

CCM02 MK I is a connector with landing contacts.

Though most applications only require a connector with 8 contacts, there are still limited requirements for a connector with 16 contacts to read AFNOR cards, as well as ISO cards.

Features

- Available with 8 & 16 through hole contacts.
- 100,000 card insertion cycles.
- The contacts don't touch the card until it is almost fully inserted a minimal wiping action removes any non-conductive material.
- The connector has been designed to give a positive feel as the card is fully inserted.
- For added reliability, the integrated card end-travel switch (which is normally open) is sealed against dust and grit.

Construction	
Contacts	Copper alloy
Plating	Contact area : Gold over Nickel
	Terminals : Tin lead (2µ min)
Moldings	Thermoplastic UL 94V-0 rated

Mechanical data	
Number of Contacts	8 or 16
Mechanical life	100,000 cycles min
Card insertion force	10 N max
Card extraction force	1 N min / 10 N max
Contact force	0.15 N min / 0.35 N max
Vibration	Frequency 10 to 500 Hz. Acceleration 50m/s ² Duration 6 hours - amplitude 0.35 mm Max electrical discontinuity 1µs
Shock	Peak value 500 m/s² – Duration 11 ms 3 shocks in each direction of each axis Max electrical discontinuity 1 µs

Electrical data	
Insulation resistance	1,000 MΩ min
Contact resistance max	100 mΩ max
Switching current	10 μA min / 1 A max
Dielectric strength	750 Vrms min
Card detection switch	Normally open
Rc card detection switch	100 mΩ max
Dielectric strength	
card detection switch	250 Vrms min
Switch current rating	1 mA min / 10 mA max
Maximum switch power	0.2 VA

Environmental data	
Operating temperature	-40°C to +85°C
Soldering temperature	Wave: 260°C / 5 sec
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)
Card detection switch	Sealed IP 54

Ordering code			
Part Number	N° of Contacts	Packaging Multiple	
CCM02-1N0-3	8	300	
CCM02-2N0-3	16	300	
CCM02-1N0-32	8	300	
CCM02-2N0-32	16	300	
CCM02-2N0-43*	16 (SMT)	300	
CCM02-1N0-35	8 with extended cover	200	
CCM02-2N0-35	16 with extended cover	200	

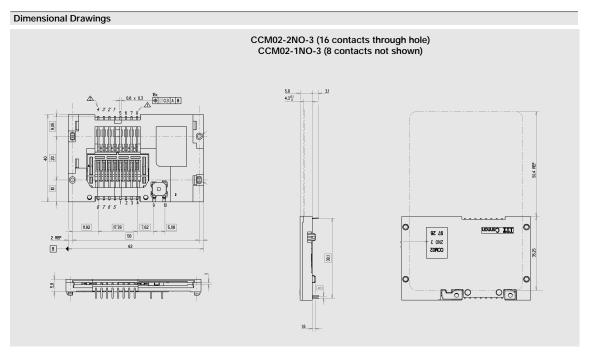
^{*} Suitable for hand soldering, but not for infrared or convection processes.

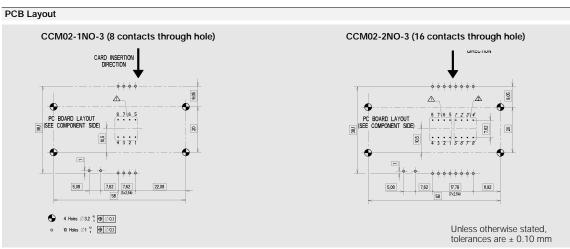
Packaging

30 per tray, 10 trays per box. Order multiple 300

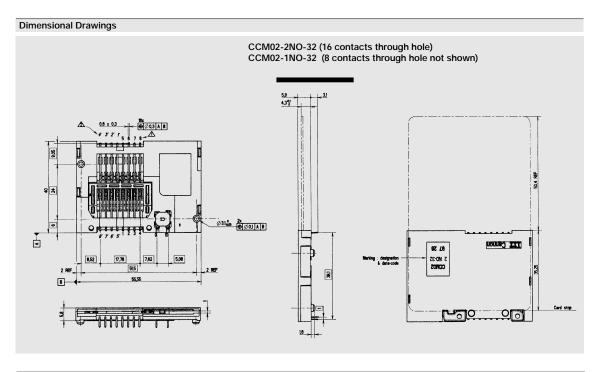


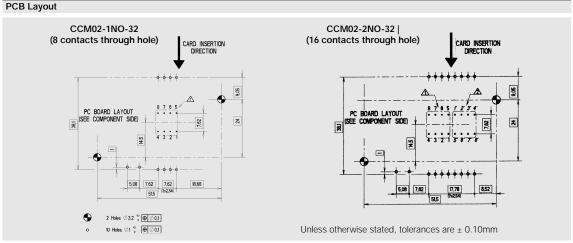
Dimensions subject to change







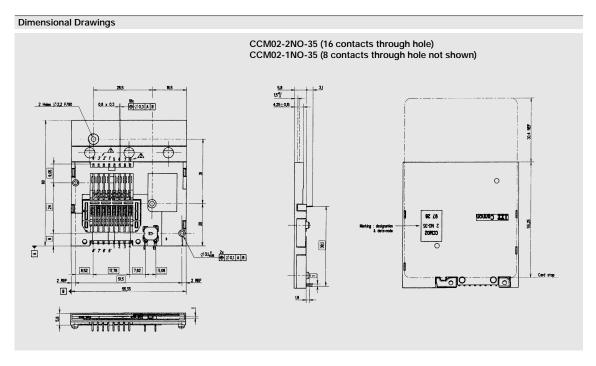


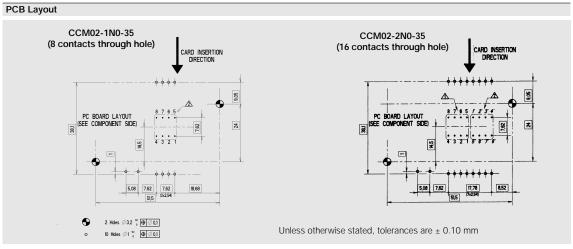




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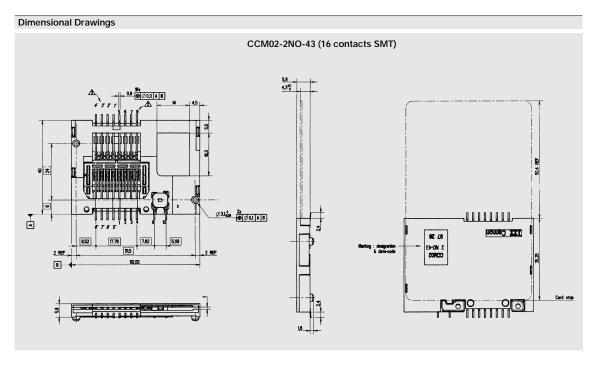
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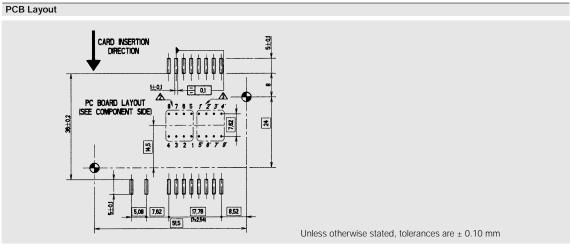






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Cannon

Dimensions subject to change



The CCM02 MK II connectors with landing contacts are dedicated for applications where the reader usage is high and the life span of the card is a key consideration, a connector with contacts which land on the card, rather than slide over it, should be specified so as to minimize card wear. The CCM02 has been redesigned to give an even higher performance in a compact, affordable package.

Features

- 500,000 card insertion cycles.
- The contacts don't touch the card until it is almost fully inserted – a minimal wiping action removes any non-conductive material.
- The connector has been designed to give a positive indication once the card has been fully inserted.
- The reduced size of the contact base saves PCB space, makes the connector more stable during surface mounting, and creates an air gap between the contacts and card entry slot, so reducing the risk of an electrostatic transfer to the PCB.
- For added reliability, the integrated card end-travel switch (which is normally open) is sealed against dust and grit.
- By using an inlay finish in the contact area, the life of the precious metal is extended by more than 10 times that of standard gold plating.
- The contact area is spooned to reduce the risk of accidental (or deliberate) damage and to optimize the electrical connection with the card.
- Snap-locks underneath the molding position and hold the connector on the PCB, and give additional support to the contact terminals.
- The plastic moldings are made from a high temperature thermoplastic suited for infrared and convection soldering processes.
- Available with through hole or surface mount terminals, this connector can be pick & placed automatically.

Construction	
Contacts	Copper alloy
Plating	Contact area : Gold alloy inlay
	Terminals : Tin lead (2µ min)
Moldings	High temp. thermoplastic UL 94V-0 rated
Spring	Stainless steel
Card detection switch actuator	Stainless steel
Mechanical data	
Number of Contacts	8
Mechanical life	500,000 cycles min
Card insertion force	10 N max
Card extraction force	1 N min / 10 N max
Contact force	0.25 N min / 0.5 N max
Card detection switch	0.8 N max for actuation (end travel switch
actuation force	actuates when card is 1.0 mm (0.039) from card stop) 1.8 N max for complete depression
Vibration	Frequency 10 to 500 Hz. Acceleration 50m/s Duration 6 hours - amplitude 0.35 mm Max electrical discontinuity 1µs
	Duration 6 hours - amplitude 0.35 mm
	Max electrical discontinuity Tµs
Shock	Peak value 500 m/s ² – Duration 11 ms 3 shocks in each direction of each axis
	Max electrical discontinuity 1 μs
Electrical data	

Electrical data	
Insulation resistance	1,000 M Ω min
Contact resistance max	100 mΩ max
Switching current	10 μA min / 1 A max
Dielectric strength	750 Vrms min
Card detection switch	Normally open
Rc card detection switch	100 mΩ max
Dielectric strength card detection switch	
card detection switch	250 Vrms min
Switch current rating	1 mA min / 10 mA max
Maximum switch power	0.2 VA

Environmental data	
Operating temperature	-40°C to +85°C
Soldering temperature	Temperature/time profile acc. to CECC00802 para. 6.1, Fig. 3 with peak temperature 250°C
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)
Card detection switch	Sealed IP 54

Ordering code				
Part Number	N° of Contacts	Termination Tails Design	PCB Locating	Packaging Multiple
CCM02-2503	8	Through Hole	4 Board Lock (PCB 1.6 mm thick)	300
CCM02-2504	8	SMT	4 Board Lock (PCB 1.6 mm thick)	300
CCM02-2508	8	SMT	2 Pegs	300
CCM02-2511	8	Through Hole	4 Pegs	300
CCM02-2512	8	SMT	4 Pegs	300
CCM02-2758	8	SMT	2 Pegs (without cover)	300
CCM02-2763	8	SMT	4 Board Lock + 2 pegs	300
CCM02-2765	8	Through Hole	4 Board Lock (PCB 1mm thick)	300
CCM02-2766	8	SMT	4 Board Lock (PCB 1mm thick)	300

Packaging

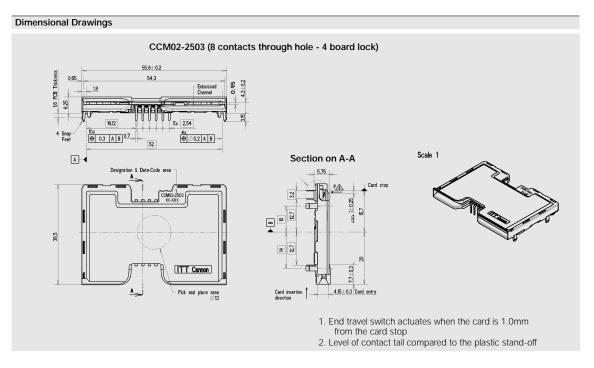
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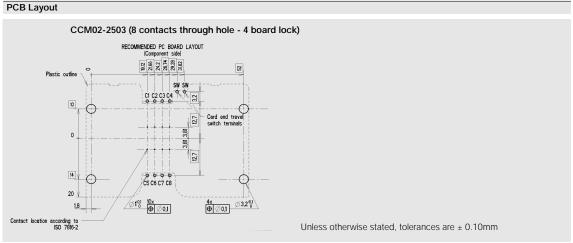
Order multiple 300

Note 1: Inlay (precious metal) rating is based on a very abrasive card being used and is intended to represent worst case.



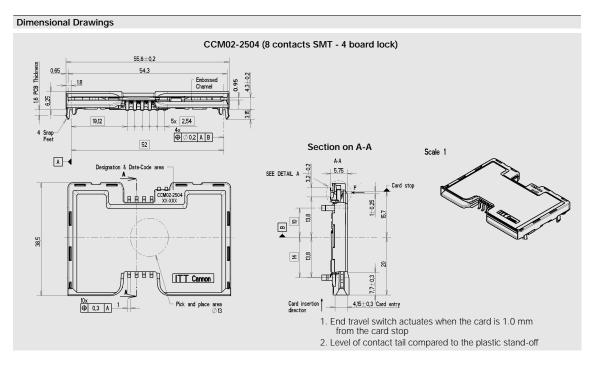
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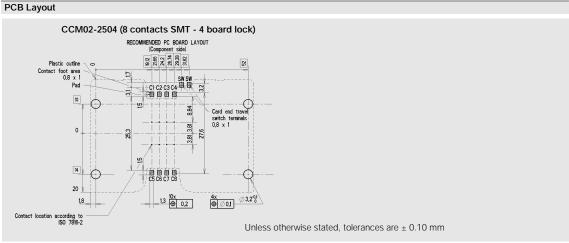




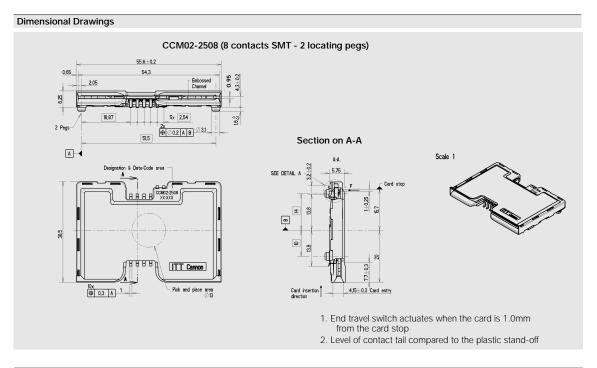


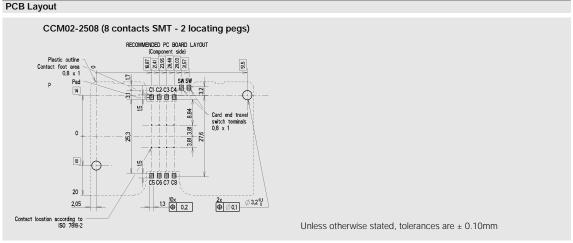
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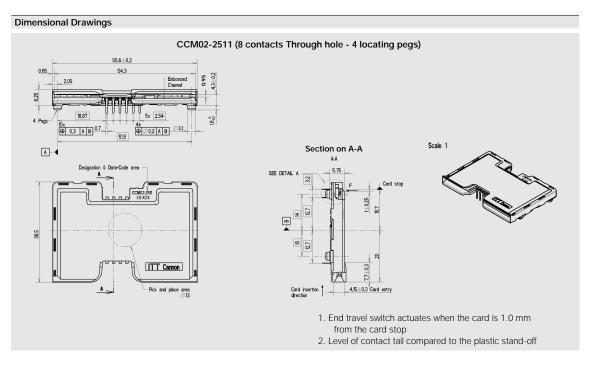


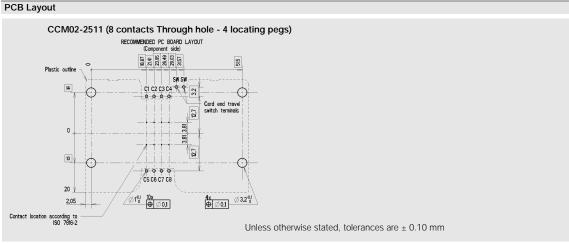




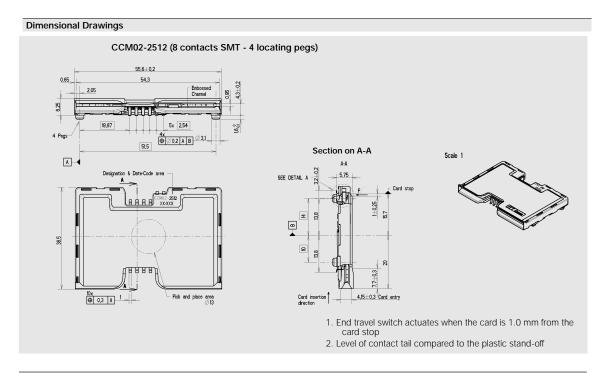


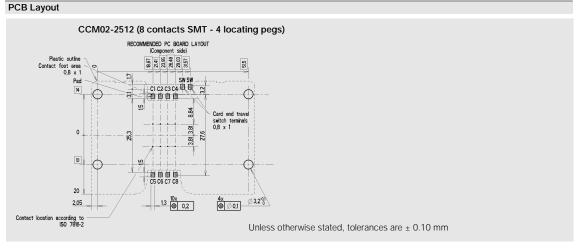
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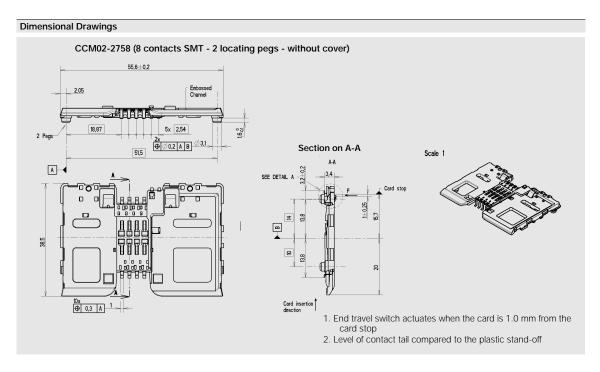


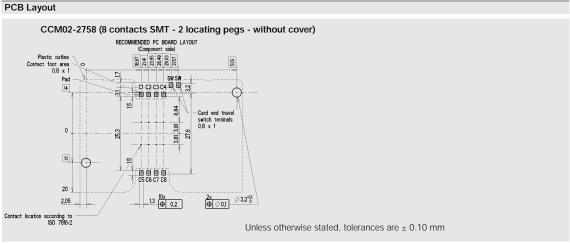




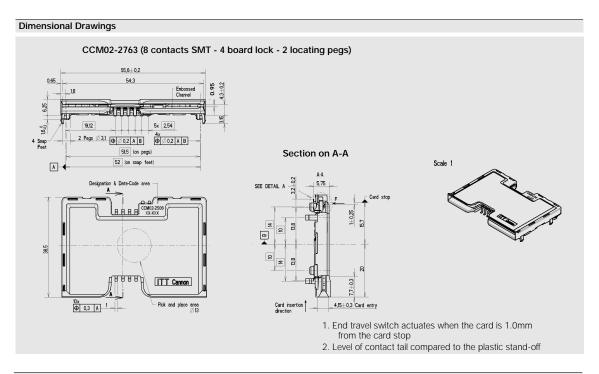


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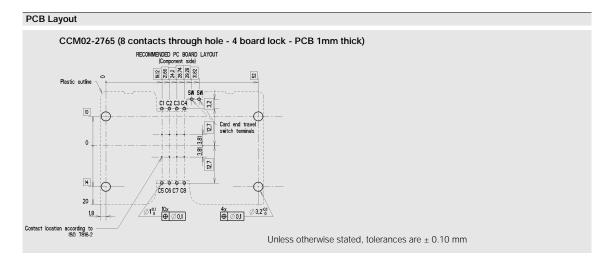


PCB Layout CCM02-2763 (8 contacts SMT - 4 board lock - 2 locating pegs) RECOMMENDED PC BOARD LAYOUT Component side RECOMMENDED PC BOARD LAYOUT Contact foot area 0.8 x 1 Pat 1 SSSSW Contact foot area 0.8 x 1 PROBLEM SSSSW 0.8 x 1 PROBLEM SSSSW 0.9 x 1 PROB

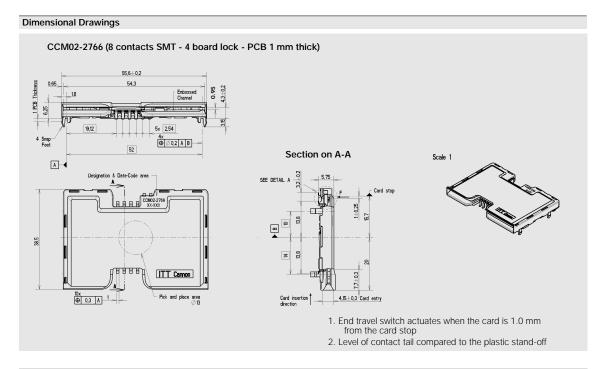


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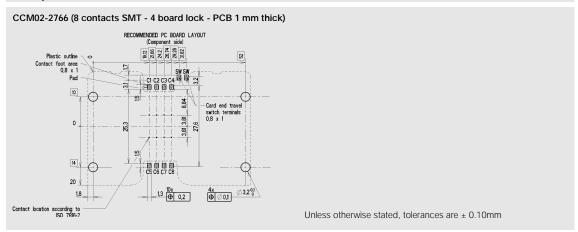
CCM02-2765 (8 contacts through hole - 4 board lock - PCB 1mm thick) Section on A-A Scale 1 Designation 1. Deteroids were peak and place area of detection. 1. End travel switch actuates when the card is 1.0 mm from the card stop 2. Level of contact tail compared to the plastic stand-off







PCB Layout





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