

## DIN-Power FM21+24FCS-4,5C1-1

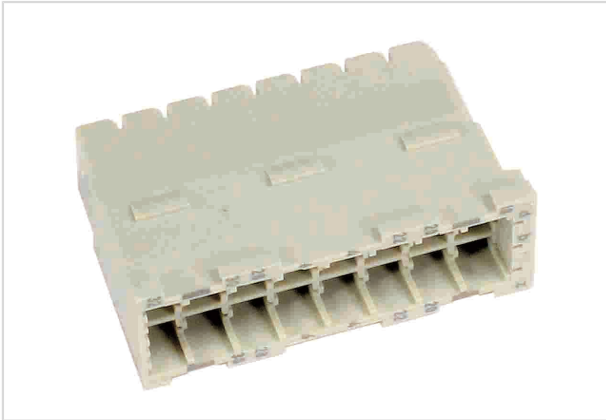


Image is for illustration purposes only. Please refer to product description.

Part number	09 06 045 2875
Specification	DIN-Power FM21+24FCS-4,5C1-1
HARTING eCatalogue	<a href="https://b2b.harting.com/09060452875">https://b2b.harting.com/09060452875</a>

### Identification

Category	Connectors
Series	DIN 41612
Identification	Type FM
Element	Female connector
Description of the contact	Straight
Features	lead-free

### Version

Termination method	Wave soldering termination
	Crimp termination
Connection type	Motherboard to daughtercard
	PCB to cable
	Cable to cable
Number of contacts	45
Contact configuration	Rows z, b and d, positions 2, 4, 6, 8, 10, 12, 14
Termination length	4.5 mm
Coding	Coding with loss of contacts
PCB fixing	With fixing flange
Details	Please order crimp contacts separately.

### Technical characteristics

Contact rows	3
Contact spacing (mating side)	3.81 mm
	5.08 mm



Pushing Performance

## Technical characteristics

Rated current	6 A
Rated current	Rated current measured at 20 °C, see derating curve for details
Clearance distance	≥1.6 mm
Creepage distance	≥3 mm
Insulation resistance	>10 <sup>12</sup> Ω
Contact resistance	≤15 mΩ
Limiting temperature	-55 ... +125 °C
Insertion and withdrawal force	≤70 N
Performance level	1 acc. to IEC 60603-2
Mating cycles	≥500
Test voltage U <sub>r.m.s.</sub>	1.55 kV (contact-contact) 2.5 kV (contact-ground)
Isolation group	IIIa (175 ≤ CTI < 400)
Hot plugging	No

## Material properties

Material (insert)	Thermoplastic resin, glass-fibre filled
Colour (insert)	RAL 7032 (pebble grey)
Material (contacts)	Copper alloy
Surface (contacts)	Noble metal over Ni Mating side Sn over Ni Termination side
Material flammability class acc. to UL 94	V-0
RoHS	compliant
ELV status	compliant
China RoHS	e
REACH Annex XVII substances	No
REACH ANNEX XIV substances	No
REACH SVHC substances	No
California proposition 65	Yes
California proposition 65 substances	Nickel Antimony trioxide

## Specifications and approvals

Specifications	IEC 60603-2 (complementary)
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Pushing Performance

## Specifications and approvals

UL / CSA

UL 1977 ECBT2.E102079  
CSA-C22.2 No. 182.3 ECBT8.E102079

Railway classification

F1/I2 acc. to NFF 16-101/102

## Commercial data

Packaging size

20

Net weight

24.98 g

Country of origin

Germany

European customs tariff number

85366990

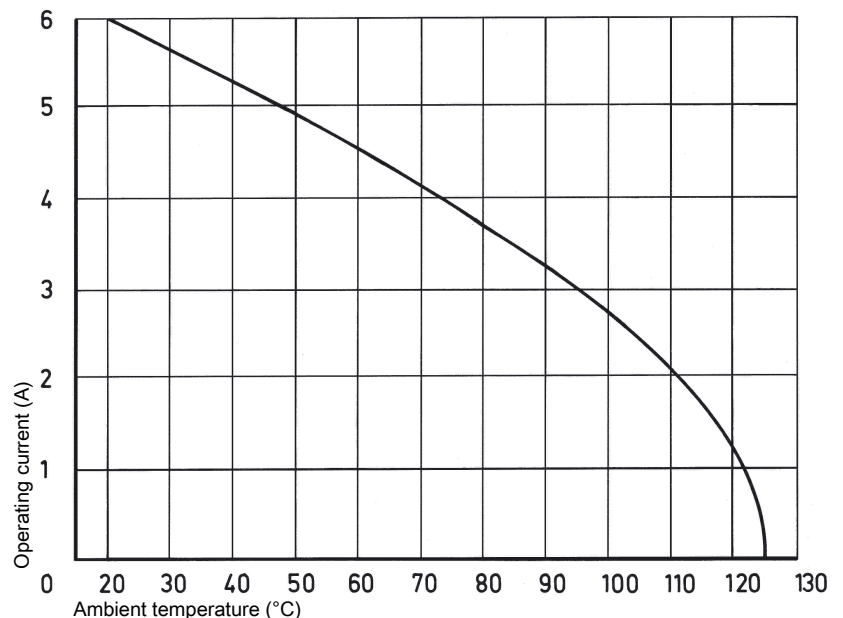
eCl@ss

27460201 PCB connector (board connector)

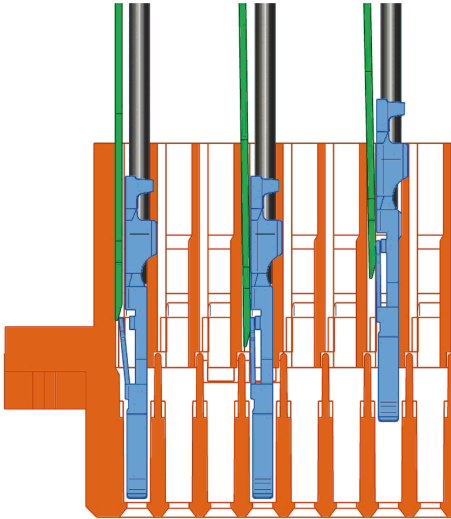
## Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



### Installation of crimp contacts



#### Fitting the crimp contacts:

After crimping the wires onto the contacts with the help of a crimping tool or an automatic crimping machine the contacts should be correctly oriented and inserted into the cavities of the connector moulding in the required configuration. They snap into position and are firmly held in place. A light pull on the wire assures the correct tensile strength of the contact. When using stranded wires with a gauge below  $0.37 \text{ mm}^2$  an insertion tool is necessary. Insertion tool part number: 09 99 000 0100

Insertion tool part number: 09 99 000 0100

#### Removing the crimp contacts:

The removal tool is inserted into a slot on the side of the respective crimp cavity. This action compresses the contact retaining spring therefore the contact can then be easily withdrawn using a light pull on the wire. This action will cause no damage to the contact / wire which can be repositioned / refitted as necessary. The drawing demonstrates the crimp removal procedure (max. 5x).

Removal tool part number: 09 99 000 0101

### Soldering instructions

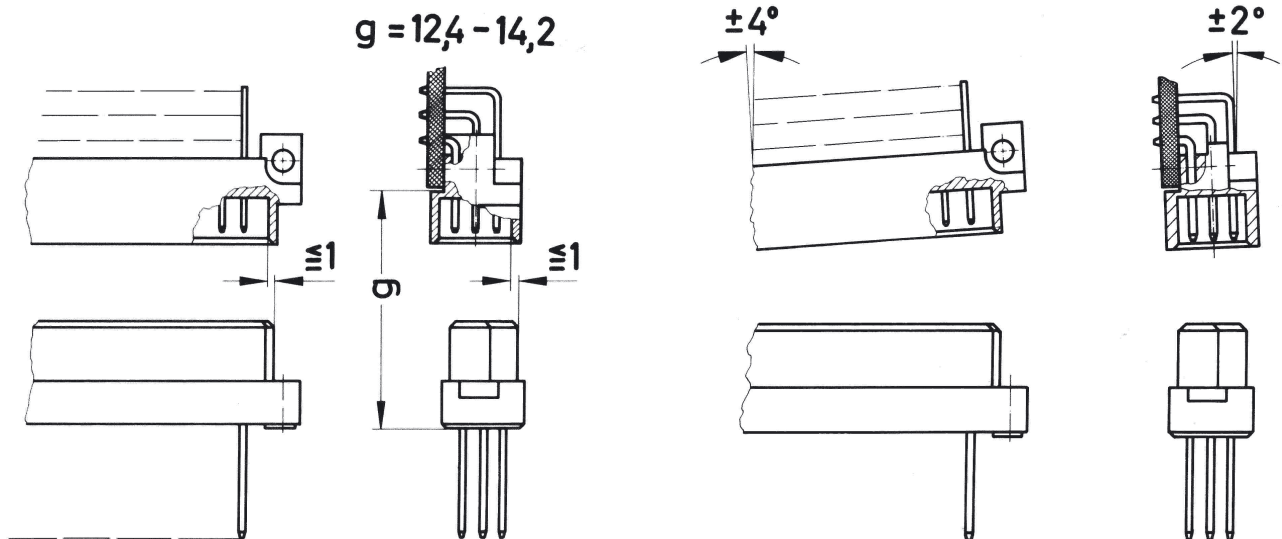
The connectors should be protected when being soldered. Otherwise, they might become contaminated as a result of soldering operations or deformed as a result of overheating.

1) For prototypes and short runs protect the connectors with an industrial adhesive tape, e.g. Tesaband 4331 ([www.tesa.de](http://www.tesa.de)). Cover the underside of the connector moulding and the adjacent parts of the pcb as well as the open sides of the connector. This will prevent heat and gases of the soldering apparatus from damaging the connector.

About  $140 + 5 \text{ mm}$  of the tape should suffice.

2) For large series a jig is recommended. Its protective cover with a fast action mechanical locking device shields the connectors from gas and heat generated by the soldering apparatus. As an additional protection a foil can be used for covering the parts that should not be soldered.

### Mating conditions



To ensure reliable connections and prevent unnecessary damage, please refer to the application data diagrams. These recommendations are set out in IEC 60603-2. The connectors should not be coupled and decoupled under electrical load.