

Amphenol

Card Readers

C702A Landing Contact Full Smart Card Connectors

The Landing Contacts ensure a rugged construction that will not scratch the card surface simultaneously offering high durability.

Electrical

- Contact resistance - < 100 mΩ
- Switch resistance - < 200 mΩ
- Insulation - > 10⁹ Ω
- High Voltage resistance - 500VAC 1 min
- Unlock Solenoid PUSHMATIC Only
- Rated Voltage/Current Use - 5V/2.5A ± 10%
- 12V/1.1A ± 10%
- 24V/0.55A ± 10%
- Current pulse length - 10... 25ms
- Pulse break - > 0.5s

Environmental

- Temperature - -25°C thru 85°C
- Vibration - IEC 60512-4, Test 6d
- Shock - IEC 60512-4, Test 6c
- PUSHMATIC with Shutter
- Degree of Protection - IP 30 (no card)
- IP 20 (card inserted)

Switch

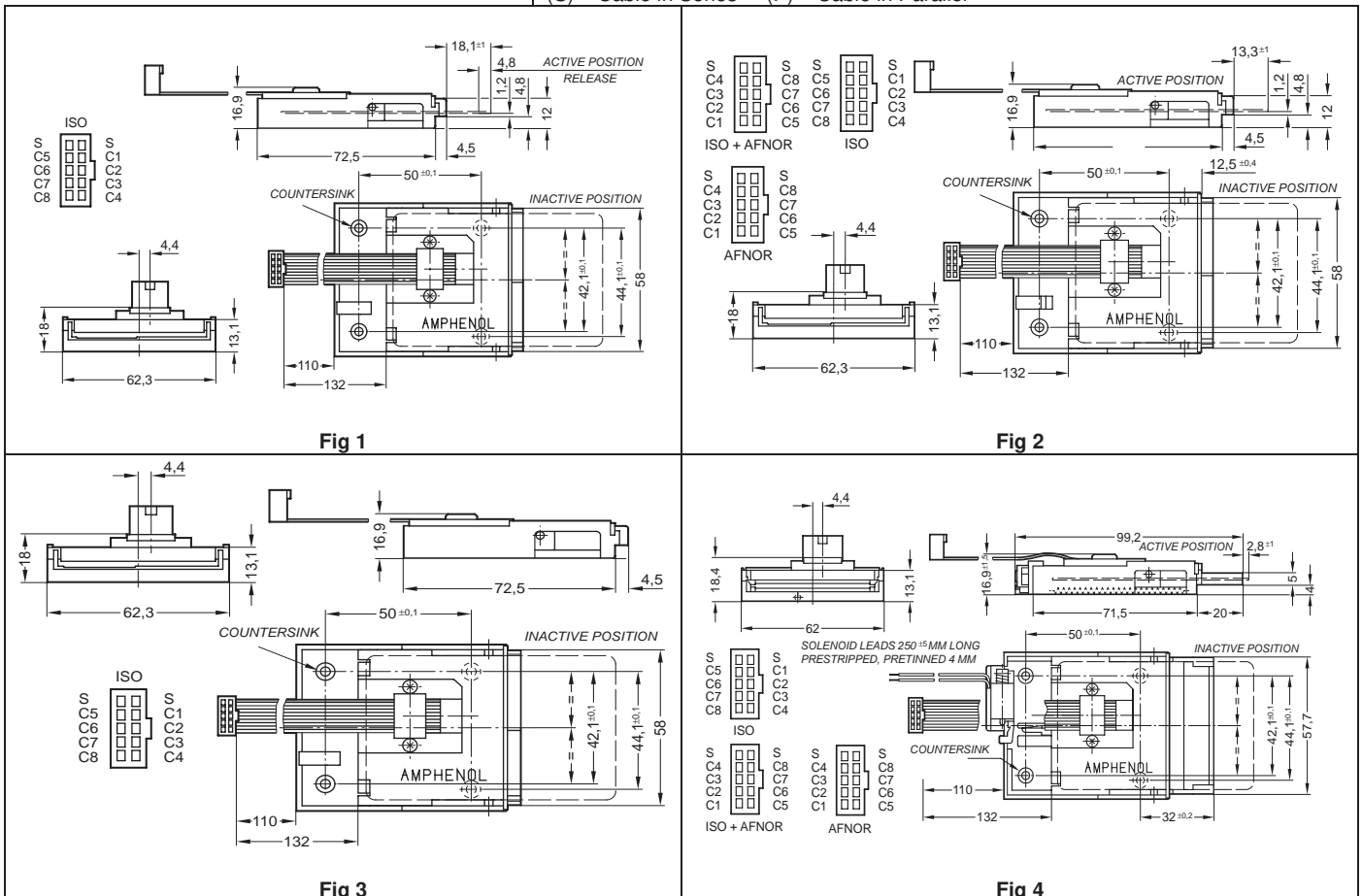
- Normally open.
- Switch activates after data contacts mate.
- Chatter time - < 5 ms

Durability

- Push Only - 5 x 10⁵ Cycles
- Push-Push - 5 x 10⁵ Cycles
- Push-Pull - 5 x 10⁵ Cycles
- PUSHMATIC - 3 x 10⁵ Cycles

Part Number:	Description	Chip	Diagram
C702 10M008 018 2	Push Only	ISO	Fig 1
C702 10M008 015 2	Push-Push	ISO	Fig 3
C702 10M008 514 2	Push-Pull	ISO Std	Fig 2
C702 10M008 522 2	Push-Pull	AFNOR	Fig 2
C702 10M008 521 2	Push-Pull	ISO+AFNOR (S)	Fig 2
C702 10M008 523 2	Push-Pull	ISO+AFNOR (P)	Fig 2
C702 10M008 701 2	PUSHMATIC 5V	ISO Std	Fig 4 (Typical)
C702 10M008 700 2	PUSHMATIC 12V	ISO Std	Fig 4 (Typical)
C702 10M008 702 2	PUSHMATIC 24V	ISO Std	Fig 4 (Typical)
C702 10M008 703 2	PUSHMATIC 5V	ISO+AFNOR (S)	Fig 4 (Typical)
C702 10M008 704 2	PUSHMATIC 12V	ISO+AFNOR (S)	Fig 4 (Typical)
C702 10M008 705 2	PUSHMATIC 24V	ISO+AFNOR (S)	Fig 4 (Typical)
C702 10M008 706 2	PUSHMATIC 5V	ISO+AFNOR (P)	Fig 4 (Typical)
C702 10M008 707 2	PUSHMATIC 12V	ISO+AFNOR (P)	Fig 4 (Typical)
C702 10M008 708 2	PUSHMATIC 24V	ISO+AFNOR (P)	Fig 4 (Typical)
C702 10M008 732 2	PUSHMATIC* 5V	ISO	Fig 4 (Typical)
C702 10M008 716 2	PUSHMATIC* 12V	ISO	Fig 4 (Typical)
C702 10M008 727 2	PUSHMATIC* 24V	ISO	Fig 4 (Typical)
C702 20M008 701 2	PUSHMATIC** 5V	ISO	Fig 4 (Typical)
C702 20M008 700 2	PUSHMATIC** 12V	ISO	Fig 4 (Typical)
C702 20M008 702 2	PUSHMATIC** 24V	ISO	Fig 4 (Typical)

Push Only – Manual insertion, held in position by hand. Ideal for short cycle transactions.
 Push-Push – Manual insertion, card held by reader, second push releases card.
 Push-Pull – Manual insertion, card held by reader, card manually extracted.
 PUSHMATIC – Manual insertion, card automatically ejected on completion of transaction.
 *PUSHMATIC with Locking Detector – Senses complete insertion of card. Card is still visible but not accessible. Automatic card release on completion of transaction.
 **PUSHMATIC with Shutter (additional Bezel is NOT required) – The Shutter protects the card slot when no card is present. The Shutter will only open upon insertion of a standard sized card.
 (S) – Cable in Series (P) – Cable in Parallel



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C702F Landing Card Full Smart Card Reader

PCB Mount card reader with stationary contacts. Mechanism lands Smart Card onto contacts. Card insertion depth is short.

Electrical

Contact resistance - < 35 mΩ
 Switch contacts - < 70 mΩ
 Insulation - > 10⁹ Ω
 High Voltage resistance - 500VAC 1 min

Environmental

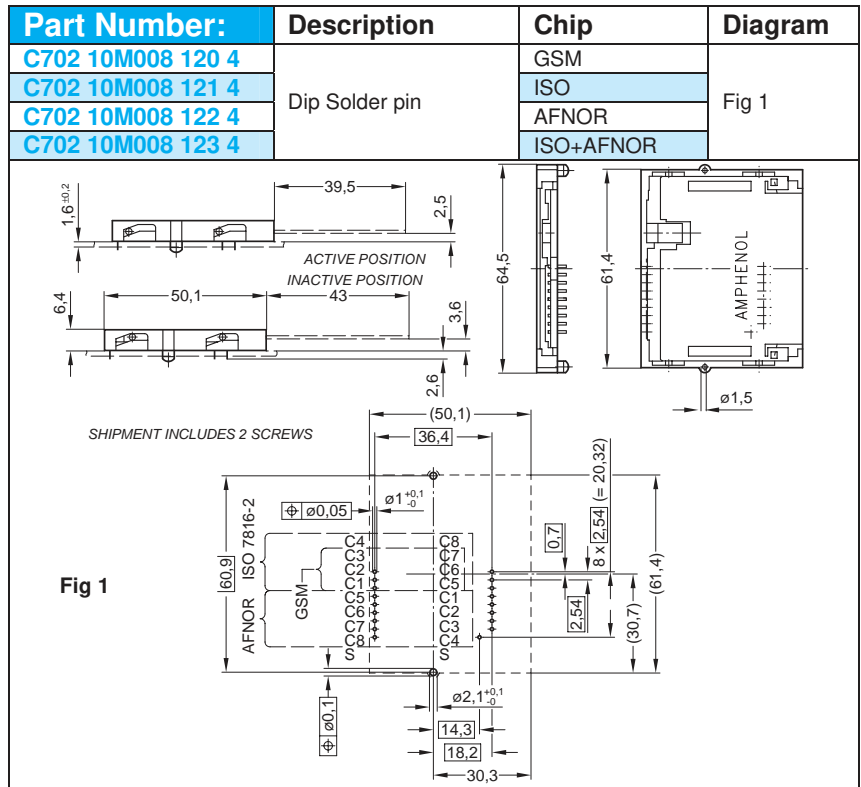
Temperature - -25°C thru 85°C
 Vibration - IEC 60512-4, Test 6d
 Shock - IEC 60512-4, Test 6c

Switch

Normally open.
 Switch activates after data contacts mate.
 Chatter time - < 5 ms

Mechanical

Card Insertion Force - ≤ 12N
 Card Extraction Force - ≥ 2.5N
 Durability - 3x10⁵ Cycles



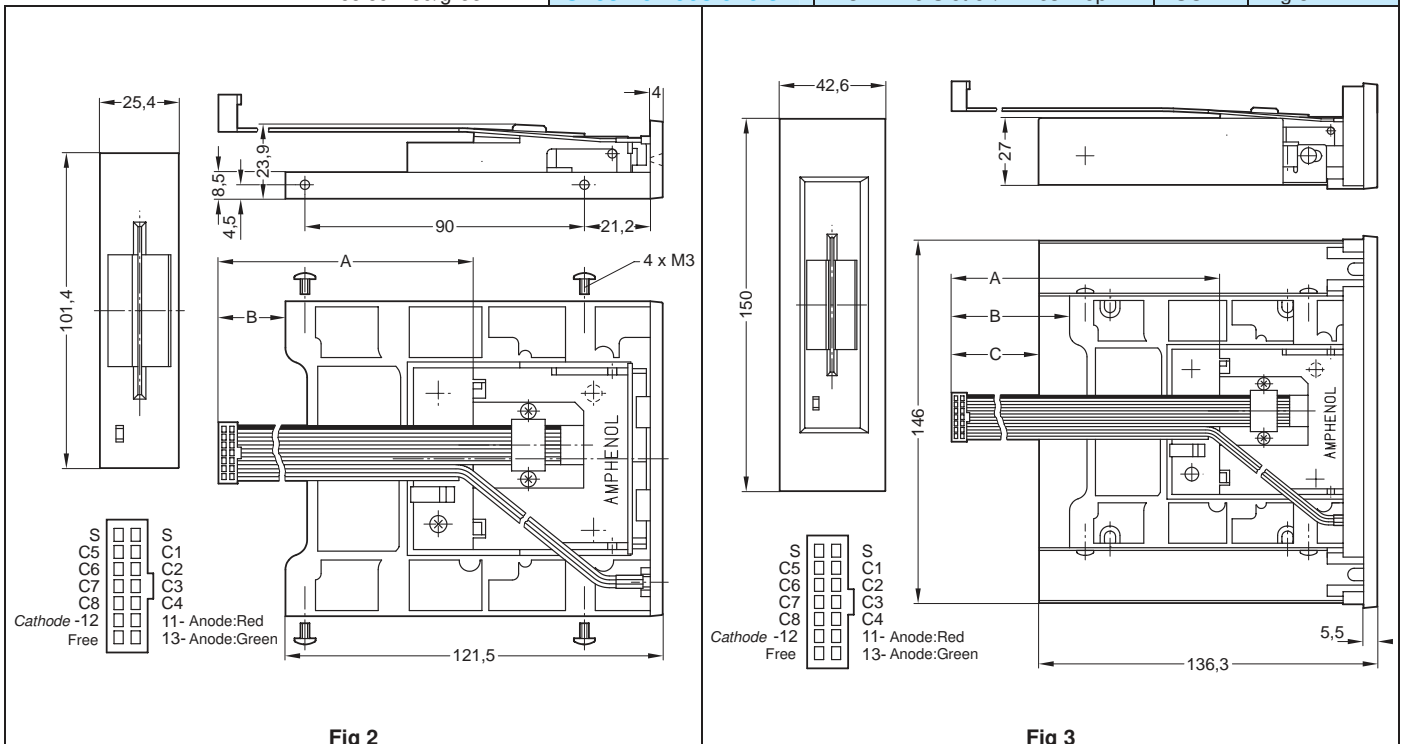
C705A Disk Drive Slot Full Smart Card Reader

Push-Pull smart card reader mount into a Disk Drive housing for PC applications

Characteristics

Card Reader Type - C702A
 Colour - Tan
 LED - Bicolour red/green

Part Number:	Description	Chip	Diagram
C705 10M008 005 5	Disk Drive Slot 3 1/2" Tower	ISO	Fig 2
C705 10M008 019 5	Disk Drive Slot 3 1/2" DeskTop	ISO	Fig 2
C705 10M008 006 5	Disk Drive Slot 5 1/4" Tower	ISO	Fig 3
C705 10M008 020 5	Disk Drive Slot 5 1/4" DeskTop	ISO	Fig 3



C702E Wiping Contact Full Smart Card Connectors

Ideal for limited mating cycle application such as set top boxes.

Electrical

Contact resistance - < 30 mΩ
 Switch contacts - < 50 mΩ
 Insulation - > 10⁹ Ω
 High Voltage resistance - 500VAC 1 min

Environmental

Temperature - -25°C thru 70°C
 Vibration - IEC 60512-4, Test 6d
 Shock - IEC 60512-4, Test 6c

Switch

Normally closed.
 Switch activates after data contacts mate.
 Chatter time - < 5 ms

Mechanical

Durability - 10⁵ Cycles
 Mounting is Dip Solder Pin unless otherwise indicated

Soldering conditions

Wave Soldering - 260°C, 10s max
 Infrared Reflow - 230°C, 30s max

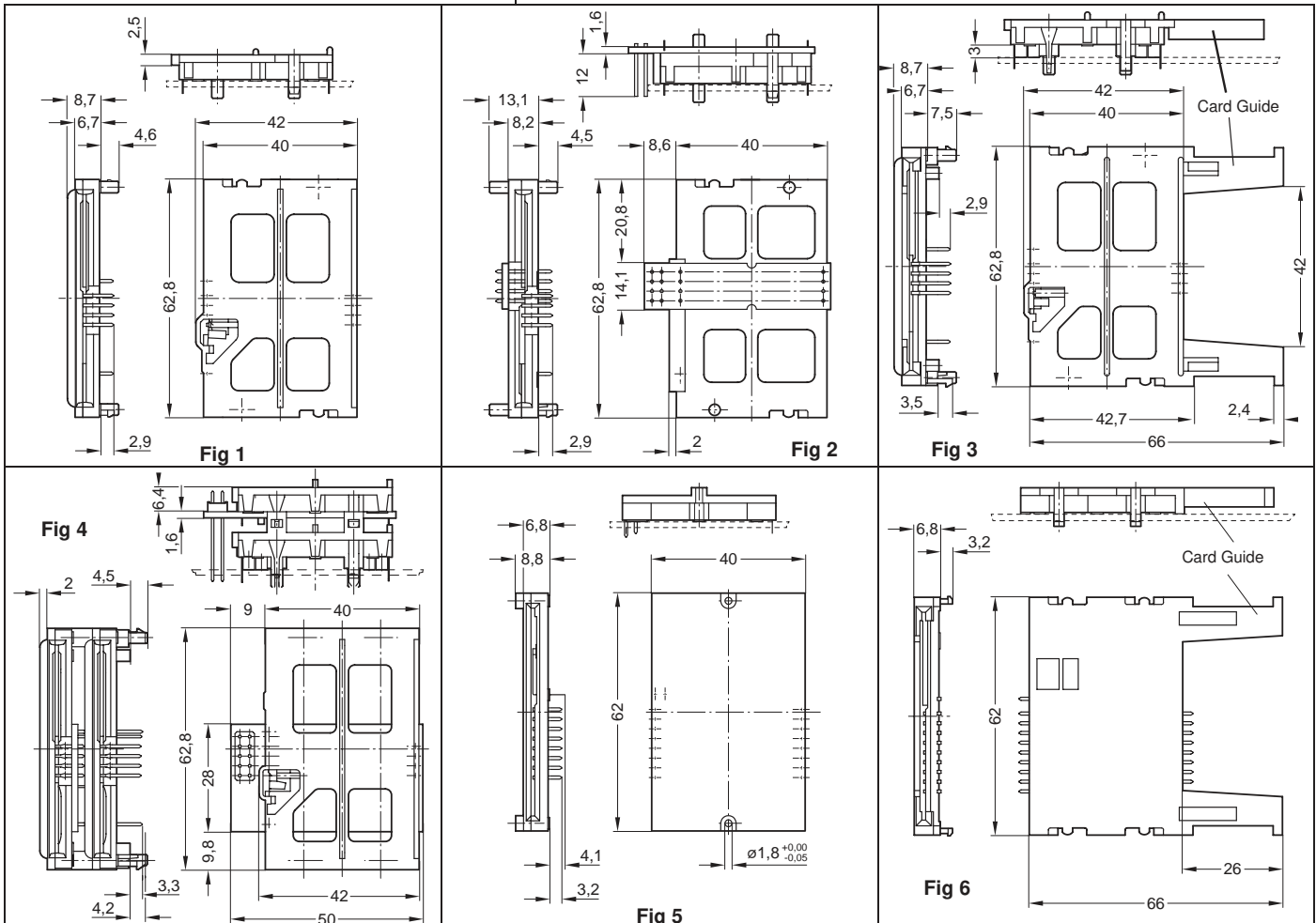
Features

- DIP solder or SMT
- Self cleaning switch
- Special contact to minimize card scratching
- Indicated connectors according to EMV

Part Number:	Description	Chip	Diagram
C702 10M008 272 4	B/L, EMV, SC	ISO	Fig 1
C702 10M008 255 4	B/L, EMV, SC, 3mm	ISO	Like Fig 1
C702 10M008 271 4	B/L, EMV, SC, DP	ISO	Fig 2
C702 10M008 283 4	B/L, EMV, SC, 3mm, CG	ISO	Fig 3
C702 10M008 286 4	B/L, EMV, SC, CG	ISO	Like Fig 3
C702 10M008 278 4	B/L, SC, DD	ISO	Fig 4
C702 10M008 279 4	B/L, SC, DD, 3mm	ISO	Fig 4
C702 10M008 295 4	B/L, SC, DD	ISO	Fig 4
C702 10M008 290 4	B/L, SC, DD, DT, DP	ISO	
C702 10M008 294 4	B/L, SC, DD, DT, DP	ISO	
C702 10M008 201 4	SM	ISO	Fig 5
C702 10M008 202 4	SM	AFNOR	Fig 5
C702 10M008 203 4	SM	ISO+AFNOR	Fig 5
C702 10M008 206 4	B/L	ISO	Like Fig 5
C702 10M008 207 4	B/L	AFNOR	Like Fig 5
C702 10M008 205 4	B/L	ISO+AFNOR	Like Fig 5
C702 10M008 244 4	B/L, SC, SMT	ISO	Like Fig 6
C702 10M008 230 4	B/L, SC, CG, SMT	ISO	Fig 6
C702 20M008 224 4	B/L, SC, CG, SMT	ISO+AFNOR	Fig 6
C702 20M008 226 4	B/L SC, CG	ISO	Like Fig 6
C702 20M008 235 4	B/L SC, CG	ISO+AFNOR	Like Fig 6

Terminology

- | | | | |
|-----|------------------------------|-----|---------------------------|
| B/L | - Board Locks | EMV | - Europay Mastercard Visa |
| 3mm | - 3mm stand-offs | DD | - Double Decker Reader |
| SC | - Self-Cleaning Switch (N/C) | DP | - Dual Plane Contacts |
| CG | - Card Guide | DT | - Double Thickness Card |
| SM | - Screw/Rivot Mount | SMT | - Surface Mount |



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C702D Landing Contact Super-flat Full Smart Card Connectors

Second generation Push-Pull connectors with a high degree of miniaturization.

Electrical

Contact resistance - < 30 mΩ
 Switch contacts - < 40 mΩ
 Insulation - > 10⁹ Ω
 High Voltage resistance - 500VAC 1 min

Environmental

Temperature - -25°C thru 65°C
 Vibration - IEC 60512-4, Test 6d
 Shock - IEC 60512-4, Test 6c

Switch

Normally open. Switch activates after data contacts mate. Chatter time - < 5 ms

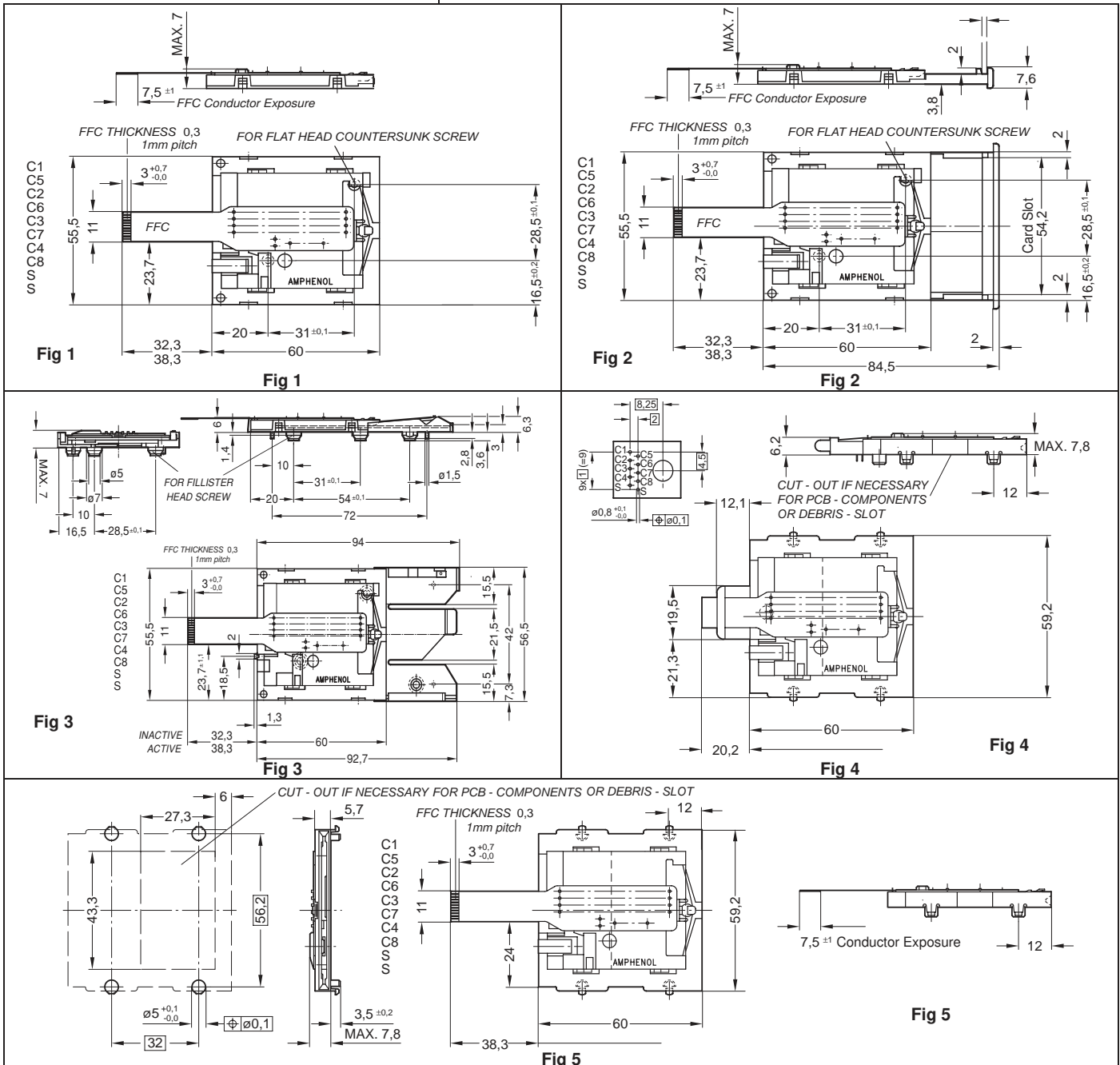
Durability

- 3 x 10⁵ Cycles

Part Number:	Description	Chip	Diagram
C702 10M008 001 4	Standard	ISO	Fig 1
C702 10M008 065 4	Standard, EMV	ISO	Fig 1
C702 10M008 023 4	With Card Guide	ISO	Fig 2
C702 10M008 040 4	Push-Lift, EMV	ISO	Fig 3
C702 10M008 060 4	Board Lock, Dip Solder	ISO	Fig 4
C702 10M008 063 4	Board Lock, Dip Solder, EMV	ISO	Fig 4
C702 10M008 061 4	Board Lock, FFC	ISO	Fig 5
C702 10M008 066 4	Board Lock, FFC, EMV	ISO	Fig 5

Features

- According to EMV available
- Snap-in (Board Locks) versions available
- Additional saving option by integrating base into customer's housing
- Chip side up insertion allows for debris egress
- Dip Solder or Flat Flex termination available



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C702A Accessories Bezels and Mounting Plates for C702A Card Readers

Part Number:	Description	For Reader	Diagram	Remarks
C702 N13 030 E2	Metal Bezel Silver Finish	PUSHMATIC		<p>Mounting plate C702 N15 100 G2 necessary to mount bezel</p> <p>Shipped without Nuts and Bolts</p> <p>Bezel Mounting Bolt – 2x M3 Nut</p> <p>Mounting Plate to Reader – 2x Cross recessed countersunk head Bolt M3</p> <p>Mounting Plate to Bezel – 2x Threaded roll Bolt AM 3x10 - ST</p>
C702 N13 031 E2	Metal Bezel Dull Black Finish			
C702 N14 030 E2	Metal Bezel with Coin Spacer Silver Finish			
C702 N11 141 E2	Plastic Bezel Black Finish	Push-Pull Push Only		<p>Clip-on Technology requires distance plate for various thickness panels</p> <p>N06 702 000 2 – 0.5mm</p> <p>N06 702 000 1 – 1mm</p>

C702B Accessories Bezels and Mounting Plates for C702B Card Readers

Part Number:	Description	For Reader	Diagram	Remarks
C702 G46 000 G2	Metal Bezel Silver Finish	PUSHMATIC II		<p>Mounting plate C702 G51 012 E2 necessary to mount bezel</p> <p>Shipped without Nuts and Bolts</p> <p>Bezel Mounting Bolt – 2x M4 Nut</p> <p>Mounting Plate to Reader – 2x M4 Bolt & 2x M4 Nut</p>
C702 G46 100 G2	Metal Bezel with Coin Spacer Silver Finish			
C702 N25 040 E2	Plastic Adaptor			

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Card Readers

C702B PUSHMATIC® II Auto-Eject Landing Contact Full Smart Card Reader

The PUSHMATIC II is smaller than the PUSHMATIC and provides additional performance and anti-vandal features.

Electrical

Contact resistance - < 100 mΩ
 Switch resistance - < 200 mΩ
 Insulation - > 10⁹ Ω
 High Voltage resistance - 500VAC 1 min
 Rated Voltage/Current Use - 5V/<10mA ± 10%
Unlocking Solenoid
 Rated Voltage/Current Use - 5V/5.3A ± 10%
 - 12V/2.2A ± 10%
 - 24V/1.1A ± 10%

Current pulse length - 10... 25ms
 Pulse break - ≥ 1s
 Interface Connector - 2x8 contact 2mm pitch

Environmental

Temperature - -25°C thru 70°C
 Vibration - IEC 60512-4, Test 6d
 Shock - IEC 60512-4, Test 6c
 Chatter time switch - ≤ 5 ms

Mechanical

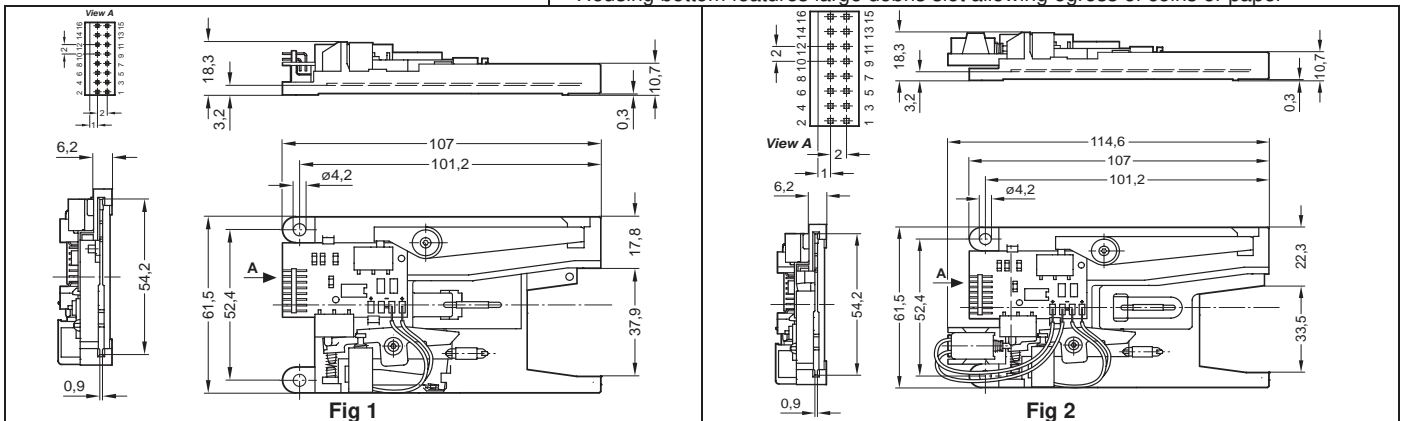
Durability - 3 x 10⁵ Cycles
 Card Insertion Force - ≤ 12N

Part Number:	Description	Chip	Diagram
C702 10M008 906 2	5V without card lock	ISO	Fig 1
C702 10M008 904 2	12V without card lock	ISO	Fig 1
C702 10M008 909 2	24V without card lock	ISO	Fig 1
C702 10M008 907 2	5V with card lock	ISO	Fig 2
C702 10M008 905 2	12V with card lock	ISO	Fig 2
C702 10M008 910 2	24V with card lock	ISO	Fig 2

Contact Assignment								
Pin #	1	2	3	4	5	6	7	8
Contact	M1+	M1-, M2-	M2+	S1	+5V	S1	C8	C4
Remark	+V Solenoid Unlock	-V Solenoid Supply	+V Solenoid Failure	Card Present	Reader Supply	Card Present	Reserve IEC 7816	Reserve IEC 7816
Pin #	9	10	11	12	13	14	15	16
Contact	C7	C3	C6	C2	C5	C1	S2	S3
Remark	I/O Smart Card	Clk Smart Card	Vpp Smart Card	RST Smart Card	GND Smart Card	+5V Smart Card	Card Seated High	EMV High Active

Features

- ISO Chip Position
- Card accessible during power failure
- Card presence switch can be used as system wake up
- Card end position switch can be used as lock sensor
- Additional sensor detects abnormal transaction termination
- Self cleaning retracting contacts
- Card presence switch according to EMV
- Housing bottom features large debris slot allowing egress of coins or paper



C702C LP PUSHMATIC® Auto-Eject Landing Contact Full Smart Card Reader

Low Profile Reader designed for restricted spaces. With removable housing bottom to act a debris slot.

Electrical

Contact resistance - < 100 mΩ
 Switch resistance - < 200 mΩ
 Insulation - > 10⁹ Ω
 High Voltage resistance - 500VAC 1 min
 Rated Voltage/Current Use - 5V/<10mA ± 10%
Unlocking Solenoid
 Rated Voltage/Current Use - 5V/2.6A ± 10%
 - 12V/1.5A ± 10%
 - 24V/1A ± 10%

Current pulse length - 10... 30ms
 Pulse break - ≥ 1s
 Interface Connector - 10 Contact 1mm FFC

Environmental

Temperature - -25°C thru 70°C
 Vibration - IEC 60512-4, Test 6d
 Shock - IEC 60512-4, Test 6c
 Chatter time switch - ≤ 5 ms

Mechanical

Durability - 3 x 10⁵ Cycles
 Card Insertion Force - ≤ 10N

Part Number:	Description	Chip	Diagram
C702 10M008 901 4	5V with card lock	ISO	Fig 3
C702 10M008 902 4	12V with card lock	ISO	Fig 3
C702 10M008 903 4	24V with card lock	ISO	Fig 3

Features

- Landing self cleaning contacts
- Card present switch acc. To EMV
- Micro Switch as locking sensor
- Manual card unlock on power failure

