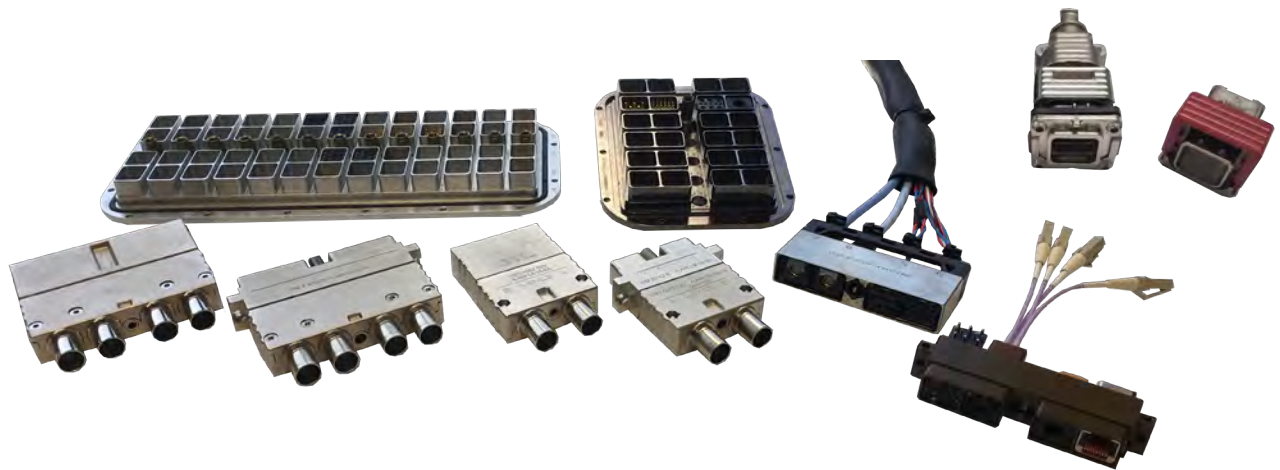




EN4165

SIM EN4165 - Modular, multi-functional rectangular connector



SIM EN4165

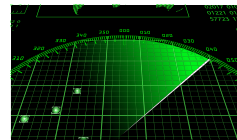
Approved to EN4165, SIM is a rectangular, modular connector that is a proven alternative to the venerable D38999 circular. Available in either Metal, Composite or Plated Composite, SIM, with its broad range of plugs, receptacles, rear accessories, and modules is perfectly suited for both commercial aerospace and harsh environment military applications. The product can be customized into several different configurations – scoop-proof, high density & mixed contacts – all within a compact design.

Features and Benefits

EN4165 qualified	High performance; comparable to MIL-STD-810 US Standard
Modular	Gives flexibility in design (mix of RF – Quadrax, Triax, Twinax, Coax - Power, Signal, Fiber, & Ethernet)
Rectangular	Provides space efficiency; more power in less space
Shell types	Single, 2 & 4 bay, or custom
Contacts	PCB or Crimp contacts; size 26 to 8
Shell material options	Metallic or Composite (lighter weight)
RoHS & REACH	Restricts use of hazardous materials

Typical Applications

- Missiles & Defense
- Radar Systems
- Launching Systems
- IFE
- Avionics
- Cabin System Services



SIM EN4165

Performance Specifications

Temperature	Max: 175°C for 1000 hrs; -55°C to +175°C	
Thermal Shock	Low -55°C for 30 min, high +175°C for 30 min, <30s transfer time between parts	
Altitude	EN2591 Test 324 Pressure \leq 11hPa	
Vibration	Method A	Method B
	Frequency Range: 5 Hz to 3,000 Hz Acceleration: 20g 1 Octave per minute Duration: 4 h/axe Final Measurements: EN 2591-101 (ambient temperature), EN 2591-205, EN 2591-408	Figure 2 & Table 1, level E Duration: 1h/axe Final Measurements: EN2591-101 (ambient temperature), En 2591-205, EN 2591-408
	Same mounting configuration as EN2591-402 Connectors mated	
Shock	1 shock/direction of each axis, 1/2 sinusoidal form, amplitude 100 gn, duration 6 ms.	
Insulation Effectiveness	Insulation res.: \geq to 5000 M Ω ; Max insulation res. altitude: \geq to 1000 M Ω	
Durability	500 cycles of mating and unmating	
Shielding Effectiveness	Effective over a range of 100 MHz to 10GHz with a minimum 50dB effectiveness at 10GHz, in accordance with test method EIA-364-10	



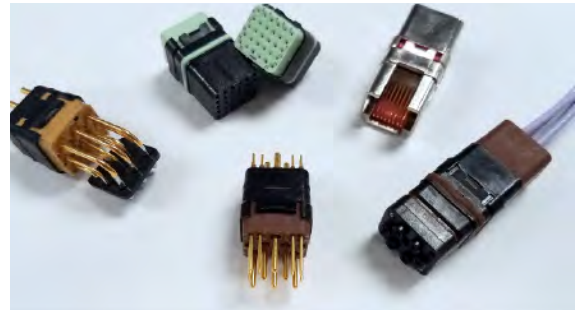
SIM EN4165

Key Specifications

Qualified to EN4165

Modules: versatility to mix & match modules below

- Power
- Signal
- Quadrax, Triax, Twinax, Coax, Fiber Optic Termini
- RJ45 Ethernet
- Hybrid 16-02 (Power, Signal & Data)



Contacts

- Copper Alloy: Crimp or PCB contacts
- Size 22 to 8: per SAE-AS 39029 standard or per EN3155 standard
- Size 23: EN3155 standard pending

Shell Material: Metal, Composite or Plated Composite

Electrical

- Insulation Resistance: 5000 m Ω
- Withstanding Voltage: 1800 V eff. 50 Hz
- Amperage: 5 - 80 Amps

Electrical								
# Contacts	26	23	22	20	16	12	8	8
Withstanding Voltage	1800 V eff. 50 Hz							
Max. Current Rating (A)	3 A	5	7.5	13	23	46	80	

Sealing

- Interfacial: according to EN2591 test 324 pressure \leq 11 hPa
- Air leakage: a leak \leq to 4cm³/h under differential pressure of 1 bar
- Immersion at low air pressure: according to EN2591 test 314 pressure \leq 11 hPa

Module retention in shell

- \leq 25.4daN

Metallization resistance

- Metallization continuity by conductive plating and grounding fingers
 - Metallic version
 - Nickel plating: $<$ 1 m Ω under 1 amp per connection
- Cadmium plating: $<$ 2.5 m Ω under 1 amp per connection
- Composite, Nickel & Cadmium plating: $<$ 3 m Ω under 1 amp per connection

Salt Spray

- Metallic: Nickel plating: 96 hours; Cadmium plating: 500 hours
- Composite: Nickel & Cadmium plating: 500 hours

RoHS & REACH

- SIM connectors & modules conform to REACH
- Metallic or Composite versions with nickel plating conform to RoHS
- Standard, Grounded, Shunted or specific modules conform to RoHS