
Interface Series 1.0/2.3

acc. IEC 169-29
&
acc. CECC 22 230

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1. GENERAL

1.1 Application

The intention of this product specification is to qualify the mating-face of the 1.0/2.3 series connectors (grade 2). Interface complies with international standard CECC 22 230 and IEC 169-29.

The connection side (cable, PCB) will be described in the 'Customer drawing' and/or Product specification' related to the specific products/parts.

1.2 Documents

Drawings of typical connectors:

Tyco-number	Drawing
5-1393670-5	C-5-1393670-5
6-1393670-5	C-5-1393670-7
7-1393670-0	C-2-1393670-6
8-1393670-1	C-8-1393670-0
1392019-1	C-1392019
1-1393662-2	C-1-1393662-2
1-1393662-2	C-1-1393662-2
1-1393662-4	C-1-1393662-4
1393668-4	C-1393668-4

International standards:

CECC 22 230

IEC 169-29

2. TECHNICAL CHARACTERISTICS

2.1 Mechanical characteristics

2.1.1 Contact captivation

According to CECC 22230

Min. force: 10N

2.1.2 Engagement and separation forces

Max. force: 25N in conjunction with snap on

2.1.3 Coupling mechanism

Tensile strenght : Srew-on: 200 N

Snap-lock: 105N

2.1.4 Vibration

Severity: 10Hz to 2000Hz and 10g; 3x2h

Max. interruption time: 1µs

2.1.5 Mechanical endurance

Operations: 500

2.1.6 Gauge retention force

Center contact: The 20 gram

Outer contact: The 70 gram

2.2 Electrical characteristics

2.2.1 Reflection factor r

This values are for basic connector. The values inclusive terminations to cable, pcb or other will be indicated on the product specific documents.

Characteristics for the 50 Ohm system without termination:

$$\begin{aligned} r &\leq 0.05 \text{ up to } 1 \text{ GHz} \\ r &\leq 0.07 \text{ up to } 4 \text{ GHz} \\ r &\leq 0.15 \text{ up to } 10 \text{ GHz} \end{aligned}$$

Characteristics for the 75 Ohm system without termination:

$$\begin{aligned} r &\leq 0.1 \text{ up to } 2 \text{ GHz} \\ r &\leq 0.15 \text{ up to } 4 \text{ GHz} \end{aligned}$$

2.2.2 Characteristic impedance

DIN 1.0/2.3 interface is designed for a nominal impedance of 50 Ω ,

However the interface for 75 Ω applications (eg. for 75 Ω cables) are slightly changed towards 75 Ω .

2.2.3 Center contact resistance

Max. value: $\leq 6 \text{ m}\Omega$ initial;
 \leq initial +10 $\text{m}\Omega$ after conditioning

2.2.4 Outer contact resistance

Max. value: 2.5 $\text{m}\Omega$ initial
Initial + 5 $\text{m}\Omega$ after conditioning

2.2.5 Voltage proof

Proof voltage: 750 V (rms at approx. 50 Hz) at sea level

Proof voltage: 150V (rms at approx. 50 Hz) at 20 km altitude (4.4 kPa)

2.2.6 Insulation resistance

Test voltage: 100V \pm 15V d.c.

Min. value: 1 $\text{G}\Omega$ initial
200 $\text{M}\Omega$ after conditioning

2.3 Enviromental characteristics

2.3.1 Climatic category

40/085/21

2.3.2 Damp heat, steady state

40°/ 93% rh / 21 days

$R_{\text{insulation}}$ 200 Mohm minimum

2.3.3 Mixed gas

200 ppb of NO₂, 10 ppb of Cl₂,

10 ppb of H₂S, 200 ppb of SO₂ / 10 days

2.3.4 High temperature endurance

85°C, 1000h

2.3.5 Salt mist

Severity: 48 hrs

3. QUALIFICATION

A General examination

- Visual examination
- Examination of plating and materials
- Measurement of gauge retention forces

B Mating cycles

Mechanical endurance combined with mixed gas

C Coupling strength

D Vibration

E Salt mist

F Damp heat, steady state

G High temperature endurance