

# CCM04 MK III Miniature Connectors



Introducing a new range of CCM04 connectors designed to interface with either full or SIM/SAM smart cards and designed to minimize space usage on the PCB .

## Features

- Available with 6 or 8 contacts.
- The contact area is spooned to reduce the risk of accidental (or deliberate) damage and to optimize the electrical connection with the card.
- The insulators, molded from high temperature thermoplastic, are suited for infrared and convection soldering processes.
- With tape and reel packaging as standard, the connectors are designed to be automatically pick and placed.

Construction	
Insulator	High temperature thermoplastic UL 94V-0
Contacts	Copper Alloy
Contact finish	Gold over nickel
PC Tail plating	Tin lead (2 µm min)
Mechanical Data	
Mechanical life	50,000 cycles minimum
Contact force	0.25 N min / 0.5 N max
Contact travel	0,75mm
Electrical Contacts Data	
Insulation resistance	1000 MΩ min
Contact resistance max	100 mΩ max
Switching current	10 µA min / 1 A max
Dielectric strength	500 Vrms min
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
Salt mist	IEC 512 test number 11f (96 days)
Damp heat	IEC 512 test number 11c (10 days)
Packaging	

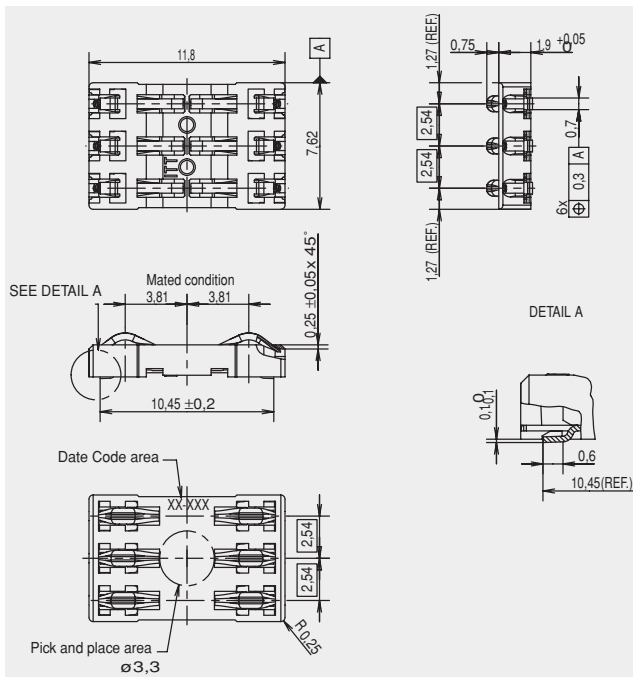
8 reels per box. See part number table for other packaging details.

# CCM04 MK III

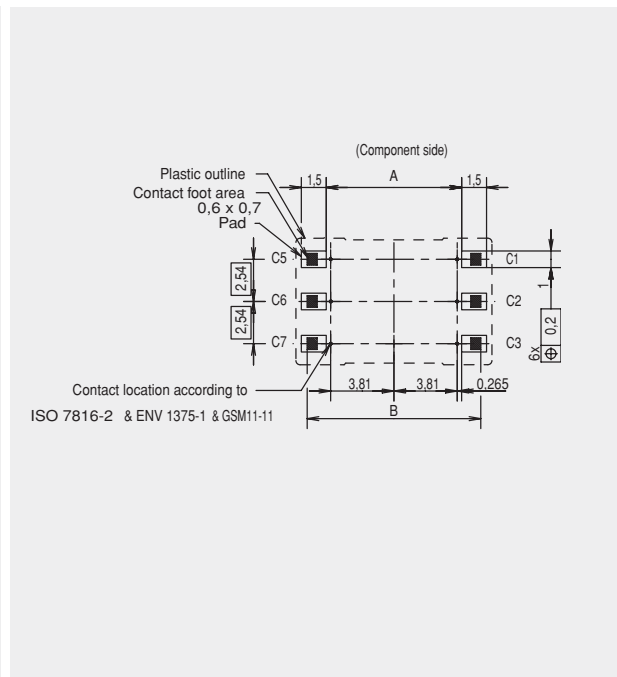
## 6 Contacts Versions

Part Number	Total Height	Total Length	Terminal Design	Quantity per Reel	Packaging Code	Dimension A	Dimension B
CCM04-5137	1,90	11,8	SMT IN	2400	R242	8,15	10,45
CCM04-5111	1,90	14,3	SMT OUT	2400	R242	12,85	15,15
CCM04-5116	2,10	11,8	SMT IN	1900	R192	8,35	10,65
CCM04-5112	2,10	14,3	SMT OUT	1900	R192	11,95	14,25
CCM04-5120	2,40	14,3	SMT OUT	1900	R192	11,95	14,25
CCM04-5106	2,50	11,8	SMT IN	1900	R192	8,85	11,15
CCM04-5121	2,65	14,3	SMT OUT	1900	R192	11,95	14,25
CCM04-5115	2,80	11,8	SMT IN	1900	R192	8,65	10,95
CCM04-5122	2,90	14,3	SMT OUT	1600	R162	11,95	14,25
CCM04-5107	3,15	11,8	SMT IN	1900	R192	8,85	11,15

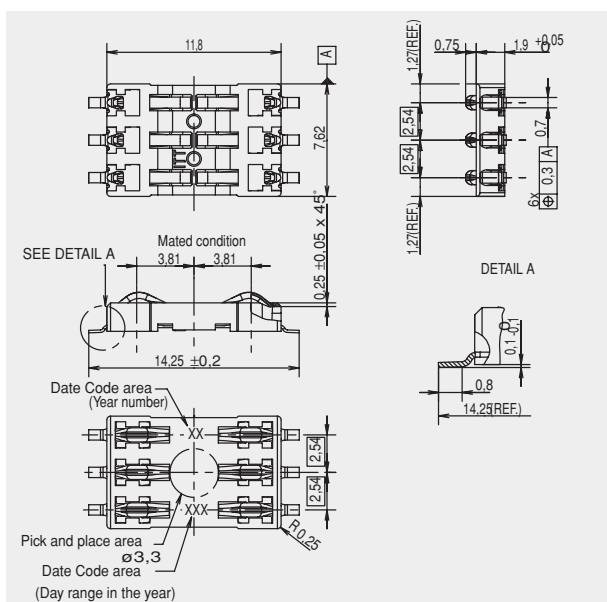
## 2 x 3 contacts SMT IN - Dimensional Drawings



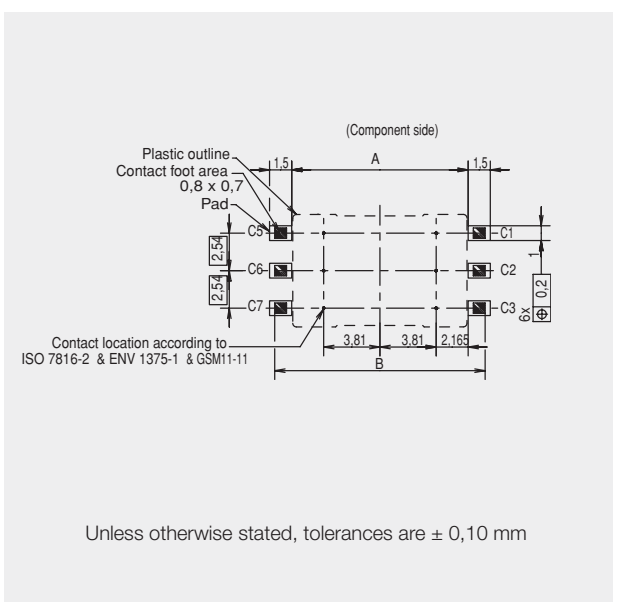
## PCB Layout



## 2 x 3 contacts SMT OUT - Dimensional Drawings



## PCB Layout



Unless otherwise stated, tolerances are  $\pm 0,10$  mm

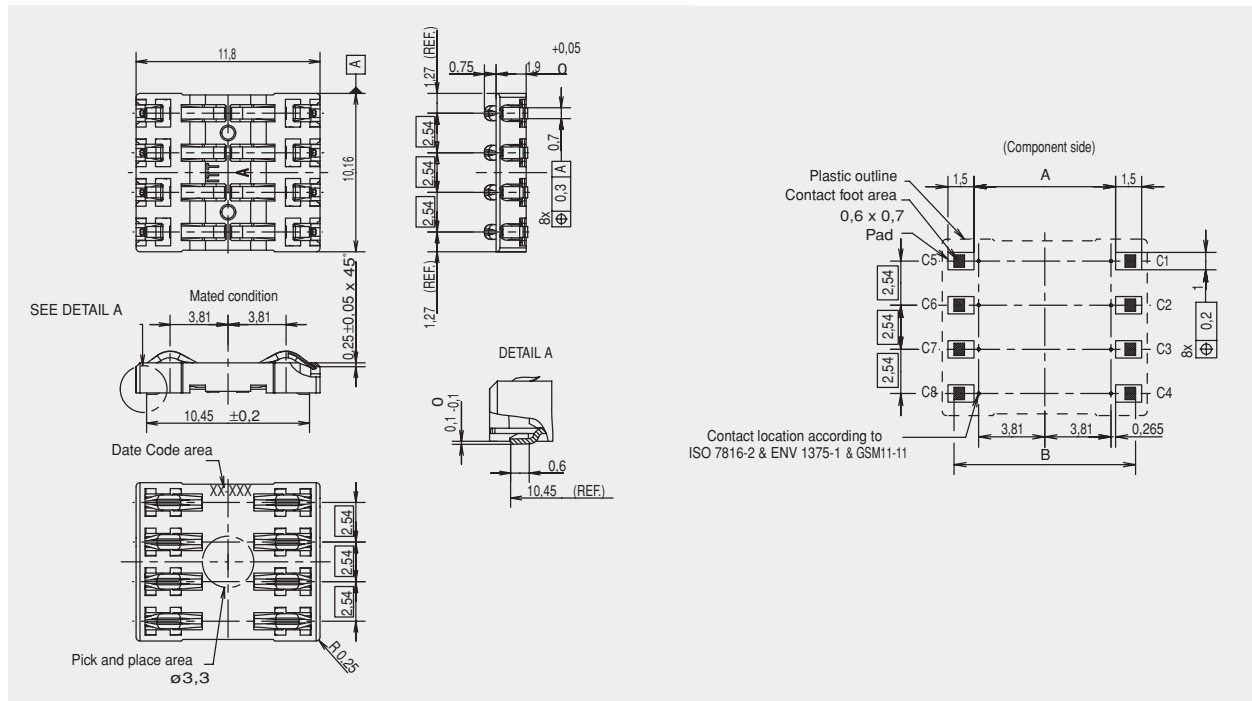
# CCM04 MK III

## 8 Contacts Versions

Part Number	Total Height	Total Length	Terminal Design	Quantity per Reel	Packaging Code	Dimension A	Dimension B
CCM04-5123	1,90	11,8	SMT IN	2400	R242	8,15	10,45
CCM04-5129	1,90	14,3	SMT OUT	2400	R242	11,95	14,25
CCM04-5113	2,10	11,8	SMT IN	1900	R192	8,35	10,65
CCM04-5130	2,10	14,3	SMT OUT	1900	R192	11,95	14,25
CCM04-5131	2,40	14,3	SMT OUT	1900	R192	11,95	14,25
CCM04-5125	2,50	11,8	SMT IN	1900	R192	8,85	11,15
CCM04-5132	2,65	14,3	SMT OUT	1900	R192	11,95	14,25
CCM04-5127	2,80	11,8	SMT IN	1900	R192	8,65	10,95

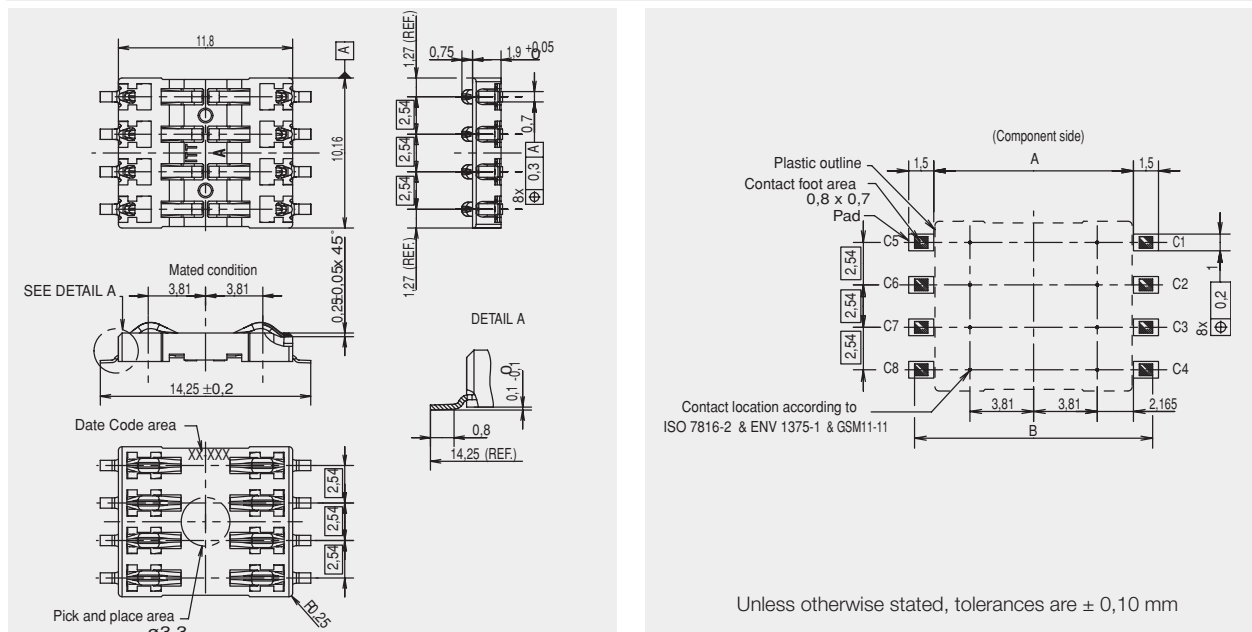
### 2 x 4 contacts SMT IN - Dimensional Drawings

### PCB Layout



### 2 x 4 contacts SMT OUT - Dimensional Drawings

### PCB Layout



Unless otherwise stated, tolerances are  $\pm 0,10$  mm

# CCM04 MK III with switch



EMV™ compatible

For applications that require a switch and you do not want to struggle with correct sequencing and PCB saving is still a must.

## Features

- Available with 8 contacts.
- Integrated card stop.
- Ultra low profile sealed switch included.
- Meets EMV requirements.
- By using an inlay finish in the contact area the life of the precious metal is extended by up to 10 times that of a 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.
- The insulators, molded from high temperature thermoplastic, are suited for infrared and convection soldering processes.
- With tape and reel packaging as standard, the connectors are designed to be automatically pick and placed.

EMV™ is a trademark owned by EMVCoLLC.

## Construction

Insulator	High temperature thermoplastic UL 94V-0
Contacts	Copper Alloy
Contact finish	Gold Alloy Inlay
PC Tail plating	Tin lead (2 µm min)

## Mechanical Data

Mechanical life	50,000 cycles minimum
Contact force	0.25 N min / 0.5 N max
Contact travel	0,75 mm

## Electrical Contacts Data

Insulation resistance	1000 MΩ min
Contact resistance max	100 mΩ max
Switching current	10 µA min / 1 A max
Dielectric strength	500 Vrms min

## Electrical Switch Data

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 V

## 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
Salt mist	IEC 512 test number 11f (96 hours)
Damp heat	IEC 512 test number 11c (10 days)

## Ordering Code

Part Number	Total Height	Termination Design	Quantity per reel
CCM04-4248	1,90 mm	SMT	1000
CCM04-4251	2,65 mm	SMT	1000
CCM04-4333	1,90 mm	In board mount SMT PCB thickness 1,1 mm	900

## Packaging

5 reels per box.

