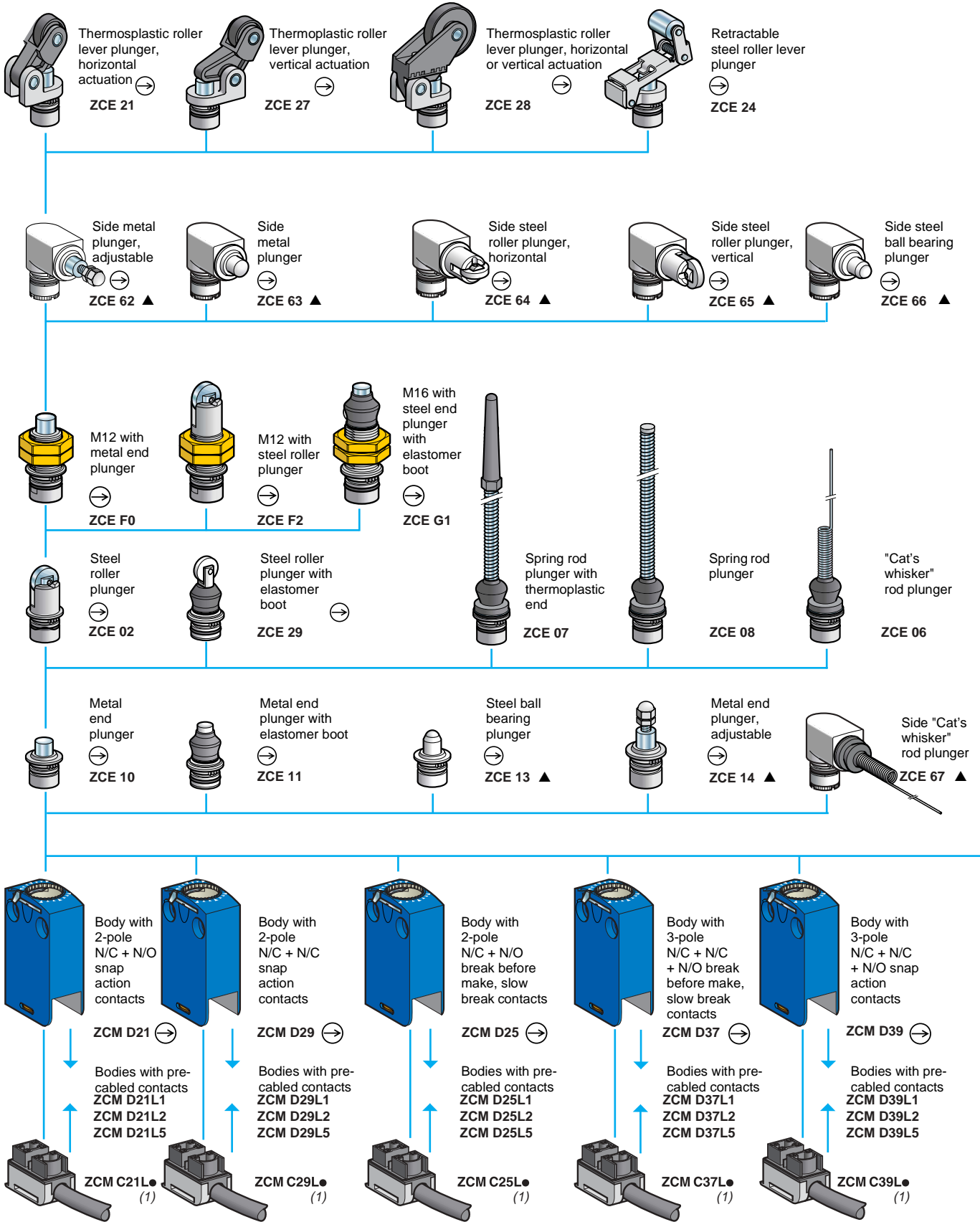


# Limit switches

Osiswitch® Universal, Osiconcept®

Miniature design, metal, type XCM D

Variable composition



(1) Pre-cabled connection components: replace the "●" by the required cable length in metres, either: 1, 2, 3, 5, 7 or 10.

Example: ZCM C21L7 for a connection component with 7 metre cable.

Except ZCM C37L● and ZCM C39L● which are only available with cable lengths of 1, 2 and 5 metres.

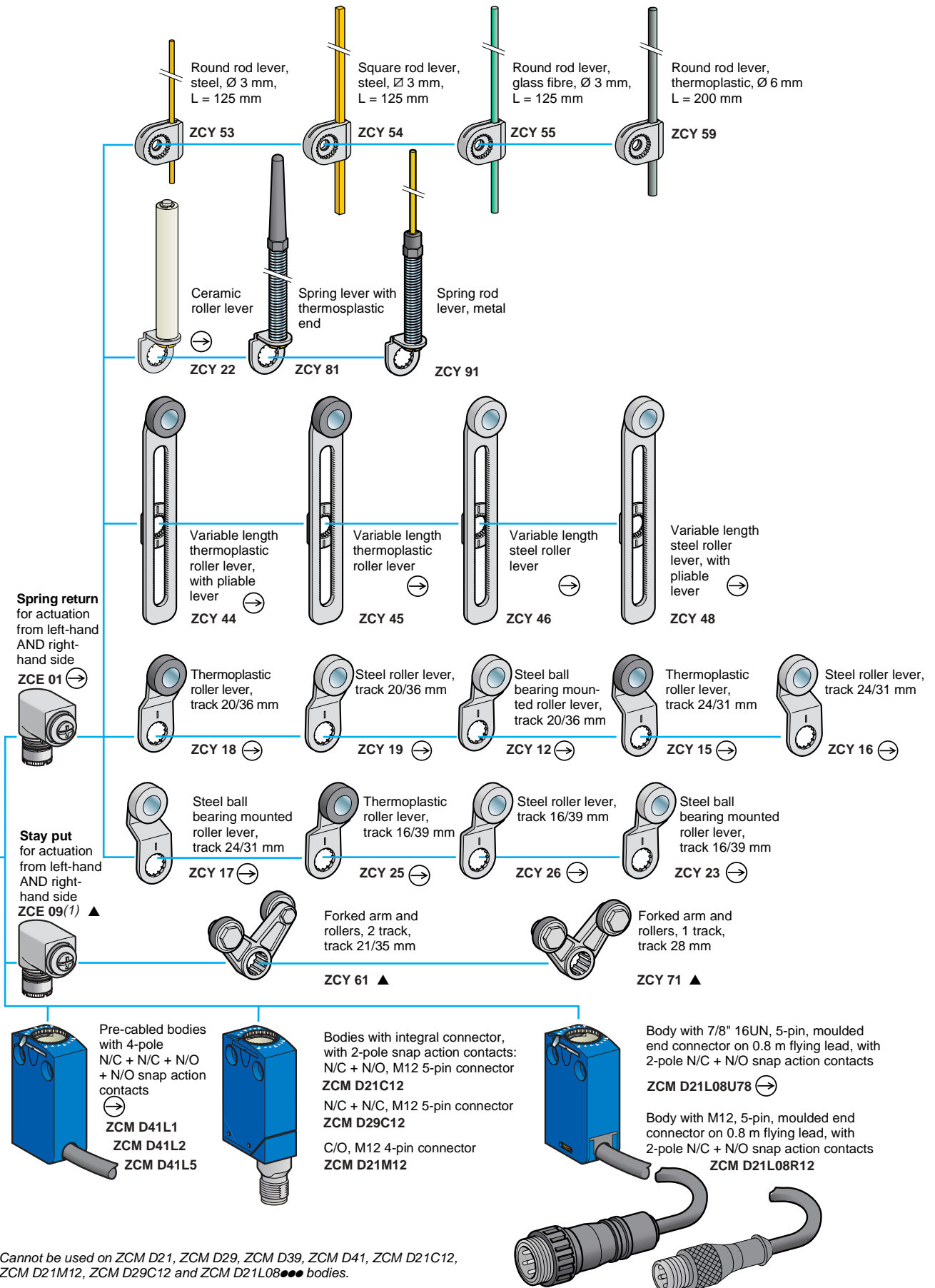
▲ Available  
2nd half 2003.

# Limit switches

Osiswitch® Universal, Osiconcept®

Miniature design, metal, type XCM D

Variable composition



(1) Cannot be used on ZCM D21, ZCM D29, ZCM D39, ZCM D41, ZCM D21C12, ZCM D21M12, ZCM D29C12 and ZCM D21L08 bodies.

▲ Available 2nd half 2003.

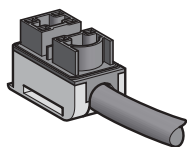
# Limit switches

Osiswitch® Universel, Osiconcept®

Miniature design, metal, type XCM D

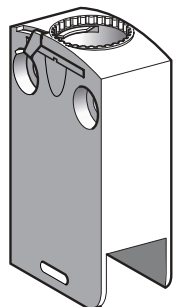
Separate components

520719



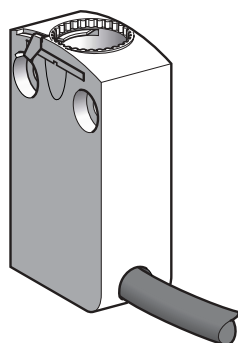
ZCM C21E●

520720



ZCM D6●  
ZCM D7●

520721



ZCM D81L●

### Pre-cabled connection components (CEI cable) (1)

Type of contact	Scheme	Length of CEI cable in metres	Reference	Weight kg
<b>2-pole</b>				
N/C + N/O snap action		1	ZCM C21E1	0.100
		2	ZCM C21E2	0.190
		3	ZCM C21E3	0.280
		5	ZCM C21E5	0.440
		7	ZCM C21E7	0.700
		10	ZCM C21E10	0.970

### Bodies with gold contact

Type of contact	Positive operation (2)	Scheme	Length of cable in metres	Reference	Weight kg	
<b>2-pole</b>						
N/C + N/O snap action	⊕		—	ZCM D61	0.055	
			—	ZCM D69	0.055	
			—	ZCM D65	0.055	
N/C + N/O break before make, slow break	⊖		—	ZCM D65	0.055	
			<b>3-pole</b>			
			N/C + N/C + N/O snap action	⊕		—
N/C + N/C + N/O break before make, slow break	⊖					—
			<b>4-pole</b>			
N/C + N/C + N/O + N/O snap action	⊕		1	ZCM D81L1	0.160	
			2	ZCM D81L2	0.255	
			5	ZCM D81L5	0.525	

(1) UL, CSA non certified cable.

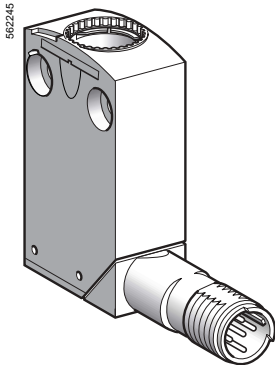
(2) ⊕ bodies with contacts assuring positive opening operation.

# Limit switches

Osiswitch® Universel, Osiconcept®

Miniature design, metal, type XCM D

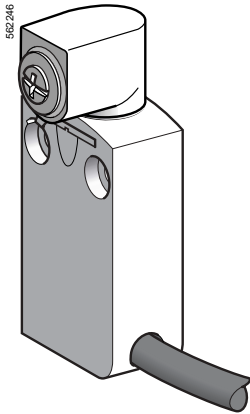
Separate components



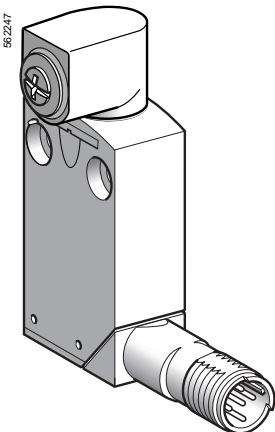
ZCM D61●●●



ZCE 05



XCM D2●01L1



XCM D2101●12

## Bodies with gold contact, integral connector

Type of contact	Positive operation (1)	Scheme	Connector	Reference	Weight kg
<b>2-pole</b>					
N/C + N/O snap action	–		M12 5-pin	ZCM D61C12	0.065
N/C + N/C snap action	–		M12 5-pin	ZCM D69C12	0.065
<b>Single-pole</b>					
C/O snap action	–		M12 4-pin	ZCM D61M12	0.065

## Accessories

Description	Positive operation (1)	Head suitable for use with levers	Reference	Weight kg
Rotary head, without lever, spring return, for actuation from left-hand AND right-hand side or from left-hand OR right-hand side (2)	⊕	ZCY 12, ZCY 15, ZCY 16, ZCY 17, ZCY 18, ZCY 19, ZCY 22, ZCY 23, ZCY 25, ZCY 26, ZCY 39, ZCY 53, ZCY 54, ZCY 55, ZCY 81	ZCE 05	0.045
Spacer for mounting multi-tracks of XCM D	–	–	XCM Z06	0.005
Spacer for angular positioning of heads with adjustable levers, for values other than -90°, 0° and 90°	–	–	XCM Z07	0.005

## Bodies with contact, with rotary head (without operating lever), pre-cabled

Type of contact	Positive operation (1)	Scheme	Length of cable in metres	Reference	Weight kg
<b>2-pole</b>					
N/C + N/O snap action	⊕		1	XCM D2101L1	0.180
N/C + N/CO break before make, slow reak	⊕		1	XCM D2501L1	0.180

## Bodies with contact, with rotary head (without operating lever), integral connector

Type of contact	Positive operation (1)	Scheme	Connector	Reference	Weight kg
<b>2-pole</b>					
N/C + N/O snap action	–		M12 5-pin	XCM D2101C12	0.110
<b>Single-pole</b>					
C/O snap action	–		M12 4-pin	XCM D2101M12	0.110

(1) ⊕ Bodies with contacts or head assuring positive opening operation.

(2) Programming see page 31900/2.

# Limit switches

Osiswitch® Universal, Osiconcept®

Miniature design, metal, type XCM D

Integral or remote connector

Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger

References							
	<b>XCM D2110M12</b> 	<b>XCM D2111M12</b> 	<b>XCM D2102M12</b> 	<b>XCM D2124M12</b> 	<b>XCM D21F0M12</b> 	<b>XCM D21G1M12</b> 	<b>XCM D21F2M12</b> 
	<b>XCM D2110C12</b> 	<b>XCM D2111C12</b> 	<b>XCM D2102C12</b> 	<b>XCM D2124C12</b> 	<b>XCM D21F0C12</b> 	<b>XCM D21G1C12</b> 	<b>XCM D21F2C12</b> 
	<b>ZCM D29C12 + ZCE 10</b> 	<b>ZCM D29C12 + ZCE 11</b> 	<b>ZCM D29C12 + ZCE 02</b> 	<b>ZCM D29C12 + ZCE 24</b> 	<b>ZCM D29C12 + ZCE F0</b> 	<b>ZCM D29C12 + ZCE G1</b> 	<b>ZCM D29C12 + ZCE F2</b> 
<b>Weight (kg)</b>	0.085	0.085	0.090	0.105	0.100	0.125	0.110
	<b>ZCM D21L08R12 + ZCE 10</b> 	<b>ZCM D21L08R12 + ZCE 11</b> 	<b>ZCM D21L08R12 + ZCE 02</b> 	<b>ZCM D21L08R12 + ZCE 24</b> 	<b>ZCM D21L08R12 + ZCE F0</b> 	<b>ZCM D21L08R12 + ZCE G1</b> 	<b>ZCM D21L08R12 + ZCE F2</b> 
	<b>ZCM D21L08U78 + ZCE 10</b> ⊕ 	<b>ZCM D21L08U78 + ZCE 11</b> ⊕ 	<b>ZCM D21L08U78 + ZCE 02</b> ⊕ 	<b>ZCM D21L08U78 + ZCE 24</b> ⊕ 	<b>ZCM D21L08U78 + ZCE F0</b> ⊕ 	<b>ZCM D21L08U78 + ZCE G1</b> ⊕ 	<b>ZCM D21L08U78 + ZCE F2</b> ⊕ 
<b>Weight (kg)</b>	0.150	0.150	0.155	0.170	0.165	0.190	0.175
<b>Contact operation</b>	contact closed contact open		(A) = cam displacement (P) = positive opening point		⊕ N/C contact with positive opening operation		

Characteristics						
Switch actuation	On end		By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed	0.5 m/s					0.1 m/s
Mechanical durability	10 million operating cycles					
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Positive operation	Although their design is identical to the pre-cabled switches, the switches incorporating an M12 5-pin connector cannot be marked with the ⊕ symbol according to the standard IEC 60947-5-1, Appendix K (the insulation voltage Ui of the connector must be greater than or equal to 250 V). Switches incorporating an M12 4-pin connector cannot be marked with the ⊕ symbol because they are single-pole C/O.					

# Limit switches

Osiswitch® Universal, Osiconcept®

Miniature design, metal, type XCM D

Integral or remote connector

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)
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References	XCM D2115M12	XCM D2116M12	XCM D2117M12	XCM D2145M12	XCM D2106M12
 Single-pole C/O snap action With integral M12 4-pin connector					
 2-pole N/C + N/O snap action With integral M12 5-pin connector					
 2-pole N/C + N/C snap action With integral M12 5-pin connector					
 2-pole N/C + N/O snap action With M12 5-pin moulded end connector on flying lead, L: 0.8 m					
 2-pole N/C + N/O snap action With 7/8" 16UN 5-pin moulded end connector on flying lead, L: 0.8 m					
Weight (kg)	0.125	0.130	0.125	0.135	0.085
Contact operation	■ contact closed (A) = cam displacement □ contact open (P) = positive opening point ⊖ N/C contact with positive opening operation				

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

Characteristics	By 30° cam		By any moving part
Switch actuation	By 30° cam		By any moving part
Type of actuation			
Maximum actuation speed	1.5 m/s		1 m/s
Mechanical durability	10 million operating cycles		5
Minimum force or torque	For tripping	0.1 N.m	
	For positive opening	0.5 N.m	
Positive operation	Although their design is identical to the pre-cabled switches, the switches incorporating an M12 5-pin connector cannot be marked with the ⊖ symbol according to the standard IEC 60947-5-1, Appendix K (the insulation voltage U <sub>i</sub> of the connector must be greater than or equal to 250 V). Switches incorporating an M12 4-pin connector cannot be marked with the ⊖ symbol because they are single-pole C/O.		

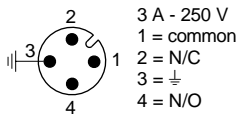
## References of suitable pre-wired female connectors

Type of connector		M12 straight, 4-pin 4 A, 250 V	M12 straight, 5-pin 4 A, 24 V	M12 elbowed, 5-pin 4 A, 24 V	7/8" 16 UN straight, 5-pin 6 A, 250 V
With cable	L = 2 m	XZ CP1169L2	XZ CP1164L2	XZ CP1264L2	XZ CP1771L2
	L = 5 m	XZ CP1169L5	XZ CP1164L5	XZ CP1264L5	XZ CP1771L5
	L = 10 m	XZ CP1169L10	XZ CP1164L10	XZ CP1264L10	XZ CP1771L10
Weight (kg)		0.105	0.115	0.115	0.190

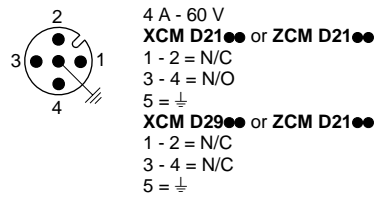
## Connections

### XCM D with connector

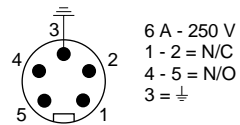
#### 4-pin, M12



#### 5-pin, M12

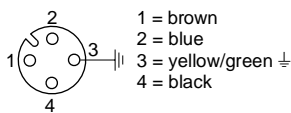


#### 5-pin, 7/8" 16 UN

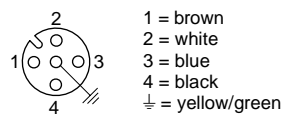


### Pre-wired female connectors XZ CP

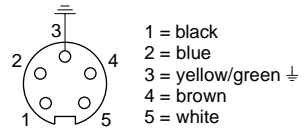
#### 4-pin, M12



#### 5-pin, M12

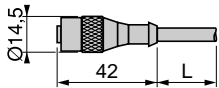


#### 5-pin, 7/8" 16 UN

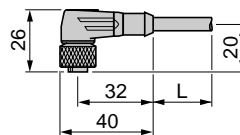


## Dimensions

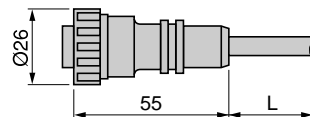
### XZ CP116L



### XZ CP1264L



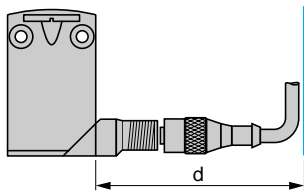
### XZ CP1771L



L: cable length 2, 5 or 10 m.

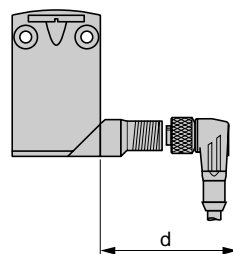
### Distances required for plug-in connectors

#### M12 straight connector



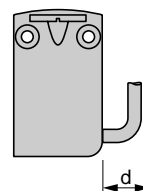
d: min. 65 mm, recommended 69 mm

#### M12 elbowed connector



d: min. 42 mm, recommended 45 mm

#### Moulded end connector



d: min. 20 mm

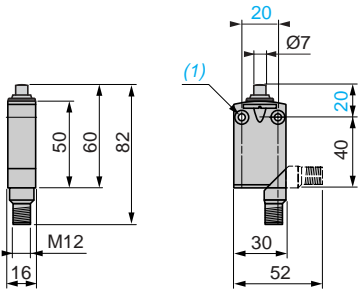
# Limit switches

Osiswitch® Universal, Osiconcept®

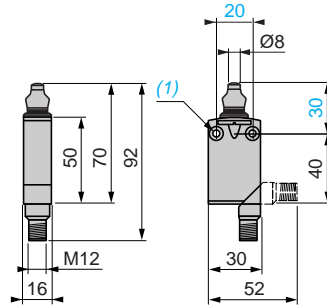
Miniature design, metal, type XCM D

Integral or remote connector

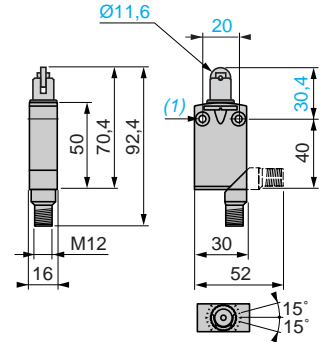
XCM D2●10M12



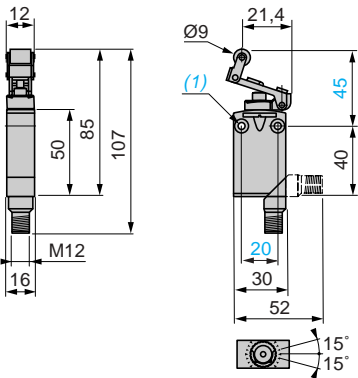
XCM D2●11M12



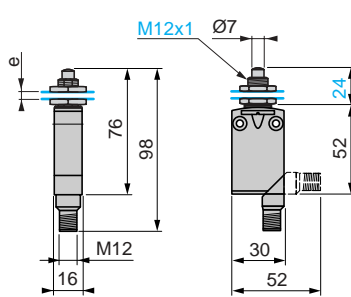
XCM D2●02M12



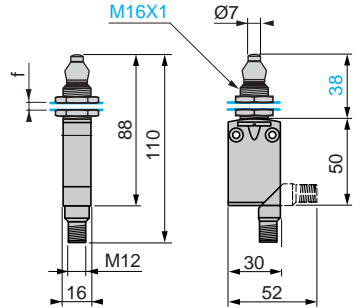
XCM D2●24M12



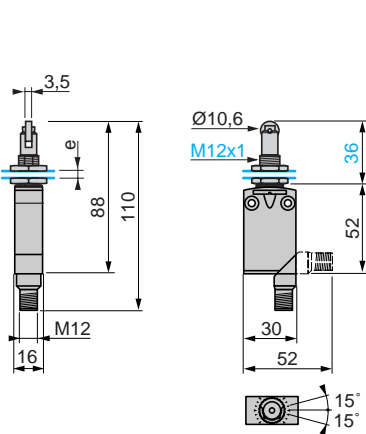
XCM D2●F0M12



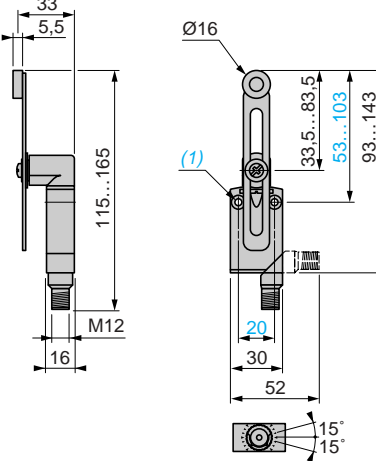
XCM D2●G1M12



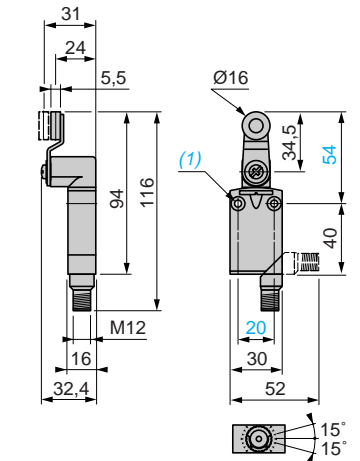
XCM D2●F2M12



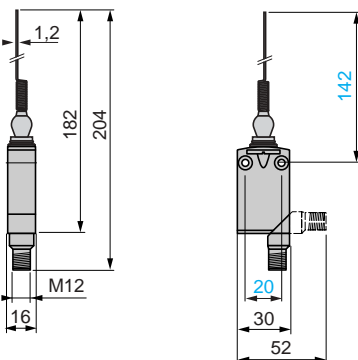
XCM D2●45M12



XCM D2●15M12 / ●16M12 / ●17M12



XCM D2●06M12



(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.



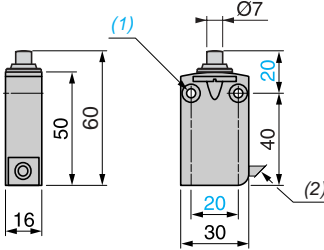
# Limit switches

Osiswitch® Universal, Osiconcept®

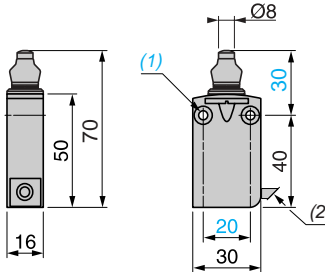
Miniature design, metal, type XCM D

Integral or remote connector

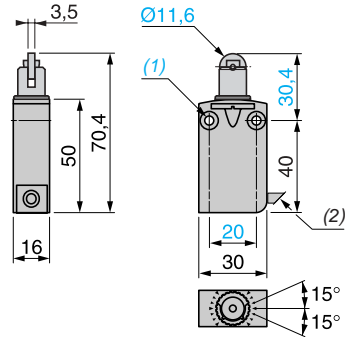
ZCM D21L08●●● + ZCE 10



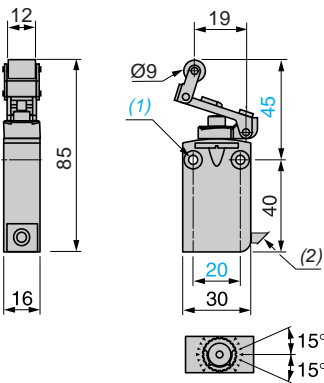
ZCM D21L08●●● + ZCE 11



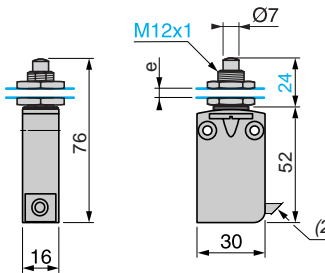
ZCM D21L08●●● + ZCE 02



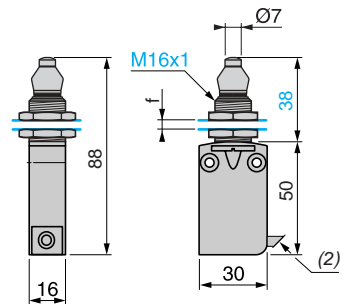
ZCM D21L08●●● + ZCE 24



ZCM D21L08●●● + ZCE F0



ZCM D21L08●●● + ZCE G1



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

(2) Overall diameter 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.

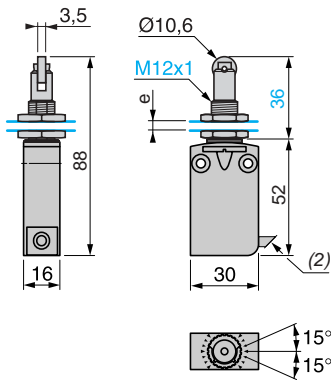
# Limit switches

Osiswitch® Universal, Osiconcept®

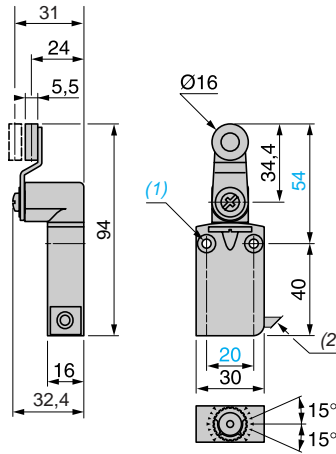
Miniature design, metal, type XCM D

Integral or remote connector

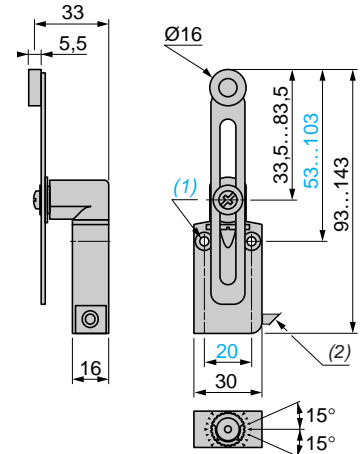
ZCM D21L08●●● + ZCE F2



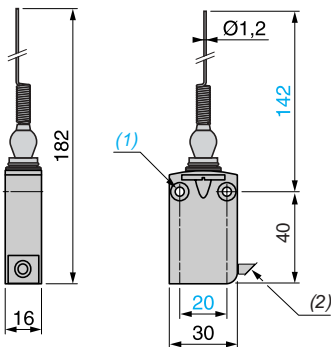
ZCM D21L08●●● + ZCE 01 + ZCY 15/16/17



ZCM D21L08●●● + ZCE 01 + ZCY 45



ZCM D21L08●●● + ZCE 06



(1) 2 fixing holes  $\varnothing$  4.2 mm, counterbored  $\varnothing$  8 mm by 4 mm deep.

(2) Overall diameter 7.5 mm.

e: 8 mm max, panel cut-out  $\varnothing$  12.5 mm, fixing nut thickness 3.5 mm.

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