



SURFACE VEHICLE RECOMMENDED PRACTICE

J2839™

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Superseding J2839 JUL2015

Heavy Duty High Speed Datalink Connector

RATIONALE

The consensus of the TETES2 is that this document should be stabilized. There is no new technology that would supersede this document in the foreseeable future.

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1. SCOPE

This SAE Recommended Practice defines the performance requirements, size and mating interfaces for M12 style 4 and 5 pole Heavy Duty High Speed Datalink connection systems, and applies to both cable-to-cable and cable-to-device connectors.

1.1 Purpose

High Speed Datalink connection systems, typically those operating at speeds that are greater than 10M bps, have been developed for commercial applications without regard to their potential application on heavy-duty vehicles or off-highway machines. This recommended practice is intended to be the standard for the heavy-duty connector mating interface and environmental performance requirements for High Speed Datalink connection systems. This standardization will assure mating compatibility of data link connectors from multiple connector suppliers while meeting industry performance requirements for heavy-duty applications.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J1128 Low Voltage Primary Cable

SAE J2030 Heavy-Duty Electrical Connector Performance Standard

2.1.2 IEC Publications

Available from International Electrotechnical Commission, 3, rue de Varembe, P.O. Box 131, 1211 Geneva 20, Switzerland, Tel: +44-22-919-02-11, www.iec.ch.

IEC 61076-2-101 Connectors for electronic equipment – Product requirements – Part 2-101: Circular connectors – Detail specification for M12 connectors with screw-locking

2.1.3 ISO Publications

Available from American National Standards Institute, 25 West 43rd Street, New York, NY 10036-8002, Tel: 212-642-4900, www.ansi.org.

ISO 6722 Road vehicles — 60 V and 600 V single core cables — Dimensions, test methods and requirements

ISO 20653 Road vehicles — Degrees of protection (IP-Code) — Protection of electrical equipment against foreign objects, water and access

3. DEFINITIONS

3.1 BULKHEAD CONNECTOR

The panel mount electrical connector which electrically and mechanically joins the circuitry of a component or cable to another electrical connector.

3.2 CABLE CONNECTOR

The cable side of an electrical connector which electrically and mechanically joins a cable to another electrical connector.

3.3 DEVICE MOUNTED CONNECTOR

The device side of an electrical connector which electrically and mechanically joins the circuitry of a component to another electrical connector.

3.4 HDM12

A heavy duty M12 connector per IEC 61076-2-101 that also meets the requirements of SAE J2839.

3.5 HDM12EX

An HDM12 connector with the additional physical durability as defined within SAE J2839.

4. REQUIREMENTS

4.1 Physical Requirements

J2839 HDM12 connectors shall mate to IEC 61076-2-101 M12 connectors and will meet at minimum the performance requirements of IEC 61076-2-101 with the following exceptions:

4.1.1 The application torque requirement for the M12 threads is 0.8 to 1.0 Nm. The torque requirement of the HDM12EX version M24-2 threads shall be 25 to 35 Nm.

4.1.2 The J2839 connector wire terminals shall be capable of being terminated to 0.8 mm² (18 AWG) or 0.5 mm² (20 AWG) conductors as defined by SAE J1128 and 0.75 mm² and 0.50 mm² conductors as defined by ISO 6722.

4.1.3 The J2839 connector will be 4 or 5 circuits only utilizing IEC 61087-2-101 B, D or P code keying arrangements.