



A connectivity solution offering high integration of data, signal and power transmission in a circular hybrid design according to the VARAN standard

TE Connectivity (TE) introduces the Circular Hybrid Connector (CHC) with 8 power and 4 data contacts for Industrial Ethernet Connections. The Circular Hybrid Connector has been designed for machine automation applications that require a higher performance data connection and power of up to 10 Amps. The connector provides highly reliable connection technology and meets the demanding durability and quality requirements of real-time Ethernet applications in industrial automation. Combining power supply and data into one single connector provides customers with greater flexibility in machine architecture. With VARAN-bus standard compatibility, the connector supports, for example, fast change over times of molds in molding machines. Simplified cabling reduces installation time by up to 50%.

### Features and Benefits

- Helps to save time and cost in one hybrid connector design, combining power and data communication
- Helps achieve more connections in less space with 8 power contacts and fast Ethernet interface in one housing
- Offers optional housing with 11+ PE (Protected Earth) contacts in retrofit option platform design
- Enables design flexibility with a broad portfolio of wire-to-board and wire-to-panel options
- Designed for harsh environments with radial sealing elements that provide IP65 sealing performance
- Benefit from fast data transfer with VARAN bus compatibility

### Applications

- Molding Machines, Transport and Sorting machines
- High-performance process control systems applications
- Machine automation applications
- Factory automation systems
- Control valves and control units
- Stand-alone or remote power units

### Standards & Specifications

- Meets the VARAN standard (Versatile Automation Random Access Network), an Industrial Ethernet based protocol used in factory automation
- Cat5e fast Ethernet (ISO/IEC11801)
- DIN EN 61984
- Robust metal enclosure fits for tough industrial environments
- Supports industry standards and fast processes

### Performance Data

#### Mechanical:

- Shock: 25 g (DIN EN 50155)
- EMC: min -60 dB to 1 GHz
- Isolation level: 1.5 kV AC
- Durability: 50 mating/un-mating cycles
- IP65 (according to IEC 60529)
- 180° metal

#### Electrical:

- 60 V (pollution degree 3, according to EN 61984)
- 10 A @ 40°C
- -20°C up to +80°C
- Cat5e (ISO/IEC 11801 Edition 2.0 Connector Category 5)

### Product Specification

- 108-94485

### Application Specification

- 114-94369

## CHC Overview Matrix



## CHC Parts

| Part Description                                | Part Number | Item  |
|---|-------------|---|
| MALE INSERT, CRIMP, 4-POS., 22DF CONTACTS       | 1103426-1   |    |
| FEMALE INSERT, CRIMP, 4-POS., 22DF CONTACTS     | 1103427-2   |    |
| MALE INSERT ASSEMBLY CRIMP, 8-POS., TYPE III+   | 1103428-1   |  |
| FEMALE INSERT, CRIMP, 8-POS., TYPE III+         | 1245611-1   |  |
| MALE INSERT ASSEMBLY, CRIMP, 12-POS., TYPE III+ | 1103431-1   |  |
| FEMALE INSERT, CRIMP, 12-POS., TYPE III+        | 1245615-1   |  |
| BULKHEAD HOUSING ASS'Y                          | 1103436-1   |  |
| CAT5e HYBRID CABLE SERIES                       | 1103536-3   |  |
| BULKHEAD HOUSING WITH SOLDER UNIT SERIES        | 1108846-1   |  |

## Circular Hybrid Connector Overview

| Part Description                                | Part Number | Item  |
|---|-------------|---|
| LOOSE PIECE PIN TYPE III+<br>CONTACT SIZE 16    | 163086-2    |    |
| LOOSE PIECE SOCKET TYPE III+<br>CONTACT SIZE 16 | 163088-2    |    |
| PIN CONTACT, 22-28 AWG,<br>22 DF, AMPLIMITE     | 1658670-2   |    |
| SOCKET CONTACT, 22-28 AWG,<br>22 DF, AMPLIMITE  | 1658686-2   |    |
| PIN ASSEMBLY, LOOSE PIECE,<br>TYPE III+         | 66361-4     |    |
| SOCKET ASSEMBLY, LOOSE PIECE,<br>TYPE III+      | 66360-4     |   |
| CLAMPING RING                                   | 2287895-1   |  |
| CHC-HOUSING                                     | 2290258-1   |  |
| CHC-CABLE SEAL                                  | 2290260-1   |  |
| ADJUSTER CHC                                    | 2287892-1   |  |
| SHIELDING ELEMENT                               | 2290270-1   |  |

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