

## Description

**DESIGN OBJECTIVES**

The product described in this document has not been fully tested to insure conformance to the requirements outlined below. Therefore AMP Incorporated makes no representation or warranty, expressed or implied, that the product will comply with these requirements.

Further, AMP Incorporated may change these requirements based on the results of additional testing and evaluation.

Contact AMP Engineering for further details.

Il prodotto descritto in questa specifica non è stato ancora completamente provato per garantire la conformità ai requisiti indicati nel documento. Perciò l'AMP non può al momento fornire assicurazione sulla conformità del prodotto a questi requisiti.

L'AMP si riserva inoltre la facoltà di modificare i requisiti della specifica sulla base dei risultati di addizionali prove e valutazioni.

Per ulteriori informazioni si prega di contattare l'Ufficio Tecnico.

# 12 POS. REC. CONNECTOR

## FOR MQS CONTACT

## FOR STEERING SWITCH

**1. SCOPE:**

This specification covers features and performances of the connectors with the following AMP Part Number:

**C-284321-1:** Housing 12 pos. For MQS contact pitch 2.54mm

**C-284322-1:** Shell for housing 12 pos. MQS

With the relevant female contacts AMP Part Number:

**C-928999-1:** rec. Contact "Micro Quadlok System" wire section **0.35±0.5mm<sup>2</sup>**

**C-963715-1:** rec. Contact "Micro Quadlok System" wire section **0.75mm<sup>2</sup>**

This connector is suitable for header counterpart or interface AMP Part Number:

**C-98-51275-1:** Header for 12 pos. MQS pitch 2.54mm

Product Code: **0537**GPL: **400**Progr. GEMIS: **918908**

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**2. CONNECTOR FEATURES:**

**2.1 Materials:**       - cover: PA 66 13% glass fiber filled  
                              - housing: PA 66 13% glass fiber filled

**2.2 Wire Range:** - stranded cable acc. to FIAT normation table n° 91107/03

**2.3 Operating Voltage:** 24V d.c.; for application to higher voltage please contact AMP.

**2.4 Current Rating:** see product spec. 108-18030 (relevant to M.Q.S. contact system)

**2.5 Operating Temperature:** from -30° to +85°C

**2.6 Test Temperature:** from -30° to +105°C

**3. QUALITY ASSURANCE PROVISION:****A. Sample preparation:**

The test samples to be used for the tests shall be prepared by randomly selected from the current production, and the contacts crimped in accordance with the relevant applic. spec's

No sample shall be reused, unless otherwise specified.

**B. Test Condition:**

All the tests shall be performed under any combination of the following test conditions, unless

otherwise specified.

Room temperature: 23 ±5°C

Relative Humidity: 45÷70%

Atmospheric Pressure: 860÷1060 mbar

**4. FEATURES AND TEST CONDITIONS**

FEATURES	TEST CONDITIONS	LIMITS
4.1 Visual examination	No cracking or deformation allowed on the specimen at new ad after mechanical and environmental test	Visual examination of the specimen by eyes or by lens
4.2 Connector mating force ( with contacts inserted )	In working condition with header counterpart. Speed of 25 - 50 mm/minute, direction equal to contact axis.	≤ 90N
4.3 Connector unmating force ( with contacts inserted )	a) like point 4.2, but pressing on the retaining lance.  b) like point 4.2, but without pressing on the retaining lance. (connector locking strength)	≤ 90N  ≥ 100N
4.4 Contact loading force	Speed of 25 – 50 mm/minute	≤ 10 N
4.5 Retention force of the single contact from the housing	Speed of 25 – 50 mm/minute	From housing only ≥ 30N From housing and shell ≥ 60N
4.6 Retention force of the housing from the shell	Connector fully loaded Pull from wire bundle Speed of 25 – 50 mm/min	≥ 80N
4.7 Insulation resistance	Between two adjacent contacts apply 500 V ac for 1 minute.	≥ 10 MΩ
4.8 Dielectric breakdown resistance	Between two adjacent contacts apply voltage ≥ 1000 V ac for 1 minute	No discharge

<p>4.9 Thermal cycling resistance</p>	<p>5 cycles composed of: 4 hours at + 105°C±2°C 4 hours at - 30°C±2°C 5 cycles composed of: 4 hours at + 105°C±2°C 4 hours at + 40°C±2°C and 90±95%r.h. 4 hours at - 30°C±2°C</p>	<p>No deformation or cracking of plastic parts  Millivolt drop within limits indicated a new</p>
<p>4.10 Accelerated aging test</p>	<p>200 hours at +105 °C ± 2 °C</p>	<p>No deformation or cracking of plastic parts Discoloration are admitted Millivolt drop within limits indicated a new</p>
<p>4.11 Salt spray resistance</p>	<p>NaCl 5% Duration: 96 hrs</p>	<p>Visual examination Any corrosion spot on contacts Millivolt drop within the limits at new</p>
<p>4.11 Kesternich</p>	<p>4 cycles as follows: 8 hrs under industrial atmosphere 16 hrs ambient temperature</p>	<p>Visual examination -Millivolt drop 100% more than the values at new</p>
<p>4.13 Vibration test (Random passenger compartment)</p>	<p>Random vibration test as diagram 1 enclosed ) Duration: 16 hrs on the direction of mating axis Test current : 1mA</p>	<p>Any electrical discontinuity greater than per t &gt;1μ s Millivolt drop within limits indicated a new -visual examination</p>

- For additional performances on contacts see Product Specifications 108-18030 .

**5. TEST SEQUENCE**

TEST TYPE	A	B	C	D	E	F	G	H	I			
VISUAL EXAMINATION	1,6	1,3	1,3	1,3	1,4	1,6	1,5	1,5	1,5			
CONNECTOR MATING FORCE WITH CONTACTS	3											
CONNECTOR UNMATING FORCE WITH CONTACTS (a)	4											
CONNECTOR UNMATING FORCE WITH CONTACTS (b)		2										
CONTACT LOADING FORCE	2,5											
RETENTION FORCE OF SINGLE CONTACT			2									
RETENTION FORCE OF THE HOUSING FROM THE SHELL				2								
VOLTAGE DROP						2,5	2,4	2,4	2,4			
INSULATION RESISTENCE					2							
DIELECTRIC BREAKDOWN					3							
THERMAL CYCLING						3						
ACCELERATED AGEING						4						
SALT SPRAY							3					
KESTERNICH								3				
RANDOM VIBRATION.									3			

FIGURE 1

**Random vibration test for car body**

FIAT CONNECTORS ON THE BODY

