam displa (P) = positive openi		→ NC contact wit operation	h positive opening
Characteristic	s						
Switch actuation		By 30° cam	7			By any moving par	rt
Type of actuation						→	
Maximum actuation s	•	1.5 m/s				1 m/s (any directio	,
Mechanical durability		10 million operatin	ng cycles			5 million operating	cycles
Minimum force or torque	For tripping	0.1 N.m				0.13 N.m	
	For positive opening	0.15 N.m	0 x 1 5 mm for 190	apple gland alamain	a conceitu 7 to 42	-	
Cable entry		r entry tapped M2	to x 1.5 mm for ISO	cable gland, clampir	ig capacity 7 to 13 i	TITT	
References of	References of complete switches with 1 Pg 11 cable entry						

For complete switches with 1 Pg 11 cable entry replace P20 by G11. Example: XCKN2118P20 becomes XCKN2118G11.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

For complete switches with 2-pole contacts: NO + NC make before break, slow break,

- NO + NO simultaneous, slow break, please consult our Customer Care Centre.

For complete switches with 3-pole contacts: NC + NO + NO snap action, NC + NC + NO snap action, NC + NC + NO break before make, slow break,

NC + NO + NO break before make, slow break, please consult our Customer Care Centre.





XC Basic range Compact design, plastic, XCNT Complete switches with 2 cable entries

Type of head	Plunger (fixing by	y the body)		
	C DIRECT			
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
Sold and packed in lots of	10	10	10	10
References of complete switches with 2 I	SO M16 x 1.5 cat	ole entries		
<pre>% 2-pole NC + NO snap action 4 8</pre>	XCNT2110P16 1.8 4.6(P) 21-22 13-14 21-22 13-14 0 5mm 0.9	XCNT2102P16 3.1(A)7.8(P) 21-22 13-14 13-14 0 1.5 mm	XCNT2103P16 3.1(A)7.8(P) 21-22 13-14 21-22 13-14 0 1.5	XCNT2121P16 \ominus 6.5(A) 15.7(P) 21-22 13-14 21-22 13-14 0 mm
x z-pole NC + NO break before make, slow break z x	XCNT2510P16 → 1.8 3.2(P) ²¹⁻²² ¹³⁻¹⁴ 0 3 5mm	XCNT2502P16 → 3.1(A) 5.6(P) ²¹⁻²² ¹³⁻¹⁴ 0 5.2 mm	XCNT2503P16 → 3.1(A) 5.6(P) ²¹⁻²² ¹³⁻¹⁴ 0 5.2 mm	XCNT2521P16 → 6.5(A) 11.3(P) ^{21.22} 13.14 0 10.5 mm
두 2-pole NC + NC simultaneous, 	XCNT2710P16 → 1.8 3.2(P) 11-12 0 5mm	XCNT2702P16 → 3.1 5.6(P) 11-12 0 mm	XCNT2703P16 → 3.1 5.6(P) 11-12 0 mm	$\begin{array}{c} \textbf{XCNT2721P16} \\ \hline \Theta & 6.5 & 11.3(P) \\ \hline 11.12 & \hline 0 & mm \end{array}$
Weight (kg)	0.085	0.085	0.085	0.090
Contact operation	closed	(A) (B) = cam displace (P) = positive opening		ntact with positive open
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 or torque For tripping	15 N	12 N		6 N
For positive opening Cable entry	30 N	20 N 5 x 1.5 mm for ISO cable g	land clamping conscitu	10 N
Japie entry	2 entries tapped M16	a no minimori so cable g	nanu, ciamping capacity	4 10 0 11111

Example: XCNT2110P16 becomes XCNT2110G11.

Complete switches with 1/2" NPT cable entry

For complete switches with 1/2" NPT cable entry use adaptor DE9 RA1012 (compatible with XCNT •••• G11).



Description	Sold in	Unit	Weight
	lots of	reference	kg
Adaptor for 1/2" NPT conduit (male Pg 11 / female 1/2" NPT)	10	DE9RA1012	0.050

Other contacts

For complete switches with 2-pole contacts: NO + NC make before break, slow break, NO + NO simultaneous, slow break, please consult our Customer Care Centre.

References, characteristics

Limit switches

XC Basic range Compact design, plastic, XCNT Complete switches with 2 cable entries

Type of head		Rotary (fixing b	by the body)			Multi-direction	nal
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"
Sold and packed in lo	ts of	10	10	10	10	8	8
References of	complete switc	nes with 2 IS	O M16 x 1.5 c	able entries			
E 2-pole NC Snap actio E		XCNT2118P16 25° 70° (P) 21:22 13-14 21:22 13-14 0 12° 90°	21-22 13-14 21-22 13-14 0 12° 90°	XCNT2139P16 21:22 13:14 13:14 0 12° 90°	XCNT2149P16 25° 70° (P) 13-14 21-22 13-14 0 12° 90°	20° 13-14 21-22 13-14 0 15°	20° 13-14 13-14 15°
E 2-pole NC E 5 C 5 F 5	ore make,	XCNT2518P16 $25^{\circ} 46^{\circ}(P)$ 13.14 0 $42^{\circ} 90^{\circ}$	XCNT2545P16 → 25° 46°(P) 21-22 13-14 0 42° 90°	XCNT2539P16 $25^{\circ} 46^{\circ}(P)$ 13.14 0 $42^{\circ} 90^{\circ}$	XCNT2549P16 $25^{\circ} 46^{\circ}(P)$ 21-22 13-14 0 $42^{\circ} 90^{\circ}$	XCNT2508P16 20° ²¹⁻²² 13-14 0 45°	XCNT2506P16 20° 21-22 13-14 0 45°
2-pole NC 5 5 7 7 5 5 7 5 5 7 5 5 7 5 6 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5	+ NC simultaneous, ($\begin{array}{c} \textbf{XCNT2718P16} \\ \bigcirc \\ 25^{\circ} \ 46^{\circ}(P) \\ 21 \ 22 \\ 0 \\ 90^{\circ} \end{array}$	XCNT2745P16	XCNT2739P16 $ \bigcirc 25^{\circ} 46^{\circ}(P)$ $1^{1-22} 0 90^{\circ}$	XCNT2749P16 $25^{\circ} 46^{\circ}(P)$ 1^{1+22} 0 90°	XCNT2708P16 20° 11-12 21-22 0	XCNT2706P16 20° 11-12 21-22 0
Weight (kg)		0.105	0.120	0.120	0.120	0.100	0.090
Contact operation		closed	2	(A) (B) = cam displa (P) = positive openin		⊖ NC contact with operation	h positive opening
Characteristic	s						
Switch actuation		By 30° cam	12 31			By any moving par	t
Type of actuation						→ *	
Maximum actuation	speed	1.5 m/s				1 m/s (any direction)	
Mechanical durability	,	10 million operatin	ig cycles			5 million operating	cycles
Minimum force or	For tripping	0.1 N.m				0.13 N.m	
torque	For positive opening						
Cable entry		2 entries tapped N	116 x 1.5 mm for IS0	O cable gland, clamp	ing capacity 4 to 8 n	hm	
	complete switc	hes with 2 Pg		ries			

For complete switches with 2 Pg 11 cable entries replace P16 by G11. Example: XCNT2118P16 becomes **XCNT2118G11**.

Complete switches with 1/2" NPT cable entry

For complete switches with 1/2" NPT cable entry use adaptor DE9 RA1012 (compatible with XCNT •••• G11).



Desc	ription	Sold in lots of	Unit reference	Weight kg
	t or for 1/2" NPT conduit Pg 11 / female 1/2" NPT)	10	DE9RA1012	0.050

DE9RA1012

Other contacts

For complete switches with 2-pole contacts: NO + NC make before break, slow break, NO + NO simultaneous, slow break, please consult our Customer Care Centre.

XC Basic range Compact design, plastic, XCKN Complete switches with 1 cable entry



Sensors

Dimensions (continued)

Limit switches

XC Basic range Compact design, plastic, XCNT Complete switches with 2 cable entries





XC Basic range Compact design, plastic, with reset knob, XCNR Complete switches with 1 cable entry

■ XCNR with 1 cable entry

With head for linear movement (plunger)







Page 118

With head for rotary movement (lever)



General characteristics

Limit switches

XC Basic range Compact design, plastic, with reset knob, XCNR Complete switches with 1 cable entry

Products	C€, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC			
Machine assemblies	IEC 60204-1, EN 60204-1			
	UL, CSA, CCC			
Version	Standard: "TC"			
For operation	- 25+ 70°C			
For storage	- 40+ 70°C			
Conforming to IEC 60068-2-6	25 gn (10500 Hz)			
Conforming to IEC 60068-2-27	50 gn (11 ms)			
	Class II conforming to IEC 61140 and NF C 20030			
	IP 65 conforming to IEC 60529; IK 04 conforming to IEC 62262			
	Depending on model: tapped entry, for ISO M20 x 1.5 or Pg 11 cable gland, ISO M16 x 1.5 cable gland or PF 1/2 (G 1/2)			
Bodies	Plastic			
Heads	Plastic			
acteristics				
istics	~AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A			
2-pole contact	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14			
2-pole contact	U imp = 6 kV conforming to IEC 60947-1, IEC 60664			
	NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1			
	EN 00947-5-1			
- 69	10 A cartridge fuse type gG (gl)			
	Version For operation For storage Conforming to IEC 60068-2-6 Conforming to IEC 60068-2-27 Bodies Heads racteristics ristics 2-pole contact			





XC Basic range Compact design, plastic, with reset knob, XCNR Complete switches with 1 cable entry

Type of head		Plunger (fixing by the b	ody)			Rotary (fixing by the body)		
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		
Sold and packed in lots of		10	10	10	10	10		
References of complete switches with 1 ISO M20 x 1.5 cable entry								
* 2-pole NC + NO * snap action * %		XCNR2110P20 2.54.5(P) 1.22 1.24	XCNR2102P20	XCNR2121P20 9(A)15.9(P) 13-22 13-22 13-24 13-24 13-24 0 5.2 mm	XCNR2127P20 9(B)15.9(P) 12.22 13.14 0 5.2 mm	XCNR2118P20		
Epiler 2-pole NC + NO Total break before make Total Total	, slow break	XCNR2510P20 2.8 4.2(P) 21-22 13-14 0 4 5.5 mm	XCNR2502P20 → 4.8(A) 7.3(P) 21-22 13-14 0 7 mm	XCNR2521P20 10(A) 14.9(P) 13-14 0 14.1 mm	XCNR2527P20 10(B) 14.9(P) 13-14 0 14.1 mm	XCNR2518P20 → 28° 47°(P) 21-22 13-14 → 38° 70°		
E 2-pole NC + NC sint Slow break 5	nultaneous,	XCNR2710P20 → 2.8 4.2(P) 11-12 0 5mm	XCNR2702P20 4.8 7.3 (P) 11-12 21-22 0 mm	XCNR2721P20 10 14.9(P) 11-12 121-22 0 mm	XCNR2727P20 10 14.9(P) 11-12 121-22 0 mm	XCNR2718P20 → 28° 47°(P) 11-12 21-22 0 90°		
2-pole NC + NC Snap action 2	.0	XCNR2910P20 2.2 5.1(P) 1.12 2.2 5.1 0 0 0.8 5.9 mm	XCNR2902P20 3.9 (A) 8.9(P) 1.12 21:22 1.12	XCNR2921P20	XCNR2927P20 () () () () () () () () () ()	XCNR2918P20 25° 55° (P) 11-12 21-22 11-12 21-22 0 12° 70°		
Weight (kg)		0.080	0.080	0.085	0.090	0.100		
Contact operation		closed	(A) (B) = cam displ (P) = positive open		→ NC contact with operation	th positive opening		
Characteristics								
Switch actuation		On end	By 30° cam			-		
Type of actuation						÷ r⊖ı		
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 or torque	For tripping	15 N	12 N	6 N		0.1 N.m		
•	For positive opening	30 N	20 N	10 N		0.15 N.m		
Cable entry	able entry 1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm							
References of comm	lete switches with 1 Pq	11 cable ent	rv					

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by G11. Example: XCNR2110P20 becomes XCNR2110G11.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

For complete switches with 2-pole contacts:

NC + NO make before break, slow break,

NO + NO simultaneous, slow break, please consult our Customer Care Centre.

For complete switches with 3-pole contacts:

NC + NO + NO snap action,

NC + NC + NO snap action, NC + NC + NO break before make, slow break,

NC + NO + NO break before make, slow break, please consult our Customer Care Centre.





XC Basic range Compact design, plastic, with reset knob, XCNR Complete switches with 1 cable entry



(1) 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 centres, 2 holes Ø 4.3 on 20 mm centres.

Presentation, general characteristics

Limit switches

XC Standard range, Classic format Metal, XCKM, XCKL and XCKML


General characteristics (continued)

Limit switches

XC Standard range, Classic format Metal, XCKM, XCKL and XCKML

Contact block chara	acteristics						
Rated operational characteristics	XE2•P		rming to IEC 60947-5-1 Appendix A, EN 60947-5-				
	XE3•P	\sim AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conform	6 A ning to IEC 60947-5-1 Appendix A, EN 60947-5-1				
Rated insulation voltage	XE2•P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14					
	XE3•P	Ui = 400 V degree of pollution 3 conforming to Ui = 300 V conforming to UL 508, CSA C22-2 r					
tated impulse vithstand voltage	XE2•P XE3•P	U imp = 6 kV conforming to IEC 60947-1, IEC (U imp = 4 kV conforming to IEC 60947-1, IEC (
Positive operation (dependin			orming to IEC 60947-5-1 Appendix K, EN 60947-5				
Resistance across terminals	<u> </u>	$\leq 25 \text{ m}\Omega$ conforming to IEC 60255-7 category	o				
hort-circuit	XE2•P	10 A cartridge fuse type gG (gl)	<u> </u>				
rotection	XE3•P	6 A cartridge fuse type gG (gl)					
connection	XE2SP21e1	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x	x 1.5 mm ²				
screw clamp terminals)	XE2012101 XE2NP2101	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x					
, ,	XESP2151L and XENP2151L	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x					
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x					
linimum actuation speed		XE2SP21•1, XESP2151L and XE3SP: 0.01 m					
		XE2NP21•1, XENP2151L and XE3NP: 6 m/m	inute				
lectrical durability		Conforming to IEC 60947-5-1 Appendix C					
		 Utilisation categories AC-15 and DC-13 Maximum operating rate: 3600 operating columns 	veles/bour				
		 Maximum operating rate: 3600 operating cy Load factor: 0.5 	ICIES/TIOUI				
			YE2ND21-1 VEND2454				
		XE2SP21e1, XE2SP2141, XESP2151L	XE2NP21•1, XENP2151L				
	AC supply						
	50/60 Hz \sim	septo builting 5 1 1 1 1 1 1 1 1 1 1 1 1 1	5 3 2 2 3 2 2 3 2 3 2 3 0 V 12/24/48 V 12/24/48 V 12/24/48 V 12/24/48 V 12/24/48 V 12/24/48 V				
	Min inductive circuit	ð Nille í Í Í Í Í Í Í Í Í Í Í	8 3 111 230 V 12/24/48 V				
		jat i jat					
		g 0.5 24 V	ğ 0.5				
		230/400 V					
			0.2				
			0.2				
		0.1	0.1				
		0.5 1 2 3 4 5 10	0.5 1 2 3 4 5 10				
		Current in A	Current in A				
	DC supply	Power broken in W for 5 million operating cycles.	Power broken in W for 5 million operating cycles.				
		Voltage V 24 48 120	Voltage V 24 48 120				
		For XE2SP \bullet 151 on \sim or $=$, NC and NO contact	cts simultaneously loaded to the values shown				
		with reverse polarity.					
		1					
		XE3SPeeee	XE3NP••••				
	AC supply						
	50/60 Hz \sim	8 5 Ithe					
	.m inductive circuit						
		ق 0.5					
		Millions of operating cycles	5 the 3 1 2 230 V 112/24/48 V 0.5				
			0.2				
		0.1					
		0.5 1 2 3 4 5 10 Current in A	0.5 1 2 3 4 5 10 Current in A				
	DC supply	Power broken in W for 5 million operating	Power broken in W for 5 million operating				
		cycles.	cycles.				
		Voltage V 24 48 120 m W 3 2 1	Voltage V 24 48 120 W 4 3 2				

References, characteristics

Limit switches

XC Standard range, Classic format Metal, XCKM Complete units with 3 cable entries

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Гуре of head		Plunger (fixing by	r the body)		Rotary (fixing by the body)	Multi-directional (fixing by the body)
$\frac{1}{16} + 10^{-1} + 10^$							
$\begin{array}{c} \begin{array}{c} \label{eq:pole} NC + NO \\ nap a action \\ K2SP2151 \end{array} \\ \begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \begin{array}{c} \\ \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \\ \end{array} \end{array} \\ \begin{array}{c} \\ \\ \end{array} \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \\ \end{array} \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ \begin{array}{c} \\ \end{array} \\ $					lever plunger, horizontal actuation in 1 direction		"Cat's whisker" (2)
$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} $	References of c	omplete un	its with 3 ISO N	120 x 1.5 cable e	ntries (3)		
$\begin{array}{c} Ke2SP2151 \\ $\mathbf{x} = \mathbf{N} \\$	-pole NC + NO		1			XCKM115H29⊖	XCKM106H29
reak before make, tow break KE2NP2151) $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 33 5.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 35.5mm \end{array} $ $ \begin{array}{c} \hline 183 3.2(P) \\ \hline 183 $		4 23 	21-22 13-14 21-22 13-14 0 5.5mm	21-22 13-14 21-22 13-14	21-22 13-14 21-22 13-14 0 mm	21-22 13-14 1-22 13-14 0 70°	21-22 13-14 21-22 13-14 1-14 0 14°
low break (E2PP2151) \overrightarrow{T} \overrightarrow{S} \overrightarrow{S} \overrightarrow{S}		21	XCKM510H29 🕞	XCKM502H29 →	XCKM521H29 →	XCKM515H29 →	XCKM506H29
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	low break	4 2 2 2	21-22	21-22 13-14	21-22	21-22	21-22
$\frac{1}{10} = \frac{1}{10} $	nap action	77	ZCKD10 ↔ 1.8 4.5(P) 21-22 21-22 21-22 21-22	3.1(A) 7.8(P)	4.6(A) 11.1(P) 21-22 21-22 21-22 21-22	26° 58°(P) 21-22 21-22 21-22 21-22	30° 21-22 21-22 21-22 21-22
$\frac{1}{122} \underbrace{\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$			0.9	1.5	2.2	<u>[11]</u>	
$\frac{1}{12} = \frac{1}{12} $	imultaneous, Iow break	77	3.2(P) 11-12 21-22	5.6(P)	8(P) 11-12 21-22	ZCKD15 ⊕ 42°(P) 21-22	2CKD06
$\frac{1}{122} + \frac{1}{122} + \frac{1}$	Ċ + NC + NO nap action	7-7-	ZCKMD39H29+	ZCKMD39H29 +	ZCKMD39H29+		
-pole (C + NC + NO reak before make, low breakZCKMD37H29 + ZCKD10 \bigcirc ZCKMD37H29 + ZCKD2 \bigcirc ZCKMD37H29 + ZCKD2 \bigcirc ZCKMD37H29 + ZCKD15 \bigcirc ZCKMD37H29 + ZCKD06ZCKMD37H29 + ZCKD06ZCKMD37H29 + ZCKD06ZCKMD37H29 + ZCKD06Weight (kg)0.2500.2550.3000.2800.250contact operation \frown closed(A) = cam displacement \bigcirc NC contact with positive opening operation	(E3SP2141)	∞ 7 7	21-22 13-32 13-14 21-22 31-32 13-14 21-22 31-32 13-14 5.5	21-22 31-32 31-34 21-22 31-32 31-34 13-14	21-22 13-32 13-14 21-22 13-14 13-14	21-22 31-32	21-22 31-32 13-14 21-22 31-32 13-14
KE3NP2141) 1.8 3.2(P) mm $3.3(A) 3.2(P) mm$ <td>C + NC + NO reak before make,</td> <td>7-7-3</td> <td>ZCKMD37H29 + ZCKD10 ⊖</td> <td>ZCKMD37H29 + ZCKD02 ⊖</td> <td>ZCKMD37H29 + ZCKD21 ⊖</td> <td>ZCKMD37H29+ ZCKD15⊖</td> <td>ZCKMD37H29 + ZCKD06</td>	C + NC + NO reak before make,	7-7-3	ZCKMD37H29 + ZCKD10 ⊖	ZCKMD37H29 + ZCKD02 ⊖	ZCKMD37H29 + ZCKD21 ⊖	ZCKMD37H29+ ZCKD15⊖	ZCKMD37H29 + ZCKD06
contact operation ⊂ closed (A) = cam displacement ⊖ NC contact with positive opening operati		9 4 <i>-</i>	21-22 31-32 13-14	21-22 31-32 13-14	21-22 31-32 13-14	21-22 31-32 13-14	21-22 31-32 13-14
						0.280	0.250
	ontact operation					⊖ NC contact with p	ositive opening operation

Characteristic	s							
Switch actuation	1	On end	By 30° cam	By 30° cam				
Type of actuation								
Maximum actuat	ion speed	0.5 m/s 1.5 m/s				1 m/s (any direction)		
Mechanical dura (in millions of op		20			15	10		
Minimum force	For tripping	15 N	12 N	8 N	0.1 N.m	0.13 N.m		
or torque For positive opening		45 N	36 N	24 N	0.25 N.m	-		
Cable entry		3 entries tapped M20 x	1.5 mm for ISO cable gla	and, clamping capacity 7	' to 13 mm			

(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
 (2) Value taken with actuation by moving part at 100 mm from the fixing.
 (3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
 (4) Limited to 15 million operating cycles for switches with contacts XE3•P.



Telemecanique Sensors

Dimensions

Limit switches

XC Standard range, Classic format Metal, XCKM Complete units with 3 cable entries



(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland or with 1/2" NPT conduit adaptor DE9RA1012.
(2) 2 x Ø 4 H 11, depth 10.
Ø: 2 elongated holes Ø 5.2 x 6.2

Adaptor for 1/2" NPT conduit DE9RA1012



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



References, characteristics

Limit switches

XC Standard range, Classic format Metal, XCKL Complete units incorporating Pg 13.5 cable gland

Type of head		Plunger (fixing by	the body)		Rotary (fixing by the body)	Multi-directional, (fixing by the body)
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever <i>(1)</i>	"Cat's whisker" <i>(2)</i>
References	(3)				1	
2-pole NC + NO snap action (XE2SP2151)	22 13 22 13	XCKL110 ↔ 1.8 4.5(P) 1.13 4.15(P)	3.1(A) 7.8(P) 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 13.14 14.15 15.15	XCKL121	XCKL115 → 21-22 26° 58°(P) 21-324 21-32 21-32 21-32 21-32 21-32 21-32 21-32 21-32 21-32 21-32 21-32 21-32 20° 58°(P) 21-32 21-32 20° 58°(P) 21-32 21-32 20° 58°(P) 21-32 20° 58°(P) 20° 58°(P	XCKL106
2-pole NC + NO break before mak slow break (XE2NP2151)	e, <u>4</u>	0,	$0 \qquad 1.5 \qquad \text{mm}$ XCKL502 \bigoplus $3.1(A) 5.6(P)$ $21+22$ $3.1(A) 5.7 (P)$ $0 = 5.2 \text{mm}$	0 mm 2.2 mm XCKL521 ↔ 21-22 4.6(A) 8(P) 21-22 4.6(A) 8(P) 21-22 0 7.6 mm	0 ↓ 11° XCKL515 → 26° 42°(P) 21°22 13°40 → 36° 70°	XCKL506
3-pole NC + NC + NO snap action (XE3SP2141)	32 22 14 13 13	ZCKLD39 + ZCKD10	ZCKLD39 + ZCKD02 → 3132 → 3132 → 3132 →	2CKLD39 + 2CKD21 → 4.6(A) 11.1(P) mm 31-32 31-32 31-32 31-32 31-32	ZCKLD39 + ZCKD15 - 31-32 31-31	ZCKLD39 + ZCKD06
2-pole NC + NC simultaneous, slow break (XE2NP2141)	22 1 22 1	0.9 ZCKL7 + ZCKD10 → 11:22 3.2(P) 1.8 5.5mm	2CKL7 + ZCKD02 → 1:22 1:22 3.1(A) 9mm	2.2 ZCKL7 + ZCKD21 3 11-12 4.6(A) mm	2CKL7+2CKD15 $32CKL7+2CKD15$ $32CKL7+2CKD15$ $32CKL7+2CKD15$ $32CKL7+2CKD15$ $32CKL7+2CKD15$	2CKL7 + 2CKD06
3-pole NC + NC + NO break before mak slow break (XE3NP2141)	e, 22 3 	ZCKLD37 + ZCKD10 ↔ 1.8 3.2(P) mm \$1:30 1:8 3.2(2) mm 0 3 5.5	ZCKLD37 + ZCKD02 ↔ 31.42 3.2(P) mm 31.32 0 5.2 5.5	ZCKLD37 + ZCKD21 ↔ 4.6 (A) 8(P) mm 21-32 13-14 0 7.6	ZCKLD37 + ZCKD15 → 13.32 13.44 0 36° 70°	ZCKLD37 + ZCKD06
Weight (kg)		0.255	0.260	0.305	0.285	0.255
Contact operation		closed open	(A) = cam displacement (P) = positive opening [nt	'	sitive opening operation
Characteris	tics					1-
Switch actuation		On end	By 30° cam		1	By any moving part
Type of actuation		l <u>⊌</u> r≏n				
Maximum actuati	on speed	0.5 m/s		1.5 m/s		1 m/s (any direction)
Mechanical durat (in millions of ope		20			15	10
	For tripping	15 N	12 N	8 N	0.1 N.m	0.13 N.m
Minimum force	FOLUIPPING					
Minimum force or torque	For positive opening	45 N	36 N	24 N	0.25 N.m	-

(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
 (2) Value taken with actuation by moving part at 100 mm from the fixing.
 (3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
 (4) Limited to 15 million operating cycles for switches with contacts XE3•P.

Limit switches

XC Standard range, Classic format Metal, XCKL Complete units incorporating Pg 13.5 cable gland



(1) Incorporated Pg 13.5 cable gland Ø: 2 elongated holes Ø 5.2 x 6.2

References, characteristics

Limit switches

XC Standard range, Classic format Metal, 2 x 2-pole contacts, XCKML Complete switches with 3 cable entries

Type of head	Plunger (fixing by the bo	Plunger (fixing by the body)								
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever (1)						
References of comple	te switches with 3 IS	OM20 x 1.5 cable ent	ries (2)							
x 2-pole NC + NO	XCKML110H29⊖	XCKML102H29⊖		XCKML115H29⊖						
A point of XESP2151L) Pin point of XESP2151L) Pi	2 2 2 2 2 2 2 2 2 2 5 (P) 4 B B C C C C C C C C C C C C C	4(A) 9(P) 4(A) 9(P) 4(A) 9(P) 4(A) 4(A) 9(P) 4(A) 9(P) A B B B C C C C C C C C C C C C C	5(A) 12.6(P) 21-22 21-22 12-24 12	21-22 21-22 13-14 0 14-42 0 14-42 0 14-0 70° A B B						
2 x 2-pole NC + NO break before make, slow break (XENP2151L) $\begin{array}{c ccccccccccccccccccccccccccccccccccc$	XCKML510H29 2 3.4(P) 2 3.4(P) 2 3.4(P) A B 3.14 0 3.3 6.6mm	XCKML502H29 \bigcirc ²¹⁻²² ¹²⁻¹² ¹²⁻¹² ¹²⁻¹² ¹²⁻¹² ¹³⁻¹⁴ \bigcirc	XCKML521H29 ⊕ 6(A) 9.3(P) 13-14 0 10 mm	XCKML515H29 \bigoplus ²¹⁻²² ¹³⁻¹⁴ ^{24°} ¹³⁻¹⁴ ¹³⁻¹⁴ ¹³⁻¹⁴ ¹³⁻¹⁴ ¹³⁻¹⁴ ¹³⁻¹⁴ ¹³⁻¹⁴ ¹³⁻¹⁴ ¹⁴ ¹⁴ ¹⁴ ¹⁴ ¹⁵ ¹⁴ ¹⁵						
References of comple	ete switches with 3 en	tries tapped for n° 13	cable gland (2)							
2 x 2-pole NC + NO snap action (XESP2151L) $\begin{bmatrix} 1 \\ 2 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	XCKML110 2 5(P) A B C C C C C C C C C C C C C	XCKML102	XCKML121 → 5(A) 12.6(P) 71-22 7	XCKML115						
2 x 2-pole NC + NO preak before make, slow break XENP2151L) $\begin{array}{c c} & & & \\ & & \\ & & \\ \hline \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array}$	XCKML510 21-22 21-22 21-24 21-31 21-32 21-32 0 3.3 6.6mm	XCKML502 \bigcirc $\begin{array}{c} 3.3(A) & 6(P) \\ 1.422 \\ 1.3+4 \\ 0 & 6 \\ \end{array}$ $\begin{array}{c} A \\ B \\ mm \end{array}$	XCKML521 → ²¹⁻²² ¹³⁻²⁴ ²¹⁻²² ¹³⁻²⁴ ¹³⁻²⁴ ⁰ ¹⁰ mm	XCKML515 \bigcirc ²¹⁻²² ¹³⁻¹⁴ ²¹⁻²⁴ ¹³⁻¹⁴ ²¹⁻²⁵ ²¹⁻²⁶ ²¹⁻²⁶ ²¹⁻²⁶ ²¹⁻²⁶ ²¹⁻²⁶ ²¹⁻²⁶ ²¹⁻²⁷ ²¹⁻²⁶ ²¹⁻²⁷ ²¹⁻²⁶ ²¹⁻²⁷ ²¹⁻²⁷ ²¹⁻²⁶ ²¹⁻²⁷ ²¹⁻						
Neight (kg)	0.400	0.405	0.450	0.430						
Contact operation	closed	(A) = cam displacement	→ NC contact with positive op	ening operation						
	🖂 open	(P) = positive opening point								
Characteristics										
Switch actuation	On end	By 30° cam								
Type of actuation				÷- ()						
Maximum actuation speed	0.5 m/s		1.5 m/s							
lechanical durability	3 million operating cycles									
Minimum force For tripping	15 N	12 N	8 N	0.2 N.m						
For positive opening	60 N	50 N	50 N	0.5 N.m						
Cable entry	3 entries tapped ISO M20 x 1.5 NF C 68-300 (DIN Pg 13.5), cla	5, clamping capacity 7 to 13 mm, amping capacity 9 to 12 mm.	or 3 entries tapped for n° 13 cab	le gland conforming to						

(2) Switches available with other 2-pole slow break contact blocks: NO + NC make before break, NC + NC simultaneous (with positive opening operation), NO + NO simultaneous. Please consult our Customer Care Centre.

Note: replacement parts

The heads of limit switches XCKML are the same as those for XCKM and XCKL (see heads ZCKD10, ZCKD02, ZCKD21 and ZCKD15 on page 128).

Limit switches

XC Standard range, Classic format Metal, 2 x 2-pole contacts, XCKML Complete switches with 3 cable entries









XCKML121H29, XCKML521H29, XCKML121, XCKML521

XCKML115H29, XCKML515H29, XCKML115, XCKML515





(2) 2 centring holes Ø 3.9 ± 0.2 , for cover fixing holes alignment.

Ø 2 elongated holes 6.2 x 6.5, inclined at 26° $\overline{30}$ to the vertical axis, for M5 screws.

Presentation

Limit switches

XC Standard range, Classic format Metal, XCKM and XCKL Variable composition



(3) For one cable entry tapped 1/2" NPT, add H7 to the reference. Example: ZCKL1 becomes ZCKL1H7.

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Telemecanique





Limit switches

XC Standard range, Classic format Metal, XCKM and XCKL Adaptable sub-assemblies



ZCKM



With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
For limit switches XCK	N				
IC + NO	21	\ominus	Pg 11	ZCKM1	0.210
nap action XE2SP2151)	×7	Ũ	ISO M20 x 1.5	ZCKM1H29	0.210
	22		1/2" NPT <i>(2)</i>	ZCKM1H7	0.210
IC + NO	21	\ominus	Pg 11	ZCKM5	0.210
oreak before make, slow break	∖7	Ũ	ISO M20 x 1.5	ZCKM5H29	0.21
XE2NP2151)	22		1/2" NPT <i>(2)</i>	ZCKM5H7	0.210
IO + NC	13	Θ	Pg 11	ZCKM6	0.21
nake before break, low break	7-5	Ũ	ISO M20 x 1.5	ZCKM6H29	0.21
XE2NP2161)	4 73		1/2" NPT <i>(2)</i>	ZCKM6H7	0.210
IC + NC	51 11	\ominus	Pg 11	ZCKM7	0.21
simultaneous, slow break	77	Ũ	ISO M20 x 1.5	ZCKM7H29	0.210
XE2NP2141)	52 73		1/2" NPT <i>(2)</i>	ZCKM7H7	0.210
NO + NO	23	-	Pg 11	ZCKM8	0.21
simultaneous, slow break	XX	/	ISO M20 x 1.5	ZCKM8H29	0.21
XE2NP2131)	54 4		1/2" NPT <i>(2)</i>	ZCKM8H7	0.210
IC + NC	5 11	\ominus	Pg 11	ZCKM9	0.21
snap action XE2SP2141)	77		ISO M20 x 1.5	ZCKM9H29	0.21
	22		(h) -		
For limit switches XCKL	-	N. K. S.			
IC + NO	51 13	\ominus	Pg 13.5	ZCKL1 (3)	0.21
map action XE2SP2151)	\7	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1/2" NPT	ZCKL1H7	0.21
	5 4				
IC + NO	21	\ominus	Pg 13.5	ZCKL5 (3)	0.21
oreak before make, slow break	<u>∖</u> 7	U	1/2" NPT	ZCKL5H7	0.210
XE2NP2151)	33 4				
IO + NC	13 21	\ominus	Pg 13.5	ZCKL6 (3)	0.210
nake before break, slow break	7-5'	Ū.	1/2" NPT	ZCKL6H7	0.21
XE2NP2161)	14				
IC + NC	51 1	\ominus	Pg 13.5	ZCKL7 (3)	0.21
simultaneous, slow break	77	<u> </u>	1/2" NPT	ZCKL7H7	0.21
XE2NP2141)	22 23				
IO + NO	23 13		Pg 13.5	ZCKL8 (3)	0.21
imultaneous,	- ∩ ≻≯		1/2" NPT	ZCKL8H7	0.21
low break	4 2				

(1) \bigoplus : NC contact with positive opening operation.

(2) 3 tapped entries, one with metal adaptor for 1/2" NPT (USASB2-1) conduit.

(3) Pg 13.5 cable gland included with switch.

Bodies with 2-pole contact

Limit switches

XC Standard range, Classic format Metal, XCKM and XCKL Adaptable sub-assemblies



ZCKMD3•



ZCKLD3•

Bodies with 3-pol	e contact				
With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
For limit switches XCP	< M				
NC + NO + NO	33 33	\ominus	Pg 11	ZCKMD31	0.210
snap action	7	Ŭ	ISO M20 x 1.5	ZCKMD31H29	0.210
(XE3SP2151)	34 14		1/2" NPT <i>(2)</i>	ZCKMD31H7	0.210
NC + NC + NO	13 31	\ominus	Pg 11	ZCKMD39	0.210
snap action (XE3SP2141)	77	Ũ	ISO M20 x 1.5	ZCKMD39H29	0.210
(XE33F2141)	<u> </u>		1/2" NPT (2)	ZCKMD39H7	0.210
NC + NC + NO	21	\ominus	Pg 11	ZCKMD37	0.210
break before make,	~ <i>7</i>	\cup	ISO M20 x 1.5	ZCKMD37H29	0.210
slow break (XE3NP2141)	[4]3]3		1/2" NPT (2)	ZCKMD37H7	0.210
NC + NO + NO	13 33	\ominus	Pg 11	ZCKMD35	0.210
break before make,	7	0	ISO M20 x 1.5	ZCKMD35H29	0.210
slow break (XE3NP2151)	14 34		1/2" NPT (2)	ZCKMD35H7	0.210
For limit switches XCP	۲L				
NC + NO + NO	13 33 13	\ominus	Pg 13.5	ZCKLD31 (3)	0.210
snap action (XE3SP2151)		, Č	1/2" NPT	ZCKLD31H7	0.210
NC + NC + NO	31	Θ	Pg 13.5	ZCKLD39 (3)	0.210
snap action (XE3SP2141)			1/2" NPT	ZCKLD39H7	0.210
NC + NC + NO	33	\ominus	Pg 13.5	ZCKLD37 (3)	0.210
break before make,	77		1/2" NPT	ZCKLD37H7	0.210
slow break (XE3NP2141)	32 32	S. C. A.			
NC + NO + NO	13 33	Θ	Pg 13.5	ZCKLD35 (3)	0.210
break before make, slow break (XE3NP2151)	2 8 4 	U	1/2" NPT	ZCKLD35H7	0.210
. ,					

(1) \bigoplus : NC contact with positive opening operation.

(2) 3 tapped entries, one with metal adaptor for 1/2" NPT (USASB2-1) conduit.

(3) Pg 13.5 cable gland included with switch.

References (continued)

Limit switches

XC Standard range, Classic format Metal, XCKM and XCKL Adaptable sub-assemblies



XE2SP21•1



XE2NP21•1



Contact blocks					
Type of contact	Scheme	For bodies	Positive operation (1)	Reference	Weight kg
2-pole contact					
NC + NO snap action	22 21	ZCKM1 ZCKL1	Θ	XE2SP2151	0.020
NC + NO break before make, slow break	22 - 13 22 - 21	ZCKM5 ZCKL5	\ominus	XE2NP2151	0.020
NO + NC make before break, slow break	22 21 21 21	ZCKM6 ZCKL6	\ominus	XE2NP2161	0.020
NC + NC simultaneous, slow break	22	ZCKM7 ZCKL7	Ð	XE2NP2141	0.020
NO + NO simultaneous, slow break	24 13 24 13	ZCKM8 ZCKL8	-	XE2NP2131	0.020
NC + NC snap action	12 22 21 21	ZCKM9	\ominus	XE2SP2141	0.020
3-pole contact		A Real			
NC + NO + NO snap action	22 22 14 14 13 33 22 21 21	ZCKMD31 ZCKLD31	\ominus	XE3SP2151	0.035
NC + NC + NO snap action	32 31 31 14 13 13	ZCKMD39 ZCKLD39	\ominus	XE3SP2141	0.035
NC + NC + NO break before make, slow break	32 31 14 13 13 14 13	ZCKMD37 ZCKLD37	\ominus	XE3NP2141	0.035
NC + NO + NO break before make, slow break	22 34 5 14 5 13 14 13	ZCKMD35 ZCKLD35	\ominus	XE3NP2151	0.035

 $(1) \bigoplus$: NC contact with positive opening operation or sub-assembly assuring positive opening operation.

Accessory for lin	nit switches XCKM		
Description	Sold in lots of	Unit reference	Weight kg
Tap-off terminal for cabling continuity	1	XCKZ09	0.010
Other versions	Gold flashed contacts.		

Please consult our Customer Care Centre.



Telemecanique Sensors



Limit switches

XC Standard range, Classic format Metal, XCKM and XCKL Adaptable sub-assemblies





Limit switches

XC Standard range, Classic format Metal, XCKM and XCKL Adaptable sub-assemblies

Bodies with contacts

ZCKM1, M5, M6, M7, M8, M9, MD3•, MD3H•29, MD3•H7 ZCKM1H29, M5H29, M6H29, M7H29, M8H29, M9H29 ZCKM1H7, M5H7, M6H7, M7H7, M8H7



ZCKL1, L5, L6, L7, L8, LD3• (with incorporated Pg 13.5 cable gland) ZCKL1H7, L5H7, L6H7, L7H7, L8H7, LD3•H7 (with 1/2" NPT cable entry)



Adaptor for 1/2" NPT conduit DE9RA1012

(3)



(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland.

Ø: 2 elongated holes Ø 5.2 x 6.2 (2) Tapped entry for 1/2" NPT conduit. (3) Pg 11 threaded sleeve.

Dimensions (continued)

Limit switches

XC Standard range, Classic format Metal, XCKM and XCKL Adaptable sub-assemblies



Note: operating lever spindle threaded M6.

Presentation, general characteristics

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS

Complete switch

D XCKS, with head for linear (plunger) and rotary (lever) movement

with 2 contacts (NO + NC) and 1 cable entry
 The XCKS limit switches range, with 2 integrated contacts, offers "all-in-one", ready to use products.



□ ZCKD: complete head with linear or rotary actuator □ ZCKS: bodies with 2, 3 or 4 contacts



The variable composition range expands the offer up to 4 contacts and choice among 18 different actuators.



Conformity to standards	Products	CE, EN/IEC 60947-5-1, UL 508, CSA C22-2 n°14, CCC, EAC
comorning to standards	1 Toddolo	(c, ENTED 00047-0-1, 0E 000, 0077022-211-14, 000, END
	Machine assemblies	EN/IEC 60204-1
Product certifications	\sim	UL, CSA, CCC, EAC
Protective treatment	Version	Standard "TC", special "TH"
Ambient air temperature	For operation	- 25+ 70 °C
	For storage	- 40+ 70 °C
Vibration resistance	Conforming to EN/IEC 60068-2-6	25 gn (10500 Hz)
Shock resistance	Conforming to EN/IEC 60068-2-27	XCKS1••: 40 gn (11 ms) XCKS5••: 50 gn (11 ms)
Electric shock protection	Conforming to EN/IEC 61140	Class II
Degree of protection	Conforming to EN/IEC 60529	XCKS1ee, XCKS5ee: IP 66 and IP 67 ZCKS: IP 65
	Conforming to EN 62262	XCKS1ee, XCKS5ee: IK 05 ZCKS: IK 03
Cable entry	Depending on model	Tapped entry for cable gland: Pg 13.5 ISO M20 x 1.5 1/2" NPT
Materials		Bodies and heads: plastic

General characteristics (continued)

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS

Contact block	chara	cteristic	s											
Type of contacts		Conformin EN/IEC 60	g to		Type Zb	, electri	ically s	eparat	e double brea	k contacts				
Positive operation (d	epending				NC conta	acts with	h positiv	e oper	ning operation	conforming to E	N/IEC 6	0947-5	-1 App	endix K
Rated operational characteristics		XCKS1ee, XE2ePe, X		•	DC-1	3 ; Q30)0 (Ue =	= 250 \	· · · ·	conforming to E	EN/IEC	60947	-5-1 Aj	opendix A
		XE3•P•							/, le = 1.5 A) ; l /, le = 0.1 A), c	the = 6 A conforming to El	N/IEC 6	0947-5	5-1 App	oendix A
Rated insulation volt	age	XCKS1ee, XE2ePe, X		•	Ui = 500	V degr	ree of p	ollutio	n 3 conformin	g to EN/IEC 60	947-5-1			
		XE3●P●			Ui = 300	V confe	orming	to UL t	508 and CSA (C22-2 n° 14				
Rated impulse withst voltage	tand	XCKS1ee, XE2ePe, X		••	U imp =	6 kV co	onformir	ng to E	N/IEC 60947-	1, IEC 60664				
		XE3•P•			U imp =	4 kV co	onformir	ng to E	N/IEC 60947-	1, IEC 60664				
Short-circuit protecti	ion	XCKS1ee, XE2ePe, X		••	10 A car	tridge fi	use typ	e gG (gl)					
		XE3●P●			6 A cartr	idge fus	se type	gG (g	l)					
Resistance across te	erminals								C 60255-7 ca					
Connection (screw clamp terminals	s)	XCKS1ee, XE2SP21e	•1	•			-			/G 22, max: 2 x				
		XE2NP21	∎1		·	• •				G 20, max: 2 x 2				
	XESP• XE3•P•				• •				/G 20, max: 2 x					
		AE30P0			or 2 x 0.	75 mm ²	²/ÁWG	20		/G 22, max: 1 x			10	
Minimum actuation s	speed									and XESP•): 0				
Electrical durability		XCKS1ee +	-101000	8/0.2201/	-				Je, AEZINPe a	ind XE3NP•): 6	o m/mn	ule		
Lieunda uufability		XCKS100 +			15 millio 20 millio	-			X Car					
		ZCKS	201000	, - 200 V	_			10 Au	-5-1 Appendix	(C				
LONG				 Utilisa Maxir 	ation ca mum op	ategorie perating	es AC-	15 and DC-13						
					Load	-	0.5							
AC supply	XE2SP2	1•1, XE2SP	2141		XE2NP2	21•1				XESP30	021			
50/60 Hz ∼ mm inductive circuit	Millions of operating cycles	110 V 110 V 110 V 1 2			Willions of operating cycles	1	230 v		1 the 24/48 V 24/48 V 4 5 10 Current in A	Willinons of operating cycles	230 V	2	12 18 V 3 2	110 V 5 10 Current in A
		ken in W fo	r 5 millior	operating		oken in	W for	5 millio	on operating		oken in	W for §	5 millio	n operating
	cycles. Voltage	V 24	48	120	cycles. Voltage	v	24	48	120	cycles. Voltage	v	24	48	120
		W 10	7	4	m	w	13	40 9	7		w	10	40 7	4
					ontacts sim			-		shown with rev				
	XE3SPe				XE3NPe									
AC supply														
50/60 Hz \sim mm inductive circuit	Millions of operating cycles	110 V 30/400 V	2 3 4	the	5 4 2 0.5 0.5 0.1 0.5	5 1	230 V		the 2/24/48 V 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
DC supply		ken in W for		Current in A					Current in A					
	cycles.				cycles.									
		V 24 W 3	48 2	120	Voltage	w	24 4	48 3	120					

References, characteristics

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Complete switches with 1 cable entry

Type of head	Plunger (fixing	g by the body)	Rotary (fixing	by the body)			
Form conforming to EN 50041 (1)	В	С	A	A	A	A	D
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic or steel roller lever (2)	Elastomer roller lever, Ø 50 mm <i>(2)</i>	Variable length thermoplastic or steel roller lever (2)	Variable length elastomer roller lever, Ø 50 mm (2)	Round thermoplastic rod lever, Ø 6 mm (3) (4)
Positive operation	\ominus	\ominus	Θ	- ,	\ominus	-	-
References of com	plete switch	es with 1 IS	O M20 x 1.5 c	able entry	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
E Image: S E Image: S Image: S Image: S Image: S Image: S Image: S Image: S	XCKS101H29	XCKS102H29	XCKS131H29 (thermoplastic) XCKS133H29 (steel)	XCKS139H29	XCKS141H29 (thermoplastic) XCKS143H29 (steel)	XCKS149H29	XCKS159H29
	21-22 13-14 13-14 21-22 13-14 13-14 13-14 21-22 13-14	4,3(A) 7,8(P) 13-14 21-22 13-14 21-22 13-14 1,7	23° 47°(P) 13-14 21-22 13-14 21-22 13-14 12° 75°	23° 21-22 13-14 13-14 13-14 0 12° 75°	23° 47°(P) 13-14 21-22 13-14 21-22 13-14 1-22 13-14 21-22 13-14 21-22 13-14 75°	23° 13-14 21-22 13-14 21-22 13-14 0 12° 75°	23° 1314 2122 1314 0 12° 75°
Provide the second s	XCKS501H29	XCKS502H29	XCKS531H29 (thermoplastic) XCKS533H29 (steel)	XCKS539H29	XCKS541H29 (thermoplastic) XCKS543H29 (steel)	XCKS549H29	XCKS559H29
	21-22 13-14 0 3,2 6,2 mm	4,3(A) 6,6(P) 13-14 0 5,5 mm	23° 40°(P) 13-14 0 32° 75°	23° 13-14 0 32° 75°	23° 40°(P) 13-14 0 32° 75°	23° 13-14 0 32° 75°	23° 13-14 0 32° 75°
Weight (kg)	0.125	0.135	0.160	0.175	0.165	0.180	0.170
Contact operation	closed closed		(A) = cam displace (P) = positive oper		⊖ NC contact wit	h positive opening	operation
References of com	plete switch	es with 1 Pg	13.5 cable e	ntry			

and XCKS543H29). Example: XCKS101H29 becomes XCKS101.

References of complete switches with 1/2" NPT cable entry

For an entry tapped for a 1/2" NPT cable gland, replace H29 at the end of the reference by H7. (Except XCKS133H29, XCKS143H29, XCKS501H29, XCKS533H29, XCKS533H29, XCKS543H29, XCKS549H29 and XCKS559H29). Example: XCKS101H29 becomes XCKS101H7.

Charac	teristics								
Switch actu	ation	On end	By 30° cam					By any moving part	
Type of actuation ↓ → ←									
Maximum actuation speed		0.5 m/s		1.5 m/s		1 m/s			
Mechanical durability (in millions of operating cycles)		25	15	20					
Minimum	For tripping	15 N	12 N	0.10 N.m					
force or For positive 30 N torque opening		30 N	20 N	0.15 N.m	-	0.15 N.m	-	-	
Cable entry	Cable entry 1 entry tapped M20 x 1.5 mm			cable gland, clam	ping capacity 7 to 2	13 mm			

(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(3) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
(4) Value taken with actuation by moving part at 100 mm from the fixing.

References, characteristics

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Variable composition switches with 1 cable entry



Note: ZCKD heads can only be used with ZCKS bodies.

References of variab	le compositio	on switches (Z	CKS bodies a	nd ZCKD hea	ds) with 1 ISO	M20 x 1.5 cat	ole entry (3)
Form conforming to EN 50041 <i>(1)</i>	В	С	A	A	A	A	D
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever <i>(2)</i>	Elastomer roller lever, Ø 50 mm <i>(2)</i>	Variable length thermoplastic roller lever <i>(2)</i>	Variable length elastomer roller lever, Ø 50 mm <i>(2)</i>	Round thermoplastic rod lever, Ø 6 mm (4) (5)
Positive operation	\ominus	\ominus	\ominus	-	\ominus	-	-
$\begin{bmatrix} -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 $	ZCKS9H29 + ZCKD01	ZCKS9H29 + ZCKD02	ZCKS9H29 + ZCKD31	ZCKS9H29 + ZCKD39	ZCKS9H29 + ZCKD41	ZCKS9H29 + ZCKD49	ZCKS9H29 + ZCKD59
୍ଦ୍ ୍ର୍ (XE2SP2141)	1,8 4,5(P) 11-12 11-1	3,1(A) 7,8(P) 21-22 11-12 21-22 11-12 21-22 1,5 mm	23° 58°(P) 21-22 21-22 11-12 21-22 11-12 21-22 11-12 21-22 11-12 21-22 11-12 21-22 11-12 21-22 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 21-2 11-12 11-	23° 21-22 21 21-22 21 21-22 21 21-22 21 21-22 21 21-22 21 21-22 21 21 21-22 21 21 21 21 21 21 21 21 21 21 21 21 2	23° 58°(P) 11-12 21-22 11-12 21-22 0 11-1 21-22 0 11-1 80°	23° 21-22 21 21-22 21 21-22 21 21-22 21 21-22 21 21-22 21 21-22 21 21 21-22 21 21 21 21 21 21 21 21 21 21 21 21 2	23° 21-22 21-22 21-22 21-22 21-22 21-22 21-22 20 80°
E 2-pole NC + NC Simultaneous, Slow break	ZCKS7H29 + ZCKD01	ZCKS7H29 + ZCKD02	ZCKS7H29 + ZCKD31	ZCKS7H29+ ZCKD39	ZCKS7H29 + ZCKD41	ZCKS7H29 + ZCKD49	ZCKS7H29 + ZCKD59
₽ 8 (XE2NP2141)	3,2(P) 21-22 0 1,8 5,5 mm	5,6(P) 21-22 0 3,1(A)	42°(P) 21-22 0 23° 80°	11-12 21-22 0 23° 80°	42°(P) 21-22 0 23° 80°	11-12 21-22 0 23° 80°	11-12 21-22 0 23° 80°
\widetilde{m} $[\widetilde{n}]$ \widetilde{n} \widetilde{n} $[\widetilde{n}]$ \widetilde{n} $[\widetilde{n}]$ \widetilde{n} $[\widetilde{n}]$ \widetilde{n} \widetilde	ZCKSD39H29 + ZCKD01	ZCKSD39H29 + ZCKD02	ZCKSD39H29 + ZCKD31	ZCKSD39H29 + ZCKD39	ZCKSD39H29 + ZCKD41	ZCKSD39H29 + ZCKD49	ZCKSD39H29 + ZCKD59
ର୍ଷ୍ୟ ହାଇଥିଲେ କାର୍ଯ୍ୟ (XE3SP2141)	1,8 4,5(P) 1,8 4,5(P) 1,8 4,5(P) 1,8 4,5(P) 1,8 4,5(P) 1,8 4,5(P) 1,8 4,5(P) 1,9 4 1,9 4 1,	3,1(A) 7,8(P) 13.132 13.14 13.14 13.12 13.14 13.12 13.14 1.15 mm	23° 58°(P) 21-22 13-132 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-14 13-12 13-14 13-	23° 21-22 13-132 13-14 21-22 31-32 13-14 13-14 0 11° 80°	23° 58°(P) 21-22 13-32 13-32 13-34 13-32 13-34 13-32 13-34 0 11° 80°	23° 21-22 21-32 13-14 21-22 13-14 21-22 13-14 0 11° 80°	21-22 31-32 31-34 31-42 13-14 31-42 13-14 1-4 80°
\widetilde{m} $[$ \widetilde{n} $[$ \widetilde{n} $]$ $[$ \widetilde{n} $]$ $\frac{3 \text{-pole}}{\text{NC} + \text{NC} + \text{NO}}$	ZCKSD37H29 + ZCKD01	ZCKSD37H29 + ZCKD02	ZCKSD37H29 + ZCKD31	ZCKSD37H29 + ZCKD39	ZCKSD37H29 + ZCKD41	ZCKSD37H29 + ZCKD49	ZCKSD37H29 + ZCKD59
C ↑ C ↑ C ↑ make, slow break (XE3NP2141)	1,8 3,2(P) 31-32 13-14 0 3 5,5 mm	3,1(A) 5,6(P) 31-32 13-14 0 5,2 mm	23° 42°(P) 31-32 13-14 0 33° 80°	23° 21-22 31-32 13-14 0 33° 80°	23° 42°(P) 31-32 13-14 0 33° 80°	23° 21-22 31-32 13-14 0 33° 80°	23° 21-22 13-32 13-14 0 33° 80°
Weight (kg)	0.095	0.105	0.145	0.150	0.155	0.155	0.150
Contact operation	closed open		(A) = cam displace (P) = positive oper		→ NC contact with	h positive opening	operation

References of variable composition switches (ZCKS bodies and ZCKD heads) with 1 Pg 13.5 cable entry For ZCKS bodies with 1 Pg 13.5 cable entry, delete H29 from the end of the reference. Example: ZCKS1H29 becomes ZCKS1.

Charac	teristics								
Switch actu	uation	On end	By 30° cam					By any moving part	
Type of actuation				or or					
Maximum actuation speed		0.5 m/s	^	1.5 m/s		1 m/s			
Mechanical durability (6) (in millions of operating cycles)		25	15	20					
Minimum	For tripping	15 N	12 N	0.15 N.m					
force or torque	For positive opening	45 N	36 N	0.3 N.m – 0.3 N.m – –					
Cable entry		1 entry tapped M2	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm						

(1) Form conforming to EN 50041, see page 25.



 ⁽¹⁾ Form Combining to Ex 30041, see page 23.
 (2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
 (3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
 (4) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
 (5) Value taken with actuation by moving part at 100 mm from the fixing.
 (6) Limited to 15 million operating cycles for switches with contacts XE3•P.

Dimensions

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Complete switches with 1 cable entry



(4) 212 max. Ø : 2 elongated holes 5.3 x 7.3 mm.

Dimensions

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Variable composition switches with 1 cable entry



(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 or 1/2" NPT cable gland. (2) Ø 6 rode, lenght 200 mm.

(3) 190 max.

(4) 212 max. Ø : 2 elongated holes 5.3 x 7.3 mm.

Presentation

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Variable composition



(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
 (3) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

Note: ZCKD heads can only be used with ZCKS bodies.

Telemecanique

References

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Variable composition switches



Bodies with 2-pol	le contact					
Туре	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	NC + NO snap action	×	\ominus	Pg 13.5	ZCKS1	0.080
	(XE2SP2151)	52		ISO M20 x 1.5	ZCKS1H29	0.080
	2 CO simultaneous,	53 3 3 3	-	Pg 13.5	ZCKS2	0.080
	snap action (XESP3021)	$\begin{vmatrix} 25 \\ 25 \end{vmatrix} \begin{vmatrix} 24 \\ 25 \end{vmatrix} \begin{vmatrix} 24 \\ 25 \end{vmatrix} \begin{vmatrix} 24 \\ 25 \end{vmatrix}$		ISO M20 x 1.5	ZCKS2H29	0.080
	NC + NO break before make,	√ 13	\ominus	Pg 13.5	ZCKS5	0.080
	slow break (XE2NP2151)	52 4		ISO M20 x 1.5	ZCKS5H29	0.080
	NO + NC make before break,	5 2 4 2 4	Θ	Pg 13.5	ZCKS6	0.080
	slow break (XE2NP2161)	52		ISO M20 x 1.5	ZCKS6H29	0.080
	NC + NC simultaneous,	₽Ĺ [₽]	Θ	Pg 13.5	ZCKS7	0.080
	slow break (XE2NP2141)	52 33	/	ISO M20 x 1.5	ZCKS7H29	0.080
	NO + NO simultaneous,	3 3		Pg 13.5	ZCKS8	0.080
	slow break (XE2NP2131)	5 4	No. 1	ISO M20 x 1.5	ZCKS8H29	0.080
	NC + NC snap action	F	Θ	Pg 13.5	ZCKS9	0.080
	(XE2SP2141)	52 23	S.SP.	ISO M20 x 1.5	ZCKS9H29	0.080



ZCKS404

Bodies with double-pole contact and spring return rotary head

Without operatin	ng lever					
Туре	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
2 step 1 from left and	2 CO staggered snap action	5 53 73	_	Pg 13.5	ZCKS404	0.150
1 from right	O^{-1}	25 24 13 4		ISO M20 x 1.5	ZCKS404H29	0.150

Bodies with 3-pol	e contact and 1 c	able entry				
Туре	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
-	NC + NO + NO snap action	3 3 3	\ominus	Pg 13.5	ZCKSD31	0.080
	(XE3SP2151)	4 34 22		ISO M20 x 1.5	ZCKSD31H29	0.080
	NC + NC + NO snap action	5 3 3	\ominus	Pg 13.5	ZCKSD39	0.080
	(XE3SP2141)	4 33		ISO M20 x 1.5	ZCKSD39H29	0.080
	NC + NC + NO break before make,	13 J3	\ominus	Pg 13.5	ZCKSD37	0.080
	slow break (XE3NP2141)	4 33		ISO M20 x 1.5	ZCKSD37H29	0.080
	NC + NO + NO break before make,	13 33 37	\ominus	Pg 13.5	ZCKSD35	0.080
	slow break (XE3NP2151)	4 4 3 3 2 3 2 3 2 3		ISO M20 x 1.5	ZCKSD35H29	0.080

(1) : NC contact with positive opening operation or head assuring positive opening operation.

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Variable composition switches



XE2SP21 •1



XE2NP21•1



XESP3021



XE3•P21••



DE9RA••12

Type of contact	Scheme	For body	Positive operation (1)	Reference	Weight kg
2-pole contact					5
NC + NO snap action	22 21	ZCKS1	\ominus	XE2SP2151	0.020
NC + NO break before make, slow break	22 13	ZCKS5	\ominus	XE2NP2151	0.020
2 CO simultaneous snap action	12 22 24 23 24 23 24 23 24 23 24 23 24 23 24 23 24 23 24 23 23 24 23 24 23 24 23 24 23 24 24 24 23 24 24 24 24 24 24 24 24 24 24 24 24 24	ZCKS2	-	XESP3021	0.045
NO + NC make before break, slow break	22 21	ZCKS6	\ominus	XE2NP2161	0.020
NC + NC simultaneous, slow break	22 21	ZCKS7	\ominus	XE2NP2141	0.020
NO + NO simultaneous, slow break	24	ZCKS8	5) - 	XE2NP2131	0.020
NC + NC snap action		ZCKS9	Θ	XE2SP2141	0.020
3-pole contact		L. C.			
NC + NO + NO snap action	22 24 13 33 33 13 33 32 13	ZCKSD31	\ominus	XE3SP2151	0.035
NC + NC + NO snap action	32 31 22	ZCKSD39	\ominus	XE3SP2141	0.035
NC + NC + NO break before make, slow break	32 32 14 14 13	ZCKSD37	\ominus	XE3NP2141	0.035
NC + NO + NO break before make, slow break	22 24 24 13 13 13 13	ZCKSD35	\ominus	XE3NP2151	0.035

Accessories for ZCKS•• and X	Accessories for ZCKSee and XCKSee								
Description	Minimum order quantity	Reference	Weight kg						
Adaptator for 1/2" NPT conduit (male Pg 13.5 / female 1/2" NPT)	10	DE9RA1212	0.035						
Adaptator for 1/2" NPT conduit (male M20 x 1.5 / female 1/2" NPT)	5	DE9RA2012	0.050						

(1) \ominus : NC contact with positive opening operation or sub-assembly assuring positive opening operation.

Other versions

Gold flashed contacts. Please consult our Customer Care Centre.



Operation

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Variable composition switches



Sensors

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Dimensions

Limit switches

XC Standard range, format EN 50041 Plastic, double insulated, XCKS Variable composition switches



(1) Tapped entry for 1/2" NPT conduit.
 (2) Pg 13.5 threaded sleeve.
 (3) M20 x 1.5 threaded sleeve.



Presentation, general characteristics

Limit switches

XC Standard range Industrial format EN 50041 Metal, XCKJ Conforming to CENELEC EN 50041



connector

Bodies and heads in Zamak

50 gn (11 ms)

Class I conforming to IEC 61140 and NF C 20-030

IP 66 conforming to IEC 60529; IK 07 conforming to IEC 62262

0.01 mm on the tripping points, with 1 million operating cycles for head with end plunger

Tapped entry for Pg 13.5 cable gland, tapped ISO M20 x 1.5 or tapped 1/2" NPT, or M12

Conforming to IEC 60068-2-27

Depending on model

Shock resistance

Repeat accuracy

Cable entry or

connector

Materials

Electric shock protection Degree of protection

General characteristics (continued)

Limit switches

XC Standard range Industrial format EN 50041 Metal, XCKJ Conforming to CENELEC EN 50041

Rated operational characteristics XE2+P xAC-15; X300 (Ue = 240 V; Ie = 3A; Ithe = 0.27A), conforming to IEC 60947-5-1 Appendix A, E1 Rated insulation voltage XE3+P	Contact block	chara	acteris	stics												
$ \begin{array}{c c} XE3P \\ \hline XE$							\sim AC-1	5; A300	(Ue = 24	0 V, Ie	e = 3 A); Ithe = 10	A				
Circle 13, R200 (U = 2.0 X, U = 0.1 A), conforming to IEC 60047-5-1Rated insulation voltageXE2ePUI = 500 V degree of pollution 3 conforming to IEC 60047-1Rated imputes withstandXE2ePUI mp = 6 W conforming to IEC 60047-1, IEC 80064VoltageXE2ePUI mp = 6 W conforming to IEC 60047-1, IEC 80064Positive operation (depending on model)Nc conducts with positive operation (depending on model)Resistance across terminalsKE2ePUI mp = 6 W conforming to IEC 60047-1, IEC 80064Positive operation (depending on model)Nc conducts with positive operation conforming to IEC 60047-1, IEC 80064Resistance across terminalsKE2ePConducts with positive operation conforming to IEC 60047-5, Appendix KResistance across terminalsKE2ePConforming to IEC 80047, IEC 80064Stort-circuit protectionXE2ePConducts with positive operation conforming to IEC 60047, IEC 80064Velage valueKE2ePConforming to IEC 80047, IEC 80064Keiner across terminalsKE2ePConforming to IEC 80047, IEC 80064	characteristics						_)947-5-	1 Appe	ndix A,	EN 60947-5-1
Rated insulation voltage XE2+P UI = 500 V degree of pollution 3 conforming to IEC 60347-1 XE3+P UI = 400 V degree of pollution 3 conforming to IEC 60347-1 UI = 400 V degree of pollution 3 conforming to IEC 60347-1 Rated impulse withstand XE2+P UI mp = 6 kV conforming to IEC 60347-1. IEC 60644 Voltage VIImp = 6 kV conforming to IEC 60347-1. IEC 60644 Positive operation (depending on model) R2 conforming to IEC 60347-5. IAcpendix K, I Restance across terminatis XE2+P Short-circuit protection XE2+P Connection XE2+P XE2+P 10 A cantidge fue type 10 (gr) Connection XE2+P XE2+P 10 A cantidge fue type 10 (gr) Connection XE2+P XE2+P 10 A cantidge fue type 10 (gr) Connection XE2+P XE2+P 10 A cantidge fue type 10 (gr) Minimum actuation speed XE2+P2+1 Clamping capacity, min 1 x 0.5 mm² VE2BP21+1 Clamping capacity, min 1 x 0.5 mm² Clamping capacity, min 1 x 0.5 mm² XE2HP2+E Mainum actuation speed XE2BP21+1 VE2BP21+1 Clamping capacity, min 1 x 0.5 mm² Vada			XE3•F	5			DC-1	13; R300					60947	-5-1 Ap	pendi	хA,
XE3•P U = 400 V degree d polution 3 conforming to IEC 6004-1 Rated impulse withstand voltage XE2•P U imp = 6 kV conforming to IEC 6004-1, IEC 60064 Positive operation (depending on mode) NC contacts with positive opening operation conforming to IEC 6007-1, IEC 60064 Short-circuit protection XE2•P 10 A cartridge fuse type g3 (g) Short-circuit protection XE2•P 10 A cartridge fuse type g3 (g) Status operation (depending on mode) KC contacts with positive opening operation conforming to IEC 6007-5 real copy 3 Short-circuit protection XE2•P 10 A cartridge fuse type g3 (g) Status operation (depending on mode) KC contacts with positive opening operation conforming to IEC 6007-5 mm² Status operation (depending on mode) KE2*P2 10 A cartridge fuse type g3 (g) Status operation (depending on mode) KE2*P2 Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² of 2 x 0.75 mm² Status operation sole (def conforming to IEC 6007-5 mm² KE2*P21*1 and XE3*P2 Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² of 2 x 0.75 mm² Wilniama actuation speed KE2*P21*1 XE2*P21*1 XE2*P21*1 KE2*P21*1 and XE3*P.0 Minimum actuation speed Camping agaicaty, min: 1 x 0.34 mm², max: 1 x 1 mm² of 2 x 0.75 mm² XCX plugein XE\$*20*1 Power broken in W for 5 million operating optics/shour OC supply Power broken in W for 5 million operating optics/shour Voltage V 2	Rated insulation volt	tage	XE2•F	D			Ui = 50									
Positive operation (depending on model) Positive operation (depending on model) NC contacts with positive central positive operation conforming to IEC 60047-51 Appendix K. Resistance across terminals Short-circuit protection XE3PP XE3PP XE3PP21e1 Connection XE2PP21e1 XCKU plug-in and XE3PP20eT Clamping capacity, min: 1x 0.35 mm², max: 2 x 1.5 mm² XCKU plug-in and XE3PP20eT Clamping capacity, min: 1x 0.35 mm², max: 2 x 1.5 mm² XE3PP21e1 Clamping capacity, min: 1x 0.35 mm², max: 2 x 1.5 mm² XE3PP21e1 Clamping capacity, min: 1x 0.35 mm², max: 2 x 1.5 mm² XE3PP21e1 Clamping capacity, min: 1x 0.35 mm², max: 2 x 1.5 mm² XE3PP21e1 Clamping capacity, min: 1x 0.35 mm², max: 2 x 1.5 mm² XE3PP21e1 Clamping capacity, min: 1x 0.35 mm², max: 2 x 1.5 mm² XE3PP21e1 XE3PP21			XE3•F	C												
Voltage XE3eP Ump = 4 kV conforming to IEC 60047-51. IEC 60064 Positive operation (depending on model) NC contacts with positive cenceng operation conforming to IEC 60047-51. Appendix K. Resistance across terminals K23PP Short-circuit protection K23PP Connaction K23PP21+1 Connaction K23PP21+1 Connaction K23PP21+1 Connaction K23PP21+1 Connaction K23PP21+1 K23PP21+1 K23PP21+1	Rated impulse withs	tand	XE2	>			l l imp =	6 kV cc	nformin	a to I	EC 60947-1 JEC	60664				
Resistance across terminals Short-circuit protection XE3P Connection XE3P Connection XE3PP Connection XE3PP Connection XE3PP Connection XE3PP Connection XE3PP Connection XE3PP Connection XE3PP Compared pacety, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 2x 1.5 mm² Comping capacity, min: 1x 0.3 mm², max: 1x 1 mm² or 2x 0.75 mm² XE3PP21e1 XE2SP21e1 XE2SP21e1 XE2SP21e1 XE2SP21e1 XE2SP21e1 XE2SP21e1 XE2SP21e1 Comping capacity, min: 1x 0.3 mm², max: 1x 1 mm² or 2x 0.75 mm² XE2SP21e1 X		tunu								<u> </u>						
Resistance across terminals Short-circuit protection XE3+P Short-circuit protection Short-circuit protection Short-circui	Positive operation (d	lepending	g on mod	el)			NC cont	acts with	n positive	oper	ning operation con	forming to IEC	60947-	5-1 App	endix ł	K, EN 60947-5-1
XE3#P 6A cartridge fuse type gG (g) Connection (screw clamp terminals) XE2SP21e1 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XCKJ plug-in and XESP20e1 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 Clamping capacity, min: 1x 0.34 mm², max: 2x 1.5 mm² XE3NP and XESP2 XE3NP and XESP2 XE3NP and XESP2 XE2NP21e1 XE2NP21e1 XEXP21e1 XE2NP21e1 XEXP21e1 XE3NP and XESP2 XEXP21e1 XE3NP and XESP2 Year Year Year Year Year Year Year Year	Resistance across te	erminals		,								-				-
Clamping capacity, min.1 x 0.34 mm², max: 2 x 1.5 mm² Clamping capacity, min.1 x 0.34 mm², max: 2 x 1.5 mm² XE2NP21e1 Clamping capacity, min.1 x 0.34 mm², max: 2 x 1.5 mm² XCKJ plug-in and XESP20e1 Clamping capacity, min.1 x 0.34 mm², max: 2 x 1.5 mm² XE3NP and XE3SP Clamping capacity, min.1 x 0.34 mm², max: 2 x 1.5 mm² XE3NP and XE3SP Clamping capacity, min.1 x 0.34 mm², max: 2 x 1.5 mm² XE3NP and XE3SP Clamping capacity, min.1 x 0.34 mm², max: 2 x 1.5 mm² Minimum actuation speed XE2SP21e1 and XE3NP 0 minimute XE2SP21e1, XE2SP21e1 XE2SP21e1, XE2SP21e1 XEZSP21e1 XEXSP20 XEZSP21e1 XEXSP20 XEZSP21e1 XEXSP20 OC supply :::: Power broken in W for 5 million operating cycles. Power broken in W for 5 million operating cycles. Yoldage V 24 48 120 Yoldage V 24 48 120 Yoldage V 24 48 120 Yoldage V 24 48 120	Short-circuit protect	ion	XE2•F	C								-				
(screw clamp terminals) XE2NP21e1 Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² XCKJ plug-in and XESP20e1 Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² Minimum actuation speed XE2SP21e1 and XE3SP Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² Minimum actuation speed XE2SP21e1 and XE3SP Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² Minimum actuation speed XE2SP21e1 and XE3SP Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ² Minimum actuation speed XE2SP21e1 and XE3SP 0.01 minute XE2SP21e1, XE2SP21e1 XEXEP21e1 XEXEP21e1 XEXEP21e1 XEXEP21e1 XEXEP21e1 OC supply Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² DC supply Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 2.5 mm ² XEXEP21e1 XEXEP21e1 Visitage V 24 XEXEP21e1 Visitage V 24 Result of the values shown with result of the values shown with resures polarity. <t< td=""><td></td><td></td><td>XE3•F</td><td>D</td><td></td><td></td><td>6 A cart</td><td>ridge fu</td><td>se type (</td><td>gG (g</td><td>I)</td><td></td><td></td><td></td><td></td><td></td></t<>			XE3•F	D			6 A cart	ridge fu	se type (gG (g	I)					
Vick Jugin and XESP201 Clamping capacity, min: x 0.75 mm ² XCK Jugin and XESP201 Clamping capacity, min: x 0.75 mm ² XE3NP and XE3SP Clamping capacity, min: x 0.75 mm ² Winimum actuation speed XE2SP2141 and XE3SP: 0.01 m/minute Second Large Conforming to 166 0947-57 Happedix C Utilisation categories AC15 and DC-13 Conforming to 166 0947-57 Happedix C Utilisation categories AC15 and DC-13 XCK Jugin-in, XESP2041 XCS supply XCK Jugin-in, XESP2141 XCS supply Technological transmit of the second matrix of the sec	Connection		XE2SF	P21•1			Clampi	ng capa	city, min	:1 x C).34 mm², max: 2	2 x 1.5 mm ²				
XE3NP and XE3SP Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm² Minimum actuation speed XE2SP21 = 1 and XE3SP. 0.01 m/minute Electrical durability Conforming to IEC 60947-5-1 Appendix C Utilisation catagories AC-15 and DC-13 Maximum operating rate: 3000 operating cycles/hour Casupply XE2SP21 = 1, XE2SP21 = 1, XE2SP21 = 1 XE2SP21 = 1 XE2SP21 = 1 Constrained of the cons	(screw clamp terminal	s)	XE2NI	P21•1			Clampi	ng capa	city, min	:1 x C).5 mm², max: 2 >	x 2.5 mm ²				
Minimum actuation speed Electrical durability Electrical durabili			XCKJ	plug-in	and XES	SP20e1			-							
KE2NP21+1 and KE3NP-6 m/minute Electrical durability Conforming to EC 60947-5-1 Appendix C. Utilisation categories AC-15 and DC-13 Maximum operating rate: 3600 operating cycles/hour Load factor 0.5 XCL plug:n, XESP20+1 AC supply 50/60 Hz/~ mm inductive circuit Power broken in W for 5 million operating cycles. DC supply: mm inductive circuit Power broken in W for 5 million operating cycles. DC supply: mm inductive circuit Power broken in W for 5 million operating cycles. Power broken in W for 5 million operating cycles. Power broken in W for 5 million operating cycles.			XE3NI	P and X	(E3SP		Clampi	ng capa	city, min	:1x	0.34 mm², max: 1	1 x 1 mm ² or 2	x 0.75 ı	nm²		
 Utilisation categories AC:15 and DC-13 Maximum operating red:: 3000 operating cycles/hour Load factor: 0.5 XE2SP21+1, XE2SP2141 Yoldage V 24 48 Yoldage V 24 48	Minimum actuation s	speed							100	-						
AC supply SOUGO HZ ~ rms inductive circuit AC supply supply find circuit Compared of the supply find circuit in A DC supply fi	Electrical durability						■ Utilis ■ Max	ation ca	ategories perating	AC-	15 and DC-13					
50/60 H2 \sim rm inductive circuit $\frac{1}{90} \frac{1}{90} $		XE2SP2	21●1, XE	2SP21	41			_	V	15	60.	XCKJ pl	ug-in,	XESP2	20•1	
AC supply Convert broken in W for 5 million operating cycles. Voltage V 24 48 120 Torrent in A DC supply Current in A DC supply Convert broken in W for 5 million operating cycles. Voltage V 24 48 120 Tor XE2SP•151 on ~ or, NC and NO contacts simultaneously loaded to the values shown with reverse polarity. XE3SP•••• AC supply DC	50/60 Hz \sim					İthe	54 5 2 6 2 6		230 V	12					12	Ithe
DC supply ::: Power broken in W for 5 million operating cycles. Voltage V 24 48 120 m W 10 7 4 Power broken in W for 5 million operating cycles. Voltage V 24 48 120 m W 10 7 4 Power broken in W for 5 million operating cycles. Voltage V 24 48 120 M W 13 9 7 For XE2SPe151 on ~ or :::, NC and NO contacts simultaneously loaded to the values shown with reverse polarity. XE3SPe- AC supply S0/60 Hz ~ mm inductive circuit Power broken in W for 5 million operating cycles. Voltage V 24 48 120 M W 13 9 7 KE3SPe- AC supply S0/60 Hz ~ mm inductive circuit Power broken in W for 5 million operating cycles. Voltage V 24 48 120 M W 13 9 7 KE3SPe- AC supply S0/60 Hz ~ mm inductive circuit Power broken in W for 5 million operating cycles. Voltage V 24 48 120 N W To 7 4 Power broken in W for 5 million operating cycles. Voltage V 24 48 120 N W To 7 4 Power broken in W for 5 million operating cycles. Voltage V 24 48 120 N Otage V 24 48 120					24 V 48 V							0.1	230 \			
AC supply 50/60 Hz \sim mm inductive circuit voltage V 24 48 120 voltage V 24 48 120		0.5	1	2			0.5	1	2	3 4		0.5	1	2	34	5 10 Current in A
$\frac{100}{100} \frac{W}{100} \frac{10}{100} \frac{10}{10} \frac{10}{100} \frac{10}{100}$	DC supply		roken in \	N for 5	million o	perating		roken in	W for 5	millic	on operating		oken in	W for t	5 millic	on operating
AC supply 50/60 Hz \sim mm inductive circuit DC supply DC		Voltage	V	24	48	120	Voltage	v	24	48	120	Voltage	V	24	48	120
AC supply 50/60 Hz ~ rm inductive circuit															7	4
AC supply 50/60 Hz ~ rm inductive circuit $\int_{0.1}^{0} \int_{0.5}^{0} \int_{1}^{0} \int_{0}^{0} \int_{0}^{$				on \sim or	r , NC a	and NO co	ontacts sin	nultaneo	ously loa	ded t	o the values sho	wn with revers	e polar	ity.		
$\frac{50/60 \text{ Hz}^{2}}{\text{rm} \text{ inductive circuit}} \qquad $		XE3SP	••••				XE3NP	••••								
$DC \text{ supply } = T \\ \hline DC \text{ supply } = T \\ \hline Voltage \ V \ 24 \ 48 \ 120 \ \hline Voltage \ 24 \ 14 \ 14 \ 14 \ 14 \ 14 \ 14 \ 14$	50/60 Hz \sim				Iti		5 4 ∏				Ithe					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		rating cycles					rating cycles		230 V	12 110 \	/24/48 V /					
DC supply Power broken in W for 5 million operating cycles. Power broken in W for 5 million operating cycles. Voltage V 24 48 120		0.1	230/400 V	2	3 4 5	10 <u>10</u>	0.1	1	2	3 4						
Voltage V 24 48 120 Voltage V 24 48 120	DC supply		roken in V	N for 5				roken in	W for 5	millic						
		Voltage					Voltage									
		m	W	3	2	1	m	W	4	3	2					



References, characteristics

Limit switches

XC Standard range Industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete fixed body switches with 1 cable entry



References of complete switches with 1 Pg 13.5 cable entry (2)

For complete switches with entry for Pg 13.5 cable gland, delete H29 from the end of the reference. Example: XCKJ161H29 becomes XCKJ161.

References of complete switches with 1 entry for 1/2" NPT conduit (2)

For complete switches with entry for 1/2" NPT (USAS B2-1) conduit, replace H29 at the end of the reference by H7. Example: XCKJ161H29 becomes XCKJ161H7.

(1) Form conforming to EN 50041, see page 25.

- (2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
- (3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

(4) Value taken with actuation by moving part at 100 mm from the fixing.



Limit switches

XC Standard range Industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete fixed body switches with 1 cable entry

Charac	teristics								
Switch actuation On end			By 30° cam	By 30° cam B					
Type of actuation									
Maximum actuation speed 0.8		0.5 m/s	1 m/s	1.5 m/s					
Mechanica (in millions of cycles)	I durability (1) of operating	30	25	30					
Minimum	For tripping	20 N	16 N	0.25 N.m					
force or torque			40 N	0.50 N.m –					
Cable entry	Cable entry (3) 1 entry tapped M			20 x 1.5 mm for ISO cable gland, clamping capacity 9 to 12 mm					

(1) Limited to 15 million operating cycles for switches with contacts XE3•P.



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

(2) Ø 6 rod, length 200 mm.

(3) 282 max.

(4) 190 max.

(5) 212 max. Ø: 2 elongated holes Ø 5.3 x 7.3.

References, characteristics

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete switches, plug-in body With 1 cable entry



(1) Form conforming to EN 50041, see page 25.

(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.

(3) Switches with gold contacts: please consult our Customer Care Centre.

(4) Value taken with actuation by moving part at 100 mm from the fixing.

Dimensions

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete switches, plug-in body With 1 cable entry



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

- (2) Ø 6 rod, length 200 mm.
- (3) 289 max.
- (4) 190 max.
- (5) 212 max.



References, characteristics

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete switches, fixed body M12 connector

Type of head		Plunger (fixing	by the body)	Rotary (fixing (switches supplied	by the body) d for actuation from	left AND right)			
		Form B (1)	Form C (1)	Form A (1)			Form D (1)		
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (2)	Steel roller lever (2)	Variable length thermoplastic roller lever (2)	Round thermoplastic rod lever, Ø 6 mm (2) (3)		
References (4)								
2-pole N0 ♀	C + NO on (XE2SP2151)	XCKJ161D ⊖	XCKJ167D ⊖	XCKJ10511D ⊖	XCKJ10513D ⊖	XCKJ10541D	XCKJ10559D		
32		21-22 13-14 21-22 13-14 0 0.9 6mm	3.2(A) 8.1(P) 13-14 13-14 13-14 1.5 mm	23° 58°(P) 13-14 21-22 13-14 90° 11°	23° 58°(P) 13-14 21-22 13-14 90°	23° 13-14 21-22 13-14 13-14 21-22 13-14 90°	21-22 13-14 21-22 13-14 13-14 90°		
Weight (kg)		0.430	0.455	0.480	0.490	0.485	0.485		
Contact operation		closed open		(A) = cam displacement (P) = positive opening point					
Characteristic	cs								
Switch actuation		On end	By 30° cam	AX A	39°		By any moving part		
Type of actuation			≠	<u>₹0</u> г01			→ []		
Maximum actuation		0.5 m/s	1 m/s	1.5 m/s					
Mechanical durabilit (in millions of operatir		30	25	30					
Minimum force or	For tripping	20 N	16 N	0.25 N.m					
torque	For positive opening	50 N	40 N	0.50 N.m		-	-		
Connection		M12 connector, Ui	= 60 V, le = 4 A (se	e suitable pre-wired	female connectors	below).			

(1) For comparing to Explore 1, see page 25.
 (2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
 (3) Value taken with actuation by moving part at 100 mm from the fixing.
 (4) Switches with gold contacts: please consult our Customer Care Centre.

References of suitable pre-wired female connectors

itereneneee er eana			
Type of connector		M12 straight, 5-pin, 4 A/24 V max.	M12 elbowed, 5-pin, 4 A/24 V max.
With cable, Ø 5.8 mm (4 x 0.34 mm ² + 1 x 0.5 mm ²)	L=2 m	XZCP1164L2	XZCP1264L2
	L=5 m	XZCP1164L5	XZCP1264L5
	L = 10 m	XZCP1164L10	XZCP1264L10
Weight (kg)	L = 2 m	0.115	
	L = 5 m	0.270	
	L = 10 m	0.520	

Dimensions, connections

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete switches, fixed body M12 connector



(3) 190 max.

(4) 212 max. Ø: 2 elongated holes Ø 5.3 x 7.3.

L: Cable length 2, 5 or 10 m.

Connections







Pre-wired female connector XZCP1•64L•



1 = brown

- 2 = white 3 = blue
- 4 = black
- 5 = 🛓 yellow/green

References, characteristics

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete switches, fixed body 7/8"-16UN connector

Type of head		Plunger (fixing by the body)		Rotary (fixing by the body) (switches supplied for actuation from left AND right)			
		Form B (1)	Form C (1)	Form A (1)		lott at D light	Form D (1)
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (2)	Steel roller lever (2)	Variable length thermoplastic roller lever (2)	Round thermoplastic rod lever, Ø 6 mn (2) (3)
References (4)	·					
ຕ _∑ 2-pole N	C + NO ion (XE2SP2151)	XCKJ161A ⊖	XCKJ167A ⊖	XCKJ10511A ⊖	XCKJ10513A ⊖	XCKJ10541A	XCKJ10559A
5 <mark> </mark>		2 4.7(P) 1344 0 0 0.9 6mm	3.2(A) 8.1(P) 13-14 0 1.5 mm	23° 58°(P) 21-22 21-22 13-14 11° 90°	23° 58°(P) 1-22 1-22 1-24 1-24 1-24 1-24 1-24 1-24 90°	21-22 13-14 13-14 13-14 11°	21-22 13-14 13-14 0 11° 90°
Weight (kg)		0.430	0.455	0.480	0.490	0.485	0.485
Contact operation		closed open		(A) = cam displacement (P) = positive opening point		→ NC contact with positive opening operation	
Characteristi	cs						
Switch actuation		On end By 30° cam				By any moving pa	
Type of actuation							
Maximum actuation speed		0.5 m/s	1 m/s	1.5 m/s			
Mechanical durability (in millions of operating cycles)		30	25	30			
Minimum force	For tripping	20 N	16 N	0.25 N.m			
or torque	For positive opening	50 N	40 N	0.50 N.m		-	-
Connection		7/8"-16 IN conner	tor $ i = 250 V$ le =	6 A (see suitable n	re-wired female cor	nectors helow)	

(1) Form combining to Ex 3004 1, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Value taken with actuation by moving part at 100 mm from the fixing.
(4) Switches with gold contacts: please consult our Customer Care Centre.

References of suitable pre-wired female connectors						
Type of connector		7/8"-16UN straight, 5-pin, 4 A/250 V max.				
With cable, Ø 5.9 mm (5 x 0.34 mm ²)	L = 2 m	XZCP1764L2				
	L = 5 m	XZCP1764L5				
	L = 10 m	XZCP1764L10				
Weight (kg)	L=2 m	0.185				
	L = 5 m	0.460				
	L = 10 m	0.900				

Dimensions, connections

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Complete switches, fixed body 7/8"-16UN connector



(2) 282 max.

(3) 190 max.

(4) 212 max. Ø: 2 elongated holes Ø 5.3 x 7.3. L: Cable length 2, 5 or 10 m.

Connections

Limit switch XCKJ





Pre-wired female connector XZCP1764Le

1 = black

- 2 = blue 3 = yellow/green \pm
- 4 = brown
- 5 = white



Presentation

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Variable composition: standard bodies









Round rod lever, thermoplastic, L = 200 mm (5)
Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies: standard bodies



ZCKJ•

Туре	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
step	1 NC + 1 NO	21	\ominus	Pg 13.5	ZCKJ1	0.310
	snap action	← ∾L \7	0	ISO M20 x 1.5	ZCKJ1H29	0.310
	(XE2SP2151)	22 [1/2" NPT	ZCKJ1H7	0.310
	2 CO	21 3 23	-	Pg 13.5	ZCKJ2	0.310
	simultaneous,		+	ISO M20 x 1.5	ZCKJ2H29	0.310
	snap action (XESP2021)	22 (24) 12 (14) 12		1/2" NPT	ZCKJ2H7	0.310
	1 NC + 1 NO	21	\ominus	Pg 13.5	ZCKJ5	0.310
	break before make,	τι «L 7	0	ISO M20 x 1.5	ZCKJ5H29	0.310
	slow break (XE2NP2151)	52 [7		1/2" NPT	ZCKJ5H7	0.310
	1 NO + 1 NC	14 13 13 13 13 13 13 13 13 13 13	\ominus	Pg 13.5	ZCKJ6	0.310
	make before break,		0	ISO M20 x 1.5	ZCKJ6H29	0.310
	slow break (XE2NP2161)			1/2" NPT	ZCKJ6H7	0.310
	2 NC		\ominus	Pg 13.5	ZCKJ7	0.310
	simultaneous,		0	ISO M20 x 1.5	ZCKJ7H29	0.310
	slow break (XE2NP2141)	33 33	1	1/2" NPT	ZCKJ7H7	0.310
	2 NO	24		Pg 13.5	ZCKJ8	0.310
	simultaneous,			ISO M20 x 1.5	ZCKJ8H29	0.310
	slow break (XE2NP2131)			1/2" NPT	ZCKJ8H7	0.310
	2 NC	3] 7	Θ	Pg 13.5	ZCKJ9	0.310
	snap action	~~ <u>~</u>		ISO M20 x 1.5	ZCKJ9H29	0.310
	(XE2SP2141)	32 32		1/2" NPT	ZCKJ9H7	0.310
? step	2 CO	21 13	<u> </u>	Pg 13.5	ZCKJ4	0.310
	staggered		+	ISO M20 x 1.5	ZCKJ4H29	0.310
	snap action (XESP2031)	25 24 12		1/2" NPT	ZCKJ4H7	0.310

Fixed bo	dies with	3-pole contact	t				
Туре		With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
-		1 NC + 2 NO	21	\ominus	Pg 13.5	ZCKJD31	0.310
	snap action (XE3SP2151)	7	0	ISO M20 x 1.5	ZCKJD31H29	0.310	
		34 22		1/2" NPT	ZCKJD31H7	0.310	
	2 NC + 1 NO snap action	33	\ominus	Pg 13.5	ZCKJD39	0.310	
			77		ISO M20 x 1.5	ZCKJD39H29	0.310
	(XE3SP2141)	4 23 33		1/2" NPT	ZCKJD39H7	0.310	
		break before make,	, ¹ 3, ¹ 3, ¹ 3, ¹	\ominus	Pg 13.5	ZCKJD37	0.310
					ISO M20 x 1.5	ZCKJD37H29	0.310
		slow break (XE3NP2141)	[4] 23 [32] 33		1/2" NPT	ZCKJD37H7	0.310
		1 NC + 2 NO	13 33 21	\ominus	Pg 13.5	ZCKJD35	0.310
		break before make,	7	0	ISO M20 x 1.5	ZCKJD35H29	0.310
	slow break (XE3NP2151)	22 14 14		1/2" NPT	ZCKJD35H7	0.310	

(1) \bigoplus : NC contact with positive opening operation.

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies: standard bodies



ZCKJ•1



ZCKJ404



Plug-in bod	lies with contact					
Туре	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	Single-pole 1 CO	1 13	-	Pg 13.5	ZCKJ11	0.300
	snap action	\/		ISO M20 x 1.5	ZCKJ11H29	0.300
		12 14		1/2" NPT	ZCKJ11H7	0.300
	Double-pole 2 CO	14 12 14 12 12 13 22 24 23 22 21 23	- 21	Pg 13.5	ZCKJ21	0.300
	simultaneous, snap action			ISO M20 x 1.5	ZCKJ21H29	0.300
	Shap dotton		22	1/2" NPT	ZCKJ21H7	0.300
2 step	Double-pole 2 CO	22 23 23 24 23 11 13 22 23 23 23 23 23 23 23 23 23 23 23 23	- 2	Pg 13.5	ZCKJ41	0.300
	staggered, snap action		-7	ISO M20 x 1.5	ZCKJ41H29	0.300
			52	1/2" NPT	ZCKJ41H7	0.300

Bodies with contact, with rotary head (without operating lever)

Туре	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
1 from left AND	Double-pole 2 CO staggered, snap action	14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 14 14 14 14 14 14 14 14 14 14 14 14	+	Pg 13.5	ZCKJ404	0.455
				ISO M20 x 1.5	ZCKJ404H29	0.455
			1.	1/2" NPT	ZCKJ404H7	0.455
Plug-in body			~~~			
2 step 1 from left AND	Double-pole 2 CO staggered, snap action	21 3 11 13	A. S.	Pg 13.5	ZCKJ4104	0.465
			6.02	ISO M20 x 1.5	ZCKJ4104H29	0.465
1 from right (see page 167)		14 12 24 22 22		1/2" NPT	ZCKJ4104H7	0.465
		45.0				

Description	For use with	Contacts	Reference	Weight
				kg
Single-pole 1 CO with positive opening operation	ZCKJ11	Silver	ZCKJ01	0.150
Double-pole 2 CO with positive opening operation	ZCKJ21	Silver	ZCKJ02	0.160
Double-pole 2 CO staggered	ZCKJ41	Silver	ZCKJ04	0.160

(1) \bigoplus : NC contact with positive opening operation.



Limit switches

Scheme

21 13

23 4

13

52

5

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body. Adaptable sub-assemblies: bodies with indicator light module

Positive

 \ominus

 \ominus

operation (1)

Cable entry

Pg 13.5

Pg 13.5

Reference

ZCKJ120

ZCKJ520

Weight

kg

0.320

0.320

Weight kg

0.340

0.340

0.340

0.340



ZCKJ





ZCKJ1...

		(XE2NP2151)		CONV.		
Plug-in bodi	es with	single-pole d	ontact	e la companya de la c		
Туре		With contact block	Scheme	Positive operation (1)	Cable entry	Reference
With module co	omprising	2 LEDs, 24 V				
l step	1	CO snap action	12 13	_	Pg 13.5 ISO M20 x 1.5	ZCKJ1121 ZCKJ1121H29
With module co	omprising	2 LEDs, 110/240	$v \sim$			
1 step		CO snap action	12 13	-	Pg 13.5 ISO M20 x 1.5	ZCKJ1134 ZCKJ1134H29

(1) : NC contact with positive opening operation.

Fixed bodies with 2-pole contact

With module comprising 1 LED, 24 V

Туре

1 step

With contact

1 NC + 1 NO

snap action (XE2SP2151)

1 NC + 1 NO

(XE2NP2151)

break before make, slow break

block

Indicator light module characteristics					
Type of indicator	1 LED or 2 LEDs	2 LEDs			
Rated insulation voltage	50 V, conforming to IEC 60947-1	250 V \sim , conforming to IEC 60947-1			
Current consumption	7 mA per LED	9 mA per LED			
Rated operational voltage	24 V	110/240 V \sim			
Voltage limits	2030 V (including ripple)	95264 V \sim			
Service life	100 000 hours	100 000 hours			
Reverse polarity protection	Yes	-			

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body. Adaptable sub-assemblies: bodies with M12 connector



ZCKJ•D

Fixed bodies v	with 2-pole contact				
Туре	With contact block	Scheme	Positive operation (1)	Reference	Weight kg
1 step	1 NC + 1 NO snap action (XE2SP2151)	22 13 22 13	\ominus	ZCKJ1D	0.320
	1 NC + 1 NO break before make, slow break (XE2NP2151)	22 14	\ominus	ZCKJ5D	0.320
	1 NO + 1 NC make before break, slow break (XE2NP2161)	22 21	\ominus	ZCKJ6D	0.320
	2 NC simultaneous, slow break (XE2NP2141)	22 11 22 21 21	\ominus	ZCKJ7D	0.320
	2 NO simultaneous, slow break (XE2NP2131)	24 13 24 23	-	ZCKJ8D	0.320

Description	Cable length	Reference	Weight kg
Female pre-wired connectors, M12, straight Ø 5,0 mm cable	1 m	XZCP1164L2	0.115
Conductor c.s.a: 5 x 0.34 mm² Nominal current : 4 A Nominal voltage: ~ 30 V, 36 V	5 m	XZCP1164L5	0.270
	10 m	XZCP1164L10	0.520

XZCP1164L•

5

(1) NC contact with positive opening operation. , Ula



Telemecanique Sensors

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies: contact blocks



XE2SP21•1





XESP20•1



XE3•P21•1

Contact blocks					
Type of contact	Scheme	For bodies	Positive operation (1)	Reference	Weight kg
2-pole contact					
1 NC + 1 NO snap action	22	ZCKJ1 ZCKJ1D	\ominus	XE2SP2151	0.020
1 NC + 1 NO break before make, slow break	22 22 21	ZCKJ5 ZCKJ5D	\ominus	XE2NP2151	0.020
2 CO simultaneous snap action	14 13 12 11 12 21 22 23 22 23	ZCKJ2	-	XESP2021	0.045
2 CO staggered, snap action	14 13 12 11 13 12 22 24 23 23	ZCKJ4	_	XESP2031	0.045
1 NO + 1 NC make before break, slow break	22 21	ZCKJ6 ZCKJ6D	\ominus	XE2NP2161	0.020
2 NC simultaneous, slow break	22	ZCKJ7 ZCKJ7D	\ominus	XE2NP2141	0.020
2 NO simultaneous, slow break	24 13	ZCKJ8 ZCKJ8D	, - , -	XE2NP2131	0.020
2 NC snap action	32	ZCKJ9	\ominus	XE2SP2141	0.020
3-pole contact	1 1 1 Y				
1 NC + 2 NO snap action	22 21 34 33 14 13 33 14 13 33	ZCKJD31	\ominus	XE3SP2151	0.035
2 NC + 1 NO snap action	32 31 22 14 13	ZCKJD39	\ominus	XE3SP2141	0.035
2 NC + 1 NO break before make, slow break	32 32 14 1 13 13	ZCKJD37	\ominus	XE3NP2141	0.035
1 NC + 2 NO break before make, slow break	14 13 22 13 33 21	ZCKJD35	\ominus	XE3NP2151	0.035

(1) \bigoplus : NC contact with positive opening operation.



Limit switches

Covers + indicator light module

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies: add-ons

00	
[] ZCKZ0●●	



For use with Number and type of indicators Voltage Reference Weight kg Fixed body 24 V ZCKZ020 0.060 1 LED 24 V 2 LEDs 0.060 ZCKZ021 2 LEDs 110/240 V \sim ZCKZ034 0.060 0.200 Plug-in body 2 LEDs 24 V ZCKJ0121 2 LEDs 110/240 V \sim ZCKJ0134 0.200

ZCKJ01••	







For use with	Number and type o	f indicators Voltage	Reference	Weight kg
Fixed body	1 LED	24 V	ZCKJ902	0.030
	2 LEDs	24 V	ZCKJ906	0.030
	2 LEDs	110/240 ∨ ~	ZCKJ904	0.030

For use with	Resistor value	Reference	Weight
			kg
Fixed body	15 kΩ. 1/4 W	ZCKJ82A	0.030
ZCKJ1 only)			

Other versions

Covers + indicator light module for other supply voltages. Please consult our Customer Care Centre.



Operation

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies



Sensors

Operation, schemes

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies



Dimensions

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies

Bodies





ZCKJ11, J21, J41, J1100 ZCKJ11H29, J21H29, J41H29, J1100H29 ZCKJ11H7, J21H7, J41H7, J1100H7

ZCKJ1D, J5D, J6D, J7D, J8D





Bodies with rotary head mounted ZCKJ404, ZCKJ404H29, ZCKJ404H7





ZCKJ4104, ZCKJ4104H29, ZCKJ4104H7

Plunger heads ZCKE61





36

60

36









ZCKE64







42.5



Ø10

ZCKE62, ZCKE67









ZCKE21, ZCKE23

Ø20 19 5

(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT. Ø: 2 elongated holes Ø 5.3 x 7.3.





Dimensions (continued)

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies



L = 2, 5 or 10 m.



Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body

Adaptable sub-assemblies for low temperature applications (- 40°C)



ZCKJ1



ZCKJ11



(1) \bigcirc : head assuring positive opening operation.

ZCKJ4046

Limit switches

Plunger heads

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies for low temperature applications (-40°C)

ZCKE616



ZCKE626



ZCKE646



ZCKE216

ZCKE056



ZCKE096



ZCKE066

ZCKE636	



ZCKE676



ZCKE656



ZCKE236





Flullyer	ileaus					
Type of oper	ator	Compatible bodies	Maximum actuation speed		Reference	Weight kg
For actuati	on on end			. ,		
End plunger metal		ZCKJ●, ZCKJ●●	0.5 m/s	\ominus	ZCKE616	0.140
Side plunger metal		ZCKJ•, ZCKJ••, except ZCKJ4 and J41	0.5 m/s	\ominus	ZCKE636	0.200
For actuati	on by 30° car	n				
Roller plunge steel	er	ZCKJ●, ZCKJ●●	1 m/s	\ominus	ZCKE626	0.155
End reinforce plunger steel	ed roller	ZCKJ●, ZCKJ●●	1 m/s	\ominus	ZCKE676	0.155
Side roller plunger steel	Horizontal	ZCKJ•, ZCKJ••, except ZCKJ4 and J41	0.6 m/s	\ominus	ZCKE646	0.205
	Vertical	ZCKJ•, ZCKJ••, except ZCKJ4 and J41	0.6 m/s	\ominus	ZCKE656	0.205
Roller lever plunger (1 direction of actuation)	Thermoplastic	ZCKJ●, ZCKJ●●	1.5 m/s	\ominus	ZCKE216	0.185
h	Steel	ZCKJ●, ZCKJ●●	1.5 m/s	\ominus	ZCKE236	0.195
Rotary h	eads (witho	ut operating le	ever)			
Туре		Compatible bodies	Maximum actuation speed		Reference	Weight kg
Spring return for actuation fr right or from le (see page 25)	om left AND	ZCKJ●, ZCKJ●●	1.5 m/s by 30° cam	\ominus	ZCKE056	0.165
Stay put, for actuation fr right (see page		ZCKJ1, J11 ZCKJ2, J21	0.5 m/s	-	ZCKE096	0.190
Multi-dir	ectional he	ads				
Type of oper	ator	Compatible bodies	Maximum actuation speed		Reference	Weight kg
For actuati	on by any mo	oving part				5
"Cotto unbi-l-		701/1	4		TOKEAGO	0.445

"Cat's whisker"	ZCKJ•, ZCKJ••, except ZCKJ4 and ZCKJ41	1 m/s in any direction	-	ZCKE066	0.115
Spring rod	ZCKJ•, ZCKJ••, except ZCKJ4 and ZCKJ41	0.5 m/s in any direction	-	ZCKE086	0.125

 $(1) \bigoplus$: head assuring positive opening operation.



Limit switches

Operating levers for rotary heads

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies for low temperature applications (- 40°C)

		Operating levers for		5	Positive	Reference	Weight
		Description			operation (1)	Reference	kg
		For actuation by 30° ca	m				
		Roller lever (2)	Thermoplastic		\ominus	ZCKY11	0.025
			Steel		\ominus	ZCKY13	0.035
			Steel, ball bearing	nounted	\ominus	ZCKY14	0.030
		Variable length roller lever (3)	Thermoplastic		-	ZCKY41	0.030
			Steel		-	ZCKY43	0.040
		For actuation by any me	oving part				
		Square rod (2)	Ø 3 mm steel, L = 125 mm		-	ZCKY51	0.025
Î	Î	Round rod (2)	Ø 3 mm steel, L = 125 mm		-	ZCKY53	0.025
	Ť		Ø 3 mm glass fibre L = 125 mm		-	ZCKY52	0.020
			Ø 6 mm thermoplas $L = 200 \text{ mm}$	stic,	-	ZCKY59	0.030
(Charles)		Spring lever (3)			-	ZCKY81	0.020
Q		Spring-metal rod lever (3)		4	-	ZCKY91	0.025
U	0	For actuation by specif	ic cam (only for on	eration v	vith head ZC	KE096)	
ZCKY5•	ZCKY59				_		0.035
		thermoplastic	the second secon		_		0.035
			A. N. AND	blooks		Zontron	0.000
		·					
ļ		Type of contact	Scheme	For body	operation	Reference	Weight kg
B		NC + NO snap action	2 3 2	ZCKJ1	\ominus	XE2SP2151	0.020
	///		53 [4				
		NC + NO	21	ZCKJ5	\ominus	XE2NP2151	0.020
		slow break	53 [7				
201191		2 C O		7CK.12	_	XESP2021	0.045
		simultaneous, snap action	\ <u>7</u> -\ <u>7</u> -	201102			01010
		2 CO	1 13 1 3 1 12 24 12 14	ZCKJ4	-	XESP2031	0.045
		2 CO staggered, snap action		ZCKJ4	-	XESP2031	0.045
С ZCKY61		staggered, snap action	22 24 11 13 22 23 11 13 22 23 11 13				
-		staggered, snap action NC + NO make before break,		ZCKJ4 ZCKJ6	-	XESP2031 XE2NP2161	
-		staggered, snap action NC + NO make	22 24 11 13 22 23 11 13 22 23 11 13				
-		staggered, snap action NC + NO make before break, slow break NC + NC simultaneous,	21 22 22 24 22 24 24 24 24 24 24				0.020
-		staggered, snap action NC + NO make before break, slow break NC + NC	$\begin{array}{c c} 22 & 21 \\ \hline 14 & -1 \\ \hline 13 & 12 \\ \hline 14 & -1 \\ \hline 13 & 12 \\ \hline 12 & 12 \\ \hline 12 & 12 \\ \hline 24 & 23 \\ \hline 24 & 23 \\ \hline 24 & 23 \\ \hline 22 & 21 \\ \hline 14 & 13 \\ \hline 12 & -1 \\$	ZCKJ6	\ominus	XE2NP2161	0.020
-	XES P20•1	staggered, snap action NC + NO make before break, slow break NC + NC simultaneous, slow break NO + NO	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	ZCKJ6	→	XE2NP2161	0.045
ZCKY61	XES P20•1	staggered, snap action NC + NO make before break, slow break NC + NC simultaneous, slow break	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	ZCKJ6 ZCKJ7	→	XE2NP2161 XE2NP2141	0.020
ZCKY61	XES P20•1	staggered, snap action NC + NO make before break, slow break NC + NC simultaneous, slow break NO + NO simultaneous,	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	ZCKJ6 ZCKJ7	→	XE2NP2161 XE2NP2141	0.020
	ZCKY5.		Roller lever (2) Variable length roller lever (3) For actuation by any m Square rod (2) Round rod (2) ZCKY5•	(2) Steel Steel, ball bearing r Variable length roller lever Thermoplastic (3) Variable length roller lever Thermoplastic (3) Variable length roller lever Thermoplastic Steel For actuation by any moving part Square rod (2) Z 3 mm steel, L = 125 mm Z 3 mm glass fibre, L = 125 mm Z 4 m with rollers (2) Tor actuation by specific can (only for op Forked arm with rollers (2) Z track thermoplastic Z 2 track Z thermoplastic Z 2 track Z thermoplastic Z 2 track Z 1 track Z thermoplastic Z 2 track Z 1 track	Roller lever (2)ThermoplasticSteelSteelSteel, ball bearing mountedVariable length roller lever (3)Thermoplastic(3)SteelFor actuation by any moving partSquare rod (2)E13 mm steel, L = 125 mmRound rod (2)Ø 3 mm steel, L = 125 mmØ 6 mm thermoplastic, L = 200 mmSpring lever (3)Spring lever (3)<	(i) For actuation by 30° cam Roller lever Thermoplastic Image: Colspan="2">Image: Colspan="2" Colspa="2" Colspa="2" Colspa="2"	(i) For actuation by 30° cam Roller lever (2) Thermoplastic ⊕ ZCKY11 Steel ⊕ ZCKY13 Steel, ball bearing mounted ⊕ ZCKY14 Variable length roller lever (3) For actuation by any moving part Square rod (2) ☐ 3 mm steel, - ZCKY51 L = 125 mm - ZCKY52 L = 125 mm - ZCKY51 Spring lever (3) - ZCKY51 ZCKY54 Spring lever (3) - ZCKY51 Spring lever (3) - ZCKY51 N + NO + NO + ZCKY51 Z + ZCKY51 C + NO + NO + ZCKY51 N + NO + NO + ZCKJ5 N + ZCKJ5 N + NO + ZCKJ5 N + ZCKJ5 N + NO + ZCKJ5 N + ZC

(1) \bigcirc : NC contact with positive opening operation or sub-assembly assuring positive opening

operation. (2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting. (3) Adjustable throughout 360° in 5° steps.

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies for high temperature applications (+ 120°C)



ZCKJ•



ZCKJ•15



ZCKJ4045

Bodies with contacts	For plunger	or rotary hea	d			
Туре	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed bodies						
1 step	2-pole NC + NO	21	\ominus	Pg 13.5	ZCKJ1	0.310
	snap action (XE2SP2151)	×7		ISO M20 x 1.5		0.310
	(XE23F2131)	52 [4		1/2" NPT	ZCKJ1H7	0.310
	Double-pole 2 CO	21 13	_	Pg 13.5	ZCKJ25	0.310
	simultaneous,			ISO M20 x 1.5	ZCKJ25H29	0.310
	snap action (XESP20215)	2 2 2 2 2 2		1/2" NPT	ZCKJ25H7	0.310
	2-pole NC + NO	21	\ominus	Pg 13.5	ZCKJ5	0.310
	break before make, slow break	×7		ISO M20 x 1.5	ZCKJ5H29	0.310
	(XE2NP2151)	22		1/2" NPT	ZCKJ5H7	0.310
	2-pole NO + NC	13 21	$\overline{\Theta}$	Pg 13.5	ZCKJ6	0.310
	make before break,		\bigcirc	ISO M20 x 1.5	ZCKJ6H29	0.310
	slow break (XE2NP2161)	14 22		1/2" NPT	ZCKJ6H7	0.310
	2-pole NC + NC		Θ	Pg 13.5	ZCKJ7	0.310
	simultaneous,		Ċ	ISO M20 x 1.5	ZCKJ7H29	0.310
	slow break (XE2NP2141)	5 3	13.	1/2" NPT	ZCKJ7H7	0.310
	2-pole NO + NO	[3]3	<u>_</u>	Pg 13.5	ZCKJ8	0.310
	simultaneous,	23 13		ISO M20 x 1.5		0.310
	slow break (XE2NP2131)	2 2		1/2" NPT	ZCKJ8H7	0.310
	2-pole NC + NC	5]	\ominus	Pg 13.5	ZCKJ9	0.310
	snap action		0	ISO M20 x 1.5	ZCKJ9H29	0.310
	(XE2SP2141)	5 33		1/2" NPT	ZCKJ9H7	0.310
2 step	Double-pole 2 CO	21	_	Pg 13.5	ZCKJ45	0.310
	staggered, snap action	\times $ \times$ $ \times$ $ \times$ $ \times$ $ \times$ $ \times$ $ \times$ $ \times$ $ -$		ISO M20 x 1.5	ZCKJ45H29	0.310
	(XESP20315)	14 24 22		1/2" NPT	ZCKJ45H7	0.310
Plug-in bodies						
1 step	Single-pole CO	13	-	Pg 13.5	ZCKJ115	0.300
	snap action	\ <u>7</u>			ZCKJ115H29	0.300
		12		1/2" NPT	ZCKJ115H7	0.300
	Double-pole 2 CO	21 13 23	-	Pg 13.5	ZCKJ215	0.300
	simultaneous, snap action	<u>√</u> √ 7 √ 7 √ 7			ZCKJ215H29	0.300
	shap detion	14 24 22 22		1/2" NPT	ZCKJ215H7	0.300
2 step	Double-pole 2 CO	11 23 23	-	Pg 13.5	ZCKJ415	0.300
	staggered, snap action			ISO M20 x 1.5 1/2" NPT	ZCKJ415H29	0.300
-		2 2 2			ZCKJ415H7	0.300
Bodies with contacts	With spring I	eturn rotary	head (wi	thout operation	ing lever)	
Туре	With contact block	Scheme	operation	Cable entry	Reference	Weight kg
Fixed body			(1)			
2 step	Double-pole 2 CO	21 13 23 11	-	Pg 13.5	ZCKJ4045	0.455
1 from the left AND 1 from the right	staggered, snap action				ZCKJ4045H29	0.455
		14 24 22 22		1/2" NPT	ZCKJ4045H7	0.455
Plug-in body						
2 step 1 from the left AND	Double-pole 2 CO	21 23	-	Pg 13.5	ZCKJ41045	0.465
1 from the right	staggered, snap action				ZCKJ41045H29	0.465
č		22 24 12		1/2" NPT	ZCKJ41045H7	0.465

 $(1) \bigoplus$: head assuring positive opening operation.

Limit switches

Compatible bodies

ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9

ZCKJ1, J2, J4, ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9

ZCKJ1, J2, J4,

ZCKJ115, J215, ZCKJ5, J6, J7, J8, J9

ZCKJ1, J2, J4,

ZCKJ1, J2,

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body

Adaptable sub-assemblies for high temperature applications (+ 120°C)

Maximum

actuation

speed

0.5 m/s

0.5 m/s

0.1 m/s

1 m/s

Positive Reference

ZCKE615

ZCKE635

ZCKE665

ZCKE625

operation

(1)

 \ominus

 \ominus

 \ominus

 \ominus

Weight

kg

0.140

0.200

0.150

0.155

kg

kg

0	-	Type of operator	
		For actuation on end	
		End plunger	Metal
5	66		
ZCKE615	ZCKE635	Side plunger	Metal
	•		
A	R	For actuation by 30° cam	
	RUN I	End ball bearing plunger	Steel
	ZOKEGDE	End roller plunger	Steel
ZCKE665	ZCKE625		
0		End reinforced roller plunger	Steel
		Side roller plunger	Steel Horizontal
	فللمح		
ZCKE675	ZCKE645		Steel Vertical
		Beller lever plunger	Steel
		Roller lever plunger (1 direction of actuation)	Sleel
			Thermoplas
		Rotary heads (without	
		Rotary heads (without	
ZCKE655	ZCKE235	Rotary heads (without Type	
ZCKE655	ZCKE235	Type Spring return,	
ZCKE655	ZCKE235	Type Spring return, for actuation from left AND	
ZCKE655	ZCKE235	Type Spring return,	
ZCKE655	ZCKE235	Type Spring return, for actuation from left AND right or from left OR right	
ZCKE655	ZCKE235	Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right	
		Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25)	operating le
ZCKE655 ZCKE055 ZCKE055	ZCKE235 ZCKE095	Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25) Multi-directional hea	operating le
		Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25)	operating le
		Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25) Multi-directional hea Type of operator	operating le
		Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25) Multi-directional hea	operating le
		Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25) Multi-directional hea Type of operator For actuation by any mov	operating le
		Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25) Multi-directional hea Type of operator For actuation by any mov	operating le
		Type Spring return, for actuation from left AND right or from left OR right (see page 25) Stay put, actuation from left AND right (see page 25) Multi-directional hea Type of operator For actuation by any mov	operating le

Plunger heads Type of operator

ZCKE065 ZCKE085

ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9 ZCKJ1, J2, J4, ZCKE675 0.155 1 m/s \ominus ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9 ZCKJ1, J2, ZCKE645 0.205 0.6 m/s \ominus ZCKJ115, J215, ZCKJ5, J6, J7, J8, J9 ZCKJ1, J2, ZCKJ115, J215, ZCKE655 0.205 0.6 m/s \ominus ZCKJ5, J6, J7, J8, J9 ZCKJ1, J2, J4, 1.5 m/s \ominus ZCKE235 0.195 ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9 ZCKJ1, J2, J4, ZCKE215 0.185 stic 1.5 m/s \ominus ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9 ever) **Compatible bodies** Maximum Positive Reference Weight actuation operation speed (1) ZCKJ1, J2, J4, 1.5 m/s ZCKE055 0.165 \ominus ZCKJ115, J215, by 30° cam ZCKJ415, ZCKJ5, J6, J7, J8, J9 ZCKE095 ZCKJ1, J2, 0.5 m/s 0.190 _ ZCKJ115, J215 **Compatible bodies** Maximum Positive Reference Weight actuation operation (1) speed ZCKJ1, J2, 1 m/s in ZCKE065 0.115 ZCKJ115, J215, any direction ZCKJ5, J6, J7, J8, J9 ZCKJ1, J2, ZCKE085 0.125 0.5 m/s in ZCKJ115, J215, any direction

ZCKJ5, J6, J7, J8, J9

(1) : head assuring positive opening operation.

zcĸ

ZCKY43

ZCKY51

ZCKY71

XE2SP2

Limit switches

XC Standard range, industrial format EN 50041 Metal, conforming to CENELEC EN 50041, XCKJ Fixed or plug-in body Adaptable sub-assemblies for high temperature applications (+ 120°C)

		Operating lev	vers for rota	ry heads			
		Description			Positive operation (1)	Reference	Weight kg
		For actuation by	30° cam				
		Roller lever (2)	Thermoplastic		\ominus	ZCKY115	0.025
			Steel		\ominus	ZCKY13	0.035
			Steel, ball bearin	g mounted	\ominus	ZCKY14	0.030
		Variable length roller lever (3)	Thermoplastic		_	ZCKY415	0.030
			Steel		_	ZCKY43	0.040
		For actuation by	any moving pa	art			
		Square rod (2)	Ø 3 mm steel, L		-	ZCKY51	0.025
		Round rod (2)	Ø 3 mm steel, L	= 125 mm	_	ZCKY53	0.025
			Ø 3 mm glass fib	re, L = 125 mm	-	ZCKY52	0.020
		For actuation by	specific cam (only for operati	on with hea	d ZCKE095)	
		Forked arm with	1 track	only for operation	_	ZCKY715	0.035
		rollers (2)					0.000
Ø		thermoplastic	2 track	13.	-	ZCKY615	0.035
Ÿ		2-pole and do	uble-pole c	ontact blo	cks		
ZCKY5•		Type of contact	Scheme	For bodies	Positive operation (1)	Reference	Weight kg
		NC + NO snap action	22 21	ZCKJ1	\ominus	XE2SP2151	0.020
O		NC + NO break before make, slow break	22 13	ZCKJ5	\ominus	XE2NP2151	0.020
ZCKY615	4	2 CO simultaneous, snap action	22 24 13 22 24 23 22 21 13	ZCKJ25	-	XESP20215	0.04
	A A	2 CO staggered, snap action	22 24 11 13 22 24 23 21 23	ZCKJ45 †	-	XESP20315	0.04
		NC + NO make before break, slow break	22 7 13 13	ZCKJ6	\ominus	XE2NP2161	0.02
XE2NP21•1	XESP20•15	NC + NC simultaneous, slow break	22 11	ZCKJ7	\ominus	XE2NP2141	0.02
		NO + NO simultaneous, slow break	24 13	ZCKJ8	-	XE2NP2131	0.02

(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Adjustable throughout 360° in 5° steps.



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	112	XCKJ161H29	150	XCKN2708P20	111	XCKS501H29	138	XCMD2510L1	2
	113	XCKJ167A	156	XCKN2710P20	110	XCKS502H29	138	XCMD2511L1	2
E9RA1212	145	XCKJ167D	154	XCKN2718P20	111	XCKS531H29	138	XCMD2515AM4	ł
E9RA2012	145	XCKJ167H29	150	XCKN2721P20	110	XCKS533H29	138	XCMD2515L1	2
		XCKJ50511H29	150	XCKN2727P20	110	XCKS539H29	138	XCMD2516L1	2
(XCKJ50513H29	150	XCKN2739P20	111	XCKS541H29	138	XCMD2517L1	2
ALZ09	100	XCKJ50541H29	150	XCKN2745P20	111	XCKS543H29	138	XCMD2524L1	2
CKD2101G11	100	XCKJ50559H29	150	XCKN2749P20	111	XCKS549H29	138	XCMD2545L1	2
CKD2101M12	100	XCKJ561H29	150	XCKN2902P20	110	XCKS559H29	138	XCMD25F0L1	2
CKD2101P16	100	XCKJ567H29	150	XCKN2903P20	110	XCKT2101G11	100	XCMD25F2L1	2
CKD2102M12	92	XCKL102	124	XCKN2906P20	111	XCKT2101P16	100	XCMD25G1L1	2
CKD2102P16	88	XCKL106	124	XCKN2908P20	111	XCKT2102P16	94	XCMH2102L1	7
CKD2106M12	93	XCKL110	124	XCKN2910P20	110	XCKT2106P16	94	XCMH2102L2	7
CKD2106P16	89	XCKL115	124	XCKN2918P20	111	XCKT2110P16	94	XCMH2102L3	
CKD2110M12	92	XCKL121	124	XCKN2921P20	110	XCKT2111P16	94	XCMH2102L5	
CKD2110P16	88	XCKL502	124	XCKN2927P20	110	XCKT2118P16	95	XCMH2102L6	
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CKD2111P16	88	XCKL510	124	XCKN2945P20	111	XCKT2139P16	95	XCMH2102L8	
CKD2118M12	93	XCKL515	124	XCKN2949P20	111	XCKT2145P16	95	XCMH2102L9	
CKD2118P16	89	XCKL521	124	XCKP2101G11	100	XCKT21H0P16	95	XCMH2102LA1	
CKD2121M12	92	XCKM102H29	122	XCKP2101M12	100	XCKT21H2P16	95	XCMH2103L1	
CKD2121P16	88	XCKM106H29	122	XCKP2101P16	100	XCKT2501G11	100	XCMH2103L2	
CKD2127M12	92	XCKM110H29	122	XCKP2102M12	86	XCKT2501P16	100	XCMH2103L3	
CKD2127P16	88	XCKM115H29	122	XCKP2102P16	82	XCKZ09	132	XCMH2103L5	
CKD2128M12	92	XCKM121H29	122	XCKP2106P16	83	XCMD2101C12	49	XCMH2103L8	
CKD2128P16	88	XCKM502H29	122	XCKP2110M12	86	XCMD2101L1	49	XCMH2106L1	
CKD2139M12	93	XCKM506H29	122	XCKP2110P16	82	XCMD2101M12	49	XCMH2106L2	
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CKD2145M12	93	XCKM515H29	122	XCKP2111P16	82	XCMD2102C12	36	XCMH2107L2	
CKD2145P16	89	XCKM521H29	122	XCKP2118M12	87	XCMD2102L1	28	XCMH2107L3	
CKD2149M12	93	XCKML102	126	XCKP2118P16	83	XCMD2102M12	36	XCMH2110L1	
CKD2149P16	89	XCKML102H29	126	XCKP2121M12	86	XCMD2106C12	37	XCMH2110L2	
CKD21H0M12	93	XCKML110	126	XCKP2121P16	82	XCMD2106L1	29	XCMH2110L3	
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CKD21H2M12	93	XCKML115	126	XCKP2127P16	82	XCMD2110AM4	54	XCMH2115L1	
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CKD2501G11	100	XCKML121	126	XCKP2128P16	82	XCMD2110L1	28	XCMH2115L2	
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Schneider Electric Industries SAS

Head Office 35, rue Joseph Monier F-92500 Rueil-Malmaison France

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