Rail M12 Series Circular Connectors (A & D codes)

1. SCOPE

1.1 Content

This specification covers the requirements for the product performance, test methods and quality assurance provisions of the Rail M12 Series Connector family (A & D codes).

1.2 Qualification

All parts were qualified according to tests relating to IEC 61076-2-101 as defined by the applicable IEC design specification.

2. APPLICABLE DOCUMENTS

The following documents form part of this specification to the extent specified herein. In the event of conflict between requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 Drawings

2.1.1 TE Connectivity Drawings

For M12 connector series (A & D codes) check applicable marketing material.

2.2 Other Documents & Standards

2.2.1 Application Specification 114-156002

Shock and vibration conducted as per IEC 61373:1999.

Fire performance conducted as per EN45545-2, NFF16-101 and NFF16-102.

Thread of the mating interface with the counterpart is M12x1, according to IEC 61076-2-101.

3. REQUIREMENTS

3.1 Design and Construction

Product shall be of design, construction and physical dimensions specified on applicable standards and product drawings.

3.2 Materials and Finishes

Materials are as designated within Production Drawings.

3.3 Performance Ratings, M12 connectors (A & D codes).

See applicable customer drawings for connector specific performance ratings.

3.4 Ratings M12 connectors (A & D codes).

3.4.2 Electrical

Operation voltage:	A-5 / B-5 / D-4: 50 V DC A-8: 30 V DC
Rated peak voltage:	According to IEC61076-2-101
Contact resistance	< 5 MΩ
Current rating	A-5, D-4: 4 Amp A-8: 2 Amp
Insulation resistance	>100 M Ohm minimum

3.4.3 Mechanical

Contact plating:	0.8μ Gold
Durability mating:	≥200 cycles
Cable gland Torque	1.5 - 2 Nm (max. 3 Nm)
M12 screw locking	0.8 Nm (max. 2 Nm)

3.4.4 Environmental

Sealing requirements	IP67 (Screw locked)
Pollution degree:	According to IEC61076-2-101
Isolation material group:	According to IEC61076-2-101
Temperature range:	-40° C to +85° C (with cable boot) -30° C to +85° C (without cable boot)

3.5 Performance and Test Description

The product is designed to meet the Electrical, Mechanical and Environmental performance requirements as defined by the customer drawing and the related IEC design specification.

Connector Related tests:

All performance ratings can be found within the applicable customer drawing. Testing requirements and procedures comply with and can be found in the applicable IEC 61076-2-101 industry standard. The applicable IEC 61076 standard document for each type of connector can be found in 2.2.1.

4.0 QUALITY ASSURANCE PROVISIONS

4.1 Acceptance

Acceptance is based on verification that the product meets the requirements of section 3.4. Failures attributed to equipment, test set-up or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and samples re-submitted for qualification. Testing to confirm corrective action is required before re-submittal.

4.2 Quality Conformance Inspection

Dimensional and functional requirements shall be in accordance with applicable product drawing and this specification.