

## Limit switches

XC Standard range

Compact design, plastic, XCKP and XCKT

Compact design, metal, XCKD

### ■ XCKP, XCKD

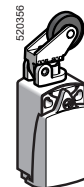
with 1 cable entry

Conforming to CENELEC EN 50047

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

XCKD

XCKP



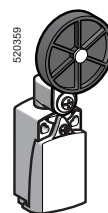
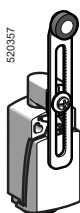
Pages 80 and 84

Pages 74 and 78

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

XCKD

XCKP



Pages 81 and 85

Pages 75 and 79

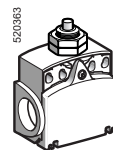
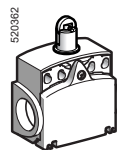
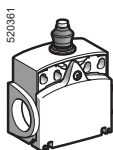
### ■ XCKT

with 2 cable entries

Tripping/resetting points and fixing centres conform to CENELEC EN 50047

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

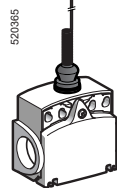
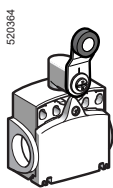
XCKT



Page 86

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

XCKT



Page 86

## Environment characteristics

Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
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

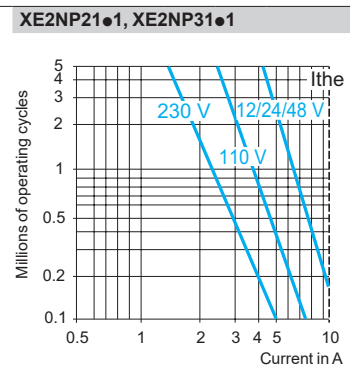
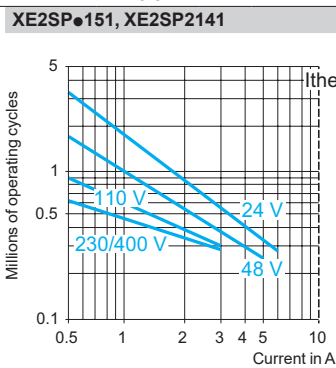
# Limit switches

## XC Standard range

Compact design, plastic, XCKP and XCKT  
Compact design, metal, XCKD

Contact block characteristics		
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ 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	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 IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming 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 protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP●151 and XE2SP2141	Clamping capacity, min: 1 x 0.34 mm <sup>2</sup> , max: 2 x 1.5 mm <sup>2</sup>
	XE2NP21●1 and XE2NP31●1	Clamping capacity, min: 1 x 0.5 mm <sup>2</sup> , max: 2 x 2.5 mm <sup>2</sup>
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm <sup>2</sup> , max: 1 x 1 mm <sup>2</sup> or 2 x 0.75 mm <sup>2</sup>
Minimum actuation speed (for head with end plunger)		<b>XE2SP●151, XE2SP2141 and XE3SP:</b> 0.01 m/minute
		<b>XE2NP21●1, XE2NP31●1 and XE3NP:</b> 6 m/minute
Electrical durability		<ul style="list-style-type: none"> <li>■ Conforming to IEC 60947-5-1 Appendix C</li> <li>■ Utilisation categories AC-15 and DC-13</li> <li>■ Maximum operating rate: 3600 operating cycles/hour</li> <li>■ Load factor: 0.5</li> </ul>

AC supply  
50/60 Hz ~  
mm. inductive circuit



DC supply ---

**Power broken in W for 5 million operating cycles.**

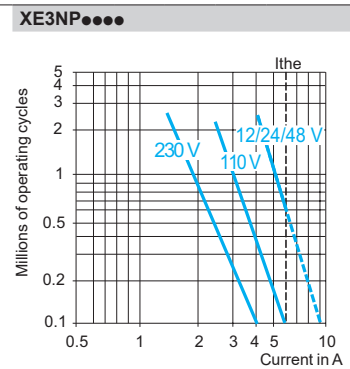
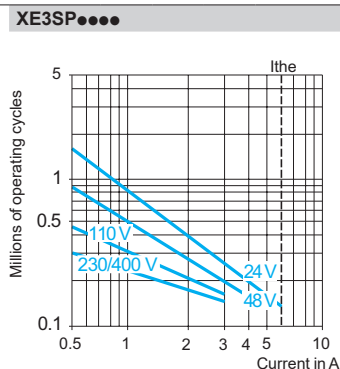
Voltage V	24	48	120
mm. W	10	7	4

**Power broken in W for 5 million operating cycles.**

Voltage V	24	48	120
mm. W	13	9	7

For XE2SP●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

AC supply  
50/60 Hz ~  
mm. inductive circuit



DC supply ---

**Power broken in W for 5 million operating cycles.**

Voltage V	24	48	120
mm. W	3	2	1



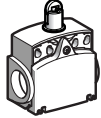
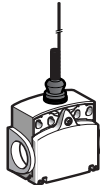
**Power broken in W for 5 million operating cycles.**

Voltage V	24	48	120
mm. W	4	3	2

# 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)	
				
Type of operator	Metal end plunger	Metal end plunger with elastomer boot (2)	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction





### References of complete switches with 2 ISO M16 x 1.5 cable entries (4)

	2-pole NC + NO snap action (XE2SP3151)	XCKT2110P16 	XCKT2111P16 	XCKT2102P16 	XCKT2121P16 	XCKT2106P16
	2-pole NC + NO break before make, slow break (XE2NP3151)	ZCT25P16 + ZCE10 	ZCT25P16 + ZCE11 	ZCT25P16 + ZCE02 	ZCT25P16 + ZCE21 	ZCT25P16 + ZCE06
	2-pole NC + NO make before break, slow break (XE2NP3161)	ZCT26P16 + ZCE10 	ZCT26P16 + ZCE11 	ZCT26P16 + ZCE02 	ZCT26P16 + ZCE21 	ZCT26P16 + ZCE06
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCT27P16 + ZCE10 	ZCT27P16 + ZCE11 	ZCT27P16 + ZCE02 	ZCT27P16 + ZCE21 	ZCT27P16 + ZCE06
	2-pole NO + NO simultaneous, slow break (XE2NP3131)	ZCT28P16 + ZCE10	ZCT28P16 + ZCE11	ZCT28P16 + ZCE02	ZCT28P16 + ZCE21	ZCT28P16 + ZCE06
Weight (kg)	0.100	0.100	0.105	0.115	0.095	

### References of complete switches with 2 entries for n° 11 cable gland

For entries tapped for n° 11 cable gland, replace P16 in the reference by G11. Example: XCKT2110P16 becomes XCKT2110G11.

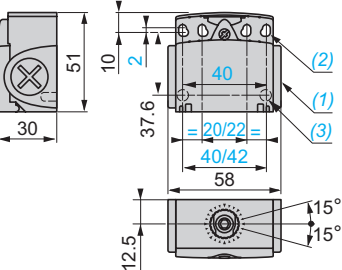
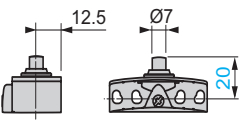
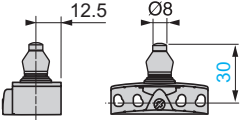
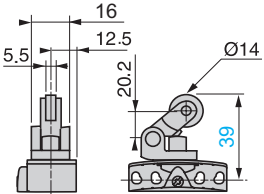
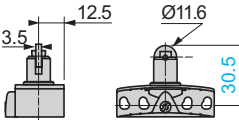
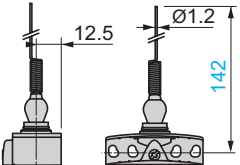
Contact operation  closed (A) = cam displacement  NC contact with positive opening operation  open (P) = positive opening point

Characteristics					
Switch actuation		On end	By 30° cam		By any moving part
Type of actuation					
Maximum actuation speed		0.5 m/s		1 m/s	1 m/s (any direction)
Mechanical durability (in millions of operating cycles)		15	10	15	5
Minimum force or torque	For tripping	15 N	12 N	6 N	0.3 N.m
	For positive opening	45 N	36 N	18 N	–
Cable entry (3)	2 entries tapped M16 x 1.5 for ISO cable gland Clamping capacity 4 to 8 mm (1 entry fitted with blanking plug)				

(1) Form conforming to EN 50047, see page 24. (2) Nitrile for indoor use.

(3) Value taken with actuation by moving part at 100 mm from the fixing. (4) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

### Dimensions

ZCT2•P16	ZCE10	ZCE11	ZCE21
			
			


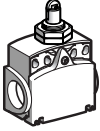

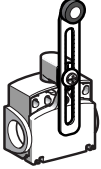

(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.


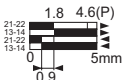

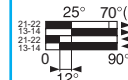

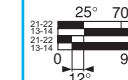

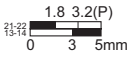
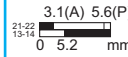
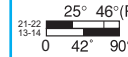
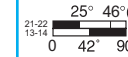
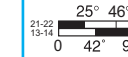


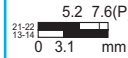
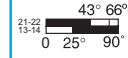
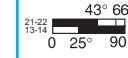
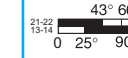



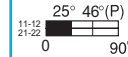
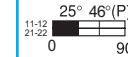
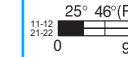

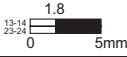

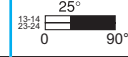
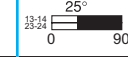
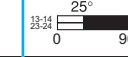
(2) 4 elongated holes  $\varnothing 4.3 \times 6.3$  mm on 22/42 mm ctrs, 4 holes  $\varnothing 4.3$  on 20/40 mm ctrs.

(3) 2 x  $\varnothing 3$  holes for support studs, depth 4 mm.

# Limit switches




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




Type of head	Plunger (fixing by the head)		Rotary (fixing by the body) 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 switches with 2 ISO M16 x 1.5 cable entries (2)						
	2-pole NC + NO snap action (XE2SP3151)	XCKT21H0P16 1.8 4.6(P) 	XCKT21H2P16 3.1(A) 7.8(P) 	XCKT2118P16 25° 70°(P) 	XCKT2145P16 25° 70°(P) 	XCKT2139P16 25° 70°(P) 
	2-pole NC + NO break before make, slow break (XE2NP3151)	ZCT25P16 + ZCEH0 1.8 3.2(P) 	ZCT25P16 + ZCEH2 3.1(A) 5.6(P) 	ZCT25P16 + ZCE01 + ZCY18 25° 46°(P) 	ZCT25P16 + ZCE01 + ZCY45 25° 46°(P) 	ZCT25P16 + ZCE01 + ZCY39 25° 46°(P) 
	2-pole NO + NC make before break, slow break (XE2NP3161)	ZCT26P16 + ZCEH0 3 4.4(P) 	ZCT26P16 + ZCEH2 5.2 7.6(P) 	ZCT26P16 + ZCE01 + ZCY18 43° 66°(P) 	ZCT26P16 + ZCE01 + ZCY45 43° 66°(P) 	ZCT26P16 + ZCE01 + ZCY39 43° 66°(P) 
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCT27P16 + ZCEH0 1.8 3.2(P) 	ZCT27P16 + ZCEH2 3.1 5.6(P) 	ZCT27P16 + ZCE01 + ZCY18 25° 46°(P) 	ZCT27P16 + ZCE01 + ZCY45 25° 46°(P) 	ZCT27P16 + ZCE01 + ZCY39 25° 46°(P) 
	2-pole NO + NO simultaneous, slow break (XE2NP3131)	ZCT28P16 + ZCEH0 1.8 	ZCT28P16 + ZCEH2 3.1(A) 	ZCT28P16 + ZCE01 + ZCY18 25° 	ZCT28P16 + ZCE01 + ZCY45 25° 	ZCT28P16 + ZCE01 + ZCY39 25° 
Weight (kg)	0.145	0.145	0.145	0.155	0.160	

### References of complete switches with 2 entries for n° 11 cable gland

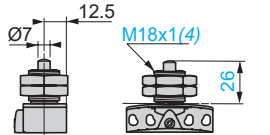
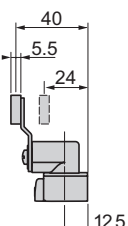
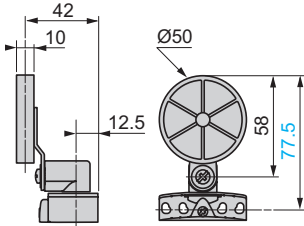
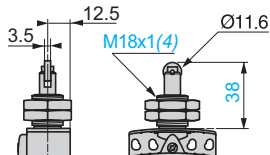
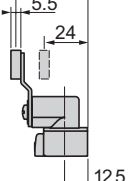
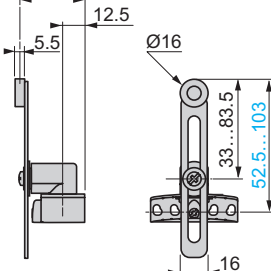
For entries tapped for n° 11 cable gland, replace P16 in the reference by G11. Example: XCKT21H0P16 becomes XCKT21H0G11.

Contact operation  closed (A) = cam displacement  NC contact with positive opening 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	
Mechanical durability	10 million operating cycles		
Minimum force or torque	For tripping	15 N	10 N
	For positive opening	45 N	36 N
Cable entry (3)	2 entries tapped M16 x 1.5 for ISO cable gland Clamping capacity 4 to 8 mm (1 entry fitted with blanking plug)		

(1) Form conforming to EN 50047, see page 24.

(2) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

Dimensions	ZCE01 + ZCY18	ZCE01 + ZCY39	ZCE01 + ZCY45
ZCEH0			
ZCEH2			

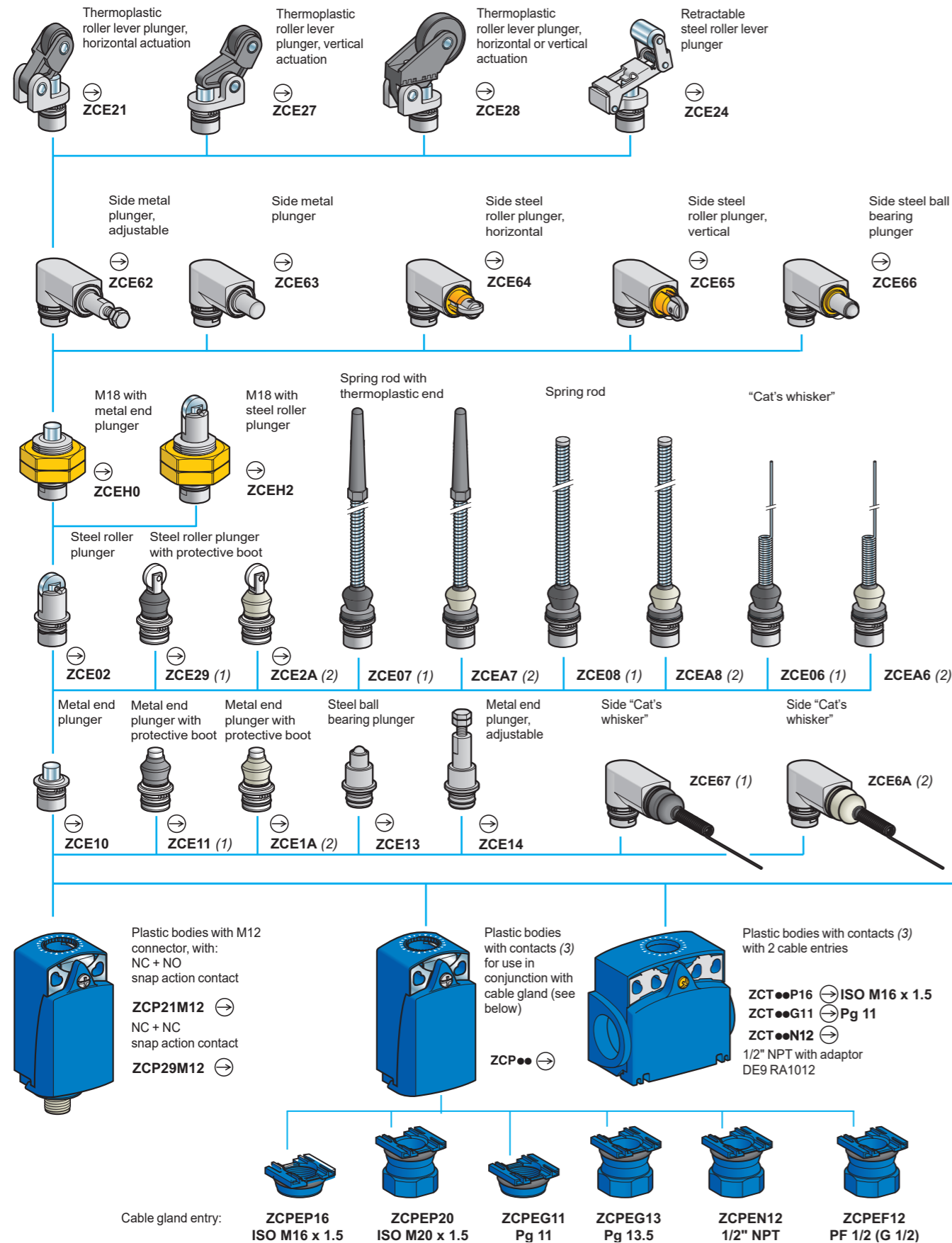
(4) Fixing nut thickness 3.5 mm.



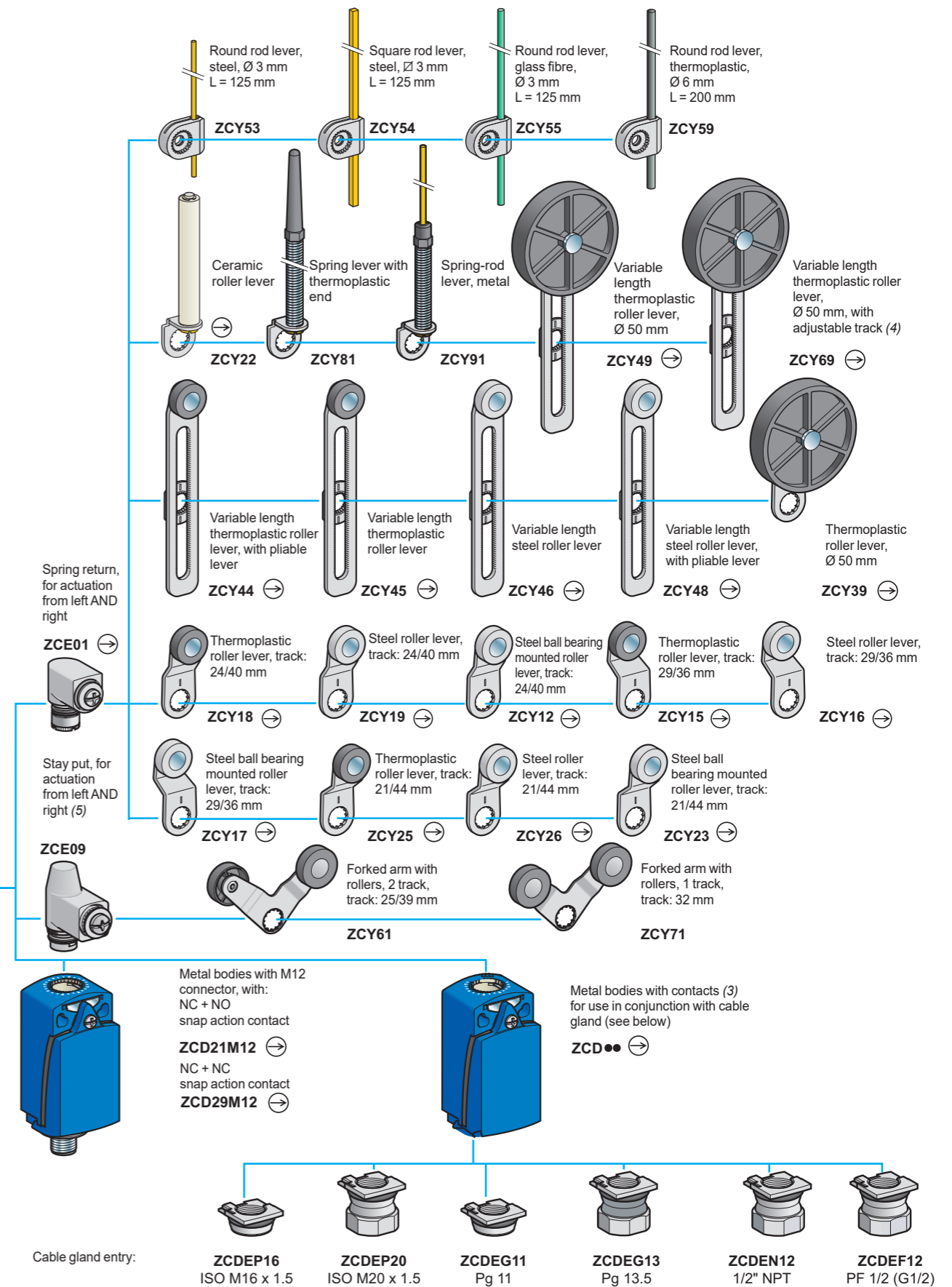
# Limit switches

## XC Standard range

Compact design, XCKD, XCKP and XCKT  
Variable composition



(1) Nitrile boot for indoor use.  
(2) Silicone boot for outdoor use.  
(3) For further information, see page 90.



(4) Variable length and adjustable track by lever deformation.  
(5) Suitable with bodies: ZCD21, ZCP21, ZCT21, ZCD29, ZCP29, ZCD31, ZCP31, ZCD39, ZCP39, ZCD2•M12, ZCP2•M12

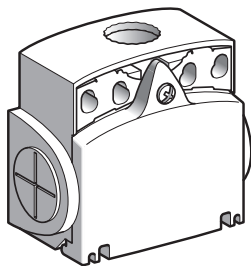
## Limit switches

XC Standard range

Compact design, plastic, XCKT

Adaptable sub-assemblies: bodies with contacts

561390

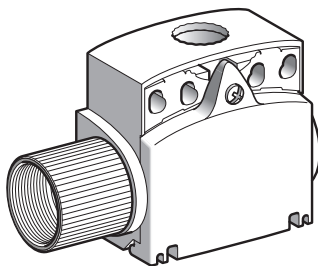


ZCT...●●●

## Bodies with contacts, XCKT plastic, 2 cable entries

Type of contact	Positive operation (1)	Scheme	Cable entries	Reference	Weight kg
<b>2-pole</b>					
NC + NO snap action (XE2SP3151)	⊖		ISO M16 x 1.5	<b>ZCT21P16</b>	0.085
			Pg 11	<b>ZCT21G11</b>	0.085
NC + NO break before make, slow break (XE2NP3151)	⊖		ISO M16 x 1.5	<b>ZCT25P16</b>	0.085
			Pg 11	<b>ZCT25G11</b>	0.085
NC + NC simultaneous, slow break (XE2NP3141)	⊖		ISO M16 x 1.5	<b>ZCT27P16</b>	0.085
			Pg 11	<b>ZCT27G11</b>	0.085
NO + NO simultaneous, slow break (XE2NP3131)	-		ISO M16 x 1.5	<b>ZCT28P16</b>	0.085
			Pg 11	<b>ZCT28G11</b>	0.085
NO + NC make before break, slow break (XE2NP3161)	⊖		ISO M16 x 1.5	<b>ZCT26P16</b>	0.085
			Pg 11	<b>ZCT26G11</b>	0.085

561387



ZCT...●●N12

## Bodies with contacts, XCKT plastic, 2 cable entries with 1/2" NPT adaptor

Type of contact	Positive operation (1)	Scheme	Reference	Weight kg
<b>2-pole</b>				
NC + NO snap action (XE2SP3151)	⊖		<b>ZCT21N12</b>	0.130
			<b>ZCT25N12</b>	0.130
NC + NO break before make, slow break (XE2NP3151)	⊖		<b>ZCT27N12</b>	0.130
			<b>ZCT28N12</b>	0.130
NC + NC simultaneous, slow break (XE2NP3141)	⊖		<b>ZCT26N12</b>	0.130
			<b>ZCT26N12</b>	0.130
NO + NO simultaneous, slow break (XE2NP3131)	-		<b>ZCT26N12</b>	0.130
			<b>ZCT26N12</b>	0.130
NO + NC make before break, slow break (XE2NP3161)	⊖		<b>ZCT26N12</b>	0.130
			<b>ZCT26N12</b>	0.130

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

# Limit switches

## XC Standard range

Compact design, metal, XCKD or plastic, XCKP and XCKT

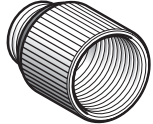
Adaptable sub-assemblies: bodies with contacts

561127



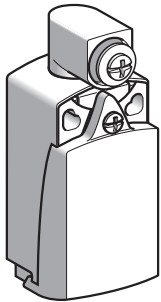
ZCE05

561392



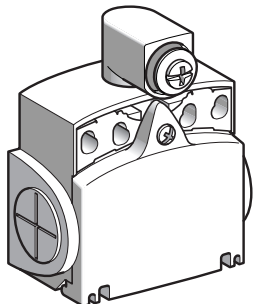
DE9RA1012

561388



XCK2001

561389



XCKT2001

### Accessories

Description	Suitable levers for use with head	Unit reference	Weight kg
Rotary head, without lever, spring return, for actuation from left AND right or left OR right (1)	ZCY12, ZCY15, ZCY16, ZCY17, ZCY18, ZCY19, ZCY22, ZCY23, ZCY25, ZCY26, ZCY39, ZCY53, ZCY54, ZCY55, ZCY81	ZCE05	0.045
Tap-off terminal for XCKT	Sold in lots of 10	XALZ09	0.010
Spacer for angular positioning of heads with adjustable levers, for values other than - 90°, 0° and 90°	-	XCMZ07	0.002
Adaptor for 1/2" NPT conduit (male Pg 11 / female 1/2" NPT)	Sold in lots of 10	DE9RA1012	0.050

### Bodies with contacts, XCKP plastic, with rotary head (without operating lever)

Type of contact	Scheme	Positive operation (2)	Cable entry	Reference	Weight kg
<b>2-pole</b>					
NC + NO snap action (XE2SP2151)			ISO M16 x 1.5	XCKP2101P16	0.115
			Pg 11	XCKP2101G11	0.115
			M12 connector	XCKP2101M12	0.125
NC + NO break before make, slow break (XE2NP2151)			ISO M16 x 1.5	XCKP2501P16	0.115
			Pg 11	XCKP2501G11	0.115

### Bodies with contacts, XCKD metal, with rotary head (without operating lever)

Type of contact	Scheme	Positive operation (2)	Cable entry	Reference	Weight kg
<b>2-pole</b>					
NC + NO snap action (XE2SP2151)			ISO M16 x 1.5	XCKD2101P16	0.185
			Pg 11	XCKD2101G11	0.185
			M12 connector	XCKD2101M12	0.195
NC + NO break before make, slow break (XE2NP2151)			ISO M16 x 1.5	XCKD2501P16	0.185
			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
<b>2-pole</b>					
NC + NO snap action (XE2SP3151)			ISO M16 x 1.5	XCKT2101P16	0.130
			Pg 11	XCKT2101G11	0.130
NC + NO break before make, slow break (XE2NP3151)			ISO M16 x 1.5	XCKT2501P16	0.130
			Pg 11	XCKT2501G11	0.130

(1) For programming see page 18.

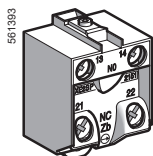
(2) : bodies with contact assuring positive opening operation.

# Limit switches

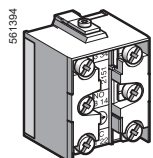
XC Standard range

Compact design, metal, XCKD or plastic, XCKP and XCKT

Adaptable sub-assemblies: contact blocks



XE2●●21●●



XE3●●21●●

### Contact blocks with screw clamp terminals for XCKD and XCKP

Type of contact	Positive operation (1)	Scheme	Reference for standard contacts	Weight kg
<b>2-pole</b>				
NC + NO snap action	⊕		XE2SP2151	0.020
NC + NC simultaneous, snap action	⊕		XE2SP2141	0.020
NC + NO break before make, slow break	⊕		XE2NP2151	0.020
NO + NC make before break, slow break	⊕		XE2NP2161	0.020
NC + NC simultaneous, slow break	⊕		XE2NP2141	0.020
NO + NO simultaneous, slow break	-		XE2NP2131	0.020
<b>3-pole</b>				
NC + NO + NO snap action	⊕		XE3SP2151	0.035
NC + NC + NO snap action	⊕		XE3SP2141	0.035
NC + NC + NO break before make, slow break	⊕		XE3NP2141	0.035
NC + NO + NO break before make, slow break	⊕		XE3NP2151	0.035

### Contact blocks with screw clamp terminals for XCKT

Type of contact	Positive operation (1)	Scheme	Reference for standard contacts	Weight kg
<b>2-pole</b>				
NC + NO snap action	⊕		XE2SP3151	0.015
NC + NO break before make, slow break	⊕		XE2NP3151	0.015
NO + NC make before break, slow break	⊕		XE2NP3161	0.015
NC + NC simultaneous, slow break	⊕		XE2NP3141	0.015
NO + NO simultaneous, slow break	-		XE2NP3131	0.015

(1) ⊕: contact blocks assuring positive opening operation.