



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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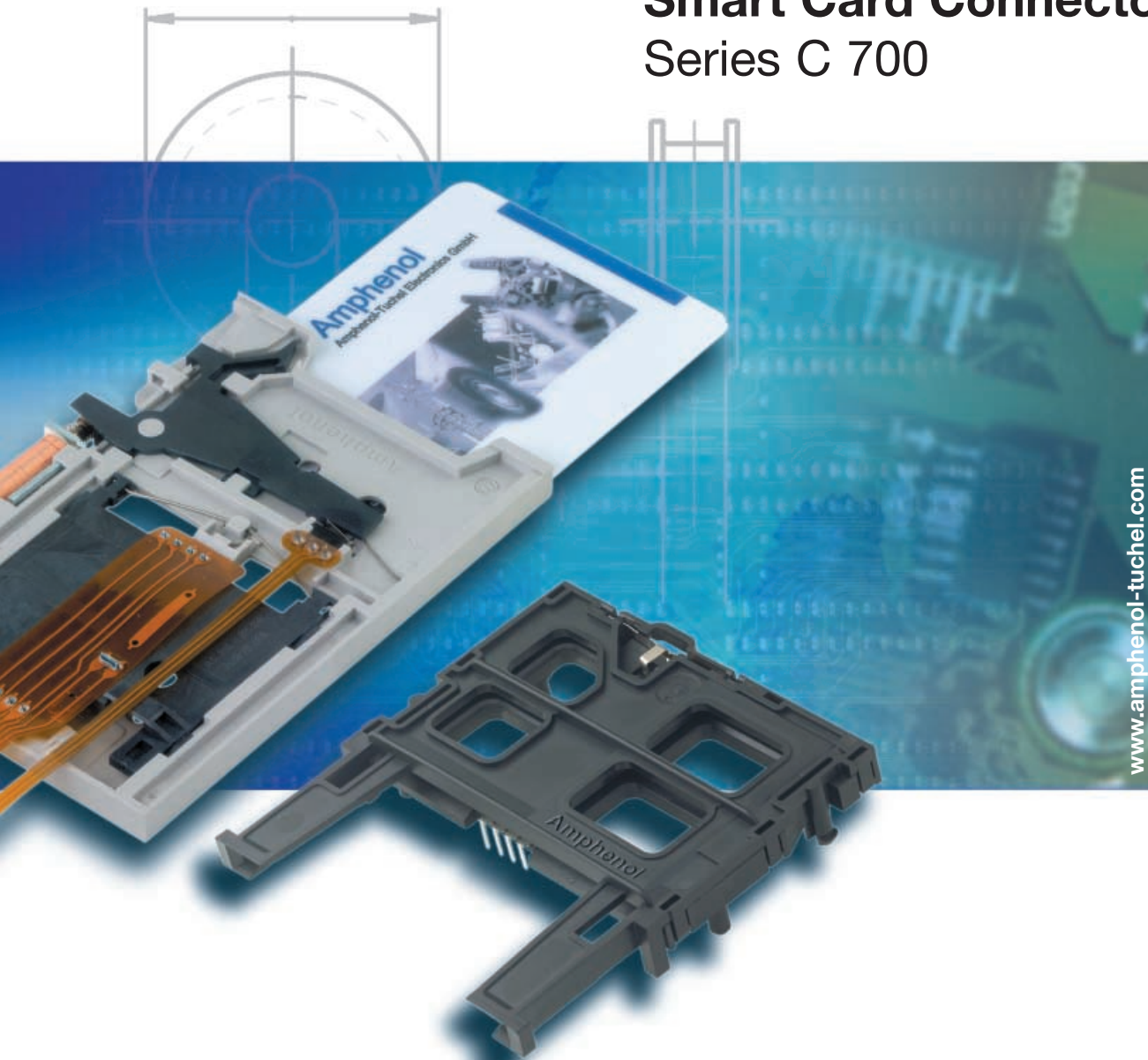
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Amphenol

Amphenol-Tuchel Electronics GmbH

Smart Card Connectors Series C 700





Security information

It is the user's responsibility to check whether the components illustrated in this catalogue comply with different regulations from those stated in special fields of application which we are unable to foresee.

These connectors are designed and produced in conformity with the low-voltage directive (72/73/EWG) respectively Gerätesicherheitsgesetz (German Law). We reserve the right to change the design due to improvement in quality, development or production requirements.

This catalogue must not be used in any form or manner without our prior approval in writing (Copyright Law, Fair Trading Law, Civil Code).

IP degree of protection for all Smart Card Connectors is IP 00, if not mentioned otherwise in technical data.

As far as Smart Card Connectors are mentioned without protection against electric shock, only Safety Extra Low Voltage (SELF) of AC 25 V_{eff} or DC 50 V is permissible. When mounted with protection against electric shock see table rated voltage acc. to IEC 60664-1.

The products specified in this catalogue have been developed for soldering proceedings with Sn Pb alloys. Other soldering proceedings are possible upon request.

Basically Smart Card Connectors are designed for indoor and outdoor applications with low dirt/dust contamination and environmental influences.

Connectors and/or plug and socket devices may only be used according to the specified technical ratings. Please note that technical ratings represent often only initial values which have been investigated under determined conditions (tests) and may change under longer or stress conditions.

The referred IEC-Standards correspond to the DIN EN-Standards.

Contents

Worldwide Performance Page 4



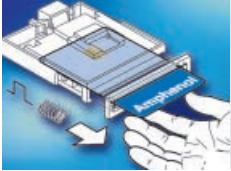
The Company
Quality
Leading Technology

Series C703A Page 41



Hybrid Reader

General Information Page 6



Chip Cards
Smart Card Connectors
Card Handling Systems
Contact Methods

Series C705A Page 44



Smart Card Connectors
with Disk Drive Slot

Series C702A Page 10



Smart Card Connectors
Standard Style
Accessories

Series C707A Page 46



Smart Card Connectors
SIMLOCK®

Series C702B Page 17



Smart Card Connectors
PUSHMATIC® II
Accessories

Series C707B Page 50



Smart Card Connectors
SIMBLOCK®

Series C702C Page 22



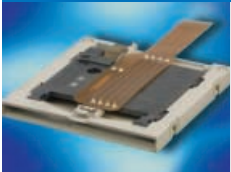
Smart Card Connectors
Low Profile PUSHMATIC®

Series C709A Page 55



MultiMediaCard Connector

Series C702D Page 25



Smart Card Connectors
Superflat Style
Accessories

Keyword Index Page 58

Series C702E Page 31



Smart Card Connectors
with PCB Mount Wiping
Contacts

Part No. Index Page 59

Series C702F Page 39



Smart Card Connectors
with Landing Card PCB Mount

Worldwide Performance

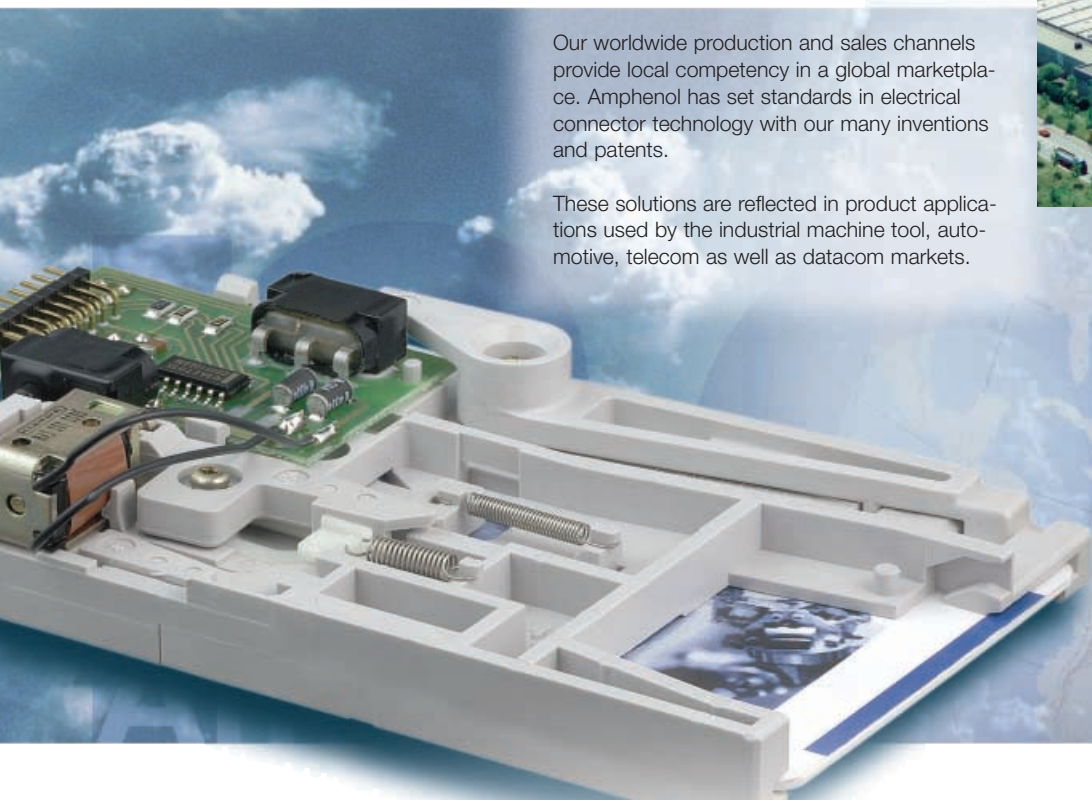
The Company

Amphenol-Tuchel Electronics GmbH is a global company and leading manufacturer of electrical connector solutions.

The superior quality of our product line is a result of specialized engineering and techniques in conjunction with leading edge production methods.

Our worldwide production and sales channels provide local competency in a global marketplace. Amphenol has set standards in electrical connector technology with our many inventions and patents.

These solutions are reflected in product applications used by the industrial machine tool, automotive, telecom as well as datacom markets.



Quality

Quality stands not only for product quality but also for the quality of the connection solution. At Amphenol-Tuchel Electronics, quality is one of the first considerations during the initial development steps. The emphasis is not on the product, but on the existing requirements.

Engineers with many years of experience work in interdisciplinary project teams to develop and supply absolutely reliable connection solutions.

Amphenol-Tuchel is certified in accordance with ISO 9001, QS 9000 and VDA 6.1, which means that not only the organizational prerequisites for compliance with the required product quality exist, but that they are actually applied throughout the process chain.

It goes without saying that all Smart Card connectors of the Amphenol product range meet the specified product characteristics. The various electrical, climatic and mechanical parameters are examined and tested in comprehensive inspections.

Technological Leadership

Amphenol-Tuchel Electronics derives its claims to technical advances and technological leadership from various technical and technological advantages.

These include high-performance precision pressing technology, modern injection-molding technology and a manufacturing and inspection technology which ensures that all processes operate reliably.

Production flexibility is guaranteed by the use of either fully automatic production equipment, semi-automatic production lines or manual manufacture, depending on the requirements.

Samples can be produced in a very short time and it is also possible to execute the entire production cycle from the prototype to the finished product quickly. Customer-specific prototypes and small batches can also be produced quickly.

The experience and competence gained through many decades of work are displayed today in the wide range of proven products in the sectors of plug and socket connectors and Smart Card Connectors.

An innovative internal product development department, a flexible, selective network of suppliers, coupled with an internal laboratory for support of research and product development, together with 3D-CAD and simulation work stations adds up to a company which can be measured by its own standards.

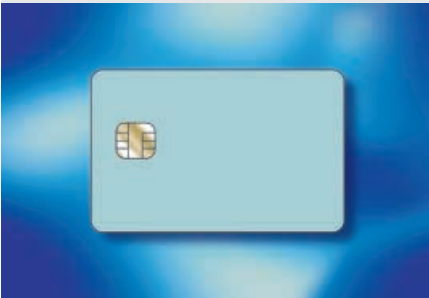
Chip Cards

Chip Cards, Smart Cards, IC Cards or whatever application specific term is used ... have one thing in common:

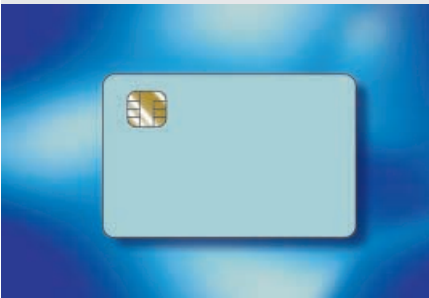
- the outside dimensions, standardized acc. to ISO 7810, the size of a common credit card
- and the position of the contact pads, (which connect the embedded IC chip) are fixed according to ISO 7816.

The most used chip contacts are:

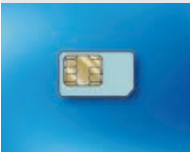
Type ID-1, Chip middle position (ISO)



Type ID-1, Chip outer position (AFNOR)



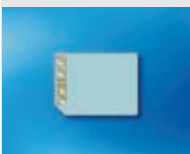
SIM/SAM-Card, ID-000, GSM 11.11



MultiMediaCard, acc. to MMCA - Spezifikation



Secure Digital Memory Card, acc. to SDA - Spezifikation



Amphenol Smart Card Connectors

Smart Card Connectors are integral components of a smart card reader or terminal, and provide electrical contact to the smart card's pads. The connector is not a stand alone peripheral device.

An additional interface circuit is necessary to be able to read and write to the smart card whether a smart card is a memory only or a microprocessor card. Amphenol Smart Card Connectors are designed to make secure contact to all cards designed according to ISO 7816 and thus ensure a reliable data transmission.



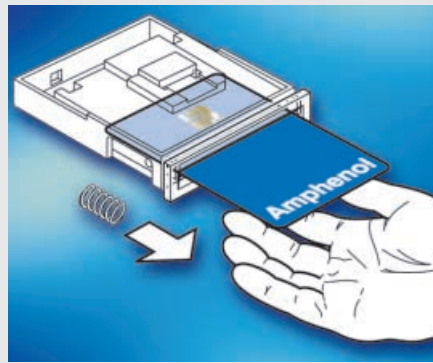
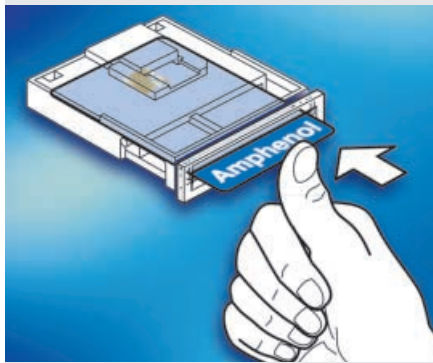
The communication with the chip card can begin when the card is fully inserted and the data contacts are all connected. At this point an integral card presence switch is activated and signals to the connected circuitry that the card is ready to be read and written to.

Smart Card Connectors for payment systems according to EMV (Europay Mastercard Visa / Integrated Circuit Card Specification for Payment Systems) have a specific card end position switch which detects the insertion and removal of a Smart Card.



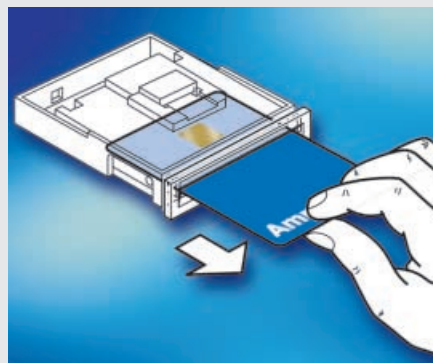
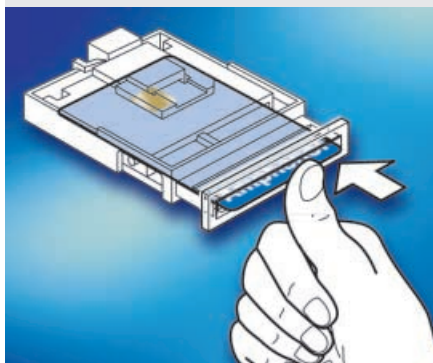
C700 Smart Card Connectors: General Information

Card Handling Systems



Push-Only

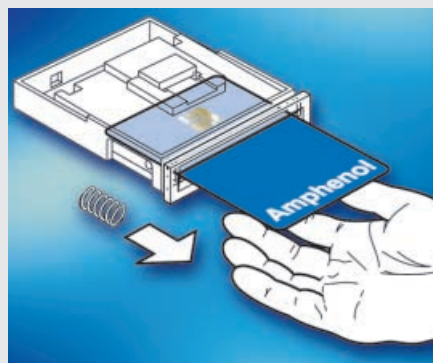
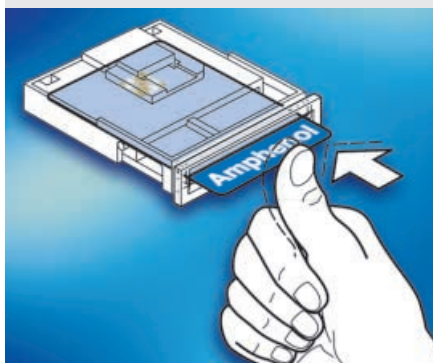
The card is inserted manually and held in the active position by hand. The card is ejected immediately after the user releases it. The Push-Only is ideally suited for applications with short transaction cycles, ie. door access control.



Push-Pull

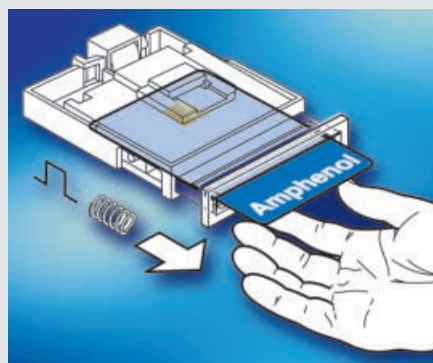
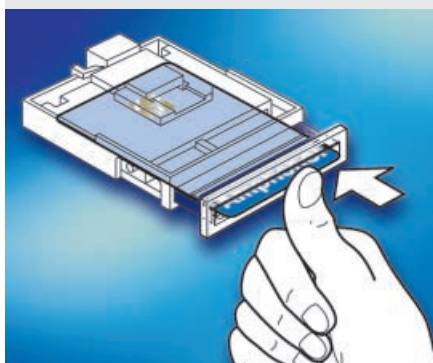
The card is inserted manually and held in the active position by a card brake. After completion of the transaction, the card is simply pulled out of the Smart Card Connector.

This is the most common manual card handling system.



Push-Push

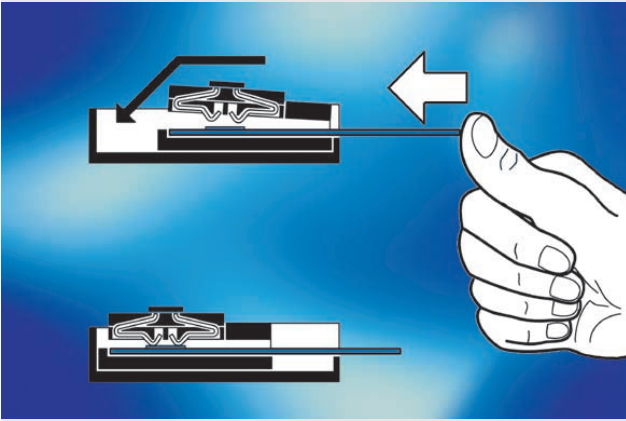
The card is inserted manually and held in the active position by the Smart Card Connector. When pushed again the card is returned to the user (principle of a ballpoint pen).



PUSHMATIC®

This semi-automatic system combines a manual card insertion with an automatic card ejection. The card is manually pushed into the Smart Card Connector until it is flush (or nearly flush) with the bezel. Upon completion of the transaction, software triggers a solenoid and the card is ejected back to the user.

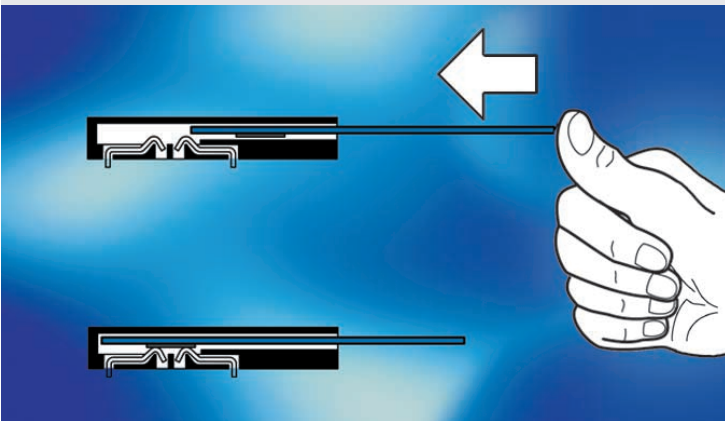
Contact Methods



Landing Contacts

With this contact method a moveable contact set will connect with the pads of the chip card upon insertion of the card.

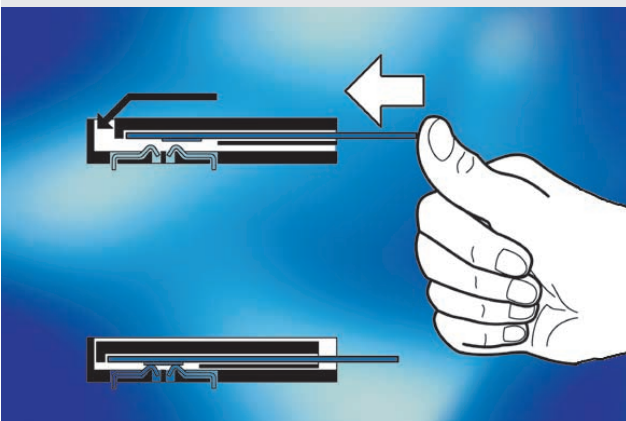
The card plastic surface is not scratched and high mating cycles can be achieved.



Wiping Contacts

The contact set is fixed. When the card is inserted, it wipes over the data contacts until they arrive at the card pads. Depending upon the card surface, wiping traces which do not influence the card function can occur after some insertion cycles.

The advantage of wiping contacts is that they clean the contact point with every mating cycle.

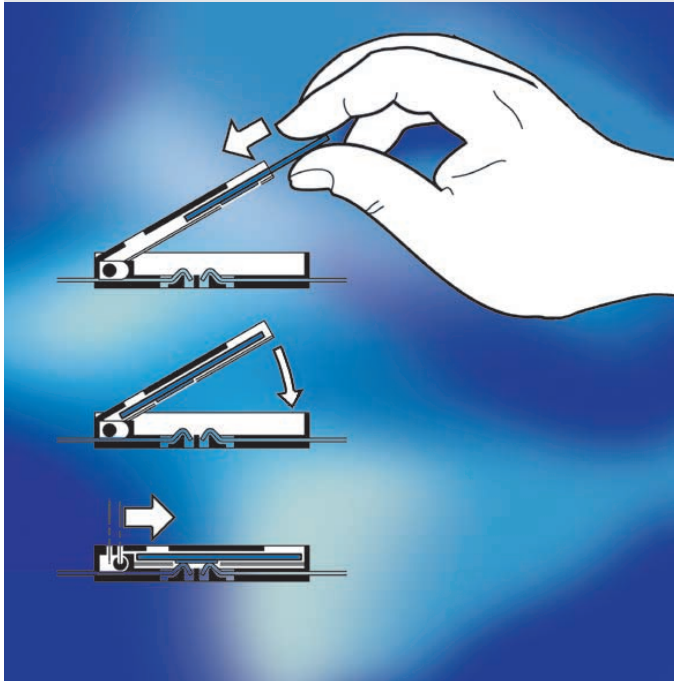


Landing Card

This method of contacting is based on a fixed contact set. The chip card is lowered during its insertion.

The contact areas of the chip card land smoothly on the reading contacts which results in the possibility of a high number of mating cycles.

In addition this system makes sure that with each insertion the contact surfaces are cleaned.

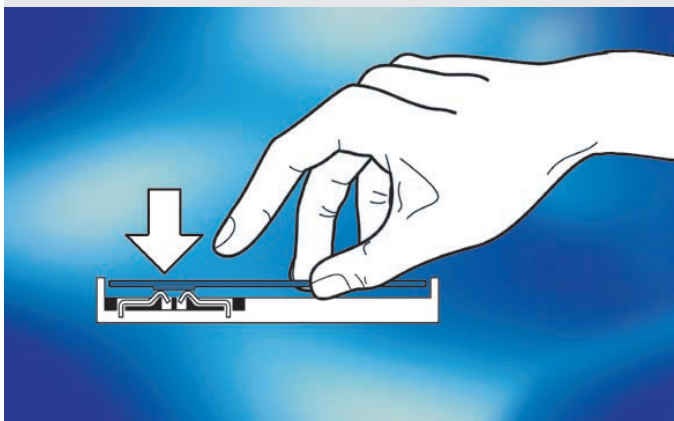


SIMLOCK®

In cases where chip cards with the dimensions of a full size ISO 7816 are too large, the SIMLOCK® comes into use. With its latching cover for the insertion of the smaller SIM card it offers a safe contact interface even in mobile usage.

Due to the locking system the user does not have to consider tolerances or card guiding.

The design and packaging of the Amphenol SIMLOCK® allows manual and automatic pick and placement prior to surface mount soldering.



SIMBLOCK®

These Smart Card Connectors, due to their minimal space requirement and low height are the ideal components for many space restricted applications, from handsets to the electronic purse. The connector is suitable for standard chip cards per ISO 7816 as well as for plug-in SIM cards.

The SMT terminals and packaging for automatic handling allow the use of pick and place robots and modern surface solder technologies.

Positioning and support of the chip card has to be ensured by the user.

Smart Card Connectors

Standard Style

Series C702A



Push-Only Page 11



Push-Pull Page 11



Push-Push Page 12



PUSHMATIC® Page 12



PUSHMATIC® with Locking Detector Page 13



PUSHMATIC® with Shutter Page 13



Accessories Mounting Plate Page 15



Accessories Bezel Page 16

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



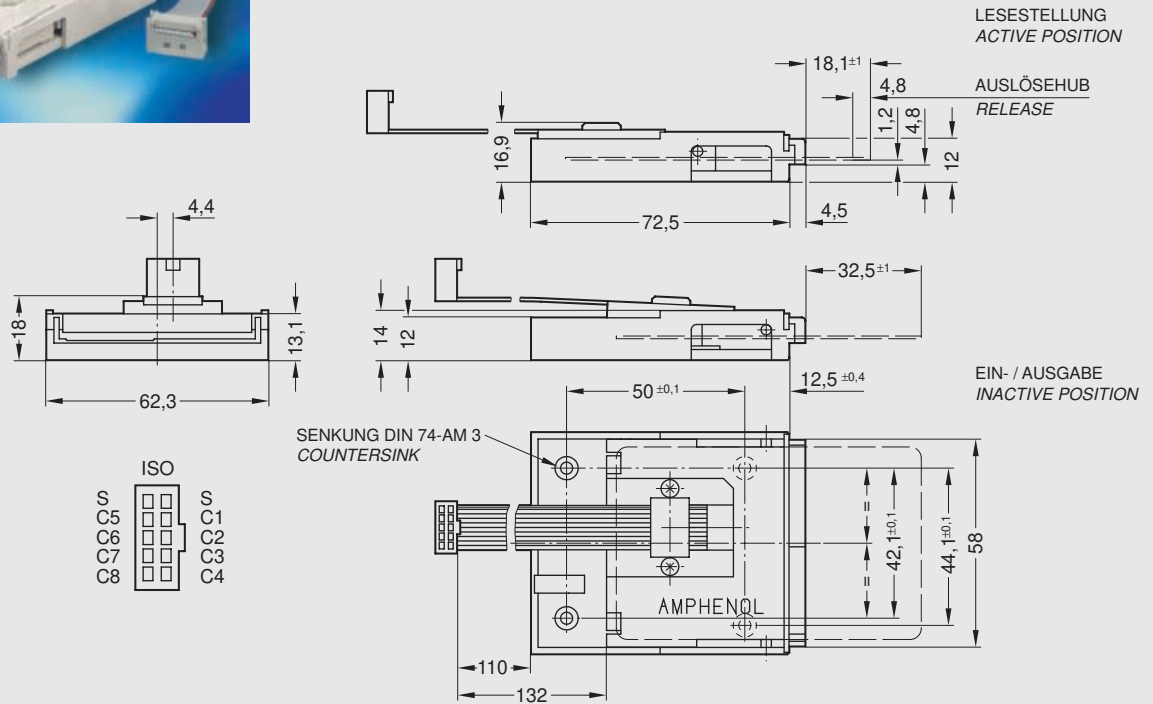
Assembly instructions:

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

C702A Smart Card Connectors Standard Style Push-Only



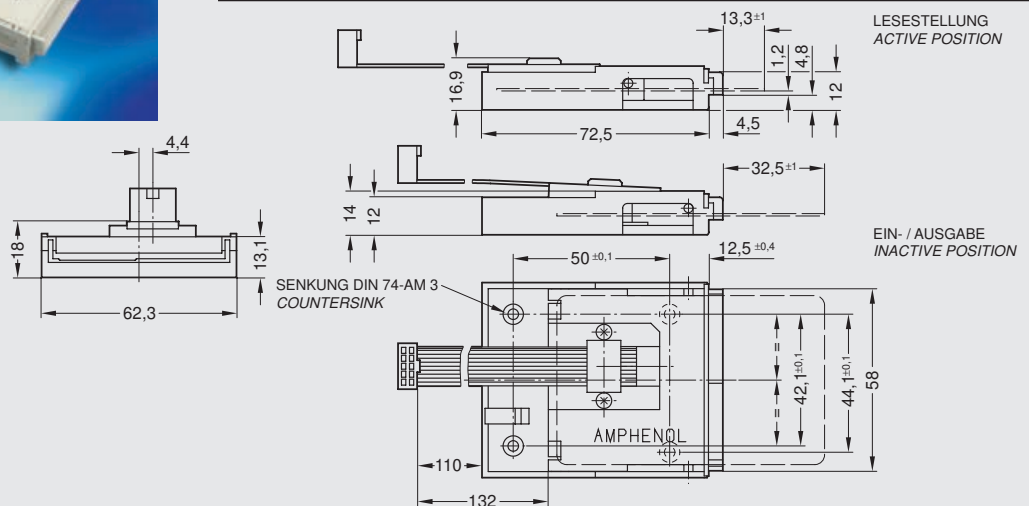
Description	Contact position	Part No.
Push-Only	ISO	C702 10M008 018 2



C702A Smart Card Connectors Standard Style Push-Pull



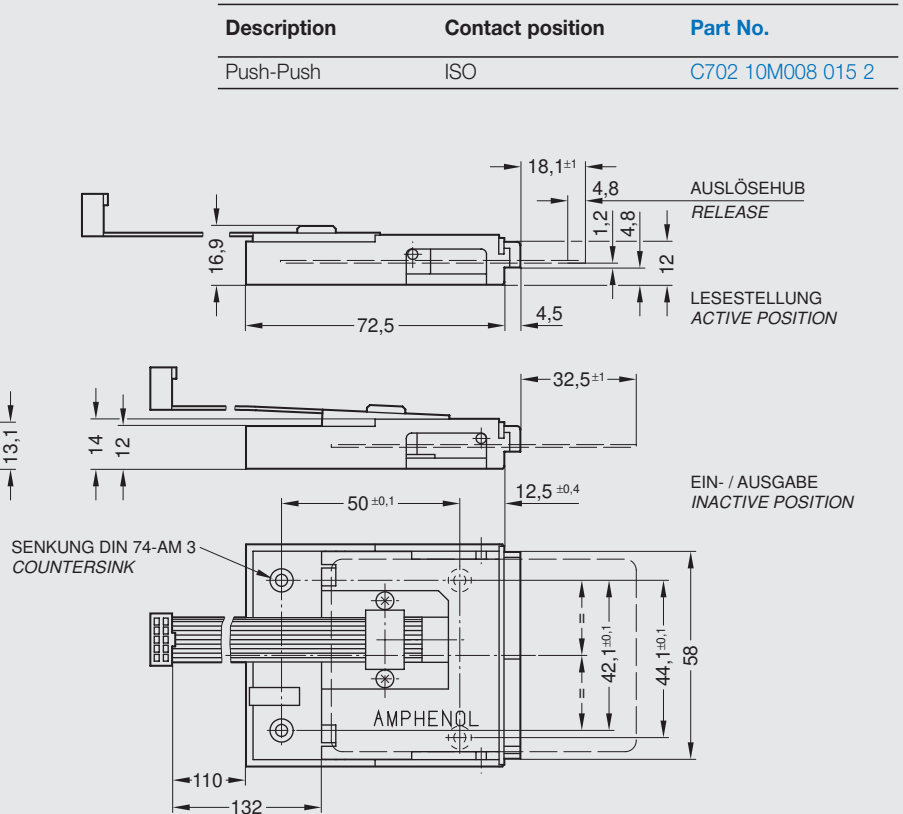
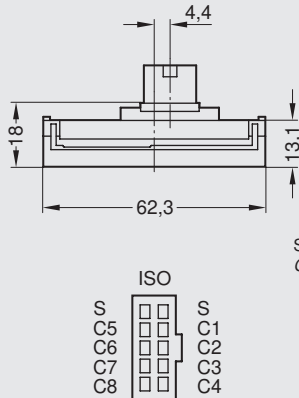
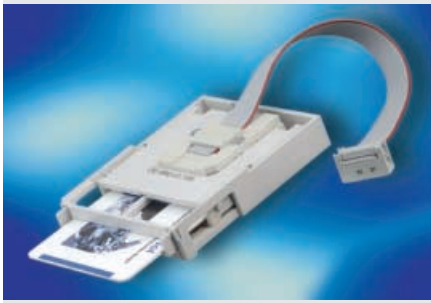
Description	Contact position	Additional information	Part No.
Push-Pull	ISO Standard		C702 10M008 514 2
	AFNOR		C702 10M008 522 2
	ISO + AFNOR	Contacts in series	C702 10M008 521 2
	ISO + AFNOR	Contacts in parallel	C702 10M008 523 2



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

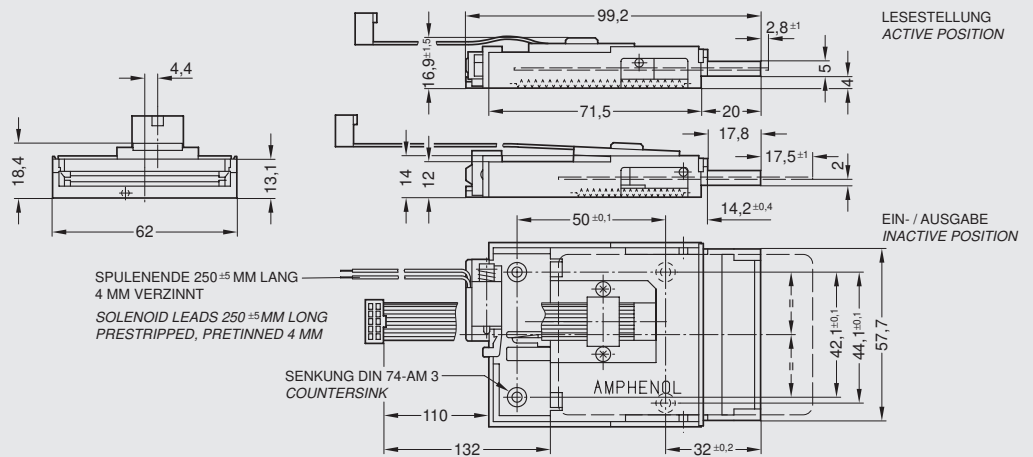
C702A Smart Card Connectors Standard Style Push-Push



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			

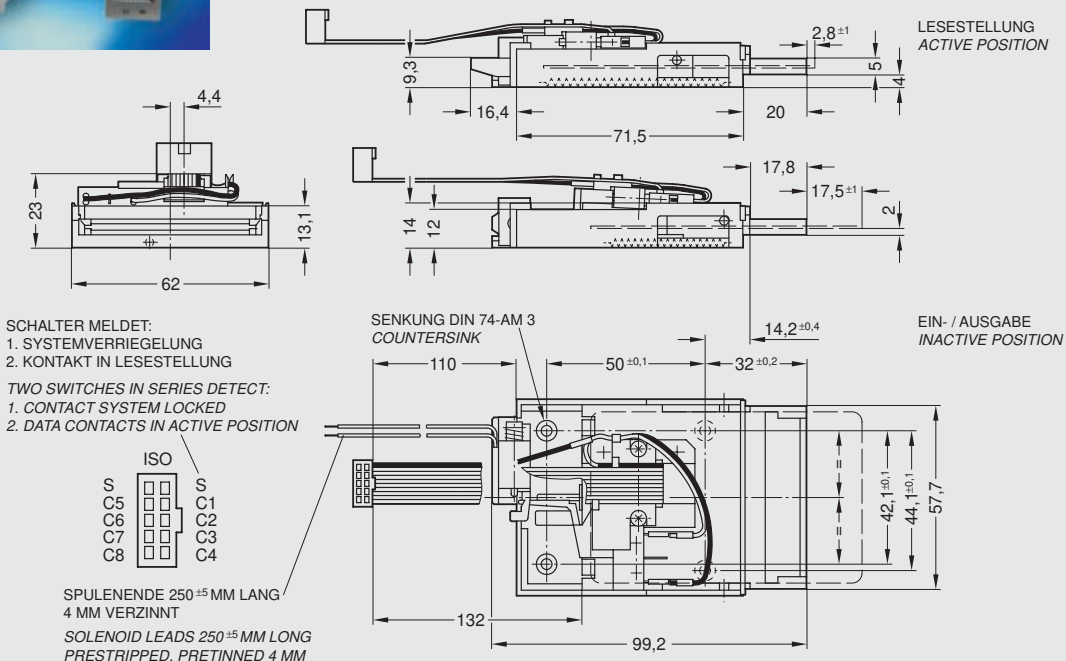
nc = frei not connected

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.

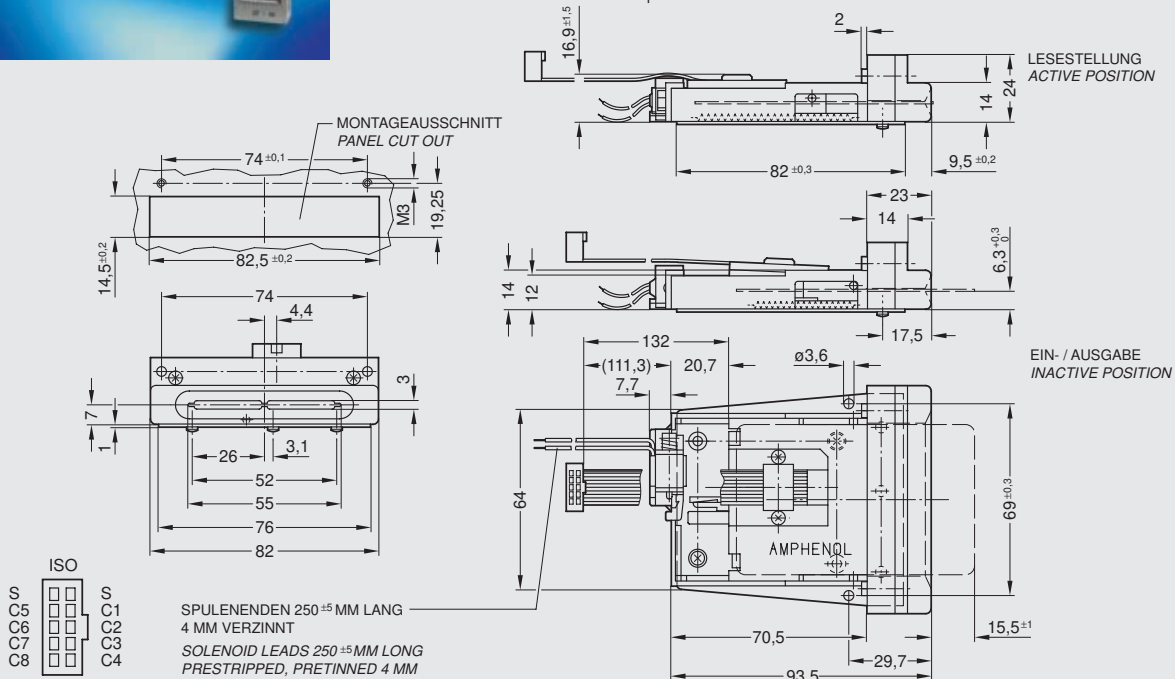


C702A Smart Card Connectors Standard Style PUSHMATIC® with Shutter



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



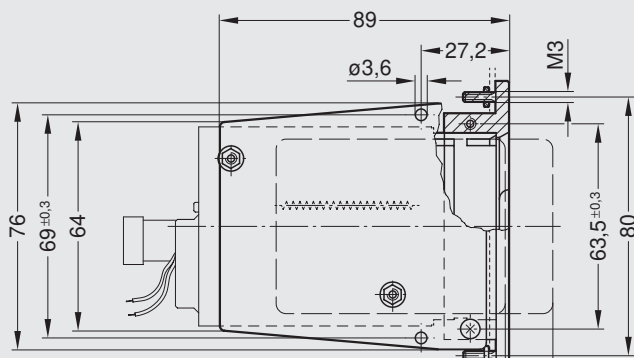
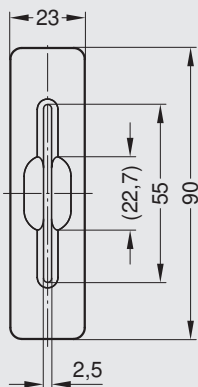
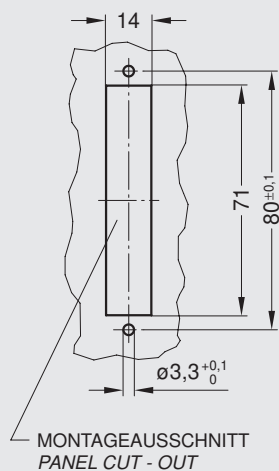
C702 N15 100 G2

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

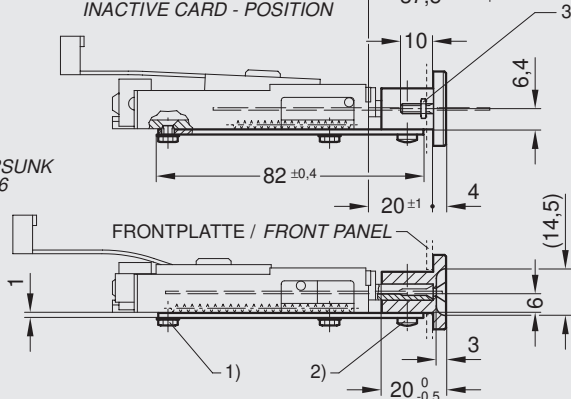


Assembly instructions:

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



LESESTELLUNG
ACTIVE CARD - POSITION
EIN- / AUSGABE
INACTIVE CARD - POSITION



- 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

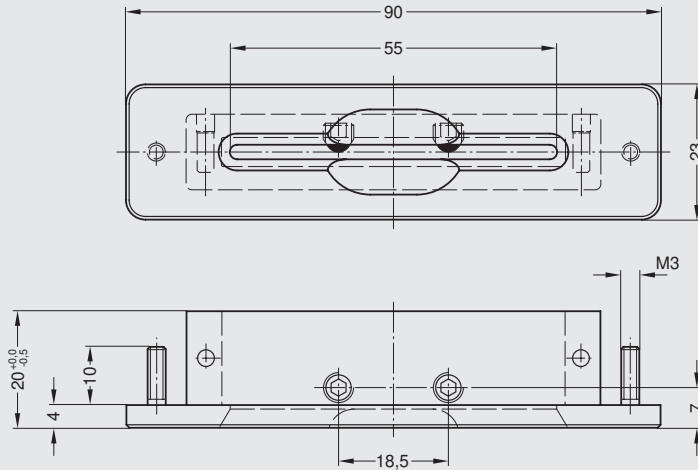
- 1) 2 x CROSS RECESSED COUNTERSUNK HEAD SCREW DIN 965 - M3 x 6
- 2 x HEXAGON NUT DIN 439 - M3
- 2 x WASHER DIN 125 - 3,2
- 2) 2 x THREAD ROLLING SCREW DIN 7500 - AM 3 x 10 - ST
- 3) 2 x HEXAGON NUT DIN 934/439 - M3

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

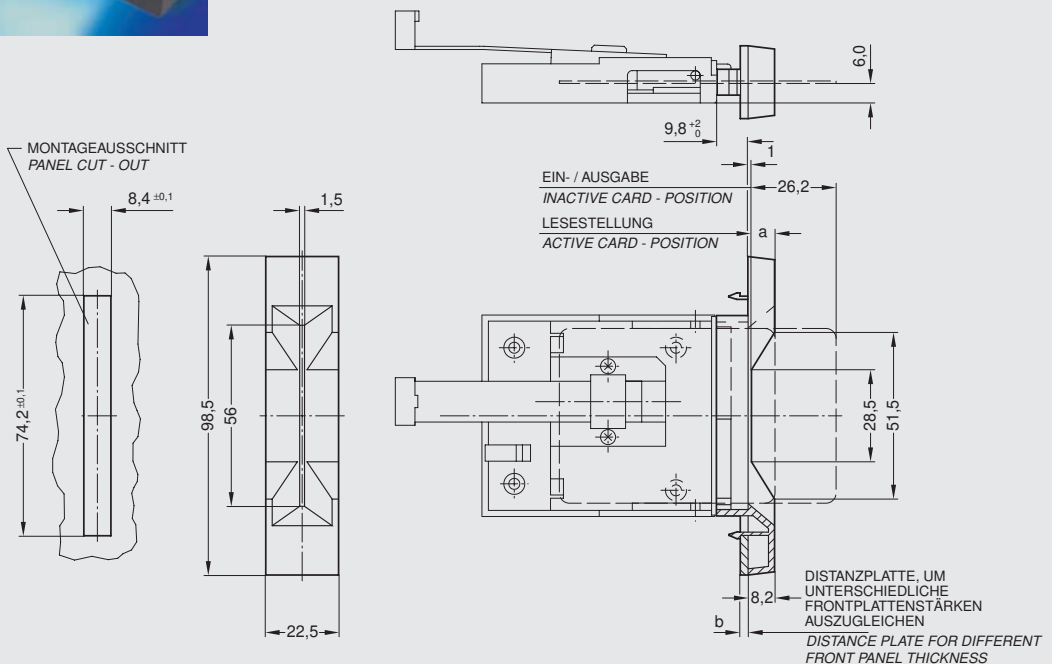


Assembly instructions see page 15

C702A Smart Card Connectors Standard Style Accessories



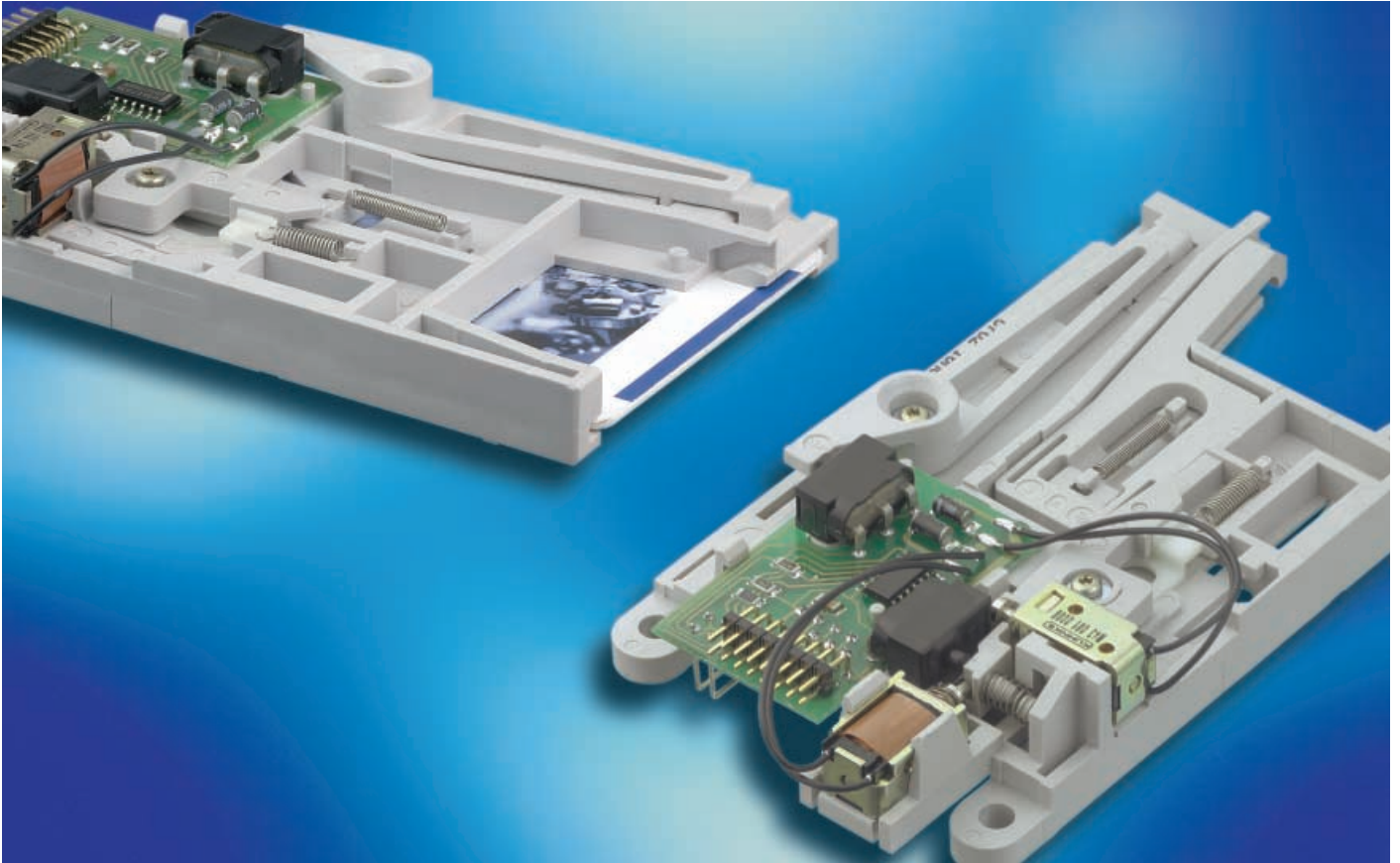
Description	Version	Dimension without distance plate		Dimension with distance plate		Part No.
		a	b	0.5 mm	1 mm	
Plastic bezel black	Push-Pull	7.0 mm	2.3 mm	1.8 mm	1.3 mm	C702 N11 141 E2
	Push-Only					
	Push-Push	11.8 mm	2.3 mm	1.8 mm	1.3 mm	
Distance plate	0.5 mm					N06 702 000 2
Distance plate	1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



Smart Card Connectors

PUSHMATIC® II

Series C702B



without
card locking

Page 18



with
card locking

Page 18



Accessories
Bezel/
Mounting Plate

Page 20



Accessories
Adaptor

Page 21

PUSHMATIC® II

While smaller in size than our standard PUSHMATIC®, the PUSHMATIC® II provides additional performance and “anti-vandal” features. With this added functionality the PUSHMATIC® II meets requirements of new and future applications for unattended terminals used in payment and security system applications.

Design features

- miniaturized style, suitable for mobile interface devices
- card accessible during power failure
- card locked in active position (option; see ordering table)
- card presence switch, also can be used for system wake up
- card end position switch acc. to EMV acts as card locking sensor
- additional sensor for card active position detects abnormal termination of the transaction
- self retracting and self cleaning data contacts provide protection against vandalism
- housing bottom features a large debris slot allowing the egress of coins, paper, as well as cut in half cards
- 16 way interface header allows for custom cabling



Assembly instructions:

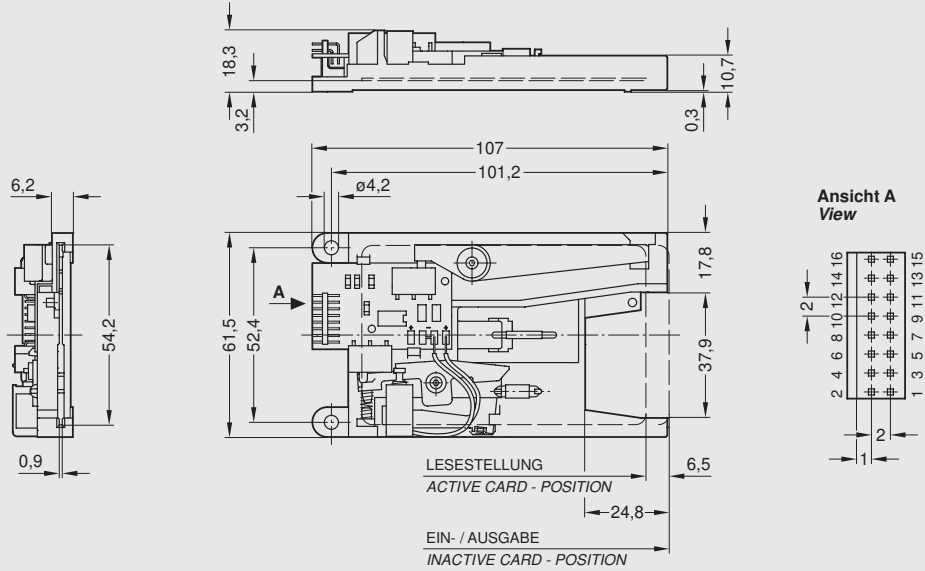
PUSHMATIC® II mounting devices and card guide are provided to guarantee appropriate assembly.

Accessories are shown on the following pages. PUSHMATIC® II can be used with mounting adaptor and bezels if required by customer design.

C702B Smart Card Connectors PUSHMATIC® II



Description	Contact position	Solenoid voltage	Part No.
PUSHMATIC® II	ISO	5 V	C702 10M008 906 2
without card locking	ISO	12 V	C702 10M008 904 2
	ISO	24 V	C702 10M008 909 2

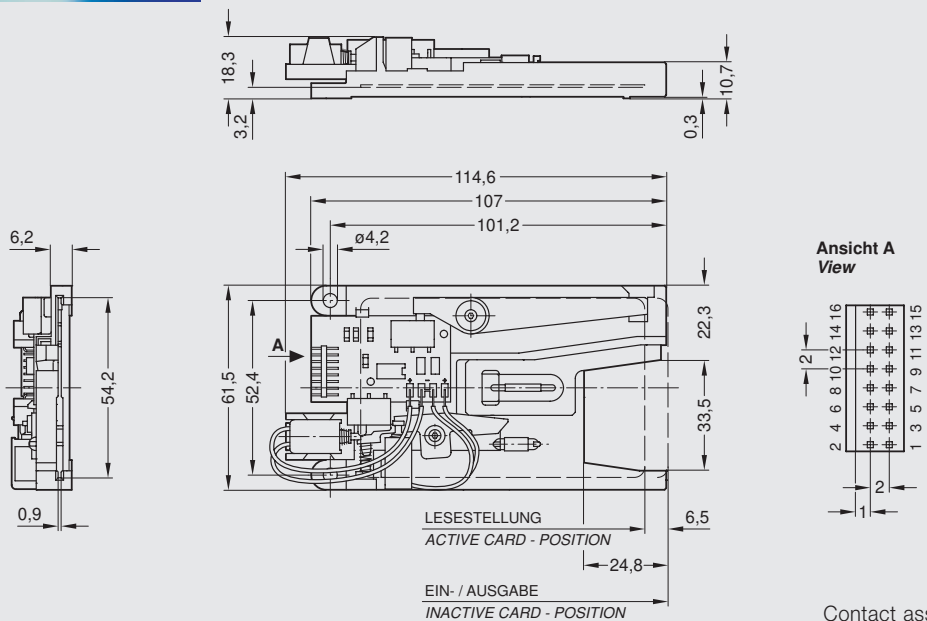


Contact assignment see page 21

C702B Smart Card Connectors PUSHMATIC® II



Description	Contact position	Solenoid voltage	Part No.
PUSHMATIC® II	ISO	5 V	C702 10M008 907 2
with card locking	ISO	12 V	C702 10M008 905 2
	ISO	24 V	C702 10M008 910 2



Contact assignment see page 21

C702B Technical Data

Electrical Characteristics contacts	Standard	Value
Contact resistance	IEC 60512-2, Test 2a	$\leq 100 \text{ m}\Omega$
Insulation resistance	IEC 60512-3, Test 3a	$\geq 10^9 \Omega$
High voltage resistance	IEC 60512-2, Test 4a	500 V _{AC} ; 1 min

Electrical Characteristics connector

Rated voltage		5 V \pm 10%
Current consumption		< 10 mA

Unlocking solenoid		Version 5 V	Version 12 V	Version 24 V
Rated voltage		5 V \pm 10%	12 V \pm 10%	24 V \pm 10%
Current consumption		$\approx 5.3 \text{ A}$	$\approx 2.2 \text{ A}$	$\approx 1.1 \text{ A}$
Current pulse length		10 ... 25 ms	10 ... 25 ms	10 ... 25 ms
Pulse break		$\geq 1 \text{ s}$	$\geq 1 \text{ s}$	$\geq 1 \text{ s}$

Power failure solenoid (detector)

Rated voltage		5 V \pm 10%	12 V \pm 10%	24 V \pm 10%
Current consumption	initial / holding	$\approx 900 \text{ mA}/270 \text{ mA}$	380 mA/110 mA	$\approx 190 \text{ mA}/55 \text{ mA}$
Current pulse length		< 2 s	< 2 s	< 2 s
Pulse break to 50 °C T _{amb} / over 50 °C T _{amb}		> 10 s / > 30 s	> 10 s / > 30 s	> 10 s / > 30 s

Climatical Characteristics

Climatic category	IEC 60068-1	25 / 70 / 21
Operating temperature		- 25 °C ... + 70 °C
Storage temperature		- 40 °C ... + 85 °C

Mechanical Characteristics

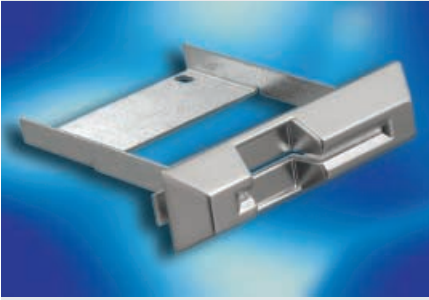
Card insertion force	IEC 60512-7, Test 3b	$\leq 12 \text{ N}$
Mechanical lifetime	IEC 60512-5, Test 9a (without corrosion stress)	300,000 mating cycles
Vibration	IEC 60512-4, Test 6d	f = 10 ... 60 Hz 0,5 mm DA f = 60 ... 500 Hz a = 2.5 g 2 h / axis
Shock, without disconnection	IEC 60512-4, Test 6c	$\leq 40 \text{ g}$; 11 ms; halfsine, 100 / direction in 3 axis
Shock, without destruction	IEC 60512-4, Test 6c	200 g; 6 ms; halfsine, 2 / direction in 3 axis
Contact force		20 ... 60 cN

Switch	Function	Description
Card presence switch	free from potential, $\leq 5 \text{ ms}$ chattering time	Card detection, card in slot
Card seated switch	TTL high active	Contacts locked, card in active position
EMV-switch	TTL high active	Card in active position, detects early pull out
Chattering time		$\leq 5 \text{ ms}$

Termination

Male connector - 2 x 8 contacts 2 mm pitch	Suitable connector	Female connector 2 x 8 contacts 2 mm pitch
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C702B Smart Card Connectors PUSHMATIC® II Accessories

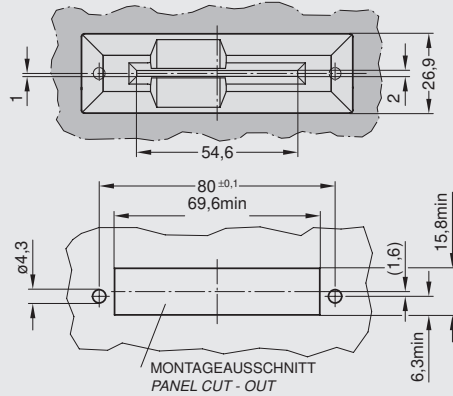


Description

Metal bezel without 'coin spacer', silver coloured
Mounting plate, tin plated

Part No.

C702 G46 000 G2
C702 G51 012 E2



MONTAGEBLECH C702 G51 012 E2:
LIEFERUNG OHNE
- 2 x DIN SCHRAUBE M4 x 6
- 2 x DIN MUTTER M4

EINFÜHRUNGSKRAGEN C702 G46 000 G2:
LIEFERUNG OHNE
- 2 x DIN MUTTER M4

Anzugsdrehmoment für Mutter M4:

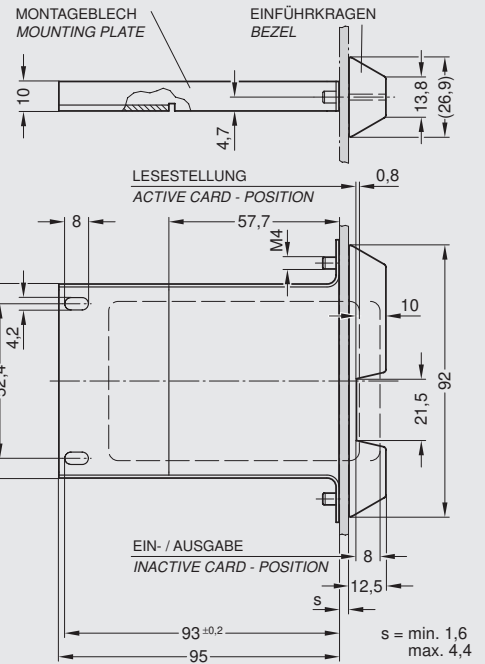
- a) max. 2,5 Nm bei Druckfestigkeit des Werkstoffs am Montageausschnitt > 320 N/mm²
b) max. 0,3 Nm bei Druckfestigkeit des Werkstoffs am Montageausschnitt < 320 N/mm²

MOUNTING PLATE C702 G51 012 E2:
DELIVERY WITHOUT
- 2 x DIN SCREW M4 x 6
- 2 x DIN NUT M4

BEZEL C702 G46 000 G2:
DELIVERY WITHOUT
- 2 x DIN NUT M4

starting torque for nut M4:

- a) max. 2,5 Nm at compression strength of material mounting cut-out > 320 N/mm²
b) max. 0,3 Nm at compression strength of material mounting cut-out < 320 N/mm²



MONTAGE ERFORDERT LESER MIT GESTECKTER KARTE
MAXIMALE ABMESSUNGEN NACH ISO 7810
READER MOUNTING WITH INSERTED CARD OF
MAXIMUM DIMENSIONS ACCORDING TO ISO 7810

C702B Smart Card Connectors PUSHMATIC® II Accessories

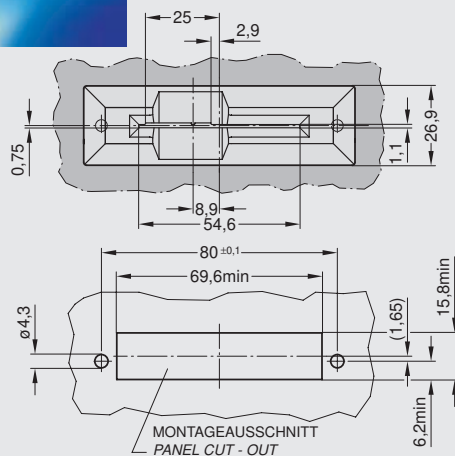


Description

Metal bezel with 'coin spacer', silver coloured

Part No.

C702 G46 100 G2



MONTAGEBLECH C702 G51 012 E2:
LIEFERUNG OHNE
- 2 x DIN SCHRAUBE M4 x 6
- 2 x DIN MUTTER M4

EINFÜHRUNGSKRAGEN C702 G46 100 G2:
LIEFERUNG OHNE
- 2 x DIN MUTTER M4

Anzugsdrehmoment für Mutter M4:

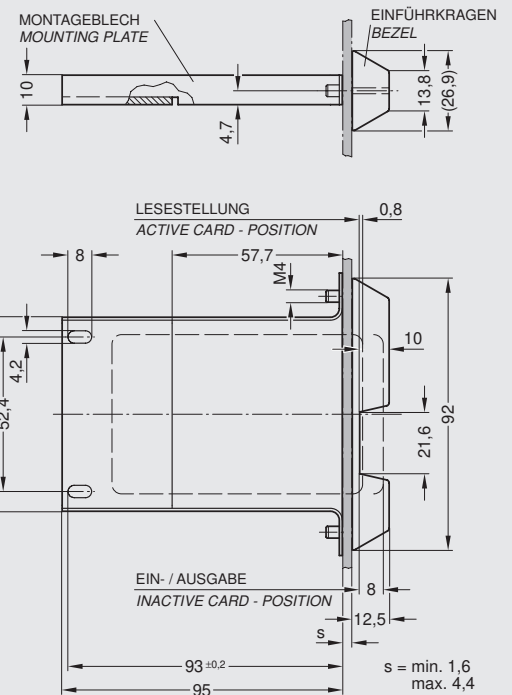
- a) max. 2,5 Nm bei Druckfestigkeit des Werkstoffs am Montageausschnitt > 320 N/mm²
b) max. 0,3 Nm bei Druckfestigkeit des Werkstoffs am Montageausschnitt < 320 N/mm²

MOUNTING PLATE C702 G51 012 E2:
WITHOUT
- 2 x DIN SCREW M4 x 6
- 2 x DIN NUT M4

BEZEL C702 G46 100 G2:
WITHOUT
- 2 x DIN NUT M4

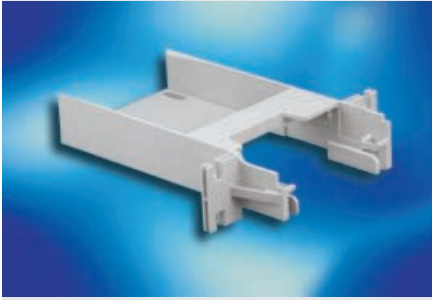
starting torque for nut M4:

- a) max. 2,5 Nm at compression strength of material mounting cut-out > 320 N/mm²
b) max. 0,3 Nm at compression strength of material mounting cut-out < 320 N/mm²



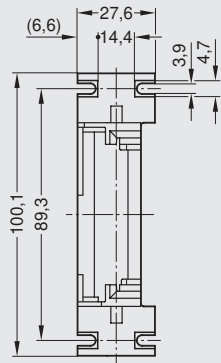
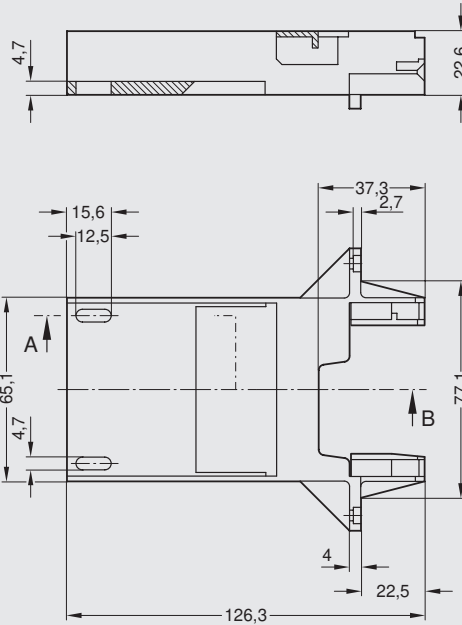
MONTAGE ERFORDERT LESER MIT GESTECKTER KARTE
MAXIMALE ABMESSUNGEN NACH ISO 7810
READER MOUNTING WITH INSERTED CARD OF
MAXIMUM DIMENSIONS ACCORDING TO ISO 7810

C702B Smart Card Connectors PUSHMATIC® II Accessories



Description	Part No.
Plastic adaptor	C702 N25 040 E2
Adaptor for common standard bezels	

SCHNITT A-B
SECTION A-B



C702B Smart Card Connectors PUSHMATIC® II Contact assignment

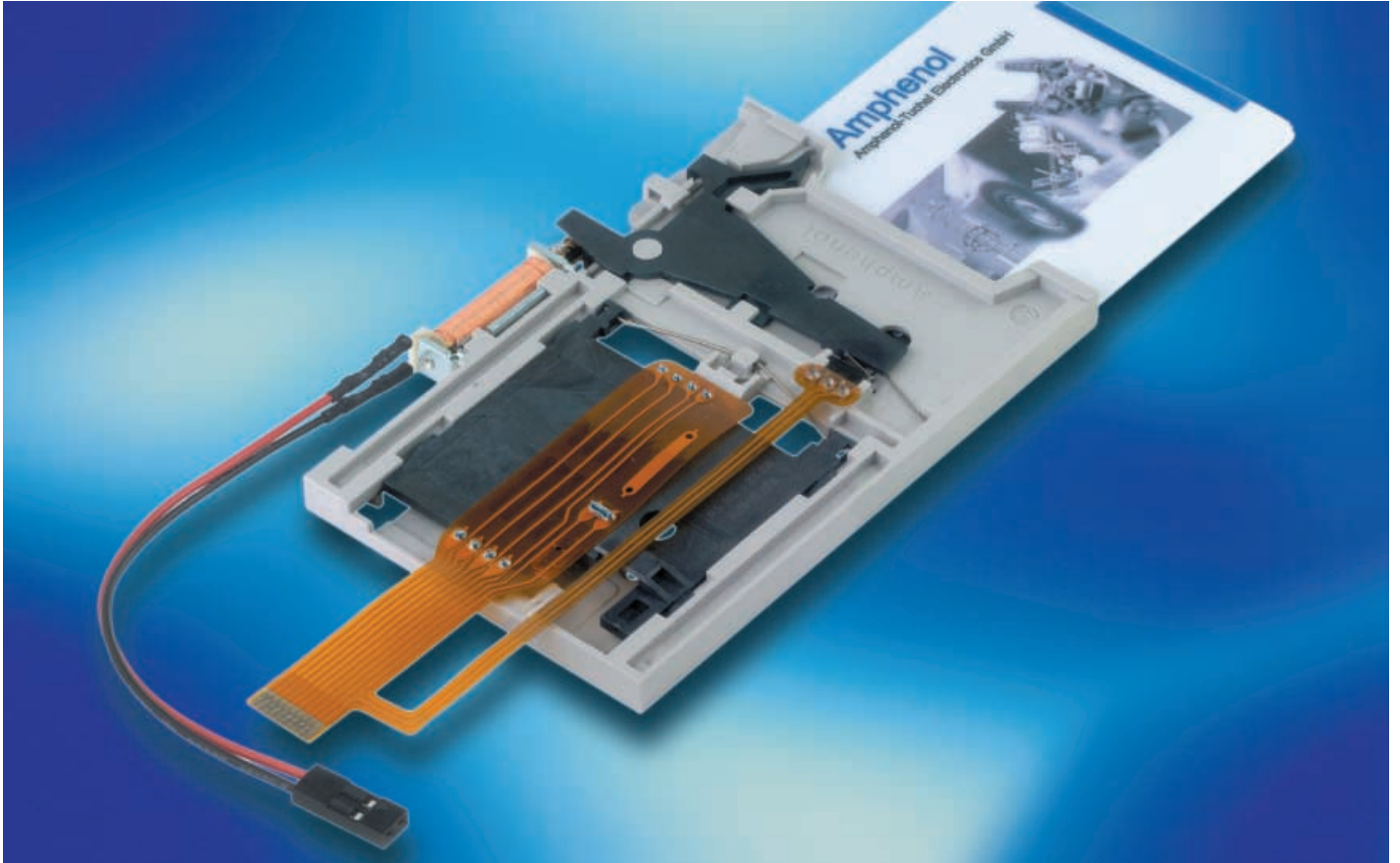
Contact assignment, pins in 2 rows, right-angled, 16 contacts

PIN-No.	Contact assignment	Remarks	PIN-No.	Contact assignment	Remarks
PIN 1	M1+	positive power supply unlocking solenoid	PIN 9	C7	I/O-Smart Card
PIN 2	M1-, M2-	negative power supply solenoid	PIN 10	C3	Clk-Smart Card
PIN 3	M2+	positive power supply power failure solenoid	PIN 11	C6	V _{pp} -Smart Card
PIN 4	S1	card presence switch	PIN 12	C2	RST-Smart Card
PIN 5	+5 V	reader supply voltage for PUSHMATIC® II (+5 V)	PIN 13	C5	GND-Smart Card
PIN 6	S1	card presence switch	PIN 14	C1	+5 V-Smart Card
PIN 7	C8	reserved acc. to IEC 7816	PIN 15	S2	card seated switch high active
PIN 8	C4	reserved acc. to IEC 7816	PIN 16	S3	EMV-switch high active

Smart Card Connectors

Low Profile PUSHMATIC®

Series C702C



Low Profile PUSHMATIC®

The Smart Card Connector offers a super low profile height to enable the PUSHMATIC®-function also in such places where installation conditions are restricted in size.

Main applications are handheld devices and new generations of POS terminals.

Design features

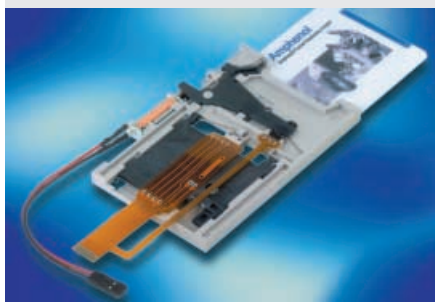
- miniature low profile size
- landing and self-cleaning contact design
- card locking in active position
- card presence switch (normally open) acc. to EMV
- micro switch as locking sensor
- automatic card eject after transaction
- termination to application with flexible pcb
- 2 way solenoid wire including 2.54 mm socket
- manual unlocking after power failure possible
- housing bottom removable to remove foreign debris i.e. coins (optional)



Assembly instructions:

For correct assembly please refer to the instructions on the next page. Please make sure that flexprints remain free and unrestricted after assembly.

C702C Smart Card Connectors Low Profile PUSHMATIC®

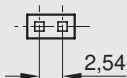


Description	Contact position	Solenoid voltage	Part No.
Low Profile PUSHMATIC®	ISO	5V	C702 10M008 901 4
	ISO	12V	C702 10M008 902 4
	ISO	24V	C702 10M008 903 4

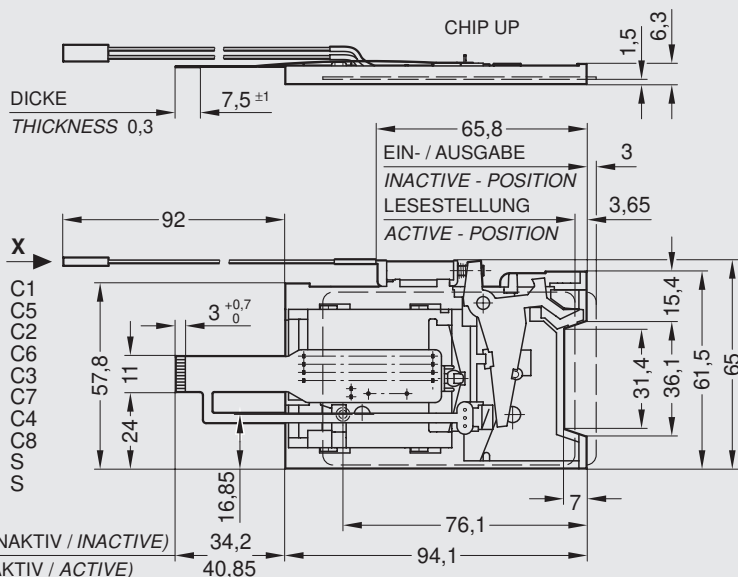
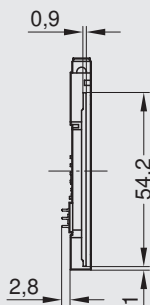
Debris slot by removing of base plate.

SCHALTER FÜR KARTENANWESENHEIT UND VERRIEGELUNG IN REIHE
CARD PRESENCE SWITCH AND LOCKING DETECTOR IN SERIES

Ansicht X View



BUCHSENLEISTE FÜR PFOSTENVERBINDER
SOCKET FOR HEADER
0,63 x 0,63

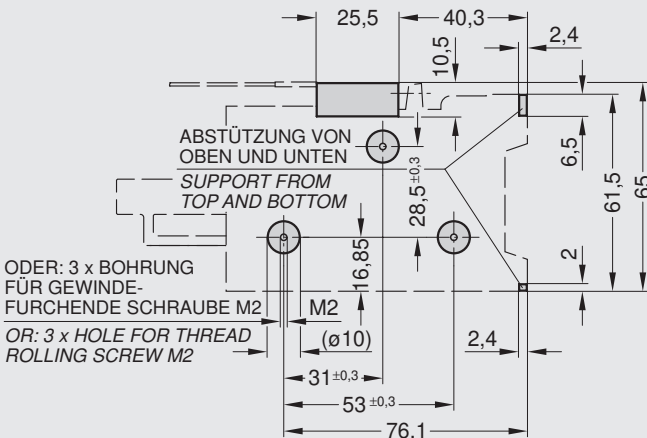
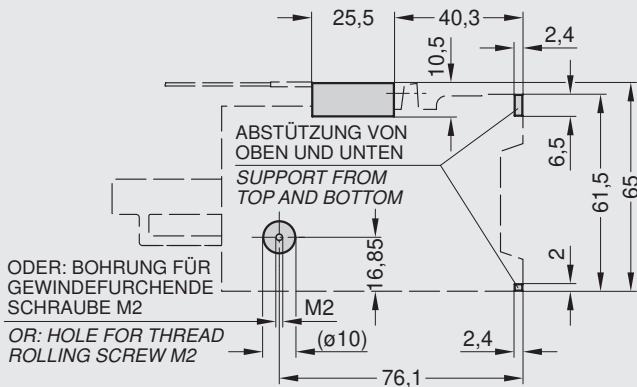


MONTAGEHINWEIS FÜR KUNDEN
CUSTOMER ASSEMBLY INSTRUCTIONS

MINIMALE GERÄTESEITIGE ABSTÜTZUNG
MINIMUM REQUIRED SUPPORT BY CUSTOMER TERMINAL

PUSHMATIC LOW PROFILE MIT ENTSORGUNGSSCHACHT
(BODEN ENTFERNT)
PUSHMATIC LOW PROFILE WITH DEBRIS SLOT (BASE PLATE REMOVED)

PUSHMATIC LOW PROFILE OHNE ENTSORGUNGSSCHACHT
PUSHMATIC LOW PROFILE WITHOUT DEBRIS SLOT



C702C Technical Data

Electrical Characteristics	Standard	Value
Contact resistance	IEC 60512-2, Test 2a	$\leq 100 \text{ m}\Omega$
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	Version 5 V	Version 12 V	Version 24 V
Rated voltage	5 V \pm 10%	12 V \pm 10%	24 V \pm 10%
Current consumption	$\approx 2.6 \text{ A}$	$\approx 1.5 \text{ A}$	$\approx 1.0 \text{ A}$
Current pulse length	10 ... 30 ms	10 ... 30 ms	10 ... 30 ms
Pulse break	$\geq 1 \text{ s}$	$\geq 1 \text{ s}$	$\geq 1 \text{ s}$

Climatical Characteristics (Preliminary)

Climatic category	IEC 60068-1	20 / 60 / 21
Operating temperature	without condensation	- 20 °C ... + 60 °C
Storage temperature		- 40 °C ... + 85 °C

Mechanical Characteristics (Preliminary)

Card insertion force	IEC 60512-7, Test 13b	$\leq 10 \text{ N}$
Mechanical lifetime	IEC 60512-5, Test 9a (without corrosion stress)	300,000 mating cycles
Vibration	IEC 60512-4, Test 6d	f = 4 ... 11.2 Hz 10 mm DA f = 11.2 ... 500 Hz a = 5 g 2 h / axis
Shock, without disconnection	IEC 60512-4, Test 6c	$\leq 40 \text{ g}$; 6 ms; halfsine 100 shocks / direction in 3 axis
Shock, without destruction	IEC 60512-4, Test 6c	500 g; 1 ms; halfsine 2 shocks / direction in 3 axis
Contact force		20 ... 50 cN

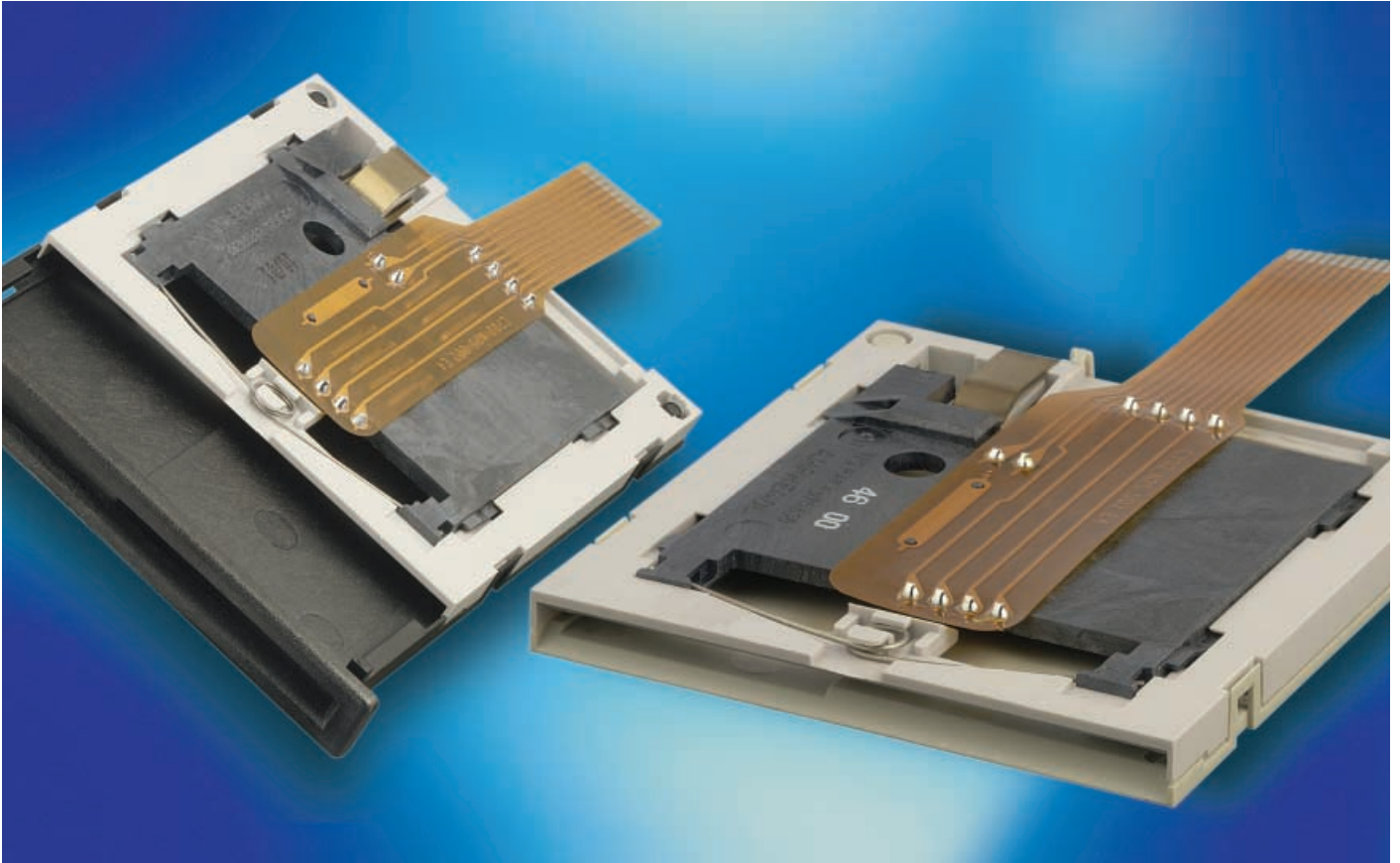
Switch	Description	Function
Card presence switch and locking detector in series	Card detection, card in slot Contacts locked, card in active position	free from potential; $\leq 10 \text{ ms}$ chattering time
Switching capacity		max. 12 V / 50 mA (200,000 switching cycles) min. 5 V / 0.1 mA (300,000 switching cycles)

Termination	Suitable connector
Flexprint 10 contacts; 1 mm pitch	Flexprint connector 10 contacts; 1 mm pitch; see page 29 «Accessories Flexprint Connectors»

Smart Card Connectors

Superflat Style

Series C702D



Standard

Page 26



with card guide

Page 26



Push-Lift

Page 27



with board locks
dip solder

Page 27



with board locks

Page 28



Accessories
Flexprint connectors

Page 29

Superflat Style Smart Card Connector

is a Push-Pull Series of 2nd generation connectors with landing contacts providing a high degree of miniaturization. Suitable applications include: point-of-sales systems, mobile devices, access control, keyboards, etc.

Design features

- miniature size ideally suited for mobile devices
- additional space saving possible by integration of base into customer housing
- Versions acc. to EMV (see page 6)
- dip solder version available featuring snap-in mounting, chip side up card insertion, and a debris slot to provide egress of coins, paper, etc.
- snap-in version also available with flexprint termination (both SMT and PCB)



Assembly instructions:

Please make sure that flexprints remain free and unrestricted after assembly.