



In-Line Connector

Itron has shipped more than 8 million in-line connectors to customers across North America for use in some of the most difficult meter pit environments. The in-line connector's proprietary patented technology ensures the integrity of the connection between the radio endpoint and the meter.

INTRODUCTION

As a certified IP68 connection, Itron's in-line connector uses a lubricated "static" O-ring seal design modeled after the Parker O-ring Handbook to achieve a connector system that is rated for continuous underwater operation. The static O-ring design is most commonly used in aerospace and military connectors. The in-line connector provides utilities with an easy way to access and troubleshoot both the meter register and the AMR/AMI radio communication module, removing the need for splice kits

while ensuring the integrity of the meter connection. For more than 12 years, Itron has been supplying its in-line connectors to all meter manufacturers for wiring and potting for hundreds of water utilities.

PRODUCT FEATURES

The incredible reliability of the in-line connector is driven by several unique design features including:

- » "Lubricated static O-ring" design that keeps out moisture and debris

- » Twist lock feature that compresses the O-rings, providing an additional seal
- » Gold coated pins prevent corrosion and ensure a solid electronic connection
- » Utility staff can easily connect/disconnect registers and endpoints to perform system maintenance
- » Uniquely keyed/indexed design prevents damaged pins from misalignment during mating of connectors



SPECIFICATIONS

Connector Body

Material	Thermoplastic Polysulfone
Dielectric Strength	17 kV/mm
Operating Temperature	-40°F to +158° F
Insulation Resistance	> 100 Megohm (after long term high humidity exposure)

Contacts

Material	Phosphor Bronze
Plating	Per Mil-G-45204. Gold Plate, 30-35μ over 50-80μ Nickel Plate per AMS-QQ-N-290

Backshell

Material	Thermoplastic Resin, HDPE
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Cable Jacket

Outside Diameter	0.167"
Jacket Material & Thickness	PVC---34 mils
Jacket Color	Gray
Number of Conductors	3
Assembly	3 conductors twisted
Cable Marking	E113422 (UL) 22 AWG Type CM 75C

Cable Conductors

Outside Diameter	0.046"
Conductor Material & Thickness	SR-PVC---8 mils
Conductor Size	22 AWG Stranded (7/30) Tinned Copper
Conductor Colors	Black, Red, White
Operating Temperature	-22° F to 167° F

Connector Sealing Method

Connector Body	Compressible Rubber O-Ring
Backshell	Filled with Elastomeric Water Resistant Potting

VALIDATION TESTING

In order to ensure long-term reliability, Itron engineers subjected the connector system to test methods found in military testing standard MIL-STD-810E. This standard was the basis for exposing the connector to a host of rigorous tests to simulate typical environmental conditions in pit-based installations. Some of the tests required the connector system to sustain several weeks of exposure to chemical baths, salt water, ice formation, water submersion, mechanical stress and a multitude of other conditions that may occur in a real-world environment. Also included were accelerated life tests to determine the effects of aging. Only after successfully passing each of these tests was the connector system product authorized.



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