Passive Coupler Module

The Passive Coupler isolates powered segments of I/O device communication networks. The Passive Coupler Module consists of a Passive Coupler board, an I/O Network Power Supply, and a 24-volt transformer mounted in a white powdered-coated aluminum enclosure.

Applications

Passive Couplers are conveniently configured to power one I/O network segment and provide power and lightning transient isolation in one easy to install package. Only the I/O network communications signal passes through the Passive Coupler device unchanged.

Total segment length is limited by signal degradation and power losses in the communications cable. Argus engineers normally evaluate these limitations during the system design process.

The Passive Coupler board (TC-PASC-1.3/RCP) is also available separately on a relay control panel mount for installation in Titan combination panels.

Alternatives

An I/O Repeater (TC-IORE…) should be used in place of Passive Couplers if I/O network branching is required or to regenerate communications signals in applications with long wiring runs or high electrical noise. The I/O Repeater is a drop-in replacement of the Passive Coupler to extend the device communications wiring length beyond 300 meters.

Features

- Fused Lightning protection circuits on each side of the Passive Coupler.
- Single 120 VAC power connection.
- Class II 24 VAC transformer with current limiting and output power fusing.
- I/O Network Power Supply with gas discharge tube lightning protection.
- Factory pre-wired, requiring only 120 VAC power and I/O network wiring connections.
- NEMA/UL 12 rated enclosure, suitable for indoor mounting, providing protection against moisture, dust, and dripping liquids.
- Built to UL 508A electrical standards.

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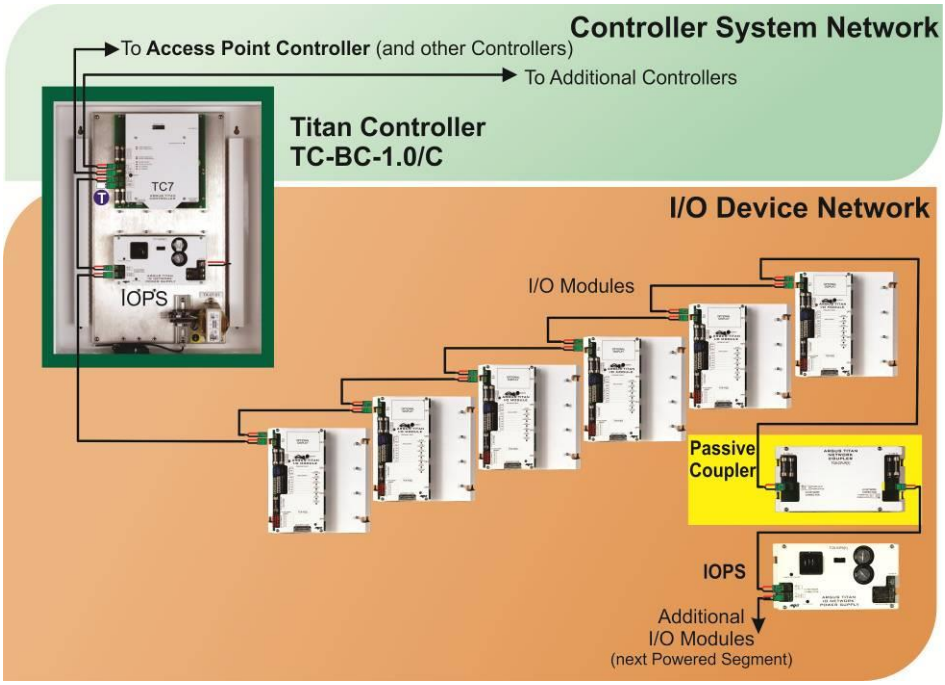
S p e c i f i c a t i o n s

Enclosure Material and Dimensions	Dimensions: 12.75" x 14.25" x 4.5" NEMA/UL/CSA Type 4X. *We recommend following local electrical codes as applicable. Modular quarter-turn latches are included with an option to swap these out for key lock and non-key lock handles.
Power Requirement	120 VAC, Maximum 75VA. Must be connected to a good electrical ground.
Maximum Network Segment Distance	Limited by network wire (I^2R power losses); usually 100-300 meters Subject to some signal degradation. Substitute with I/O Repeater (TC-IORE-1.4/C) in case of a problem.
I/O Device Network Cable	Argus part number: CAB- 2C18G/TITAN, West Penn Wire - Aquaseal AQ224, 2-conductor, 18-gauge cable, suitable for outdoor use (direct burial), indoor trays, moisture & UV resistant. NO SUBSTITUTIONS – USE OF THIS EXACT WIRE IS CRITICAL FOR PROPER NETWORK COMMUNICATION

W i r i n g D e t a i l s



Typical placement of a Passive Coupler on an I/O Communications Network

*The **I/O Modules** in the illustration form an isolated **Powered Segment**. They are being powered by the **IOPS** (I/O Power Supply) located with the **Titan Controller**. The **Passive Coupler** (shown on the yellow background) is used to isolate the power between each IOPS.*

***Example I/O Network Configuration**: Each I/O Network is custom engineered to suit the physical layout of the controlled applications and the distances spanned. For installation, refer to the custom drawings supplied with the control system.*

A d d i t i o n a l I n f o r m a t i o n

For more information, please contact Argus.

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