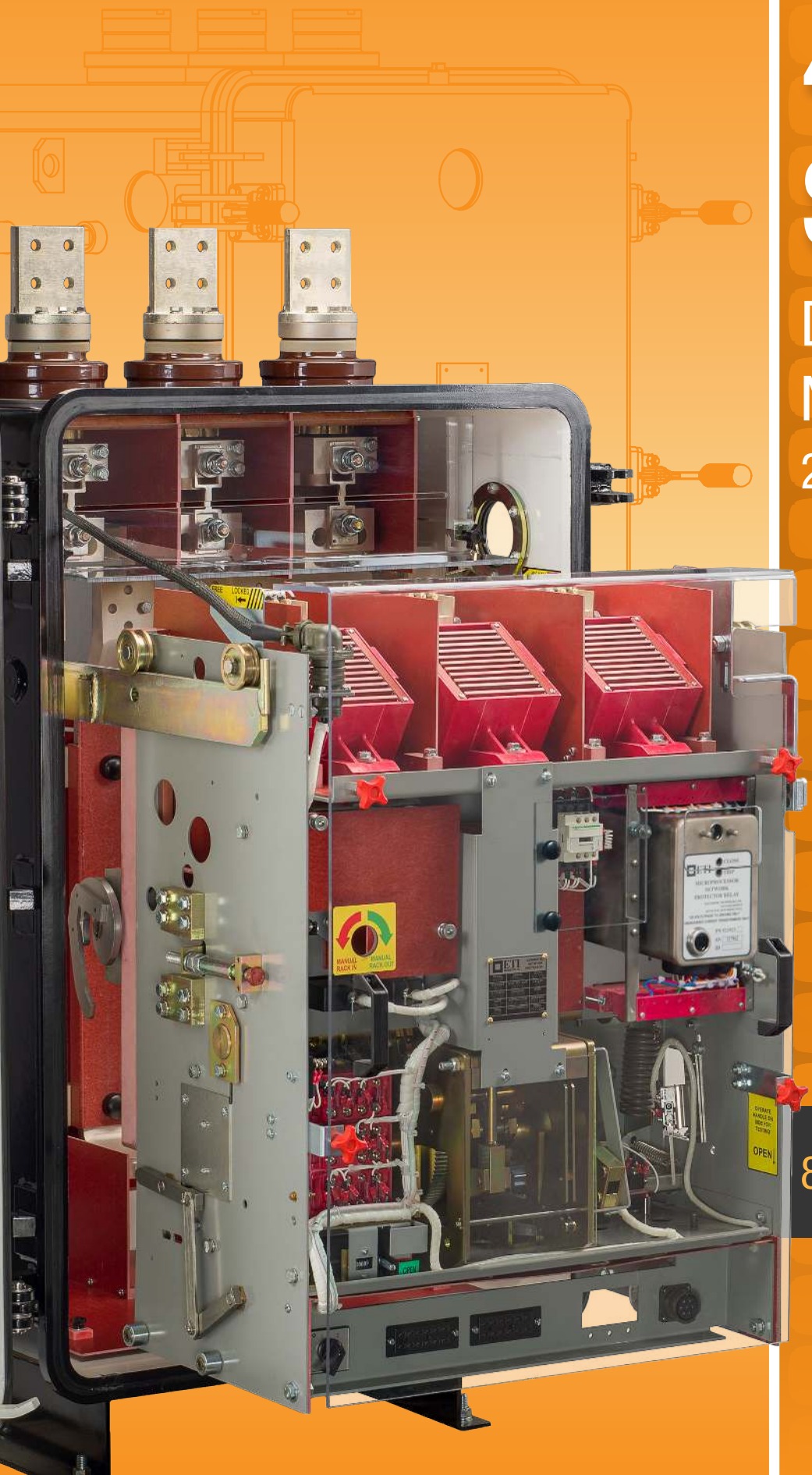


416NP Series

Deadfront Draw Out Network Protector

2022 PRODUCT GUIDE

800-3500 Amperes

Richards™ MANUFACTURING CO.

416NP

INTRODUCTION & PRODUCT RATINGS

The Next Generation Network Protector

Our commitment to manufacturing the most innovative and reliable Network Protectors continues with the 416NP Series. This rugged unit is not only deadfront but also a true heavy-duty Network Protector. The 416NP, like all Richards designs, is built to last in the toughest environments.

- **Deadfront Draw-Out Design:** All of the internal energized components of the 416NP are located behind ¼"-thick transparent polycarbonate barriers. The mechanism of the 416NP makes its connection to the enclosure bus bars with ultra-reliable spring-loaded knuckle pressure contacts. This eliminates the need to remove fuses or links when racking out the mechanism for maintenance.
- **True Heavy-Duty Network Protector:** The 416NP is the first and only true heavy-duty Network Protector that is also deadfront. Evolved from our tried-and-true 316NP design–a design that has proven itself in service for decades–the 416NP is built to last in even the most demanding network environments.
- **Extreme Thermal Capacity:** The 416NP significantly exceeds IEEE C57 thermal requirements. The small frame 416NP is designed to carry 2250 Amps continuous current. The large frame 416NP is designed to carry 3500 Amps continuous current.
- **Simple and Reliable Motorized Racking System:** Our innovative Motorized Racking System allows the mechanism to be completely racked in/out with the submersible enclosure door shut. No complicated relearning process required.
- **Easier Test Connections:** Test and Phase Socket facilitate test set connections and phasing checks.

Product Ratings

Ratings		
Continuous Current	800A - 2250A	2500A - 3500A
Interrupt	30kA AIC	45 kA AIC at 480 Volts
Fault Close	30kA	45 kA
Voltage*	125/216 or 277/480	125/216 or 277/480

Follows IEEE C57.12.44 (2014)

Production Testing

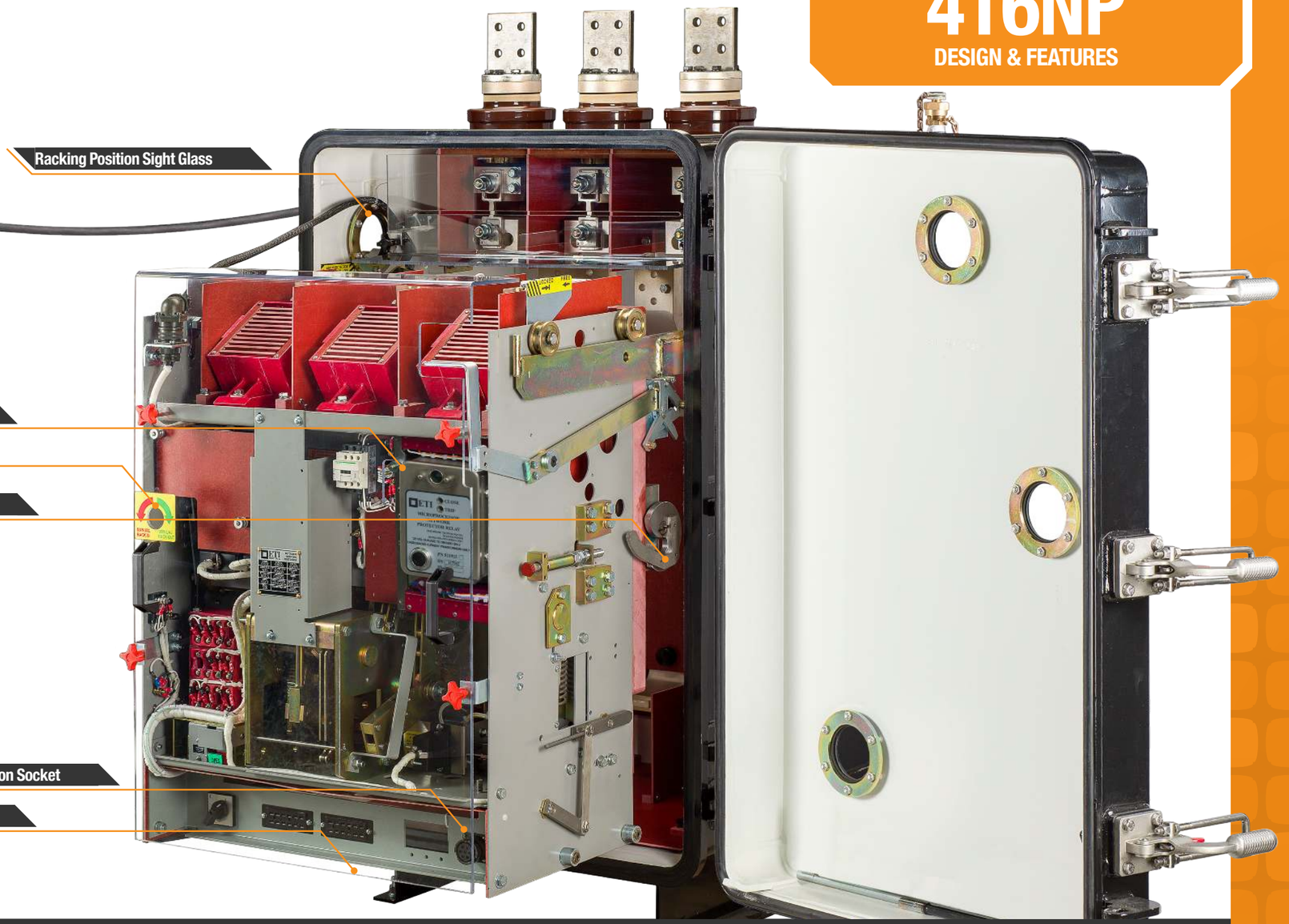
The 416NP is 100% production tested per IEEE C57.12.44 (2014).

* *Special Voltages are available. See ordering information page for details.*

Richards™ MANUFACTURING CO.

416NP
DESIGN & FEATURES





1. Motorized Racking System

One of the most innovative features of the 416NP is the motorized racking system, which engages and disengages the mechanism from the enclosure bus bars. The optional three (3) position racking system operates with the enclosure door closed and moves the mechanism to the Racked IN, MID, and OUT positions (IN – mechanism bus connects to housing bus / MID – Separation of mechanism bus and housing bus but racking circuit still has power / OUT – mechanism bus and racking circuit are completely disconnected from housing bus resulting in a completely de-energized mechanism). Two cams located on the backside of the unit engage stationary rollers, actuating the mechanism for the remote racking system cycle. The racking system is controlled with a Racking Pendant, which mates to a bulkhead feedthrough on the side wall of the enclosure. The Racking Pendant allows the user to stand as far away from the unit as preferred, even outside the vault.

2. Visual Break Sight Glass

A new feature on the 416NP, is the Visual Break Sight Glass. This new sight glass gives the user the ability to verify the separation or mating of the upper disconnect contacts. The user can now visually verify that the mechanism bus is disconnected from the housing bus before opening the housing door.

3. Connection Sockets

Two connection sockets are available on the 416NP Series to facilitate and simplify network protector commissioning, testing, and preventative maintenance. A Test Socket comes standard on all 416NP mechanisms. It provides a convenient connection point for ETI Network Protector Test Sets leads. An optional Phasing Socket is dual-purpose: it serves to power the ETI Network Protector Test Set and interfaces with an ETI Phasing Box to conveniently check phasing.

4. Deadfront Covers

The 416NP features a set of 1/4”-thick transparent covers (over the front face of the mechanism and fuse locations) to restrict access to energized components. These high-temperature polycarbonate LEXAN™ covers are qualified to UL94 V-0.

5. Safety Interlocks

The 416NP features electrical and mechanical interlocks to prevent the unit from racking in and out while under load. The Motorized Racking System cannot energize without the Racking Pendent plugged in, and can only operate if both the main contacts and operating handle are in the open position.

6. Manual Crank

In the event the Motorized Racking System cannot be utilized, a Manual Crank is available to rack the 416NP Series mechanism into the locked or free position. The Manual Crank can only be operated if the main contacts and operating handle are in the open position. When the main contacts are closed, a semaphore flag (directly tied to the mechanism cross-bar)lowers and denies access to the Manual Crank system.

416NP
ORDERING INFORMATION

Sample Part Number

416	NP	1875	D	T	S	2
Product Series	Product Line	Amperage Ratings	Voltage Type	Mounting Style	Enclosure Style	Racking

416 = Series

NP = Network Protector

800 = 800 Amperes
1200 = 1200 Amperes
1600 = 1600 Amperes
1875 = 1875 Amperes
2000 = 2000 Amperes
2250 = 2250 Amperes
2500 = 2500 Amperes
3000 = 3000 Amperes
3500 = 3500 Amperes

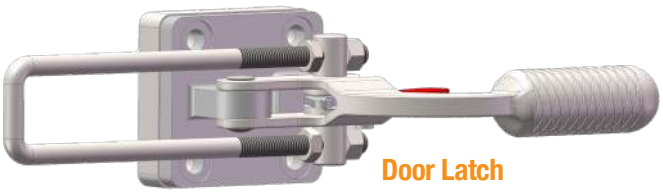
L = 125/216V
H = 277/480V
D* = Dual Voltage
S** = Special

S = Separately
W = Wall
T = Transformer

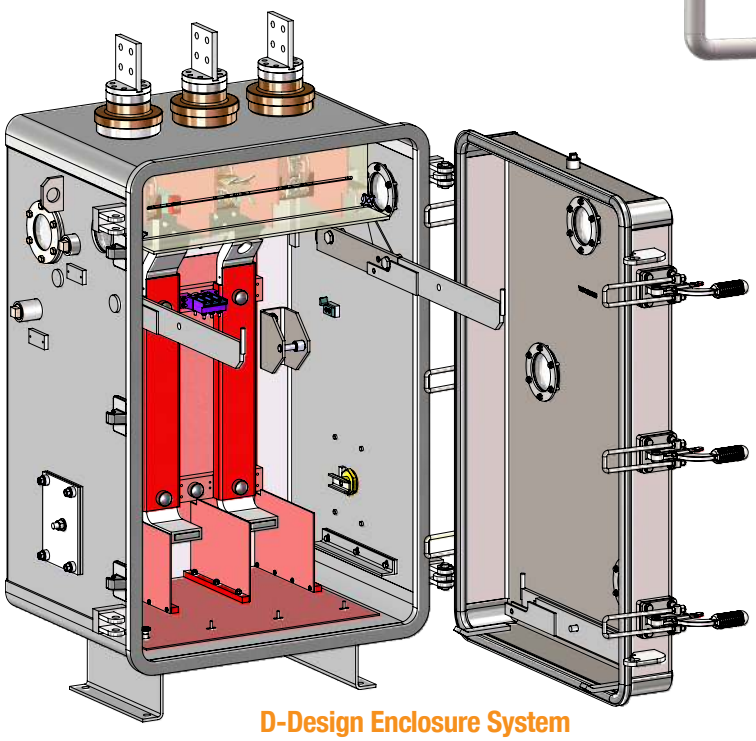
D = Dust Proof
V = Ventilated
S = Submersible

1 = Manual Racking Mechanism only
2 = 2 Position Racking Mechanism
3 = 3 Position Racking Mechanism

All Richards Network Protectors are custom-made. Each customer receives a unique build that includes preferences for wiring, enclosure design, communications equipment, etc. Additionally, many innovative upgrades are available including the D-Design Enclosure System, Door Latches, and PROLink. Contact your local sales representative for more information.

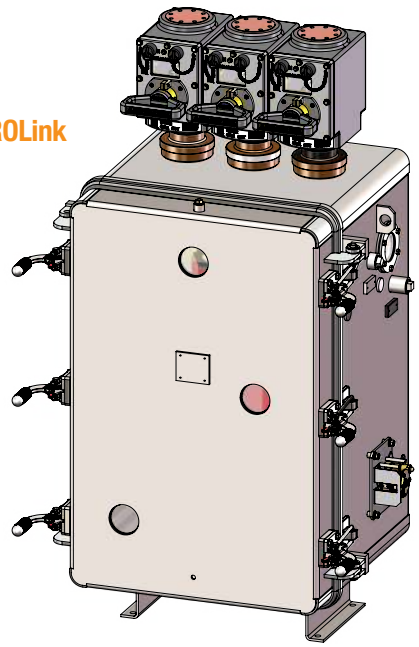


Door Latch



D-Design Enclosure System

PROLink



* *Dual-Voltage Network Protectors are wired for two different voltage types. Various types of toggles are available. Contact the factory for options.*
** *Non-standard voltage types are available upon request. Contact the factory for details.*

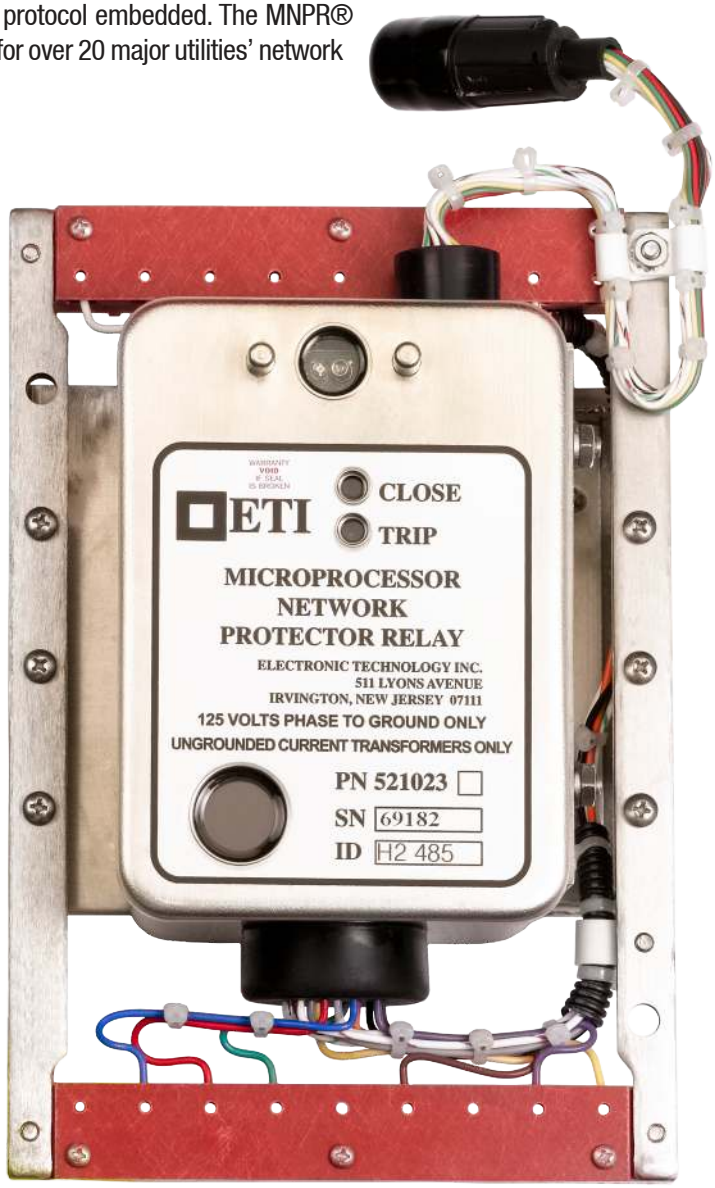
Sample Part Number is a 1875A Dual-Voltage Transformer-Mounted Submersible 416NP Series Network Protector with a 2 position Racking Mechanism.

MNPR®

NETWORK PROTECTOR RELAY

The Most Advanced Relay on the Market

Our industry-leading Relay performs real-time, three-phase data acquisition and calculations, direct readings of network voltage, differential voltage, current, phase angle, and temperature. Advanced features available on the MNPR® include circle-close, cross-phase trip, and event capture. The MNPR® is available as a Communicating Relay with the industry standard DNP 3.0 protocol embedded. The MNPR® Communicating Relay forms the backbone for over 20 major utilities' network communications and monitoring systems.



Standard Features

- Direct replacement for electomechanical and solid state relays
- Fully programmable, sensitive, insensitive, time delay, instant, watt-var
- Real-time, three-phase data acquisition and calculations
- Direct reading of network voltage, differential voltage, current, phase angle, and temperature
- Waveform capture and harmonic analysis

Optional Features

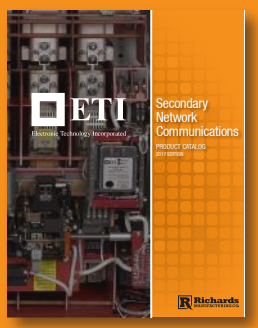
- Auxiliary digital and analog inputs and outputs
- Two way communications via power line modem, RS232/485, fiber optics, and/or infrared port
- Standard and custom protocols available
- Portable programmer and PC software available for remote operation and programming











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