

TD-123 - Weatherproof Relay Connector Application Specification

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Rev: 3-Apr-2019

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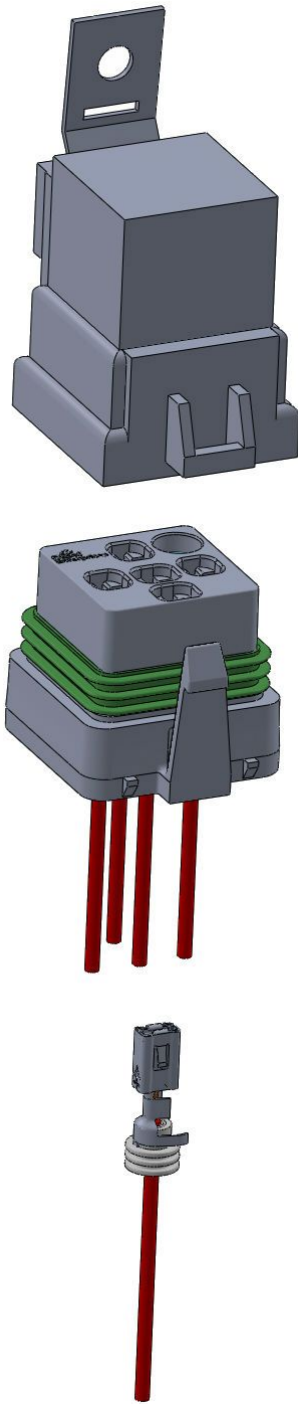


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Description of Product

Chief Enterprises' Weatherproof Relay Connector mates to a single Weatherproof ISO Mini Relay. The connector is designed for use in construction, agriculture, and heavy duty transportation applications where ruggedness is required.

A minimal Weatherproof Relay Connector system consists of a Connector (C1256 or C1257), Relay (various), and Wire Leads (various). Wire leads with terminals and single wire seals (SWS) are inserted in the bottom of the base (Push-to-Seat terminals). The Relay is mated to the terminals from the top of the connector.

Optionally, the Weatherproof Relay Connector can include a hydrophobic breather, for use in applications where water intrusion is a significant issue. The breather allows air pressure inside the connector to equalize with outside air, minimizing risk of air pressure-induced water intrusion.

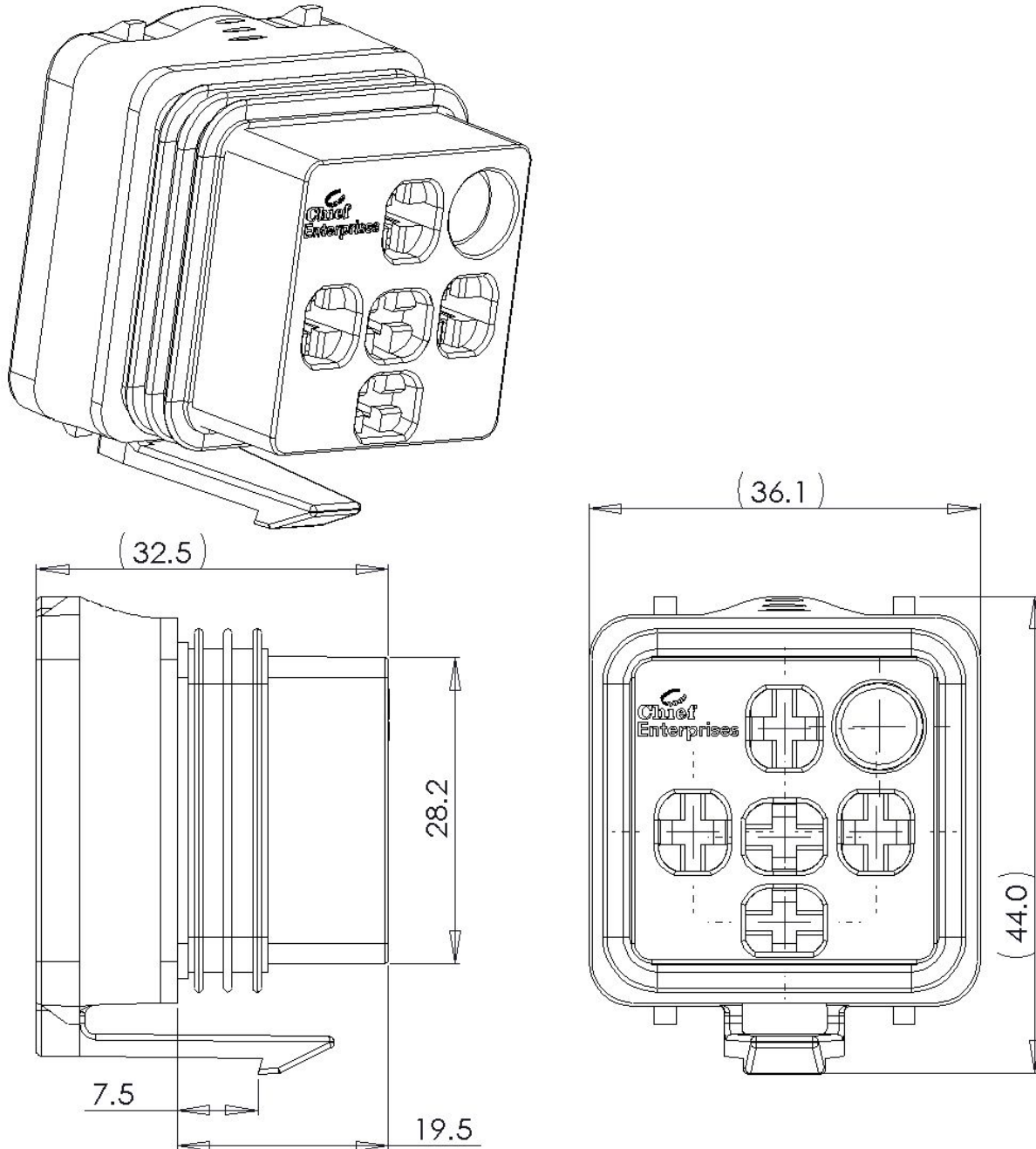
The Chief Weatherproof Relay Connector can easily replace Delphi™ connectors such as 12077993, simplifying the transition for most applications.

The Weatherproof Relay Connector has provisions for attachments on the back end, such as TPA, boot, or tether. A standard TPA is available, and if the application requires another attachment, our Engineering team can design and implement a solution.

While the design of the Weatherproof Relay Connector has been highly engineered and tested, each application can have unique characteristics that affect its functionality. Recommendations in this document are based on typical configurations and applications, but cannot cover the extent of all uses. We recommend that OEMs test the Weatherproof Relay Connector in their configuration, with the specified electrical components and environmental requirements.

Basic Dimensions

(reference only - see drawings for dimensions and tolerances)



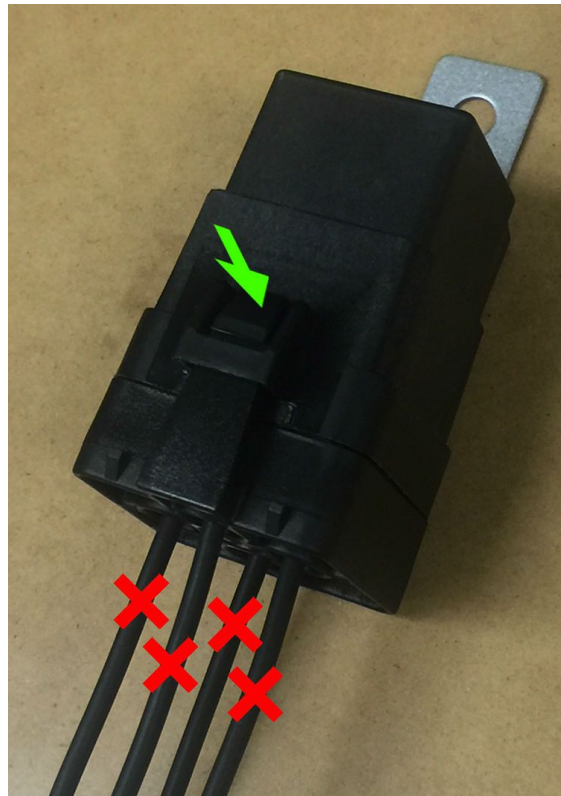
Assembly Instructions

1. Assemble TE MCP Terminals and Single Wire Seals onto wires
2. Insert wire assemblies into cavities until a click is heard. Each cavity will accept a terminal in two orientations -- the terminals can be rotated 180°
3. Gently pull back on the wire assembly to confirm it is seated
4. Plug any unused cavities with 967652-1
5. (Optional) Assemble TPA over wires, making sure to snap each of the 4 tabs into place
6. Insert Connector into Relay until a click is heard
7. Mount Relay as required

Disassembly Instructions

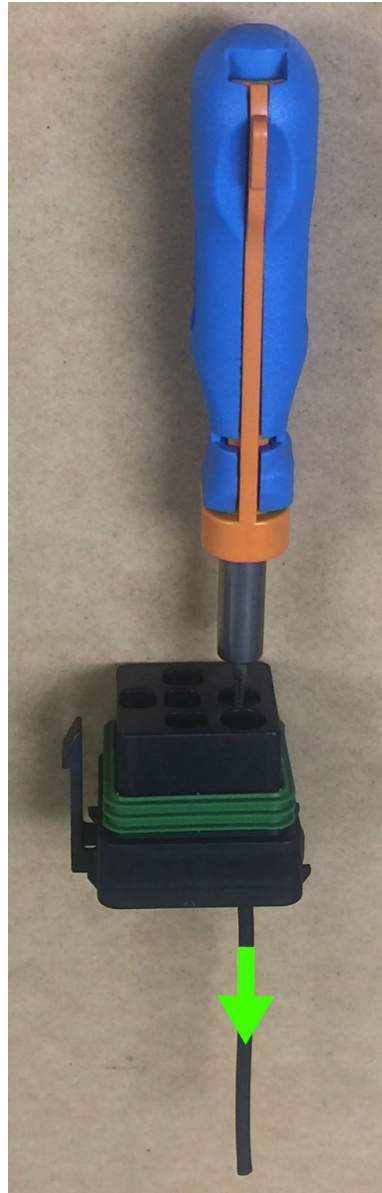
Removing Connector from Relay

1. Depress latch on Connector body
2. Pull on Connector body -- do not pull on wires



Removing Wire Assemblies/Terminals from Fuseholder

1. Remove Relay if necessary
2. Remove TPA if necessary
3. Insert terminal removal tool 1-1579007-3 into cavity from top
4. Gently pull wire from back until it moves freely. Wiggle tool if necessary



Terminal System

Example part numbers are shown in the table below, this table is for reference only -- the latest information is available from the TE Connectivity. Note that x- and -x represent material, plating, or tooling options.

MCP 6.3						
Cavity Plug: 967652-1						
Terminal Extraction Tool:1-1579007-3						
Wire Size mm ² (AWG)	Insulation Diameter (mm)	Strip Form	Loose Piece	Applicator Tool	Hand Crimp Tool (Die Set)	Single Wire Seal
0.50 - 1.0 (20 - 18)	2.0 - 2.1	x-1241412-x	x-1241413-x	2151234-x	539955-2	1394511-1
>1.0 - 2.5 (16 - 14)	2.2 - 2.7	x-1241414-x	x-1241415-x	2151177-x	539956-2	1394511-1
>2.5 - 4.0 (12)	3.4 - 3.7	x-1241416-x	x-1241417-x	2151151-x	539956-2	1394512-1
>4.0 - 6.0 (10)	4.0 - 4.5	x-1241418-x	x-1241419-x	2151466-x	3-1579021-7	1719043-1

Electrical & Environmental

Ambient Temperature:	-40 to 120° C
Max Current per Terminal:	40 Amps (at 20° C Ambient)
Water & Dust Ingress Protection:	IP 66
Wire Range:	24 to 10 AWG (0.2 to 6.0 mm ²)
Environmental Compatibility:	Resistant to most underhood chemicals, UV Stable
Compliance:	ROHS REACH Fuseholder: UL 94V-0 Seal: UL 94HB
Materials:	Connector: Glass Reinforced Polyamide Seal: Silicone TPA: Polyamide
Design Recommendations:	Maximize load wire gauge for heat dissipation Mount in area with airflow, away from heat sources

Validation Testing

Temperature Cycle: ▪	-40 to 125 °C, 10 Cycles (Operational)
Mechanical Shock: ▪	10 pulses at 25g 100 pulses at 40g 10 pulses at 50g 3 pulses at 100g
Drop Test: ▪	1 Meter onto Concrete, All Sides
Vibration: ▪	Random 72 hrs (Operational)
Water & Dust Ingress: ▪	IP 66
Rain & Shine Cycle: ▪	100 cycles/200 Hours (Operational)

- complete & passed
- in process/planned