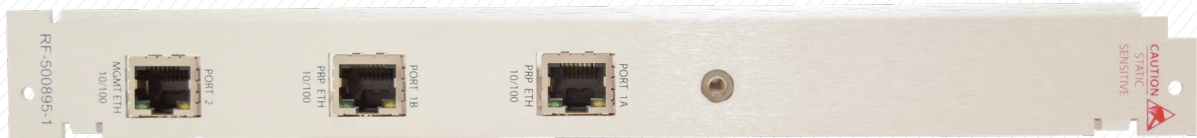


# RFL™ GARD ETHERNET TELEPROTECTION MODULE

2nd Generation



HPS/RFL is proud to announce the second generation of the RFL GARD 8000 Ethernet Teleprotection Module (ETPS). While this module can be used as a direct replacement for previous ETPS module, its main purpose is to provide a native Ethernet station-to-station teleprotection channel.

As a result, there are several new features to support this application. With this module utilities can migrate their existing legacy audio tone, and digital Time Division Multiplexed (TDM) teleprotection channels to modern packet-based communications systems and networks. As telecommunications providers and utility-owned communications systems transition to packet technology, these networks can be utilized for teleprotection purposes. Because the ETPS module uses IEC 61850 GOOSE protocol, it also may be used to communicate with other IEDs.

New features include: Parallel Redundancy Protocol (PRP) for redundant GOOSE communications, secure encrypted communications and Routable GOOSE for communications over layer 3 Wide Area Networks (WAN). This module can be installed in existing GARD 8000 chassis, as an upgrade, or as part of a new system.

## FEATURES AND BENEFITS

### *Native Ethernet Communications*

Eliminates the need for protocol converters necessary to adapt legacy digital and audio tone communications for use over packet networks. This results in a simpler, more reliable and lower latency communications system.

### *Parallel Redundancy Protocol (PRP)*

Utilizes IEC 62439-3 PRP functionality for seamless path redundancy of critical GOOSE communications.

### *Routable GOOSE (R-GOOSE)\**

Encapsulates GOOSE messages with UDP/IP for connectionless communications over WAN. This avoids the need for a router and simplifies configuration for use over leased telco networks.

*\*Denotes future feature upgrade*

### *End-to-End Encrypted Communications\**

Where security is a concern, encrypted communications adds an additional layer of security for packet-based traffic to and from the station while keeping latency at a minimum.

### *Secure Isolated Ethernet Ports*

Provides isolated Ethernet ports for critical communications outside the station. These ports are isolated from the local system management port so there is no backdoor access to the station's internal LAN from outside the station's security perimeter.

### *Point-to-Multipoint Communications*

Send protection signals to multiple locations and devices from a single device. Receive protection signals from multiple locations and devices. Reduces the number of individual point-to-point connections and changes to devices.



hubbellpowersystems.com

For product inquiries, please contact your local sales representative, or visit the RFL™ brand website at [www.rflect.com](http://www.rflect.com)

©2020 Hubbell Incorporated.  
Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.  
Printed in the U.S.A. | SF\_10\_307E

## TECHNICAL SPECIFICATIONS

### Ports

- Two PRP Ethernet Ports
  - Standard: Electrical 10/100Base-T
  - Optional: SFP 100Base-FX/LX
- One Management Ethernet Port
  - Electrical 10/100Base-T

### Supported Protocols

- IEC 61850 GOOSE/R-GOOSE
  - Publish: 1 GCB - 91 GGIO Data Objects
  - Subscribe: 10 GCB - 89 Data Objects
- IEC 62439-3 PRP

### GARD System Compatibility

- RFL GARD 8000 3U/6U
  - RF-500400 Controller with system firmware 8.3.6 and greater
  - RF-500400-1 Controller with system firmware 8.5.3 and greater
  - RF-500400-2 Controller with system firmware 10.4 and greater
- RFL GARD Pro 3U/6U (future)

## PART NUMBER

Electrical - P/N: RF-500895-1

Fiber Optic - P/N: RF-500895-2

Plugin SFP for Fiber Optic ports

- 100Base-FX Multimode 1310nm 2km - P/N: RF-104388
- 100Base-LX Single-mode - P/N : TBD

## ORDERING INFORMATION

GARD chassis configuration rear slot option:

- "ET" - Fiber with 100Base-FX SFP
- "EE" - Electrical

## EXAMPLE SYSTEM

