I/O Network Repeater Module

The I/O Network Repeater Module provides power and signal regeneration for I/O network communications. It also facilitates network branching and provides isolation for each independently powered segment of the I/O network.

The module consists of an I/O Network Repeater board, an I/O Network Power Supply board and a 24-volt AC power transformer mounted in a white powder-coated aluminum enclosure.

Applications

The I/O Network Repeater is used to regenerate the digital communications signal on I/O network wire runs more than 300 meters and whenever a branch in the network wiring is required.

I/O Network Repeaters are also used to segregate the I/O network into powered segments, with the devices in each segment powered by a separate I/O Network Power Supply. The I/O Network Repeater provides power isolation between the powered segments (see the illustration on the next page).

The I/O Network Repeater board (part number TC-IORE-1.x/RCP) is also available separately on a relay control panel mount for installation in Titan combination panels.

Alternatives

Passive Couplers (TC-PASC…) can be substituted on short wiring runs to isolate powered segments. Passive Couplers do not offer network branching.

Features

- 3-Port design accommodates free topology network branching for ease of wiring.
- Modules are powered by Network power on Port A. No requirement for supplementary power.
- EMI Choke – reduces interference generated by devices emitting high frequency ‘noise’
- LED status lights indicate proper wiring and network operation.
- Complete digital re-construction of degraded signals, allowing very long networks with many in-line repeaters with no loss of performance.
- Up to nine repeaters may be connected in series, creating I/O network lengths of many kilometers.
- Network terminator connections for installation at the ends of network segments
- Built to UL 508A electrical standards.
- NEMA rated enclosure, suitable for indoor mounting, providing protection against moisture, dust & dripping liquids.

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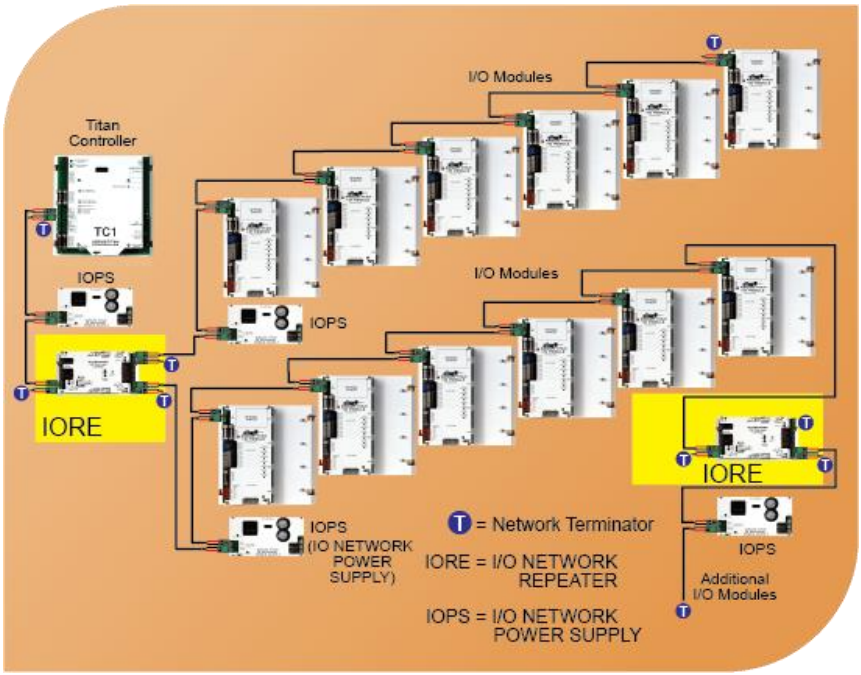
S p e c i f i c a t i o n s

Enclosure	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	Power for the module is normally provided via the I/O Network Power Supply on the powered segment that is connected to **Port A**. An alternative local power source (12-30 VDC >100mA) must be supplied if Port A is not used.
Maximum Network Segment Distance	Limited by I²R power losses (voltage drop) and signal degradation (up to 1500 meters per segment).
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



IORE panels are highlighted in yellow.

In the example, one IORE is being used as an I/O Network branch point and the other is used to extend the network length.

***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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