# **Amphenol**<sup>®</sup> Application Note



## Max-M12 Connector

### BACKGROUND

Technical advancements in today's electronics are being realized at an amazing pace. And, as such, transmitting data over high speed connection systems has never been more popular or critical than now. For fieldbus applications, M12 connectors have played a significant role in these sophisticated systems. The standard M12 connectors in the market today are suitable for protected settings. However, in the Heavy Equipment, Rail & Mass Transit, Process Control, Factory Automation and other markets, today's M12 connectors may not necessarily meet the needs for these harsh environments.

#### PROBLEM

High speed data transmission connection systems have traditionally been implemented into commercial applications with little regard to high vibration, high temperature and overall harsh environment demands. With the increased implementation of these high speed Datalink connection systems into more heavy duty / harsh environment surroundings, the need for a more robust and ruggedized connection system has surfaced. Clearly, there was a need for a more robust solution.

#### **AIO SOLUTION**

Recently, a heavy duty high speed Datalink connector standard (SAE J 2839) was developed and published. Using the IEC 61076-2-101 standard as a foundation, the SAE J 2839 standard enhances the M12 connection system making it a perfect solution for the ultra rugged applications that sometimes exist in the target markets (Heavy Equipment – Rail & Mass Transit – Process Control – Factory Automation – etc.). Based on this new specification Amphenol Industrial Operations has developed the Max-M12 connector for rugged high speed data transfer applications.