

CCM



Description

★ CCM connector allows electrical connections of cards with microcircuit which have 6 or 8 contacts on center of card per ISO 7816/2 and/or 8 contacts on upper position.

★ Two connection technologies are available:

CCM 01 : friction contact
(100 000 operations)
for normal usage

CCM 02 : landing contacts
(> 200 000 operations)
for intensive usage
long life
card integrity

★ Card detection switch
– Blade or sealed for **CCM 01**
– Always sealed for **CCM 02**

★ PC board mounting dimensions conform to international specification which is in preparation.

★ Safe use of cards is guaranteed by an optimum switching diagram in each version.

★ These products are especially adapted to:

- Access control (physical, data processing, decoding).
- Telecommunications.
- Payment terminals.
- Point of sales terminals.

★ Specific products can be developed on customer request.

Mechanical data

Operating life	
– Friction contacts	100 000 operations
– Landing contacts	> 200 000 operations

Electrical data

Card contacts

Insulation Resistance	> 10 ³ MΩ
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Test voltage 50 Hz

● between card contacts	> 1 000 V rms
● between card contacts and detection circuit	> 1 000 V rms

Current

● min	10 μA
● max	1 A

Contact resistance	< 100 mΩ
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Card detection switch

	Blade type	Sealed type
● contact resistance	< 100 mΩ	< 100 mΩ
● Test voltage 50 Hz	500 V rms	300 V rms

Climatic data

Storage temperature	– 40 °C + 100 °C
Operating temperature	– 40 °C + 90 °C
Damp heat	IEC 68.2.3 - 21 days / 40 °C / 93 % RH
Salt spray	IEC 68.2.11 - 96 hours / 35 °C
H ₂ S - SO ₂	NF C 20 671 - TEST C - 10 Days

Materials

Contacts	Copper alloy	
Platings		
Card contacts	Gold over nickel	
Terminals	Sn Pb over nickel	
Detection switch contact	Gold over nickel	Silver over nickel
Cover/housing	Thermoplastic	
Solderability according to IEC 68.2.20		
Manual	350 °C / 2 s	
Wave	260 °C / 5 s	

ITT Cannon

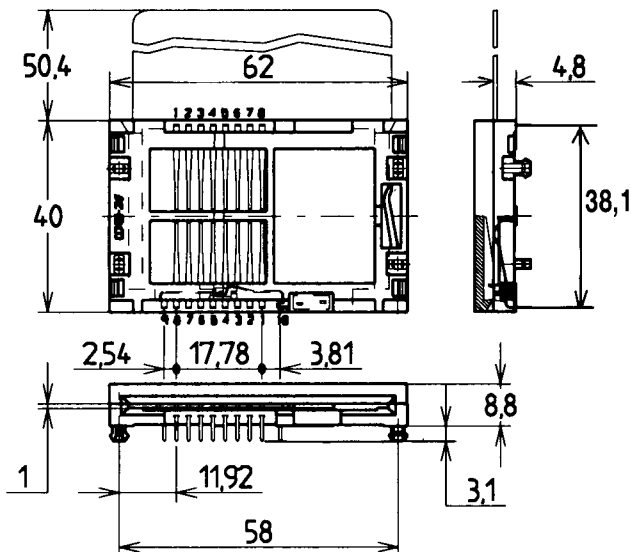
CCM 01 FRICTION TYPE

★ Friction type is available with:

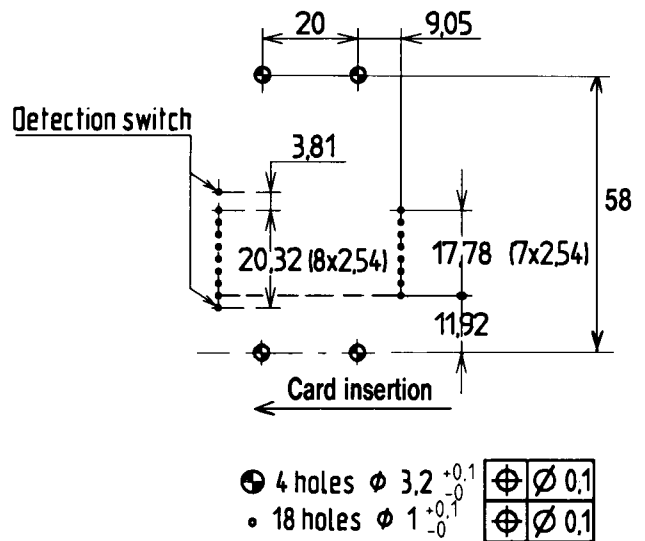
- blade card detection switch
- or
- sealed card detection switch, with P.C. board mounting conform to specification

CCM 01 DIMENSIONS AND P.C. BOARD MOUNTING

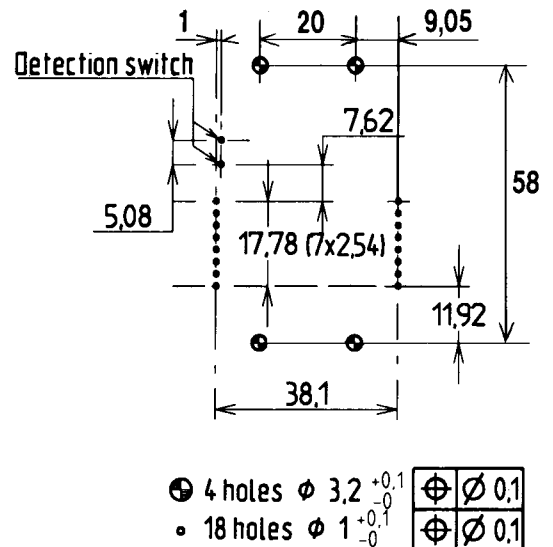
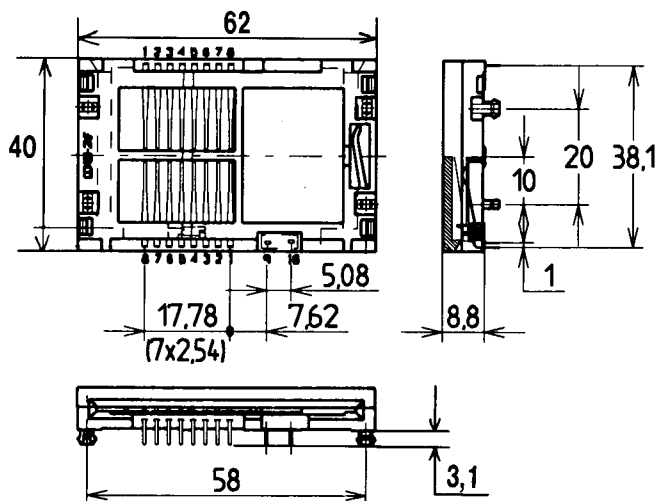
Blade detection switch



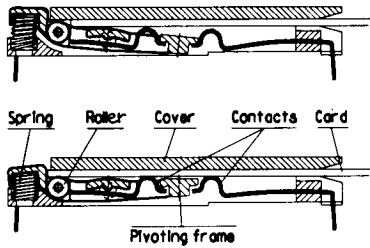
P.C. board mounting
(seen component side)



Sealed detection switch

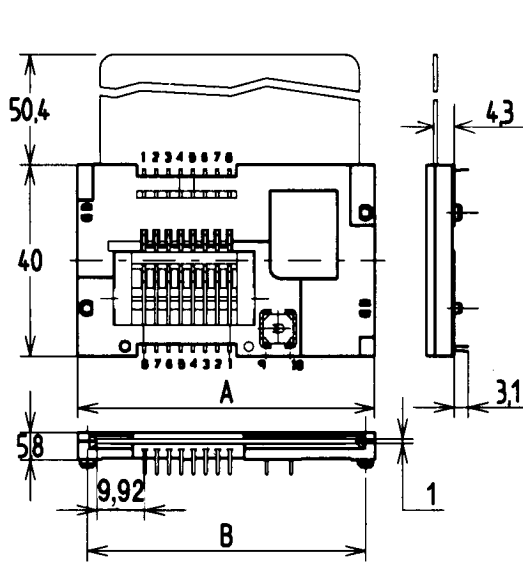


CCM 02 LANDING TYPE

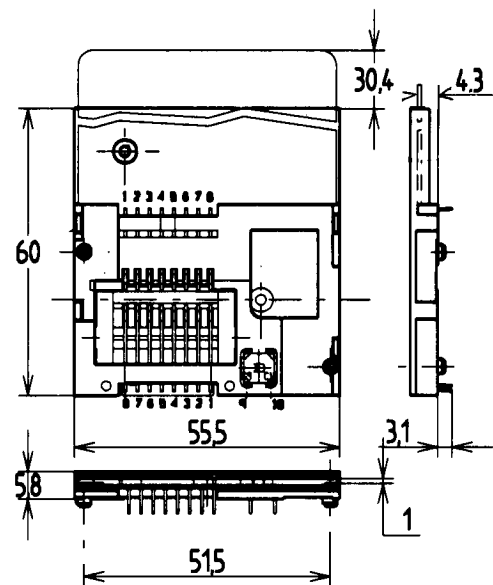


- ★ Landing type is based on highly reliable pivoting system.
- ★ Always with sealed card detection switch
- ★ Low profile
- ★ Available in:
 - sizes: standard / narrow / narrow and long cover
 - terminations: for PC with holes conform to specification / for flex circuit / for gull wing surface mounting

CCM 02 DIMENSIONS AND P.C. BOARD MOUNTING



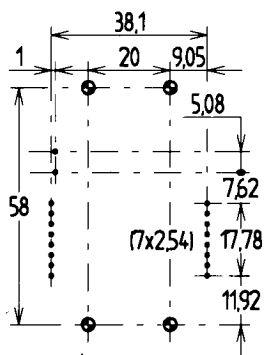
	A	B
STANDARD	62	58
NARROW	55,5	51,5



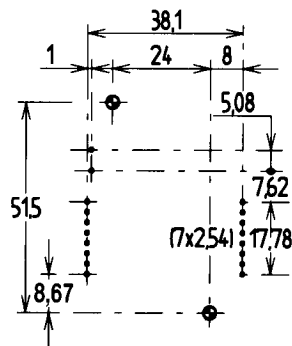
Long cover

Through hole mounting

Standard



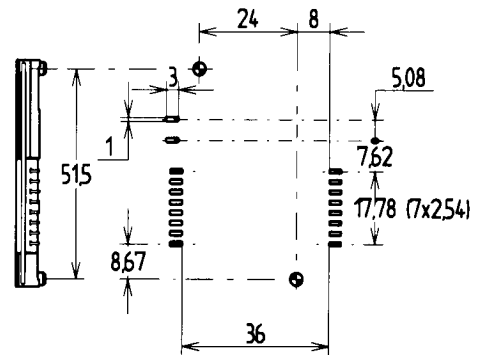
Narrow + Long cover



4 holes $\phi 32_{-0.1}^{+0.1}$ $\phi 1_{-0.1}^{+0.1}$

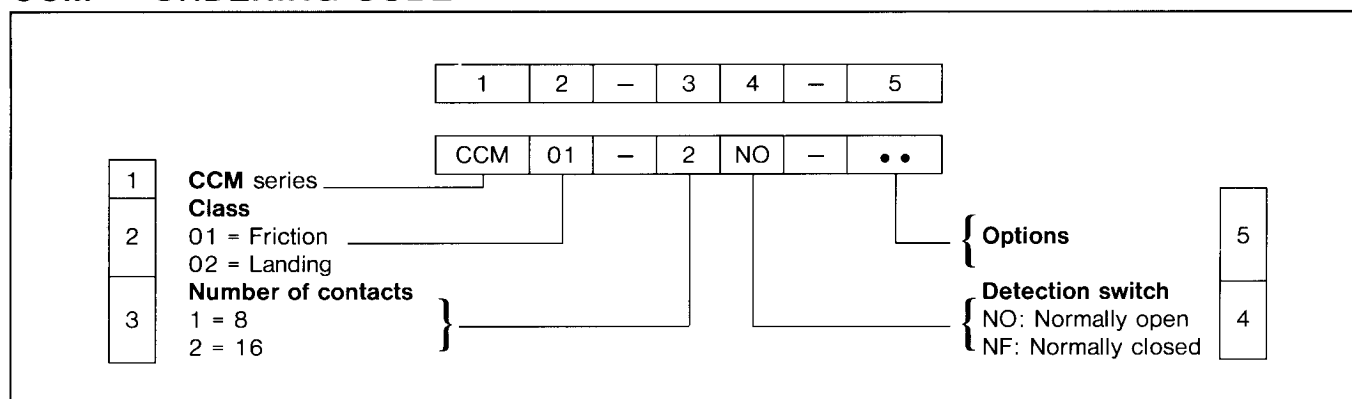
2 holes $\phi 32_{-0.1}^{+0.1}$ $\phi 1_{-0.1}^{+0.1}$

Surface mounting (in preparation)



2 holes $\phi 32_{-0.1}^{+0.1}$ $\phi 0.1$

CCM ORDERING CODE



MAJOR PRODUCTS

Designation	Class	Nb of Contacts	Card detection switch	Overall dimensions	PC
CCM 01 - 1 NF - 2 NF - 1 NO - 3 - 2 NO - 3	F R I C T I O N	8	Blade normally closed	62 × 40 × 8,8	Hole
		16	Blade normally closed	62 × 40 × 8,8	Hole
		8	Sealed normally open	62 × 40 × 8,8	Hole
		16	Sealed normally open	62 × 40 × 8,8	Hole
CCM 02 - 1 NO - 3 - 2 NO - 3 - 2 NO - 32 - 2 NO - 33 - 2 NO - 35	L A N D I N G	8	Sealed normally open	62 × 40 × 5,8	Hole
		16	Sealed normally open	62 × 40 × 5,8	Hole
		16	Sealed normally open	55,5 × 40 × 5,8	Hole
		16	Sealed normally open	55,5 × 40 × 5,8	SMT
		16	Sealed normally open	55,5 × 60 × 5,8	Hole

HOW TO SELECT

- ★ **Friction (CCM 01)** will be utilized for normal usage and with sealed card detection switch as soon as there is a risk of dust.
- ★ **Landing (CCM 02)** will be preferred for:
 - connector longer life and intensive use
 - integrity of smart card (no scratch, contact on right pads)
 - sealed card detection switch
 - lower profile
- ★ **Specific products** (special cover, with flex...) are developed on customer request.