



Introducing Motorman Hybrid Connector

Decentral servo motors are widely used in many industries and are typically connected via a deterministic system and power-fed by a separate cable. Recently, motors are becoming increasingly networked via fast Ethernet, which offers the benefits of real-time control. However, this does not solve the nuisance of having dual cabling for signal and power.

Tyco Electronics (TE) launches the Motorman hybrid connector, which integrates communication, signal and power transmission of locally controlled motors within a compact rectangular connector. Two fast Ethernet sockets offer the full benefits of real-time automation control, while reducing cabling complexity.



APPLICATIONS

- I/O connector on decentral servo motors
- I/O connector on AC servo motors with PCB
- Drives (amplifiers)
- Packaging, assembly, woodworking or food processing machines

STANDARDS AND SPECIFICATIONS

- Cat 5e (ISO/IEC11801)
- VDE
- CSA-C22.2
- UL 508C (cable side)
- UL 1977 (motor side)
Category P V V A 2

FEATURE

APPLIED BENEFIT

Compact size of a traditional rectangular connector and hybrid construction (power, communication, signal)	Space savings and less influence on the customer's complex machine architecture
Several pre-customized models available for different customer environments	System integrity and price control for OEMs on the harness
Enclosures: <ul style="list-style-type: none"> • Robust metal • Plastic 	<ul style="list-style-type: none"> • Fits tough industrial environments • Best economical offer for less critical purposes
Easy-to-open enclosure	Easy and safe configuration due to spacious side access to its interior
Offers space for two 4-pin Ethernet sockets, five power sockets, five signal sockets and one protection earth contact	All signals are bundled in one interface which means only one cable for the customer
Cat 5e communication in heavy environment	Supports industry standards and fast processes
Usage of Tyco Electronics' MCON interconnection system and its stamped contacts	Advanced technology combined with lowest applied cost as processing can be done on application tooling that guarantees high reproducibility

PERFORMANCE DATA

- Environmental
 - IP65 (water & dust protection)
 - 25g (physical shock)
 - Electro-magnetic compatibility (EMC protection) in metal enclosure
- Electrical
 - 2 x 20A / 600V @ 85°C (20A/600V/6kV2)
 - 2 x 20A / 40V @ 85°C
 - 1 x Ground (protection earth)
 - 1 x Braid
 - 5 x 2A / 40V
- Communication
 - 2 x Cat 5e (AWG 22)
- Application
 - Reflow capable

INNOVATION ACHIEVEMENTS

Rectangular Size

Tyco Electronics adheres to the compact dimensions of a rectangular connector measuring just 41.5 x 22.3 millimeters. The housing and contact insert are fully downward compatible with Tyco Electronics industrial heavy duty connector Q series. The complete power supply and signal communication fit within the tight limits of the insert area. Using regular contacts, the connector would have measured twice the targeted size. The dense design could only be realized using Tyco Electronics highly modern MCON system of receptacle contacts.

Easy Assembly

The connector housing was developed completely from scratch. Its design and assembly strategy follow the requirements of hybrid circular conductors. As cables of this type are stiff due to the wire bundling, shielding and multiple insulations, the housing follows the natural bending geometry of the assembled cable. In contrast to traditional rectangular connectors, the cable does not enter at a right angle but at 100° instead, in order to ensure a good match of cable bending radius and housing geometry. This design avoids excessive bending angles at the beginning of the stripped wire section and makes sure that the contacts are positioned straight in their cavity.

Cable Seal

The cable jacket seal generates two ring shaped lines of compression around the hybrid cable jacket. As the cable is held straight between the two sealing elements, the level of compression is very equally distributed around the jacket circumference. The optimized design permits it to assemble cables of between 13 and 17 millimeters diameter with one size of seal. As the seal is held in place by a latching protective cap, the assembly can take place without a torque-controlled tool.

PRODUCT OFFERING

PART NUMBER	DESCRIPTION
2120212-1	Receptable Housing (metal)
2120191-1	Signal Housing
1719840-3 1718475-3	MCON 2.8 Receptable Contact
1452653-2 1452656-2	MCON 1.2 Receptacle Contact
1658686-1	HDP-22 Contact
2120195-1	Tab Connector
1103427-2	Communication Socket (HC26.Bu.4.C.5,2)
2120213-1	Kit: Hood, Cover, Screen Clamp (metal)
2120205-1	Protection Cover
2120206-1	Cable Seal
2120207-1	Side Clip (metal)
2120263-1	Kit: Hood, Cover, Screen Clamp (plastic)
1245276-1	Side Clip (plastic)

FOR MORE INFORMATION

te.com/products/motorman

For email, phone or live chat, go to: te.com/help

Part numbers in this brochure are RoHS Compliant*, unless marked otherwise.

*as defined te.com/leadfree

Product Information Centers

Austria:	+43 1 90560 1228
Baltic Regions:	+46 8 50 72 50 20
Benelux:	+31 73 6246 999
Canada:	+1 905 470 4425
Central America & Mexico:	+52 55 1106 0814
China:	+86 400 820 6015
France:	+33 1 34 20 86 86
Germany:	+49 6251-133 1999
Italy:	+39 011-4012632
Nordic:	+358 9 5123 4218
South America:	+55 11 2103 6000
Spain/Portugal:	+34 93-2910366
Switzerland:	+41 71 447 04 47
United Kingdom:	+44 800 267666
United States:	+1 800 522 6752

Tyco Electronics Corporation

Berwyn, PA

te.com

© 2010 Tyco Electronics Corporation. All Rights Reserved.

2-1773457-1 CIS DK 11/2010

MCON, Motorman, TE (logo) and Tyco Electronics are trademarks.

Other logos, product and Company names mentioned herein may be trademarks of their respective owners.

Cover image reprinted with permission of ELAU GmbH.

While Tyco Electronics has made every reasonable effort to ensure the accuracy of the information in this catalog, Tyco Electronics does not guarantee that it is error-free, nor does Tyco Electronics make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. Tyco Electronics reserves the right to make any adjustments to the information contained herein at any time without notice. Tyco Electronics expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult Tyco Electronics for the latest dimensions and design specifications.

 **Tyco Electronics**
Our commitment. Your advantage.