# C37.94/T1 FSU **NEW**

## FIBER SERVICE UNIT



HPS/RFL™ is proud to introduce the new C37.94-to-T1 Fiber Service Unit (FSU) to its FSU family of products. The new C37.94-to-T1 FSU is designed to convert any application devices with standard IEEE C37.94 compliant Short-Haul Fiber signals to an electrical T1 signal. The FSU allows for the conversion of up to two[2] C37.94 output devices. The C37.94 fiber interface comes also with a non-standard Single-mode LED as an option for longer distances. The FSU is manufactured for wall/panel mounting, however, a rack mounting option will be available with 1RU (1.75") 19" rack mount chassis.

The C37.94-to-T1 FSU is the perfect cost-effective solution to transport protective relaying devices or any industrial application devices reliably over an existing communications network, DS-1 Line or Leased T1 service.

### KEY FEATURES AND BENEFITS

#### C37.94 SHF DATA CHANNELS OVER T1
Provides two independent IEEE C37.94 SHF Data Channels over industry standard DS1 signal

#### EASY CONNECTION TO EXISTING NETWORK
Connect your protective relaying devices to a SONET or Multi-Service platform or Leased T1 line without the need for expensive channel banks or access gateway device

#### COST-EFFECTIVE SOLUTION
Low cost solution to interface C37.94 compliant protective relaying equipment to existing communications network via T1 interface

#### C37.94 FIBER INTERFACES
Available in either Multi-mode or Single-mode fiber interface for either short or long distances

#### RUGGED-DESIGN
Designed for harsh environments such as substations or exterior equipment buildings for wall mounting or with optional 1RU 19" rack mount chassis
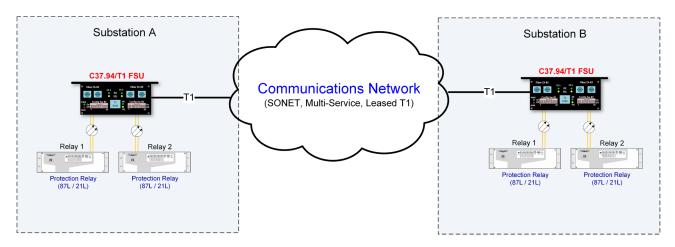
#### USER-FRIENDLY CONFIGURATION
No software needed to configure the unit making it easy to configure through front panel switches

## FSU APPLICATION



## TECHNICAL SPECIFICATIONS

### INTERFACES
**FRONT PANEL**
- T1 Electrical: One port per FSU
  ANSI T1.403
  ESF/SF and AMI/B8Z
  100 ohm twisted pair
  RJ-48 Connector jack

- C37.94 optical: Two port pairs per FSU
  IEEE C37.94 for N times 64 kb/s.
  Multi-Mode Version:
      50 or 62.5µm 820/850nm MM LED (2km)
      ST Connector
  Single-Mode Version:
      9µm 1300nm SM LED (10km)
      ST Connector

- T1 and C37.94 port loopback

**FRONT PANEL**
- Power Supply: Compression terminal block,
- Chassis Ground: Grounding stud.
- Alarm Contacts: Compression terminal block

### TIMING MODES:
- Internal
- Through

### POWER SUPPLY SPECIFICATIONS
- 48/125Vdc nominal (38 to 150Vdc)
- Power Consumption: Less than 10W

### ALARM OUTPUT
- Alarm Relay Contact: Form C (SPDT)
- Contact Rating: 100mA, @ 300Vdc, Non- inductive

### MANAGEMENT
- Unit configured by DIP-switches, accessible through the front panel.

### ENVIRONMENTAL AND REGULATORY COMPLIANCE
**GENERAL**
- Operating Temperature:  -20 C to +55 C
- Operating Humidity:  95% RH Non-Condensing @ 40C
- EN 60950:2002:  Safety of IT equipment
- EN 60825-2:2004, part 2:  Safety of laser products

**SYSTEM**
- IEC 61850-3:  Environmental
- EN 61000-4-3 / -6-4:  Radiated RFI Immunity
- EN 61000-4-6 / -6-2:  Conducted RFI Immunity
- IEEE 1613:  Environmental, ESD, shock & vibration

**POWER SUPPLY AND ALARM**
- EN 61000-4-4 / IEEE 1613:  EFT 4kV
- EN 61000-4-5:  Surge
- EN 60255-1 / IEEE 1613:  2.8kV Hi-Pot, 5kV impulse
- EN 60255-22-1:  Damped oscillatory
- IEEE 1613 / ANSI C37.90.1:  Oscillatory
- IEC 60834-1:  Power supply disturbance
- Bellcore TR332 Issue 5, Method 1:  MTBF >1,000,000  Hours, Case 3, Temp = 25 C

### MECHANICAL CONFIGURATION:
**SELF-CONTAINED WALL MOUNT**
- Width: 5.13 inches (13 cm)
- Height: 1.77 inches (4.5 cm)
- Depth: 11 inches (28 cm)

**1-RU SHELF**
- 1-Rack-Unit shelf, suitable for a standard 19" rack mount.

### WALL-MOUNT ORDERING CATALOG NO.
- RF-SP107560-1   T1 C37.94 SHF FSU 850NM LED MM
- RF-SP107560-2   T1 C37.94 SHF FSU 1300NM LED SM

### RACK-MOUNT ORDERING CATALOG NO.
- RF-SP107580-1   T1 C37.94 SHF single FSU 850NM LED MM
- RF-SP107580-2   T1 C37.94 SHF single FSU 1300NM LED SM
- RF-SP107580-3   T1 C37.94 SHF dual FSU 850NM LED MM
- RF-SP107580-4   T1 C37.94 SHF dual FSU 1300NM LED SM