
M8 and M12 Series Circular Connectors & Cable Assemblies

1. SCOPE**1.1 Content**

This specification covers the requirements for the product performance, test methods and quality assurance provisions of the M8 / M12 Series Connector family.

1.2 Qualification

All parts were qualified according to tests relating to IEC 60512 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 M8 connector series check applicable marketing material.
For M12 connector series check applicable marketing material.
For M8 and M12 cable assembly series 2273000 and upwards

2.2 Other Documents & Standards**2.2.1 Application Specification 114-32127**

DIN IEC 60512
DIN EN 60529
DIN EN 60512-2-1, -3-1, -5-2, -9-1
DIN EN 60664-1
DIN EN 61984 2009-11
IPC-A-620

The M8 connectors are designed to and comply with IEC 61076-2-104.

The M12 A, B, and D coded connectors were designed to and comply to IEC 61076-2-101.

The M12 S and T coded connectors were designed and comply with IEC 61076-2-111.

The M12 X code connectors were designed to and comply with IEC 61076-2-109.

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, M8 connectors

See applicable customer drawings for performance specification information.

3.3 Performance Ratings, M12 connectors

See applicable customer drawings for connector specific performance ratings.

3.4 Ratings M8 M12 cable assemblies.

3.4.2 Electrical

Nominal voltage:	max. 60V AC/DC (UL listed 30V AC/DC)
Rated peak voltage:	1,5kV
Contact resistance	10 M Ohm maximum
Current rating	4 A each contact
Insulation resistance	100 M Ohm minimum
LED versions:	24V DC \pm 5%

3.4.3 Mechanical

Operating temperatures:	
Cable type 1 PVC:	-5°C to +80°C flexible -30°C to + 80°C fixed
Cable type 3 PUR:	-25°C to 80°C (90°C max. 10.000h) flexible -40°C to 80°C (90°C max. 10.000h) fixed
Contact plating:	0.5 μ Gold
Durability mating:	500 cycles

3.4.4 Environmental

Sealing requirements	IP65/IP67
Pollution degree:	3
Isolation material group:	Cat I according to IEC 60664-1

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 series 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.