RI-FMDU96-KIT

Multiple Meter Display Unit for up to 64 Three Phase Loads

- DIN 96 panel mounted (multiple aperture mounting)
- Energy management system
- Modular multiple zone power monitoring
- 16 x RI-D480 meters for up to 64 Three Phase loads or 192 Single Phase loads or a combination of both
- Energy power status and analysis
- Modbus-RTU communication protocol
- Safe low voltage 24V DC operation
- Slim profile - just 38mm
- Touch sensitive buttons
- Colour TFT display

Product Description

The RI-FMDU96 is equipped with multifunction energy monitoring power quality analysis functions. Capable of multiple zone monitoring it is designed to work with up to 16 x RI-D480 'quad' energy meters giving data for 64 three phase loads or 192 single phase loads or a combination of both; making them highly modular and customisable for any system size.

Data reception and transmission is via RS485 Modbus using daisy-chain topology between RI-D480 **easywire**® **modular** energy meters.

A 3.5 inch, 16.7 thousand colour TFT display gives crisp clear menus and data display and touch sensitive buttons offer easy operation and durability.

The RI-FMDU96 is 24V DC operation for safe low voltage mounting to panel doors with easy RJ12 connection. A clever mounting system for 91 x 91mm, 76 x 76mm, 67 x 67mm or Ø26mm aperture 'screw' mounting to panel makes it also very simple to install.

The RI-FMDU96 is a compact versatile system that brings all your meter data to a single point for ease of access.

The RI-FMDU96-KIT is supplied with 1 x RI-FMDU96 display, 1 x RI-DPSU1-24 24V power supply and 1 x RI-DCM-C communications RS485 module.

The RI-DCM-C communications module has a mini USB port on the front to allow connection to a PC for programming the RI-FMDU96 to make the naming of the various inputs more friendly.

Displayed Parameters

Fundamental Voltage
Fundamental Energy
L-L Voltage
Active Power
Reactive Power
Apparent Power
Power Factor
Amps
Frequency
Reactive Energy
Apparent Energy

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Display

Display Type	3.5 inch LCD with time selectable sleep function
Display resolution	RGB 320 x 240 pixel / 16.7 million colours
Page navigation	Manual by front touch buttons

Programming

Device setup	Via touch buttons on front or with PC (PC connection via mini USB on communication module RI-DCM-C)
Programming access	Password protected (user selectable)
Memory retention	Non volatile memory

Input

Connection	RJ12 Daisy-chain topology to RI-D480
Maximum measurement devices	Up to 16 x RI-D480 quad input meters (64 Three Phase loads or 192 Single Phase loads)
Rated input voltage	24VDC ±20%

Auxiliary Supply

Voltage range	24VDC ±20%

Outputs

Communication - Modbus	
Communication type	RS485
Communication protocol	Modbus
Address	1…16
Number of bits	8bits
Parity	None, odd, even
Baud rate	300, 600, 1200, 2400, 4800, 9600, 19200
Required response time to request	≤100ms
Number of meters connected on the bus	Max. 16 x RI-D480 quad load energy meters
Max distance from Master device	500M

Environmental Conditions

Specified temperature operating range	−20°C…+70°C
Storage temperature	−30°C…+80°C
Relative humidity	0…95%, non condensing

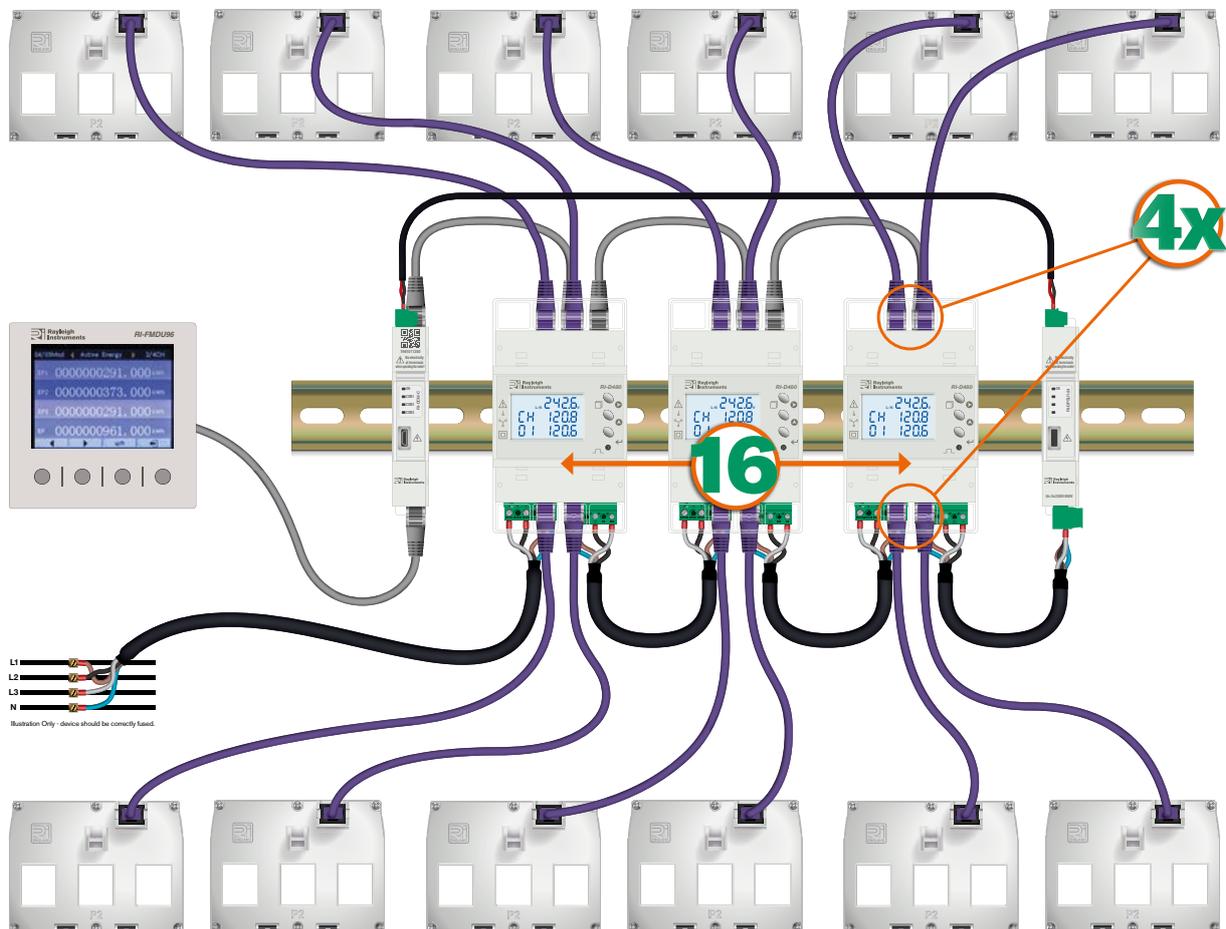## Mechanical

RI-FMDU96	
Housing	DIN 96 panel mounting
Mounting	Screw mounting with multi-aperture backplate
Housing material	PC/ABS fireproof plastic
Protection degree (IEC/EN60529)	IP67 to front
Weight	<191g
RI-DCM-C and RI-DPSU1-24	
Housing	Single module DIN
Mounting	35mm DIN Rail mounting
Housing material	Self-extinguishing polycarbonate (UL94 V-0)
Protection degree (IEC/EN60529)	IP64 (front panel), IP20 (meter body)
Weight	191g

Conformity

Electromagnetic compatibility	IEC/EN60730-1:2000 + A16:2007
LVD compliance	Complies with 2006/95/EC Low Voltage Directive

Schematic

The illustration shows a typical set up using multiple RI-D480 meter inputs
connected to the RI-FMDU96 Metering Display Unit.

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Wiring Diagrams

The RJ12 connection, slim dimensions and multi-aperture mounting plate make the RI-MDU96 easy to install. The clever mounting system allows for mounting to 91 x 91mm, 76 x 76mm, 67 x 67mm or Ø26mm apertures with a simple hand tightened screw.
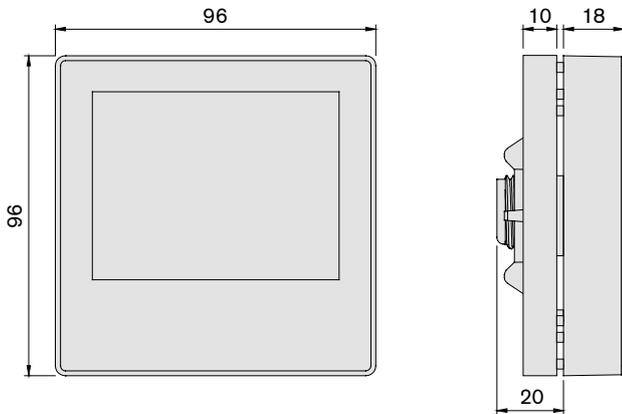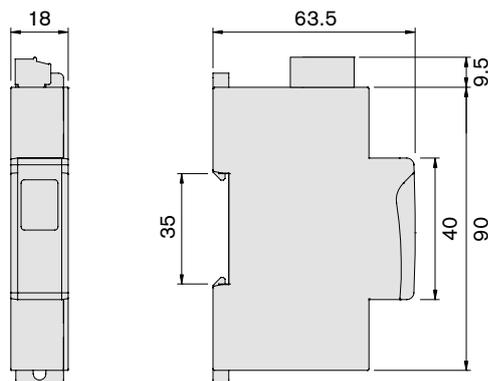
RI-FMDU96 rear

Assembled RI-MDU96 rear

91 x 91mm aperture location studs

76 x 76mm aperture location studs

67 x 67mm aperture location studs

Ø26mm aperture location studs

Mounting backplate

Thumb tightened nut

Dimensions

RI-FMDU96

RI-DPSU1-24

RI-DCM-C

Model Selection Table

Communications	Model
RI-FMDU96 System Display Unit with RI-DPSU1-24 Power Supply and RI-DCM-C Modbus Communication Gateway	RI-FMDU96-KIT