

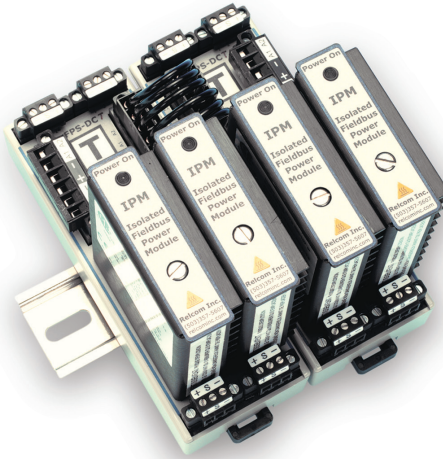


technical datasheet

## FPS-D / FPS-DT

dual power supplies for fieldbus network segments

- High power output
- Component failure alarm
- Integrated fieldbus terminator (-DT model)
- Simplified power wiring
- Pluggable connectors
- Host and field connections
- Redundant power feeds



The **MTL-Relcom dual fieldbus power supplies** provide power conditioning for two fieldbus network segments and facilitate the connection of input power supplies. An alarm circuit provides warning in case of a power conditioning module or input power supply failure. The system is designed so that power for several fieldbus segments can be provided from a single cabinet with minimal wiring.

**Two fieldbus segment terminators** are built into each FPS-DT power supply. Each FPS includes two plug-in Isolated Power Modules, or IPM's. These modules function as power conditioners, providing impedance between the input DC power supply and the fieldbus. This impedance is necessary to prevent the input DC power supply from degrading the digital fieldbus signal.

**Each isolated power module provides galvanic isolation** of 250V ac between the fieldbus segment and the input power supplies. Each IPM, supplies 350mA at 25V dc to the fieldbus segment. This level of

output power allows for construction of very long fieldbus segments with a large number of bus-powered field devices.

**LED indicators on each IPM** and near each of the two input power supply connections give clear visual indication that components are functioning properly. To minimize system downtime, an alarm circuit provides notification if any of the power supply components fail. This allows failed components to be replaced so that power system integrity is maintained.

**The alarm circuitry is galvanically isolated** from the fieldbus segments and input power supplies. The two IPM's plug into a DIN rail mounted Dual Coupler Base that contains one segment terminator per IPM (-DT model) and provides connections to the two input power supplies, two H1 host systems, two fieldbus trunk cables, and alarm circuitry.

**A bus configuration** is used for input power and alarm connections to multiple FPS power supplies. Up to five power supplies can be

connected together by the bus. Input 24 VDC power is fed to both ends of the interconnected group so that if a power supply needs to be added or changed, this can be done without disrupting the other power supplies. The connections between the power supplies use a jumper cable assembly (FPS-A04), supplied with each dual power system.

**Each power supply has a normally-closed relay contact** for the alarm circuit. The bus provides a common circuit for all the relays in series. If there is a failure in any of the supplies, the relay is opened to signal an alarm.

**An alarm condition will be generated** if FPS-IPM power modules are not installed in all available slots of the FPS carrier(s), e.g. on an unused segment. To prevent the alarm a blanking module can be fitted. These modules are available in packs of ten as part number FPS-BLK10.

EPS-FPSD RevC 011110

**COOPER** Crouse-Hinds

[www.mtl-inst.com](http://www.mtl-inst.com)

## SPECIFICATION

### MECHANICAL

**Mounting method**  
DIN-rail

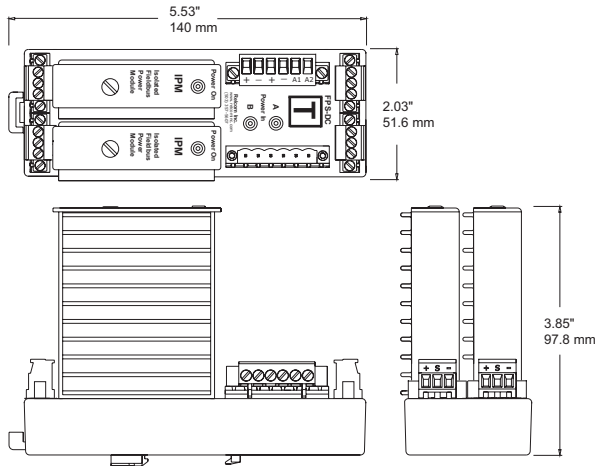
### DIN-rail types

'Top hat', 35mm x 7.5mm or 35mm x 15mm to EN50022

### Terminals

Rising cage clamp screw terminals

### Physical Dimensions



### ENVIRONMENTAL

As FPS-I

### ELECTRICAL

#### EMC compliance

To EN61326:1998 Electrical equipment for measurement, control and laboratory use - EMC requirements

#### Electrical safety

EN 61010-1

### OUTPUT

#### Number of channels

Two

#### Voltage

Minimum 25.0V dc

#### Current

0 to 350mA

#### Output ripple

Complies with clause 22.6.2 of the fieldbus standard†

#### Minimum load

No load

#### Isolation

Fieldbus to power supply 250V ac rms withstand

### INPUT

#### Input voltage

19.2 - 30V dc

#### Current Consumption

With 2 segments at 350mA load: 1.37A (typ) at 20V  
1.14A (typ) at 24V  
0.98A (typ) at 28V

#### Power dissipation with 350mA output load

10.2W (max) at rated output

#### Maximum number of cascaded FPS modules

5 units (10 Isolated Power Modules)

#### Alarm

Alarm contact rating: 1.0A max @ 30V dc max  
Alarm contact status: Normally closed  
Alarm threshold: input: <18V dc output: <22V dc

## HAZARDOUS AREA APPROVALS

### Location of module

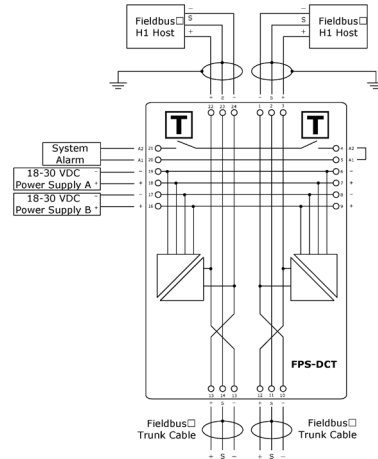
Safe area, Zone 2, IIC T4 hazardous area or Class 1, Div 2, Groups A, B, C, D T4 hazardous location

### Location of field wiring

Zone 2, IIC hazardous area or Class 1, Div 2, Groups A, B, C, D hazardous location

### Field wiring protection

Normally non-arcing/Ex nA



## CERTIFICATION

Region	Europe (ATEX)	USA	Canada
Authority	Relcom	FM	CSA
Standard	EN50021	3611	C22.2 No.213
Approval	Ex II 3 G EEx nA IIC T4 T <sub>a</sub> = -40°C to +60°C	Class1, Div 2 Grps A-D, Temperature Class T4, T <sub>a</sub> = 60°C	Class1, Div 2 Grps A-D; Ex nA IIC T4 T <sub>a</sub> = -40°C to +60°C
Cert no.	500-463	3021700	1279454

## PHYSICAL NETWORKS

IEC61158-2

Foundation Fieldbus H1

## ORDERING INFORMATION

### System Description

### Part Number

#### Fieldbus Dual Power System with Terminator

**FPS-DT**

Includes: 2 x FPS-IPM, 1 x FPS-DCT, 4 x FPS-A05, 1 x FPS-A03, 1 x FPS-A04

#### Fieldbus Dual Power System (no Terminator)

**FPS-D**

Includes: 2 x FPS-IPM, 1 x FPS-DC, 4 x FPS-A05, 1 x FPS-A03, 1 x FPS-A04

### Components and Accessories

### Part Number

Isolated Power Module

**FPS-IPM**

Dual Power Back-Plane with Terminator

**FPS-DCT**

Dual Power Back-Plane no Terminator

**FPS-DC**

3-pin Fieldbus Connector (3.5mm)

**FPS-A05**

5-pin Power and Alarm Connector

**FPS-A03**

Power and Alarm Jumper Assembly

**FPS-A04**

Heavy Duty DIN Rail End Stop

**ETL 7000**

35mm DIN rail, 1m length

**THR 7000**

Blanking module (pack of 10)

**FPS-BLK10**

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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