

PRODUCT SPECIFICATION
Restricted for FAW
108-101141
CONNECTOR ASSEMBLY, 4P JPT/MT HYBRID SEAL

The product described in this document has not been fully tested to ensure conformance to the requirements outlined herein. Tyco Electronics/AMP makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, Tyco Electronics/AMP reserves the right these requirements based on the results of additional testing and evaluation. Contact Tyco Electronics/AMP Engineering for further information.

Contents

1. Scope:

This specification covers the performance, tests and quality assurance provisions of connector for FAW window lift.

Assembly Part Number: 2050179-1.

2. Applicable Documents:


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

2.1. Tyco Specifications:

109 Series: Test Specification, Requirements for Test Methods
408-8882: Instruction Sheet.
114-18050/18081: Terminal Application specification.
108-18013/18055: Terminal Product Specification

2.2. VW/DIN Specifications:

DIN IEC 60512-2/-7/-8
VW 75174

				DR J.CHEN 17DEC2008		 Shanghai, China		
				CHK Y.YANG 23DEC2008				
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3. Requirements:

3.1. Design and Construction:

Product shall be of the design, construction and physical dimension specified in the applicable product drawing.

3.2. Materials:

Plug housing: PBT


Ring seal: MVQ

3.3. Ratings:

Temperature Rating: -40°C to 80°C.

3.4. Performance and Test Descriptions

The product is designed to meet the electrical, mechanical and environmental performance requirements needed by FAW window lift application. All tests are specified in Fig.1. All tests are performed at test condition of the Tyco test specification 109-1 unless otherwise specified. It is feasible to test the product combined with customer component if customer approve.

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Requirements and Procedures (Fig. 1)

	Test items	Requirements	Procedures
MECHANICAL TEST	Visual inspection	No visible damage, conforming to applicable product drawing and applicable specification	Visually inspect according applicable quality inspection plan.
	Contact removal force	80N Min for JPT 40N Min for MTII	Pull out strength that contact terminal remove from housing, at speed of 50mm/min, use terminal defined in TE drawing: 1355046(JPT) & 962942/962943(MT II)
	Contact insertion force	40N Max per position	Insertion force that contact terminal insert the housing, at speed of 50mm/min, use terminal defined in TE drawing:1355046 (JPT) & 962942/962943 (MT II), 108-18013/18055
	Single pin insertion force	5-15N for JPT (REF) 4N Max for MT II (REF)	Insertion force that insert the customer's pin in Tyco Electronics' terminal, at speed of 50mm/min. DIN IEC 60512
	Single pin removal force	1.5-7N for JPT (REF) 2N Min for MT II (REF)	Pull out strength that remove the customer's pin from Tyco Electronics' terminal , at speed of 50mm/min. DIN IEC 60512
	Housing retention force without lock, without terminal)	28N Max	Mating force, at speed of 50mm/min, use plug housing assembly without terminals push into customer component. DIN IEC 60512
	Unmate force (with lock, without terminal)	50N Min	Unmating force, at speed of 50mm/min, use plug housing assembly without terminals pull out from customer component. DIN IEC 60512
	Housing mating force (without terminals)	60N Max	Mating force, at speed of 50mm/min, use plug housing assembly without terminals push into customer component.
	Free fall	No visual damage	1-time free fall per spatial axis from 1.2 m height to uncoated concrete floor at room Temperature with 300mm wire and taping (VW 75174)
ELECTRICAL TEST	Voltage drop	10mΩ max	Measured by applying 1A to contacts in mated connector. DIN 46249-1
	Insulation resistance	100 MΩ min	Measured by applying 500VDC to adjacent terminals in mated connectors, hold for 2 minutes. EIA 364-23A
	Dielectric withstanding voltage	No short, arc, or break down between adjacent circuits	Measured by Applying 1000VAC to adjacent terminals in mated connectors. IEC 60512-4-1
ENVIRONMENT TEST	Chemical resistance	Pass insulation resistance test	VW 75174 DIN IEC60512-2 Use liquids: 1. Emerald windshield washer fluid; 2. Antifreeze coolant(G11); 3. Automatic transmission fluid
	Water bath test	Pass insulation resistance test	Medium: low surface-tension 5% NaCl solution, Number of cycles: 5; One cycle consists of the immersion in (65 ± 5) °C hot water followed by (0 ± 3) °C cold water. Duration 1h per temperature stage. The transfer of the specimen from one bath to the other must occur within 5 s. After the end of the last cycle, the specimens are thoroughly rinsed and subsequently dried.



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4. Qualification test

4.1. Sample selection

Samples shall be prepared in accordance with applicable specification. Each test group shall consist of three pieces.

4.2. Test sequence

Qualification test shall be conducted as sequence specified in Fig.2

4.3. Requalification test

If changes significantly affecting form, fit or function are made to product or manufacturing process, product assurance shall co-ordinate requalification testing, consisting of all or part of original testing sequence as determined by developments, product, quality and reliability engineering.

4.4. Acceptance

Acceptance is based on verification that product meets requirements of Figure 1. Failures attributed to equipment, test set-up or operator deficiencies shall not disqualify product. When product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before resubmitted.

4.5. Quality conformance inspection

Applicable TE quality inspection plan will specify sampling acceptable quality level to be used.

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

Product Qualification Test and Sequences(Fig .2)

Test or examination	A	B	C	D	E	F	G	H	I
	Test group								
Visual inspection	1,4	1,4	1,3	1,3	1,3	1,3	1,3	1,4	1,4
Contact removal force	3								
Contact insertion force	2								
Housing retention force		3							
Housing retention force(without lock)			2						
Housing mating force		2							
Free fall				2					
Voltage drop					2				
Insulation resistance						2		3	3
Dielectric voltage							2		
Chemical resistance								2	
Water bath test									2



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