

Carlo Gavazzi EM340DINAV23XS1PFB

Carlo Gavazzi EM340 Three-Phase Energy Meter User Manual

Model: EM340DINAV23XS1PFB

1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the Carlo Gavazzi EM340 Three-Phase Energy Meter. Please read this manual thoroughly before using the device and keep it for future reference. The EM340 is designed for accurate measurement of active energy in three-phase systems, suitable for various industrial, commercial, and residential applications.

2. SAFETY INFORMATION

WARNING: Risk of Electric Shock!

- Installation and maintenance must be performed by qualified personnel only, in accordance with local electrical codes and regulations.
- Ensure that the power supply is disconnected before performing any installation, wiring, or maintenance work on the device.
- Do not operate the device if it is damaged or if any part of its housing is open.
- The device has an IP51 degree of protection. Ensure the installation environment is suitable and does not expose the device to excessive moisture or dust beyond its rating.
- Always use appropriate personal protective equipment (PPE) when working with electrical systems.

3. PRODUCT OVERVIEW

The Carlo Gavazzi EM340 is a compact three-phase energy meter designed for DIN rail mounting. It features a backlit LCD display with an integrated touch keypad for easy navigation and data reading. The meter is capable of direct current measurement up to 65A and offers high accuracy (0.5% RDG for current/voltage). It supports dual rate management via a

digital input and can measure both imported and exported energy.

Key Features:

- Three-phase energy measurement with 0.5% RDG accuracy.
- Backlit LCD display (3x8 digits) with integrated touch keypad.
- Direct current measurement up to 65AAC.
- DIN rail mounting housing with IP51 protection.
- Digital input for tariff management.
- Measures imported and exported energy (configurable for imported only).
- On-screen power reading (8 digits) and variable screen reading (4 digits).
- Sealable terminal blocks for secure connections.
- Dual neutral terminal.
- Pulse output, Modbus, or M-bus port for advanced connectivity.

Product Views:



This image displays the front of the Carlo Gavazzi EM340 energy meter, highlighting its backlit LCD screen which shows real-time readings for three phases (L1, L2, L3). The display also indicates the current (A) and voltage (VLL) measurements. The device is designed for DIN rail mounting and features an integrated touch keypad for navigation. A product code '2014K189046A' is visible on the side label.



This diagram provides a detailed overview of the EM340's components and features. It points out the 65A direct connection terminals, sealable terminal blocks, the TOUCH TECH backlit LCD display with sensitive areas, dual neutral terminal, 3x8-digit readout, frontal serial number, pulse output/Modbus/M-bus port, digital inputs for dual tariff management, and terminal protection covers.



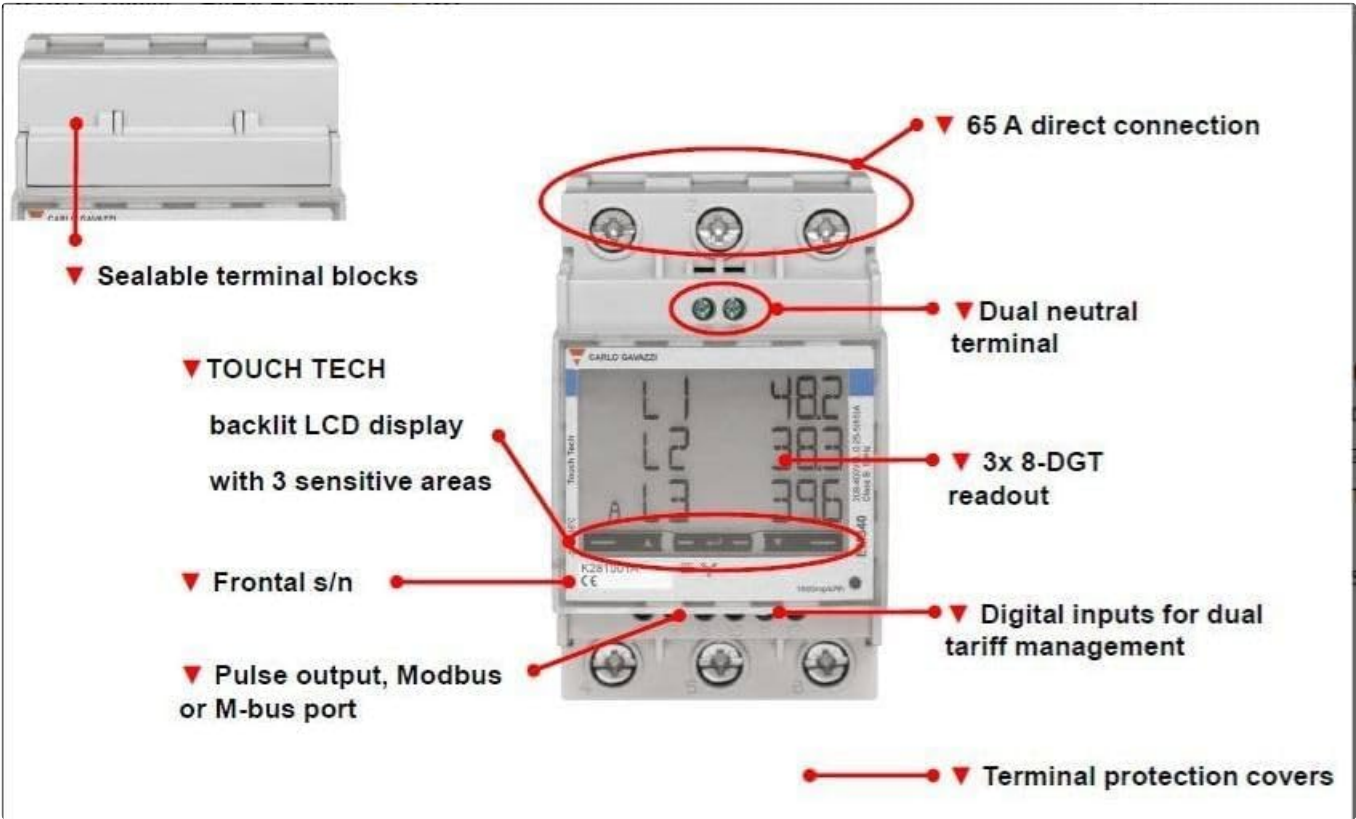
A front perspective of the EM340 meter, showing the LCD display and the top and bottom terminal blocks for electrical connections. The device is designed for easy integration into electrical panels.



This image shows the side profile of the EM340, illustrating its compact design suitable for DIN rail mounting. The side also displays some regulatory markings.



The rear view of the EM340 meter, displaying product specifications such as model number (EM340-DIN.AV2.3.X.S1.PF.B), voltage ratings (3x120/208...3x230/400V), current (0.25-5(65)A), frequency (50Hz), LED constant (1000 pulses/kWh), accuracy classes (Class B kWh, Class 2 kvarh), operating temperature range (-25 to +55°C), and compliance markings (CE, RoHS).



This image shows the EM340 meter from the front, with the terminal protection covers included, indicating how they would be used to secure the connections.

4. SETUP AND INSTALLATION

The Carlo Gavazzi EM340 is designed for DIN rail mounting. Proper installation is crucial for accurate measurement and safe operation. It is recommended that installation be carried out by a certified electrician.

4.1 Mounting

- Mount the EM340 on a standard 35mm DIN rail within an electrical enclosure.
- Ensure adequate ventilation around the device to prevent overheating.
- Maintain sufficient clearance from other heat-generating components.

4.2 Wiring

The EM340 supports direct connection up to 65A. Refer to the wiring diagram provided with the product packaging for specific connection details. Ensure all connections are secure and comply with local electrical standards.

- Connect the three-phase lines (L1, L2, L3) and neutral (N) to the designated terminals.
- The device includes a digital input for tariff management; connect external control signals as required.
- Utilize the included terminal protection covers to ensure safety and prevent accidental contact after wiring.
- The meter features easy connection and detection of erroneous current direction, simplifying the wiring process.

4.3 Initial Power-Up

Once wiring is complete and verified, restore power to the circuit. The backlit LCD display should illuminate, and the meter will begin displaying readings. Allow a few moments for the device to stabilize.

5. OPERATION

The EM340 is designed for user-friendly operation through its backlit LCD display and integrated touch keypad.

5.1 Display Readings

- The LCD display shows various parameters, including voltage, current, active power, reactive power, power factor, and energy consumption.
- On-screen power readings are displayed with 8 digits.
- Variable screen readings are displayed with 4 digits.
- The display provides clear readings for each phase (L1, L2, L3) and total values.

5.2 Touch Keypad Navigation

The integrated touch keypad allows users to navigate through different display screens and access various parameters. Specific navigation instructions will be detailed in the full product manual, but generally involve tapping or holding specific areas of the display to cycle through readings or enter configuration menus.

5.3 Energy Measurement

The EM340 can measure both imported and exported energy. It can also be programmed to consider only imported energy, depending on the application requirements. This functionality is crucial for installations with renewable energy sources (e.g., solar panels) where energy might be fed back into the grid.

5.4 Dual Rate Management

The digital input allows for external control of tariff rates, enabling the meter to track energy consumption under different pricing schemes (e.g., peak and off-peak rates). Consult the detailed wiring diagram for connecting the digital input.

6. MAINTENANCE

The Carlo Gavazzi EM340 is designed for long-term, reliable operation with minimal maintenance.

- **Cleaning:** Periodically clean the display and housing with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Regularly inspect the wiring connections to ensure they remain secure. Check for any signs of physical damage or discoloration.
- **User Serviceable Parts:** There are no user-serviceable parts inside the EM340. Do not attempt to open or repair the device. Any unauthorized tampering will void the warranty.

7. TROUBLESHOOTING

If you encounter issues with your EM340 energy meter, refer to the following basic troubleshooting steps:

- **No Display:** Ensure the power supply to the meter is active and correctly wired. Check circuit breakers.
- **Incorrect Readings:** Verify that the wiring connections are correct according to the provided diagrams. Ensure the current direction is correctly detected.
- **Display Frozen/Unresponsive:** Briefly disconnect and reconnect the power supply to reset the device.
- **Communication Issues (if applicable):** If using Modbus or M-bus, check communication wiring and settings.

If the problem persists after performing these checks, do not attempt further repairs. Contact Carlo Gavazzi technical support or a qualified electrician for assistance.

8. SPECIFICATIONS

Parameter	Value
Product Dimensions	6.5 x 7 x 9 cm
Weight	280 g
Manufacturer	Carlo Gavazzi
ASIN	B0D4FD7NSY
Item Model Number	EM340DINAV23XS1PFB
Brand	Carlo Gavazzi
Connectivity Technology	USB (for configuration/data logging)
Included Components	1 digital input, 1 current direction detection component
Input Voltage	230 Volts (nominal, three-phase)
Mounting Type	DIN rail mount

Parameter	Value
Amperage (Direct Connection)	Up to 65 Amps
Total USB Ports	1
Number of Items	1
Output Current	65 Amps (max measured)
Material	Metal
Accuracy	0.5% RDG (current/voltage)
Protection Rating	IP51
Operating Temperature	-25 to +55°C

9. WARRANTY INFORMATION

Carlo Gavazzi products are manufactured to high quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Carlo Gavazzi website. Please note that guaranteed software updates until 'unknown' as per product information.

10. TECHNICAL SUPPORT

For technical assistance, troubleshooting beyond the scope of this manual, or inquiries regarding your Carlo Gavazzi EM340 energy meter, please contact Carlo Gavazzi technical support:

- Visit the official Carlo Gavazzi website for support resources, FAQs, and contact information.
- Refer to the contact details provided in your product packaging.

When contacting support, please have your product model number (EM340DINAV23XS1PFB) and any relevant error messages or observations ready.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question