FRER Q15E2

FRER Q15E2 DIN Rail Mounting Multifunction Meter User Manual

Model: Q15E2

1. Introduction

The FRER Q15E2 is a high-efficiency DIN rail mounting multifunction meter designed for three-phase electrical systems. It features a 2-line LCD display for clear readings and provides comprehensive measurement capabilities for various electrical parameters. This manual provides essential information for the safe and effective installation, operation, and maintenance of the Q15E2 meter.

2. Safety Information

Please read and understand all safety instructions before installing, operating, or servicing the FRER Q15E2 meter. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Installation and servicing must be performed by qualified personnel only.
- Ensure all power is disconnected before making any electrical connections.
- Verify correct wiring according to the provided diagrams to prevent damage to the meter or connected equipment.
- Do not operate the meter if it appears damaged.
- Observe all local and national electrical codes.

3. Product Overview

The FRER Q15E2 meter is housed in a compact enclosure suitable for DIN rail mounting. It features a clear LCD display, control buttons, and various terminal connections for power, measurement inputs, and communication.

Figure 1: FRER Q15E2 Multifunction Meter. This image displays the FRER Q15E2 meter from an angled front-top perspective. The device is beige-colored with a rectangular 2-line LCD screen labeled 'Q15E2' above it. To the right of the screen are three blue buttons: an arrow pointing right, an arrow pointing up, and an 'ENTER' button. The top of the meter features multiple screw terminals, including those labeled '64 65 B- A+ RS485' for communication, '82 83 + -' for auxiliary power, and '60 61 62 63 OUT 1 OUT 2' for outputs. The bottom of the meter also has numerous screw terminals for electrical connections, including those labeled 'L1', 'L2', 'L3', and 'N'. A warning triangle symbol is visible on the top left corner.

3.1 Key Components

- **LCD Display:** 2-line display for showing measured values and menu options.
- **Navigation Buttons:** Up, Right, and Enter buttons for menu navigation and parameter selection.
- **RS485 Communication Port:** Terminals B- (64) and A+ (65) for Modbus RTU communication.
- **Auxiliary Power Input:** Terminals 82 (+) and 83 (-) for meter power supply.
- **Digital Outputs:** Terminals 60, 61, 62, 63 for OUT 1 and OUT 2.
- **Measurement Inputs:** Terminals for connecting voltage (L1, L2, L3, N) and current transformers (not explicitly visible but implied by multifunction meter type).

4. Setup

4.1 Mounting

The Q15E2 meter is designed for standard 35mm DIN rail mounting. Ensure sufficient space for ventilation and wiring connections.

1. Hook the top edge of the meter onto the DIN rail.
2. Push the bottom edge of the meter firmly until it clicks into place on the rail.

4.2 Wiring

All wiring must be performed with the power supply disconnected. Refer to the wiring diagram provided with the product for specific connection details. The following describes general connections:

- **Auxiliary Power:** Connect the auxiliary power supply to terminals 82 (+) and 83 (-). Verify the voltage matches the meter's specifications.
- **Voltage Inputs:** Connect the phase voltages (L1, L2, L3) and neutral (N) to the corresponding terminals at the bottom of the meter.
- **Current Inputs:** Connect the secondary windings of current transformers (CTs) to the designated current input terminals. Ensure correct polarity.
- **RS485 Communication:** Connect the RS485 communication bus to terminals 64 (B-) and 65 (A+).
- **Digital Outputs:** Connect external devices to terminals 60-63 for digital output functionality as required.

5. Operating

5.1 Power On

Once all wiring is complete and verified, apply power to the auxiliary power input. The meter's LCD display will illuminate and show initial readings or a startup sequence.

5.2 Display Navigation

The Q15E2 uses three buttons for navigating through its menus and displaying various parameters:

- **Up Arrow Button:** Scrolls through parameters or menu options upwards.
- **Right Arrow Button:** Scrolls through parameters or menu options to the right, or enters a submenu.
- **ENTER Button:** Confirms a selection or enters a parameter editing mode.

Press the Right Arrow button to cycle through different measurement screens (e.g., Voltage, Current, Power, Energy). Use the Up Arrow button to view different phases or specific values within a screen. Press ENTER to access configuration menus (if enabled).

5.3 Parameter Configuration

To configure settings such as CT ratios, communication parameters, or output functions, access the configuration menu. This typically involves pressing and holding the ENTER button for a few seconds or navigating to a specific menu item. Follow the on-screen prompts to adjust parameters. Always save changes before exiting the configuration menu.

6. Maintenance

The FRER Q15E2 meter is designed for long-term, reliable operation with minimal maintenance.

- **Cleaning:** Keep the meter clean and free from dust. Use a soft, dry cloth for cleaning the display and casing. Do not use abrasive cleaners or solvents.
- **Inspection:** Periodically inspect wiring connections for tightness and signs of wear or damage.
- **Firmware Updates:** If firmware updates become available, follow the specific instructions provided by FRER for the update process.

7. Troubleshooting

This section addresses common issues that may arise during the operation of the Q15E2 meter.

7.1 No Display or Blank Screen

- **Check Auxiliary Power:** Ensure the auxiliary power supply is connected correctly to terminals 82 and 83 and is within the specified voltage range.
- **Verify Wiring:** Confirm that all power connections are secure and correctly wired.

7.2 Incorrect Readings

- **CT Ratio:** Verify that the Current Transformer (CT) ratio configured in the meter matches the physical CTs installed.
- **Wiring Polarity:** Check the polarity of current transformer connections. Reversed polarity will result in negative power readings.
- **Voltage Connections:** Ensure voltage inputs are connected to the correct phases and neutral.

7.3 Communication Issues (RS485)

- **Wiring:** Check RS485 wiring for correct polarity (A+ to A+, B- to B-) and secure connections.
- **Baud Rate/Parity:** Ensure the meter's communication settings (baud rate, parity, stop bits) match those of the master device.
- **Device Address:** Verify the Modbus address of the meter is unique on the bus.

If issues persist, contact FRER technical support.

8. Specifications

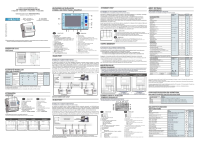
- **Model:** Q15E2
- **Manufacturer:** FRER
- **Display:** 2-line LCD
- **Mounting:** DIN Rail
- **Communication:** RS485 (Modbus RTU)
- **Inputs:** Three-phase voltage and current
- **Outputs:** Digital outputs (OUT 1, OUT 2)
- **First Available:** September 14, 2018

For detailed electrical and environmental specifications, please refer to the product datasheet available on the FRER website.

9. Warranty and Support

The FRER Q15E2 meter is covered by a manufacturer's warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or visit the official FRER website.
For technical assistance, troubleshooting, or spare parts, please contact FRER customer support or your authorized distributor. When contacting support, please have your meter's model number (Q15E2) and any relevant purchase information ready.

Related Documents - Q15E2

	FRER 80A Three-Phase MID Energy Meter Operating Manual This document provides operating instructions and technical specifications for the FRER 80A Three-Phase MID Energy Meter, covering models C70QPL080, C70QTL080S, C70QTL080M, and C70QTL080E. It details installation, wiring, display symbols, measurements, key functions, and communication protocols (RS485 Modbus, M-BUS, Ethernet).
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