PPP ROUTER
DF125

The ***DF125*** is a key element to connect the Smar RTU infrastructure with the telecommunications system used in large plants, enabling serial PPP (Point-to-Point Protocol) encapsulation of all protocols used by Smar RTU.

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Main Features

- PPP over the serial port
- IP address translation
- Webserver configuration
- Low power consumption
- DFI302 modular design

Characteristics

In wide area plants the control system is usually divided into a Main Terminal Unit (MTU), a Telecommunications System and several Remote Terminal Units (RTUs), aiming at standalone and local process intervention, in addition to its simple monitoring.

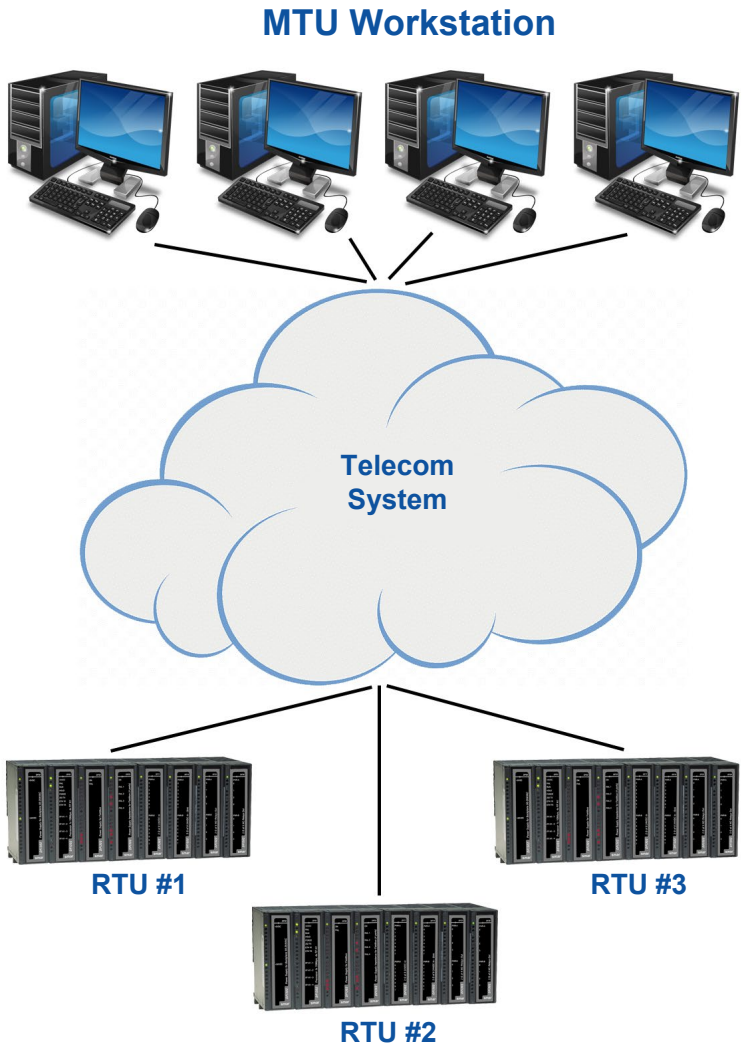
The RTUs are normally used as standalone equipment and implemented to perform local control for immediate action upon abnormal process behavior at low power and high connectivity.

The telecom system is the important solution to address the long distances issue introduced by such applications. Various scenarios are known and implemented in different locations, e.g. satellite communication, fiber optics, radio network, GSM/GPRS, 3G, TETRA, etc.

Finally, the MTU is the concentrator of all data coming from different RTUs via telecom and compiled into a single database. The MTU is also implemented to operate, configure, and maintain all RTUs remotely based on various protocols.

Standard OPC and Foundation Fieldbus High Speed Ethernet (FF HSE) communication protocols are used to provide all means to send/receive data to/from RTUs.

In the case of narrowed network bandwidths, specific protocols can also be implemented, such as DNP3 which will target data collection from RTUs where the network cannot be accessed 100% of the time in a shared environment (supervision, control, and voice).



System overview using MTU, RTU, and DF125

Telecommunications structures used in large-area plants typically provide communication in remote areas with RTUs (Remote Terminal Unit) via serial MODEMs.

The DF125 is designed to be connected between the MODEM's serial interface and the RTU's ethernet local area network (LAN), providing PPP (Point-to-Point Protocol) router functionality that allows IP connectivity of the RTUs to the MTU (Main Terminal Unit).

Installation and Configuration

DF125 modules use the same modular concept as the DFI302 line, designed to be interchangeable in standard Smar racks. The DF125 can be installed on the DF9 (Individual Support for Module), fitted to the DIN rail. The DF125 module needs an external power supply, as it is not powered via rack. Power supplies from different manufacturers may be used, as long as they meet the minimum quality and safety requirements.

After installing the modules that compose the system, it is necessary to connect the ETH1 port of the DF125 to the ETH1 port of the DF63-RTU controller, using an Ethernet cable. The DF125 must be connected to the telecom system modem using a standard RS232 serial cable. Through DIP Switches and the DF125 webserver, it is possible make configurations to meet the user's needs.

SERIAL PORT	
Baud Rate	Up to 115200 bps
Standard	EIA-232
Isolation	2 kV

POWER SUPPLY	
Power Supply*	10 to 35 Vdc (100 mA @ 24 Vdc)
Internal Isolation	1500 Vdc

* Protection against power supply with reversed polarity if the voltage is within the operating range.

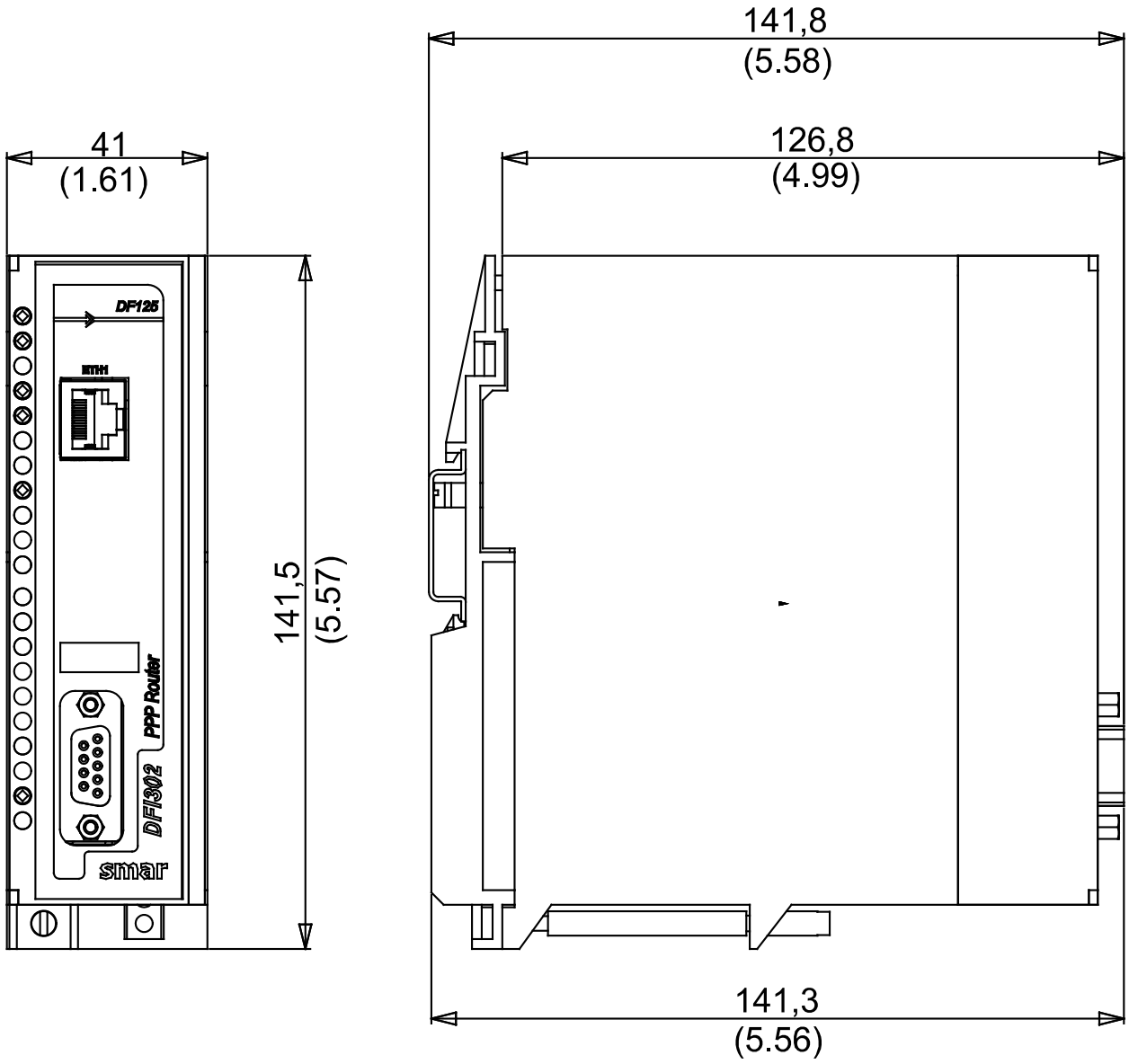
ELECTRICAL CERTIFICATION (PENDING)	
The DF125 is designed to meet the IEC 61326:2012 standard for electrical certification.	
ENCLOSE	
Electrostatic Discharge (IEC61000-4-2)	4 kV/8 kV contact/air
EM field (IEC61000-4-3)	10 V/m
Rated Power Frequency Magnet Field (IEC61000-4-8)	30 A/m
DC POWER	
Burst (IEC61000-4-4)	2 kV
Surge (IEC61000-4-5)	1 kV/2 kV
Conducted RF (IEC61000-4-6)	3 V

ENVIRONMENTAL CONDITIONS	
Operating Temperature	-40 ºC to 80 ºC (-22 ºF to 176 ºF)
Storage Temperature	-40 ºC to 85 ºC (-40 ºF to 185 ºF)
Relative Humidity	5 – 95%

DIMENSIONS AND WEIGHT	
Dimensions (H X W X D)	141.5 x 41 x 141.8 mm
Weight	0.318 kg

SERIAL CABLE	
RS-232 Standard	Maximum length: 10m

Measurements are in millimeters and in inches in parentheses.



DF125

PPP ROUTER

Consult our representatives

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