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

The range of XCMV limit switches is an offer dedicated to mobile equipment:

- special connectors
- a metal body for robustness
- compact dimensions (among the smallest on the market)
- IP 69 degree of protection, for high-pressure cleaning
- for outdoor use at -25 °...+70 °C

Complete units with Deutsch DT04-4P connector

□ With head for linear (plunger) and rotary (lever) movement







Page 53

Complete units with AMP Superseal 1.5 connector

☐ With head for linear (plunger) and rotary (lever) movement







Page 54

Complete units with M12 connector

☐ With head for linear (plunger) and rotary (lever) movement







Page 55

Presentation (continued)

Limit switches

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

Modular units
Body with Deutsch DT04-4P connector

□ With head for linear (plunger) and rotary (lever) movement



Pages 56 and 57

Modular unitsBody with AMP Superseal 1.5 connector

☐ With head for linear (plunger) and rotary (lever) movement



Pages 58 and 59

Modular unitsBody with M12 connector

□ With head for linear (plunger) and rotary (lever) movement



Pages 60 and 61

Modular units
Pre-cabled body

☐ With head for linear (plunger) and rotary (lever) movement



Pages 62 and 63

	aracteristics										
Product certifications		C€, 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									
rotective treatment		Standard version: "TC"									
nbient air temperature	For operation	- 25+ 70 °C (- 40+ 70 °C with ZCE106,	ZCE026 and ZCE016 heads)								
	For storage	-40+70 °C									
bration resistance		± 1.76 mm (1060 Hz), 25 gn (61500 Hz	c) conforming to IEC 60068-2-6								
nock resistance		40 gn (11 ms) conforming to IEC 60068-2-2	7								
otection against electric	shock	Class III conforming to IEC 61140, class 2 c	conforming to UL 508								
egree of protection	Switches with 4-pin M12 connector Switches with 4-pin Deutsch DT04-4P or AMP Superseal 1.5 connector Pre-cabled swiches	IP 66, IP 67 and IP 69 conforming to EN/IEC IP 66, IP 67 and IP 69 conforming to EN/IEC IP 66 and IP 67 conforming to EN/IEC 6052	C 60529 ; IK 06 conforming to EN 62262								
aterials		Body: Zamak, heads: Zamak, connectors: t									
epeat accuracy		0.1 mm on the tripping points, with 1 million									
	ractoriotica	0.1 min on the hipping points, with 1 minor	operating cycles for flead with end plunger								
Contact block cha		40.44.11 04.11 04.11 44									
ated operational naracteristics	Switches with 4-pin M12 connector Pre-cabled swiches or switches	~ AC-14; Ue = 24 V, Ie = 3 A, Ith = 4 A DC-13; Ue = 24 V, Ie = 1 A, conforming to	DIEC 60947-5-1, EN 60947-5-1								
	with 4-pin Deutsch DT04-4P or AMP Superseal 1.5 connector	~ AC-14; Ue = 24 V, le = 3 A, lth = 6 A DC-13; Ue = 24 V, le = 1 A, conforming to IEC 60947-5-1, EN 60947-5-1									
ated insulation voltage		Ui = 36 V degree of pollution 3 conforming to Ui = 36 V conforming to UL 508, CSA C22-2									
ated impulse withstand vo	oltage	U imp = 0.8 kV conforming to IEC 60947-1,									
ositive operation (dependi	ng on model)	NC contacts with positive opening operation	n conforming to IEC 60947-5-1								
esistance across terminal	ls	≤ 25 mΩ conforming to IEC 60255-7 category 3									
nort-circuit protection.		6 A cartridge fuse type gG (gl)									
inimum actuation speed (for head with end plunger)	Snap-action contact: 0.01 m/minute, slow-break contact: 6 m/minute									
	AC supply ∼ 50/60 Hz	■ Utilisation categories AC-14 and DC-13 ■ Maximum operating rate: 3600 operating cycles/hour ■ Load factor: 0.5 XCMV snap-action XCMV slow-break									
	m inductive circuit	(NC+NO contact) Switches with M12 connector	(NC+NO contact)								
		2 12/24 V	6 3 12/24 V								
		0.1 0.5 1 2 3 4 5 6 10 Current in A	0.1 0.5 1 2 3 4 5 6 10 Current in A								
		0.1 0.5 1 2 3 4 5 6 10 Current in A	0.1 0.5 1 2 3 4 5 6 10 Current in A								
		O.1 0.5 1 2 3 4 5 6 10 Current in A Pre-cabled switches or switches with De 12/24 V 0.5 0.5 0.7	0.1 2 3 4 5 6 10								
		O.1 O.5 1 2 3 4 5 6 10 Current in A Pre-cabled switches or switches with De 12/24 V 1 12/24 V 1 10.5 1 2 3 4 5 6 10 12/24 V 1	O.1 2 3 4 5 6 10 Current in A Putsch DT04-4P or AMP Superseal 1.5 connection of the								
	DC supply	0.1 0.5 1 2 3 4 5 6 10 Current in A Pre-cabled switches or switches with De 90 4 1 12/24 V 1 10.5 1 2 3 4 5 6 10	0.1								

Type of head		Plunger (fixing by the body)	Rotary (fixing by the body)
		S. Reinneumentage		
Form conforming to EN 50	047	В	С	A
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (1)
Positive operation		Θ	Θ	Θ
References of cor	nplete units with male De	eutsch DT04-4P conne	ector	
2-pole NC + NO snap actio	n	XCMV2110D44	XCMV2102D44	XCMV2115D44
2 4		1,8 4,2(P) 1,8 4,2(P) 3,4 0 5mm 0,8	3,1(A) 7(P)	25° 70°(P) 34 0 90° 12°
2-pole NC + NO break befo	re make, slow break	XCMV2510D44	XCMV2502D44	XCMV2515D44
2 4		1,8 3,1(P) 134 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 open		(A) = cam displacement (P) = positive opening point
	haracteristics not shown			
Switch actuation		On end	By 30° cam	1
Type of actuation				
Maximum actuation speed		0.5 m/s	0.5 m/s	1.5 m/s
Mechanical durability (in millions of operating cycle	es)	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.

Type of head		Plunger (fixing by the body)	Rotary (fixing by the body)
		* Linnachipus	* Teamonnique	(%) Titerromotions
Form conforming to EN 50	0047	В	С	A
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (1)
Positive operation		\ominus	\ominus	\ominus
	mplete units with male AN		nector	
2-pole NC + NO snap action	on	XCMD2110AM4	XCMD2102AM4	XCMD2115AM4
2 4 T		1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P) 5mm 0,8	3,1(A) 7(P) 34 12 34 0 mm	25° 70°(P) 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-
2-pole NC + NO break befo	ore make, slow break	XCMD2510AM4	XCMD2502AM4	XCMD2515AM4
7 4		1,8 3,1(P) 1,2 3,1(P) 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 open	1	(A) = cam displacement (P) = positive opening point
Characteristics				
Switch actuation		On end	By 30° cam	
Type of actuation		H		
Maximum actuation speed		0.5 m/s	0.5 m/s	1.5 m/s
Mechanical durability (in millions of operating cycl	es)	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.



Type of head		Plunger (fixing by the body)	Rotary (fixing by the body)		
		(§) Identification	(i) Informations			
Form conforming to EN 50	0047	В	С	A		
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (1)		
Positive operation		Θ	Θ	Θ		
References of cor	mplete units with M12 co	nnector				
2-pole NC + NO snap action	on	XCMV2110M12	XCMV2102M12	XCMV2115M12		
2 4		1,8 4,2(P) 1,8 4,2(P) 1,2 3,1 3,1 3,1 3,1 4 0,8	3,1(A) 7(P) 3,2 1,2 1,2 1,2 1,2 1,2 1,1 1,4	25° 70°(P) 3-4 1-2 3-4 0 90° 12°		
2-pole NC + NO break before	ore make, slow break	XCMV2510M12	XCMV2502M12	XCMV2515M12		
2 4		1,8 3,1(P) 12 34 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 open		(A) = cam displacement (P) = positive opening point		
Complementary of	characteristics not show	n under general chara				
Switch actuation		On end	By 30° cam			
Type of actuation						
Maximum actuation speed		0.5 m/s	0.5 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycl	es)	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.

ype of head	Plunger (fixing	by the body)					Plunger (fixing by the head)	Plunger (fixing by the head)	l	Rotary (fixing b	y the body)				Multi-
	* Extraction													ZCV45	
e of operator	Metal end plunger	Metal end plunger - 40 °C (1)	Metal end plunger with elastomer boot	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
References of mod	dular units (b	ody with male Γ	(2) (2) (2)	P connector an	d removable ter	rminal block)									
-pole C + NO nap action	ZCMV21D44+	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 ⊖	ZCMV
7	1,8 4,2(P) 1,2 3,4 1,2 3,4 1,2 3,4 1,2 3,4 1,2 3,4 1,2 3,4 1,2 4,2(P) 5mm	1,8 4,2(P) 1,8 4,2(P) 1,2 3,4 5 5 5 5 5 5 5 5 5 5 6 5 6 6 6 6 6 6 6	1,8 4,2(P) 1,8 4,2(P) 1,2 1,2 1,2 1,3 1,4 1,4 1,4 1,4 1,4 1,4 1,4 1,4	3,1(A) 7(P)	3,1(A) 7(P)	11,2(A) 25(P) 1-2 3-4 1-2 3-4 0 4,9 mm	1,8 4,2(P) 3-4 3-4 0 5mm	1,8 4,2(P)	3,1(A) 7(P)	25° 70°(P)	25° 70°(P)	25° 70°(P)	25° 70°(P)	25° 70°(P)	1-2 3-4 1-2 3-4
pole NC + NO reak before make, ow 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 →	ZCMV ZCE0
4	1,8 3,1(P) 1,8 3,1(P) 1,2 3,4 0 2,6 5 mm	1,8 3,1(P) 1-2 3-4 0 2,6 5 mm	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	3,1(A) 5,6(P) 1-2 3-4 0 4,6 mm	11,2(A) 19,5(P) 1-2 3-4 0 16 mm	1,8 3,1(P) 1-2 3-4 0 2,6 5 mm	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) 3-4 0 36° 90°	25° 45°(P) 3-4 0 36° 90°	1-2 3-4
-pole C + NC nap 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 ⊖	ZCMV ZCE0
4 c	1,8 4,2 (P) 1,8 4,2 (P) 1,2 3,4 5 mm 0,8	1,8 4,2 (P)	1,8 4,2 (P)	3,1(A) 7(P)	3,1(A) 7(P)	11,2(A) 25(P) 1-2 3-4 1-2 3-4 0 4,9 mm	1,8 4,2 (P)	1,8 4,2 (P) 34 10 1,8 4,2 (P) 5 mm	3,1(A) 7(P)	25° 70°(P) 34 12° 90°	25° 70°(P) 1-2 3-4 1-2 3-4 0 90°	25° 70°(P) 3.4 1.2 3.4 1.2 3.4 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	25° 70°(P) 3-4 1-2 3-4 1-2 3-4 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	25° 70°(P) 34 1-2 3-4	1-2 3-4 1-2 3-4
ontact operation			(A) = cam displac (P) = positive ope	cement ening point	ONC contact w	ith positive opening	operation	closed open		(A) = cam displac (P) = positive ope	ement ning point		→ NC contact wi	ith positive opening o	peration
Complementary ch	haracteristic	s not shown	under gene	ral characte	ristics (see pa	ge 51)									
	On end			By 30° cam			On end	On end	By 30° cam	— -					By any
/pe of actuation								<u>₩</u>		- 0					
aximum 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
chanical durability	10 million operati	ng cycles						10 million operation	ng cycles					10 million	5 millio
ominal 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.
	1			35 N		12.5 N	42.5 N	42.5 N	35 N.m	0.5 N.m				0.5 N.m	-
prce or For positive opening	42.5 N														





								_								
Type of head	Plunger (fixing	j by the body)					Plunger (fixing by the head)		Plunger (fixing by the head)		Rotary (fixing by	y the body)				Multi-directio
													in the second se		ZCYLS	
ype of operator	Metal end plunger	Metal end plunger - 40 °C (1)	Metal end plunger with elastomer boot	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 whiske
References of mo	odular units (t	oody with male	AMP Superseal	1.5 connector a	nd removable to	erminal block)										
2-pole "NC + NO" snap action	ZCMD21AM4 + ZCE10 ⊖	ZCMD21AM4+ ZCE106⊖	ZCMD21AM4 + ZCE11 ⊖	ZCMD21AM4 + ZCE02 ⊖	ZCMD21AM4 + ZCE026 ⊖	ZCMD21AM4+ ZCE24⊖	ZCMD21AM4 + ZCEF0 →		ZCMD21AM4 + ZCEG1 ⊖	ZCMD21AM4 + ZCEF2 →	ZCMD21AM4 + ZCE01 + ZCY15 →	ZCMD21AM4+ ZCE016+ ZCY15 →	ZCMD21AM4 + ZCE01 + ZCY16 →	ZCMD21AM4 + ZCE01 + ZCY17 →	ZCMD21AM4 + ZCE01 + ZCY45 →	ZCMD21AM4 ZCE06
7	1,8 4,2(P) 1,8 4,2(P) 1,2 1,2 1,3 1,4 1,5 1,5 1,6 1,7 1,7 1,7 1,7 1,7 1,7 1,7 1,7	1,8 4,2(P) 1-2 3-4 1-2 3-4 0 5mm	1,8 4,2(P) 1,2 34 1,2 34 0 0,8	3,1(A) 7(P) 1-2 3-4 1-2 3-4 0 mm	3,1(A) 7(P) 1-2 3-4 0 mm	11,2(A) 25(P)	1,8 4,2(P) 1-2 3-4 1-2 3-4 0 5mm		1,8 4,2(P) 34 1-2 3-4 0 5mm	3,1(A) 7(P) 1-2 3-4 1-2 3-4 0 mm	25° 70°(P) 1-2 3-4 1-3 1-2 3-4 0 90° 12°	25° 70°(P) 12° 25° 70°(P) 90° 12°	25° 70°(P) 34 0 90° 12°	25° 70°(P) 1-2 3-4 0 90° 12°	25° 70°(P)	20° 1-2 3-4 1-2 1-2 3-4 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2
2-pole NC + NO break before make, slow break	ZCMD25AM4 + ZCE10 ⊖	ZCMD25AM4 + ZCE106 ⊕	ZCMD25AM4 + ZCE11 ⊖	ZCMD25AM4 + ZCE02 ⊖	ZCMD25AM4 + ZCE026 ⊖	ZCMD25AM4 + ZCE24 ⊖	ZCMD25AM4 + ZCEF0 ⊖	_	ZCMD25AM4 + ZCEG1 ⊖	ZCMD25AM4 + ZCEF2 →	ZCMD25AM4 + ZCE01 + ZCY15 →	ZCMD25AM4 + ZCE016 + ZCY15 →	ZCMD25AM4 + ZCE01 + ZCY16 →	ZCMD25AM4 + ZCE01 + ZCY17 →	ZCMD25AM4 + ZCE01 + ZCY45 →	ZCMD25AM ZCE06
7	1,8 3,1(P)	1,8 3,1(P) 1-2 3-4 0 2,6 5 mm	1,8 3,1(P)	3,1(A) 5,6(P) 1-2 3-4 0 4,6 mm	3,1(A) 5,6(P) 1-2 3-4 0 4,6 mm	11,2(A) 19,5(P)	1,8 3,1(P) 12 34 0 2,6 5 mm		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) 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	ZCMD29AM4 + ZCE10 ⊖	ZCMD29AM4 + ZCE106 →	ZCMD29AM4 + ZCE11 ⊖	ZCMD29AM4 + ZCE02 ⊖	ZCMD29AM4 + ZCE026 ⊖	ZCMD29AM4 + ZCE24 ⊕	ZCMD29AM4 + ZCEF0 →	_	ZCMD29AM4 + ZCEG1 →	ZCMD29AM4 + ZCEF2 →	ZCMD29AM4 + ZCE01 + ZCY15 →	ZCMD29AM4 + ZCE016 + ZCY15 →	ZCMD29AM4 + ZCE01 + ZCY16 →	ZCMD29AM4+ ZCE01+ ZCY17 →	ZCMD29AM4 + ZCE01 + ZCY45 →	ZCMD29AM4 ZCE06
2 4	1,8 4,2 (P)	1,8 4,2 (P) 1-2 3-4 0 5 mm	1,8 4,2 (P) 1-2 3-4 0 5 mm	3,1(A) 7(P) 1-2 3-4 1-2 3-1 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1	3,1(A) 7(P)	11,2(A) 25(P)	1,8 4,2 (P) 1,2 4,2 (P) 1,2 3,4 5 mm 0,8		1,8 4,2 (P) 1,8 4,2 (P) 1,2 3,4 5 mm	3,1(A) 7(P)	25° 70°(P) 1-2 3-4 1-2 3-4 0 90°	25° 70°(P)	25° 70°(P) 1-2 3-4 1-2 3-4 0 90° 12°	25° 70°(P)	25° 70°(P)	20° 3-4 1-2 3-4 1-2 3-4
Contact operation	closed open		(A) = cam displac (P) = positive op		O NC contact w	ith positive opening	operation	_	closed open		(A) = cam displace (P) = positive ope			ONC contact wi	th positive opening o	peration
Complementary	·	e not chown	. , .	• .	rietice (ass as	go 5 1)					, , , , , , , , , , , , , , , , , , , ,	3				
Switch actuation	On end	S HUL SHUWI	i under gene	By 30° cam	istics (see pa	ge 51)	On end		On end	By 30° cam						By any moving
Type of actuation	Ulteria					₹@~₹	Ulteria		111		-				- /(·)	——1
								_								
Maximum actuation speed	d 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						10 million	5 million
Nominal For tripping force or	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
forque For positive opening Connection	42.5 N Male AMP Supe	rseal 1.5 connector	-	35 N		12.5 N	42.5 N	_	42.5 N Male AMP Superse	35 N.m	0.5 N.m				0.5 N.m	-
(1) For use at -40 °C.	Maio / Will Oupe							_								







⁽²⁾ Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

Type of head	Plunger (fixing	by the body)					Plunger (fixing by the head)	_	Plunger (fixing by the head)		Rotary (fixing by	the body)				Multi-directional
															O COVAS	
Type of operator	Metal end plunger	Metal end plunger - 40 °C (1)	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 mod	ular units (b	odv with male N	()	and removable t	erminal block)											
2-pole "NC + NO" snap action	ZCMV21M12+		ZCMV21M12 + ZCE11 →	ZCMV21M12 + ZCE02 →	ZCMV21M12 + ZCE026 →	ZCMV21M12+ ZCE24⊖	ZCMV21M12 + ZCEF0 →		ZCMV21M12 + ZCEG1 ⊕	ZCMV21v+ ZCEF2 →	ZCMV21M12 + ZCE01 + ZCY15 →	ZCMV21M12 + ZCE016 + ZCY15 →	ZCMV21M12 + ZCE01 + ZCY16 →	ZCMV21M12 + ZCE01 + ZCY17 →	ZCMV21M12 + ZCE01 + ZCY45 →	ZCMV21M12 + ZCE06
2 4	1,8 4,2(P) 1,8 4,2(P) 1,2 1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P)	1,8 4,2(P) 1,8 4,2(P) 1,2 3,4 1,2 3,4 1,2 3,4 1,3 4,2(P) 5 mm	1,8 4,2(P) 34 1,2 34 0 5mm	3,1(A) 7(P)	3,1(A) 7(P)	11,2(A) 25(P) 1-2 3-4 1-2 3-4 0 4,9 mm	1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P)		1,8 4,2(P) 1,8 4,2(P) 1,2 1,8 4,2(P) 1,8 4,2(P) 1,8 4,2(P)	3,1(A) 7(P) 1-2 3-4 1-2 3-4 0 mm	25° 70°(P)	25° 70°(P) 1-2 3-4 1-2 3-4 0 90° 12°	25° 70°(P)	25° 70°(P)	25° 70°(P)	20° 1-2 3-4 1-2 3-4 1-2 3-4 10°
2-pole NC + NO break before make, slow break	ZCMV25M12 + ZCE10 →	ZCMV25M12 + ZCE106 →	ZCMV25M12 + ZCE11 →	ZCMV25M12+ ZCE02 →	ZCMV25M12 + ZCE026 →	ZCMV25M12 + ZCE24 →	ZCMV25M12 + ZCEF0 →	_	ZCMV25M12 + ZCEG1 ⊖	ZCMV25M12 + ZCEF2 →	ZCMV25M12 + ZCE01 + ZCY15 ⊖	ZCMV25M12 + ZCE016 + ZCY15 ⊖	ZCMV25M12 + ZCE01 + ZCY16 →	ZCMV25M12 + ZCE01 + ZCY17 ⊖	ZCMV25M12 + ZCE01 + ZCY45 →	ZCMV25M12 + ZCE06
7 4	1,8 3,1(P) 1-2 3-4 0 2,6 5 mm	1,8 3,1(P) 1-2 3-4 0 2,6 5 mm	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	3,1(A) 5,6(P) 1-2 3-4 0 4,6 mm	11,2(A) 19,5(P) 1-2 3-4 0 16 mm	1,8 3,1(P) 1-2 3-4 0 2,6 5 mm		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	ZCMV29M12 + ZCE10 ⊖	ZCMV29M12 + ZCE106 ⊖	ZCMV29M12 + ZCE11 →	ZCMV29M12 + ZCE02 ⊖	ZCMV29M12 + ZCE026 ⊖	ZCMV29M12+ ZCE24⊖	ZCMV29M12 + ZCEF0 →	-	ZCMV29M12 + ZCEG1 →	ZCMV29M12 + ZCEF2 →	ZCMV29M12 + ZCE01 + ZCY15 ⊖	ZCMV29M12 + ZCE016 + ZCY15 →	ZCMV29M12 + ZCE01 + ZCY16 →	ZCMV29M12 + ZCE01 + ZCY17 →	ZCMV29M12 + ZCE01 + ZCY45 →	ZCMV29M12 + ZCE06
2/ 4/ 	1,8 4,2 (P) 1,8 4,2 (P) 1,8 4,2 (P) 5 mm	1,8 4,2 (P)	1,8 4,2 (P)	3,1(A) 7(P)	3,1(A) 7(P)	11,2(A) 25(P)	1,8 4,2 (P)		1,8 4,2 (P) 1,2 3,4 0 5 mm	3,1(A) 7(P)	25° 70°(P)	25° 70°(P) 1-2 3-4 1-2 3-4 0 90°	25° 70°(P)	25° 70°(P) 1-2 3-4 1-2 3-4 0 90°	25° 70°(P)	20°
Contact operation	closed open		(A) = cam displac (P) = positive ope		O NC contact w	ith positive opening	operation	-	closed open		(A) = cam displace (P) = positive oper			ONC contact wit	th positive opening o	peration
Complementary ch	aracteristic	s not shown	under gene	ral character	istics (see pa	ge 51)										
Switch actuation	On end			By 30° cam			On end		On end	By 30° cam						By any moving part
Type of actuation	⊎ 						<u>₩</u> -		□		- 0					*
Maximum actuation speed	0.5 m/s			1				-	0.5 m/s	0.1 m/s	1.5 m/s				1.5 m/s	1 m/s
Mechanical durability	10 million operati	ng cycles						-	10 million operating	cycles	1				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 For positive	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	-
opening Connection	M12 connector					<u> </u>		_	M12 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 fi	xing.													



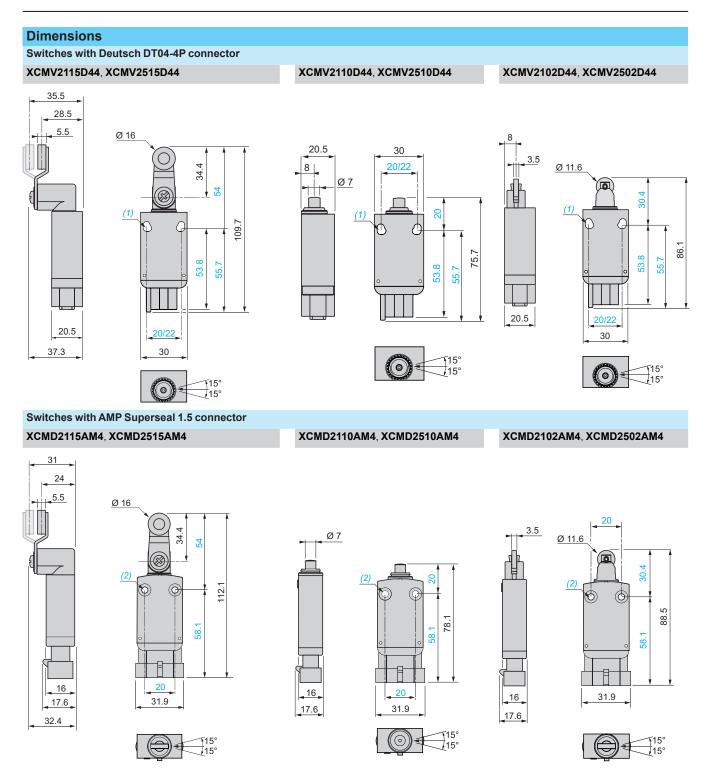


Type of h	head	Plunger (fixing	by the body)					Plunger (fixing by the head)	Plunger (fixing by the head)		Rotary (fixing by	the body)				Multi-directional
		* Information													ZCY45	
Type of op	perator	Metal end plunge	Metal end plunge - 40 °C (1)	r Metal end plunge with elastomer boot (2)	Steel 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)
Refere	ences of mod	dular units (p	re-cabled body a	and removable to	erminal block)											
4-pole 2 No snap actio		ZCMV41L03 + ZCE10 →	ZCMV41L03 + ZCE106 →	ZCMV41L03+ ZCE11 →	ZCMV41L03 + ZCE02 →	ZCMV41L03+ ZCE026⊖	ZCMV41L03 + ZCE24 ⊖	ZCMV41L03+ ZCEF0 →	ZCMV41L03+ ZCEG1⊖	ZCMV41L03 + ZCEF2 →	ZCMV41L03 + ZCE01 + ZCY15 →	ZCMV41L03 + ZCE016 + ZCY15 →	ZCMV41L03 + ZCE01 + ZCY16 →	ZCMV41L03 + ZCE01 + ZCY17 →	ZCMV41L03 + ZCE01 + ZCY45 →	ZCMV41L03 + ZCE06
BK-WH RD BN BN BN BN	GN-YE	1,8 4,2(P) 80-80-494 80-80-494 80-80-494 80-80-494 80-80-494 91-47-494 91-80-80-494 91-47-494 91-80-80-494 91-47-494 91-80-80-494 91-47-494 91-80-80-494 91-80-80-494 91-80-80-494 91-80-80-494 91-80-80-494 91-80-80-494 91-80-80-494 91-80-80-494 91-80-80-80-494 91-80-80-80-494 91-80-80-80-494 91-80-80-80-494 91-80-80-80-80-80-80 91-80-80-80-80-80 91-80-80-80-80 91-80-80-80-80 91-80-80-80-80 91-80-80-80-80 91-80-80-80-80 91-80-80-80-80 91-80-80 91-80-8	1,8 4,2(P) 80-80-90 80-80-90 80-80-90 90-90 90-90 90-90-90 90-90 90-90 90-90 90-90 90-90 90-90 90-90 90-90 90-90 90-90 9	1,8 4,2(P) BN-BU-NN BN-BU-NN BN-BU-NN BN-BU-NN BN-BU-NN NN-BU-NN N	3,1(A) 7(P) RS-RD-WH	BK.BK.WH BD.BD.WH BD.BD.WH BK.BK.WH BK.BK.WH BK.BK.WH BK.BW.WH BK.	11,2(A) 25(P) R0-B0-VH1 R0-B0-B0-VH1 B0-B0-WH1 R0-B0-WH1 R0-R0-VH1 R0-R0-R0-VH1 R0-R0-VH1 R0-R0-R0-VH1 R0-R0-R0-R0-VH1 R0-R0-R0-VH1	1,8 4,2(P) 88-68-7019 88-68-7019 88-68-7019 88-68-7019 971-77-709 0,8	1,8 4,2(P) INC. DEC. WITH INC. BELL	BK.BK.WH BD.BQ.WH BD.BQ.WH BC.BK.WH BC.	25' 70'(P) BIS BU WH BIS B	25' 70'(P)	25° 70°(P) BICAL WHITE BIT STATE OF THE STAT	25' 70'(P) BIS BU WH BIS B	25° 70°(P)	BIS-BIS-WH RO-RED-WH BIS-BIS-WH B
Contact or	peration	closed		(A) = cam displac (P) = positive ope		ONC contact w	ith positive opening	g operation	closed		(A) = cam displace			→ NC contact with	h positive opening op	peration
Compl	lomontor; el	open	not chown	under genera	• .	otion (and trans	F0\		□ open		(P) = positive oper	ing point				
Switch act		On end	S HOL SHOWII	under genera	By 30° cam	Stics (see page	9 52)	On end	On end	By 30° cam						By any moving part
Type of act		<u>H</u>			- 6			<u>₩</u>	<u> </u>	-	- 0					→
Maximum a	actuation speed	0.5 m/s	0.5 m/s						0.5 m/s	/s 0.1 m/s 1.5 m/s				1.5 m/s	1 m/s	
Mechanica	al durability	10 million operatir	ng cycles						10 million operating	cycles					10 million	5 million
Nominal force or	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	
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	_
Connectio		PvR cable, length 30 cm				PvR cable, length 30 cm					1	1				

- (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.



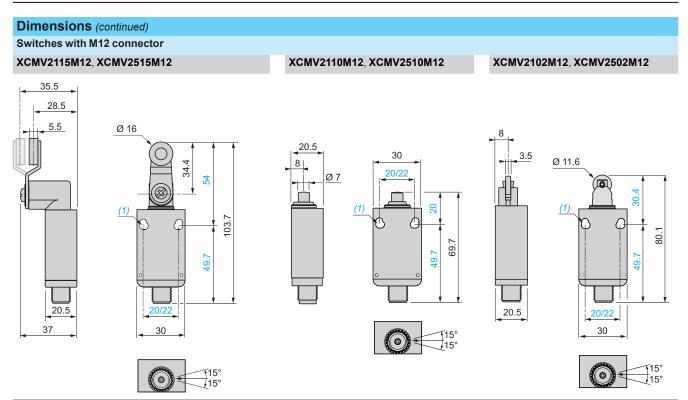




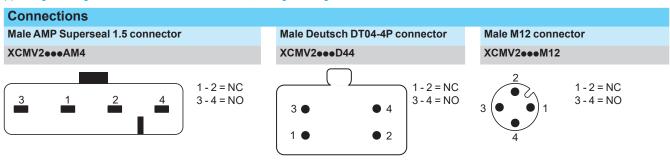
- (1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres. (2) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.



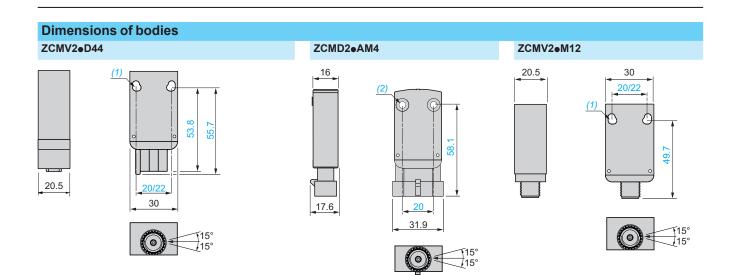
XC Standard range Miniature design, metal, XCMV Complete units for mobile equipment



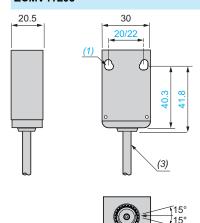
(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.



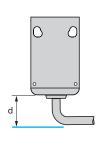
XC Standard range Miniature design, metal, XCMV Modular units for mobile equipment



ZCMV41L03



Mounting: distance required for connection



d: min. 20 mm

Dimensions of heads

ZCE106, ZCE10



ZCE11

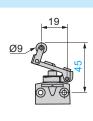


ZCE02, ZCE026



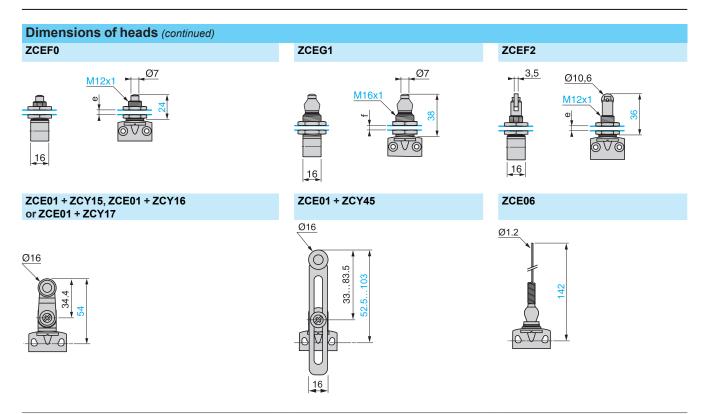
ZCE24





- (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.





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.