

Smart Card Connectors

Standard Style

Series C702A



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Push-Pull Page 11



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PUSHMATIC® Page 12



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The Standard Style is our original first generation product family featuring landing contacts for rugged applications such as: Point of Sale systems, vending equipment and access control.

Design features

- high numbers of card insertion cycles, due to the principle of landing and self-cleaning contacts
- designed for harsh applications and environments
- modular system with several operating methods from manual handling to automatic card ejection
- various termination options: flat cable in standard and custom lengths with sockets according to IEC 60 603-13; and flexprints. For appropriate flexprint connectors see page 29
- Accessories: Shutter and bezel, mounting plate



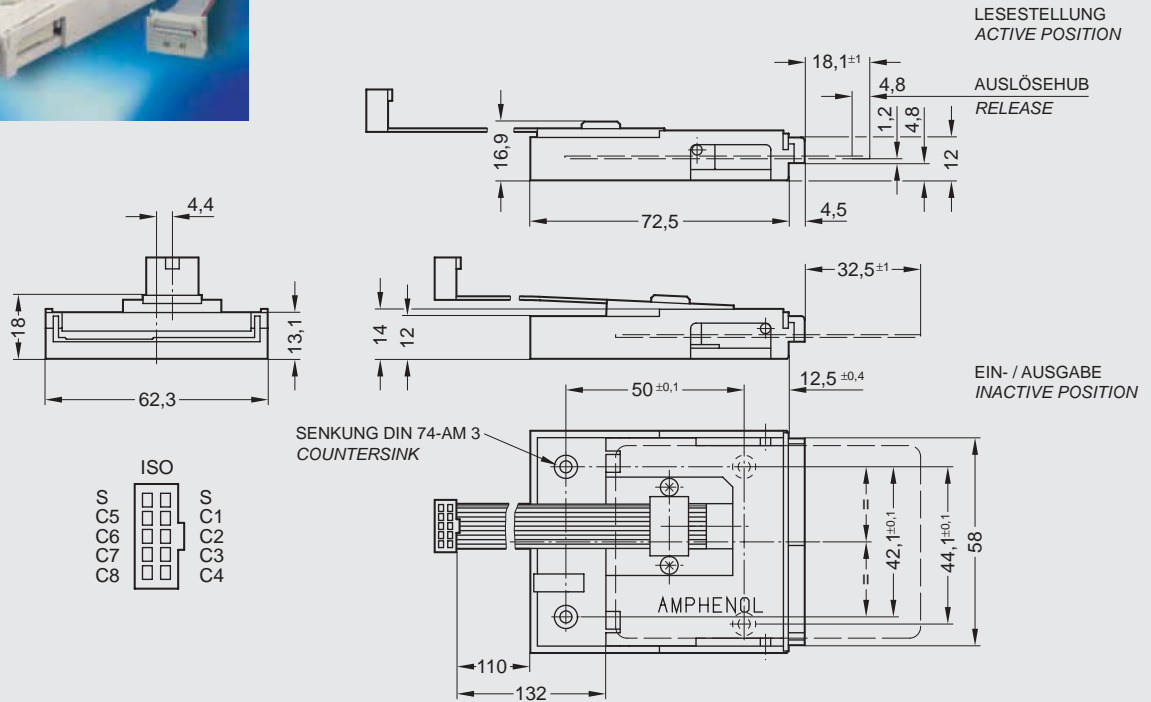
Assembly instructions:

Please make sure that interface cables are unrestricted and free to move after assembly.

C702A Smart Card Connectors Standard Style Push-Only



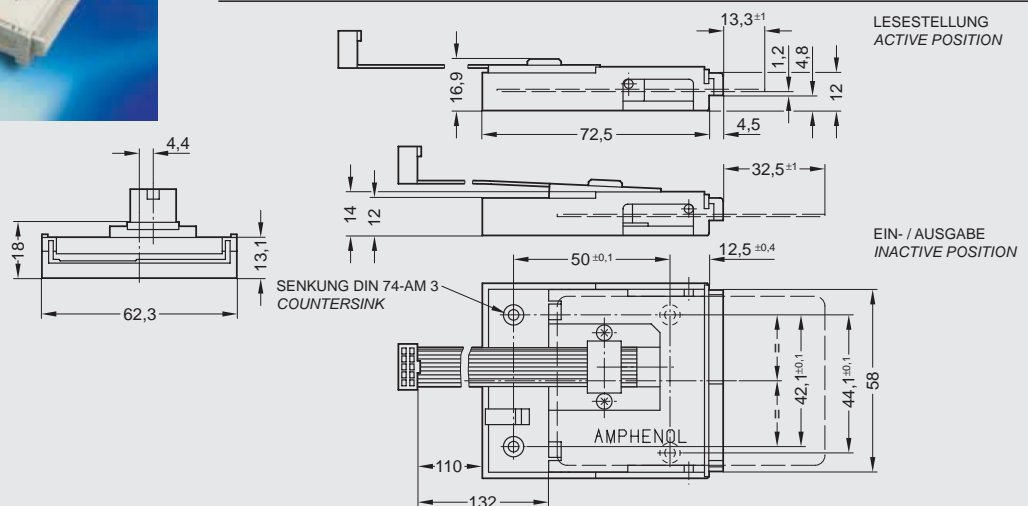
Description	Contact position	Part No.
Push-Only	ISO	C702 10M008 018 2



C702A Smart Card Connectors Standard Style Push-Pull



Description	Contact position	Additional information	Part No.
Push-Pull	ISO Standard		C702 10M008 514 2
	AFNOR		C702 10M008 522 2
	ISO + AFNOR	Contacts in series	C702 10M008 521 2
	ISO + AFNOR	Contacts in parallel	C702 10M008 523 2



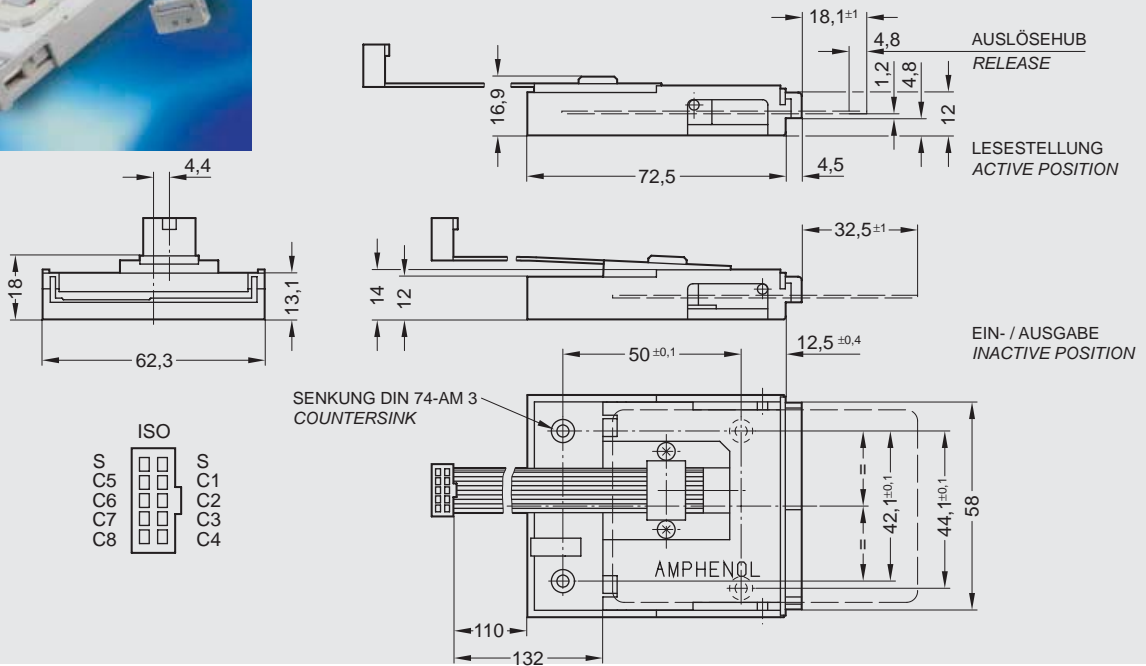
Belegung Steckverbinder Connector termination	ISO + AFNOR Kontakte in Reihe / Contacts in series	AFNOR	ISO + AFNOR Kontakte parallel / Contacts in parallel
ISO			

nc = frei not connected

C702A Smart Card Connectors Standard Style Push-Push



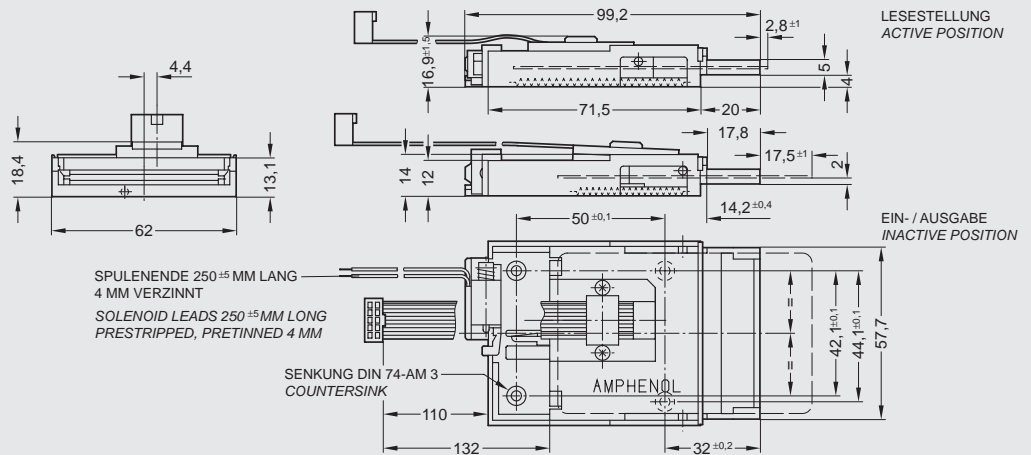
Description	Contact position	Part No.
Push-Push	ISO	C702 10M008 015 2



C702A Smart Card Connectors Standard Style PUSHMATIC®



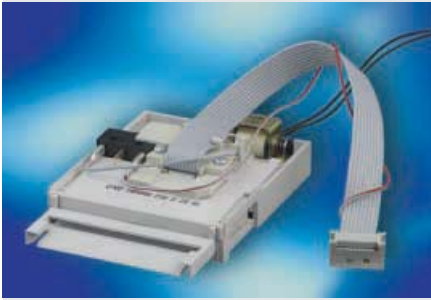
Description	Solenoid voltage	Contact position	Additional information	Part No.
PUSHMATIC®	5 V	ISO Standard		C702 10M008 701 2
	12 V	ISO Standard		C702 10M008 700 2
	24 V	ISO Standard		C702 10M008 702 2
	5 V	ISO + AFNOR	Contacts in series	C702 10M008 703 2
	12 V	ISO + AFNOR	Contacts in series	C702 10M008 704 2
	24 V	ISO + AFNOR	Contacts in series	C702 10M008 705 2
	5 V	ISO + AFNOR	Contacts in parallel	C702 10M008 706 2
	12 V	ISO + AFNOR	Contacts in parallel	C702 10M008 707 2
	24 V	ISO + AFNOR	Contacts in parallel	C702 10M008 708 2



Belegung Steckverbinder / Connector termination	ISO + AFNOR Kontakte in Reihe / Contacts in series	AFNOR	ISO + AFNOR Kontakte parallel / Contacts in parallel
ISO			

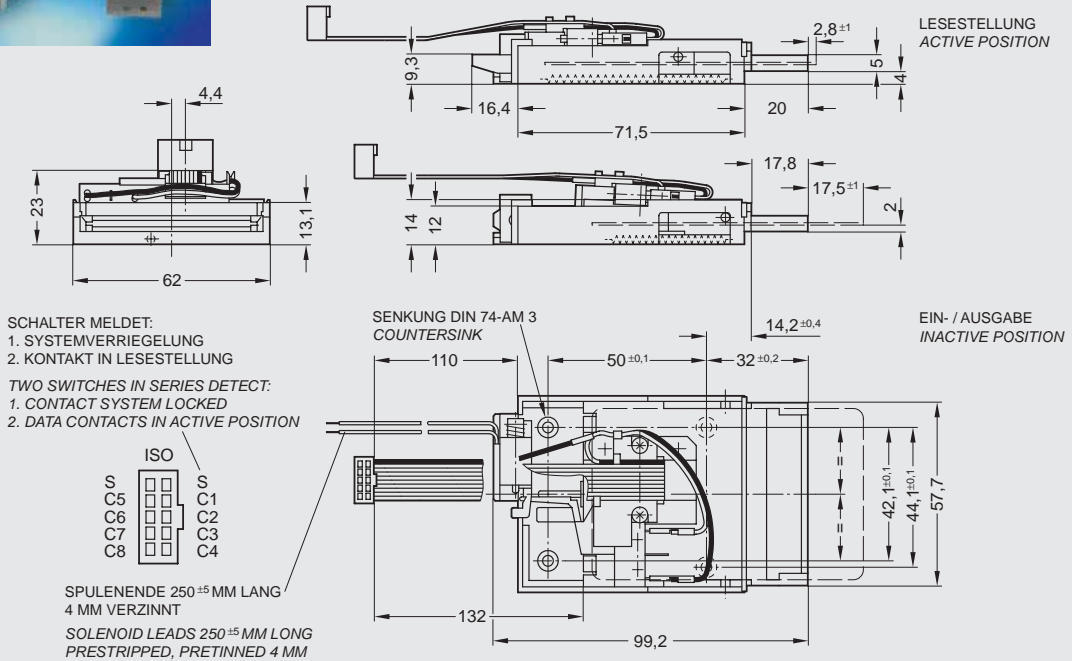
nc = frei not connected

C702A Smart Card Connectors Standard Style PUSHMATIC® with Locking Detector



Description	Solenoid voltage	Contact position	Part No.
PUSHMATIC®	5 V	ISO	C702 10M008 732 2
with Locking Detector	12 V	ISO	C702 10M008 716 2
	24 V	ISO	C702 10M008 727 2

In addition to the features of the PUSHMATIC®, this version offers an additional switch, which indicates the complete insertion of the card and the locking of the contact set.

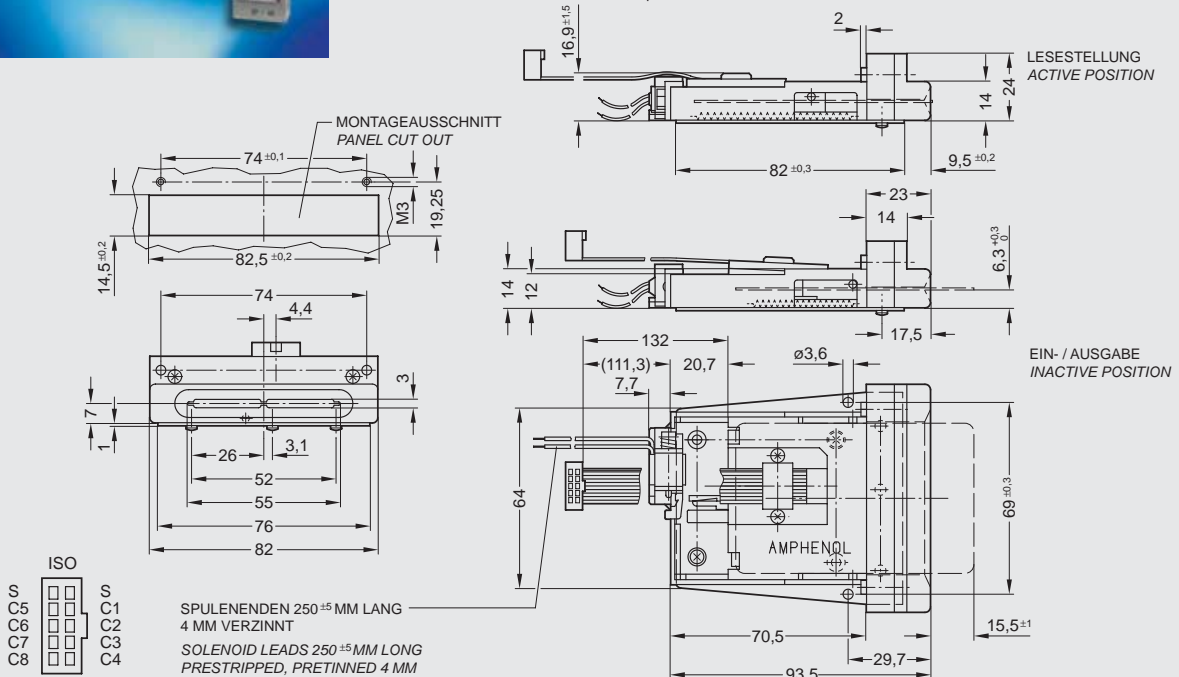


C702A Smart Card Connectors Standard Style PUSHMATIC® with Shutter



Description	Solenoid voltage	Contact position	Part No.
PUSHMATIC®	5 V	ISO	C702 20M008 701 2
with Shutter	12 V	ISO	C702 20M008 700 2
	24 V	ISO	C702 20M008 702 2

The shutter protects the card slot if no card is inserted and will only open upon insertion of a standard size card. The insertion of coins, paper, clips, etc... is not possible. An additional bezel is not required.



C702A Technical Data

Electrical Characteristics	Standard	Value
Contact resistance incl. 150 mm ribbon cable and male connector	IEC 60512-2, Test 2a	Data contacts $\leq 100 \text{ m}\Omega$ Switch contacts $\leq 200 \text{ m}\Omega$
Insulation resistance	IEC 60512-3, Test 3a	$\geq 10^9 \Omega$
High voltage resistance	IEC 60512-2, Test 4a	500 V _{Ac} ; 1 min

Unlocking solenoid (PUSHMATIC® only)

Rated voltage		5 V \pm 10%	12 V \pm 10%	24 V \pm 10%
Current consumption		2.5 A \pm 10%	1.1 A \pm 10%	0.55 A \pm 10%
Current pulse length		10 ... 25 ms		
Pulse break		$\geq 0.5 \text{ s}$		

Climatical Characteristics

Climatic category	IEC 60068-1	25 / 85 / 21
Operating temperature		- 25 °C ... + 85 °C
Storage temperature		- 25 °C ... + 85 °C

Mechanical Characteristics

	Push-Push	Push-Only	Push-Pull	PUSHMATIC®	PUSHMATIC® with Locking Detector	PUSHMATIC® with Shutter
Card insertion force IEC 60512-7, Test 13b	3 ... 5 N	3 ... 5 N	$\leq 12 \text{ N}$	$\leq 3.5 \text{ N}$	$\leq 5 \text{ N}$	$\leq 8 \text{ N}$
Card extraction force IEC 60512-7, Test 13b	–	–	$\geq 2.5 \text{ N}$	–	–	–
Mechanical lifetime IEC 60512-5, Test 9a (without corrosion stress)	500,000 mating cycles	500,000 mating cycles	500,000 mating cycles	300,000 mating cycles	300,000 mating cycles	200,000 mating cycles
Vibration	IEC 60512-4, Test 6d			f = 10 ... 60 Hz 0.5 mm DA f = 60 ... 500 Hz a = 2.5 g 2 h / axis		
Shock, without disconnection	IEC 60512-4, Test 6c			$\leq 10 \text{ g}$; 11 ms; halfsine 2 shocks / direction in 3 axis		
Shock, without destruction	IEC 60512-4, Test 6c			$\leq 200 \text{ g}$; 6 ms; halfsine 2 shocks / direction in 3 axis		
Contact force				20 ... 50 cN		

Switch

Card presence switch		normally open
Locking detector		is activated when contact system is locked switch rating 100 mA / 12 V
Switch sequence	The card presence switch is activated after data contacts have mated with the card pads and before the card reaches its final position. This sequence will take place for the minimum sized card pads (and larger) acc. to ISO 7816	
Chattering time		$\leq 5 \text{ ms}$

Termination

Suitable connector

Connector for flat cable, female connector IEC 60603-13, no. of contacts: 10 or 20	Male connector IEC 60603-13 Amphenol Series 816 and 821
Solenoid termination: wire 0,09 mm ² / AWG 28	

PUSHMATIC® with Shutter

IP-degree of protection Smart Card Connector assembled	IEC 60529	No card inserted IP 30 card inserted IP 20
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Climatical Characteristics

Operating temperature		+ 10 °C ... + 55 °C, without condensation
Storage temperature		- 25 °C ... + 85 °C, without condensation

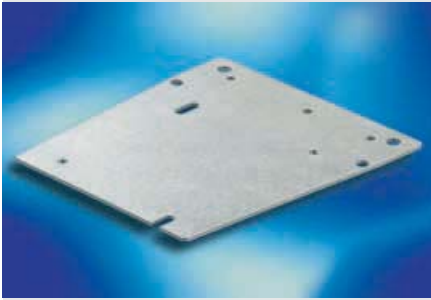
C702A Smart Card Connectors Standard Style Accessories



C702 N13 030 E2



C702 N13 031 E2



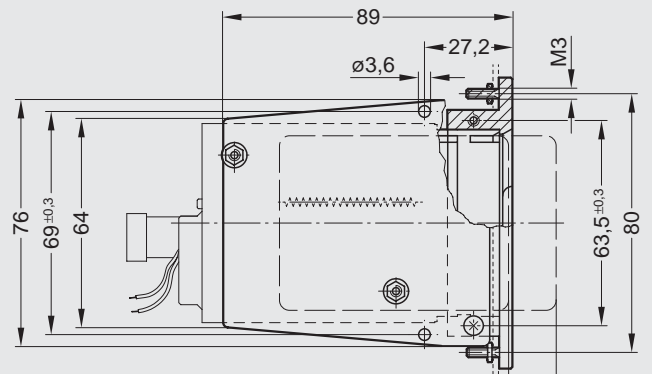
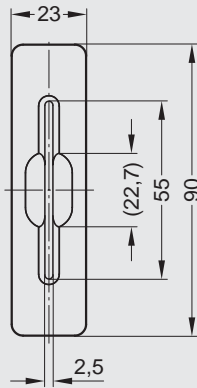
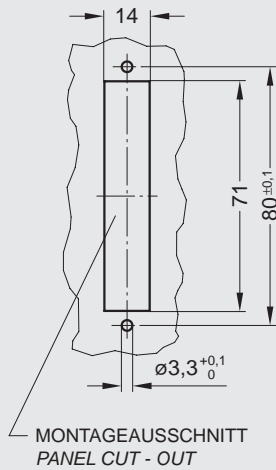
C702 N15 100 G2

Description	Version	Part No.
Metal bezel silver coloured	PUSHMATIC®	C702 N13 030 E2
Metal bezel dull black	PUSHMATIC®	C702 N13 031 E2
Mounting plate (metal) for bezel	PUSHMATIC®	C702 N15 100 G2

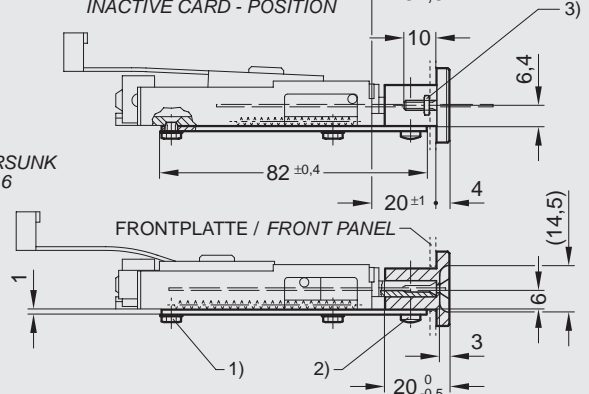


Assembly instructions:

Mounting plate (i.e. C702 N15 100 G2) is necessary for assembly of bezel.



LESESTELLUNG
ACTIVE CARD - POSITION 22,8 ±1
EIN- / AUSGABE
INACTIVE CARD - POSITION 37,5 ±1



- 1) 2 x SENKSCHRAUBE MIT KREUZSCHLITZ DIN 965 - M3 x 6
2 x SECHSKANTMUTTER DIN 439 - M3
2 x SCHEIBE DIN 125 - 3,2
- 2) 2 x GEWINDEFURCHENDE SCHRAUBE DIN 7500 - AM 3 x 10 - ST
- 3) 2 x SECHSKANTMUTTER DIN 934/439 - M3

LIEFERUNG OHNE SCHRAUBEN UND MUTTERN

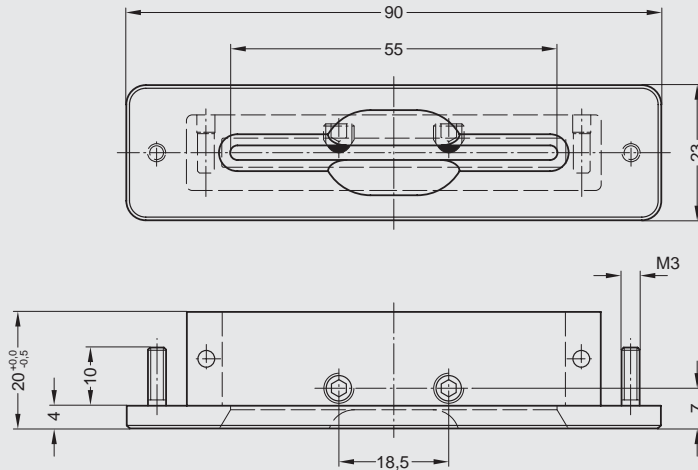
- 1) 2 x CROSS RECESSED COUNTERSUNK HEAD SCREW DIN 965 - M3 x 6
2 x HEXAGON NUT DIN 439 - M3
2 x WASHER DIN 125 - 3,2
- 2) 2 x THREAD ROLLING SCREW DIN 7500 - AM 3 x 10 - ST
- 3) 2 x HEXAGON NUT DIN 934/439 - M3

SHIPMENT WITHOUT SCREWS AND NUTS

C702A Smart Card Connectors Standard Style Accessories



Description	Version	Part No.
Metal bezel with 'coin spacer' silver coloured	PUSHMATIC®	C702 N14 030 E2



Assembly instructions see page 15

C702A Smart Card Connectors Standard Style Accessories



Description	Version	Dimension without distance plate		Dimension with distance plate		Part No.
		a	b	0.5 mm	1 mm	
Plastic bezel black	Push-Pull	7.0 mm	2.3 mm	1.8 mm	1.3 mm	C702 N11 141 E2
	Push-Only					
	Push-Push	11.8 mm	2.3 mm	1.8 mm	1.3 mm	
Distance plate	0.5 mm					N06 702 000 2
Distance plate	1 mm					N06 702 000 1

