

Installation and Operation Manual

Consumption meter



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Other Information

This manual is an integral part of the unit. Please read the manual carefully before installation, operation or maintenance. Keep this manual for future reference.

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Table of Contents

1. Introduction	4
1.1 Read this first	4
1.2 Target Audience	4
1.3 Intended Application	5
2. Preparation	5
2.1 Safety instructions	5
3. Overview	5
3.1 Front Panel Display	6
3.2 LED Status Indicator Lights	6
4. Installation	7
4.1 Mounting the Consumption meter	7
4.2 Electrical Connections	7
4.3 Wiring	8
4.4 Monitoring	9
5. Specifications	10

1. Introduction

1.1 Read this first

This manual contains important information for use during installation and maintenance of the Consumption meter with Autarco's inverters.

To reduce the risk of electrical shock, and to ensure the safe installation and operation, the following safety symbols appear throughout this document to indicate dangerous conditions and important safety instructions.



WARNING! Indicates safety instruction, which if not correctly followed, can result in injury or property damages.



RISK OF ELECTRIC SHOCK! Indicates safety instructions, which if not correctly followed, could result in electric shock.



HOT SURFACE! Indicates safety instructions, which if not correctly followed, could result in burns.

1.2 Target Audience

This manual is intended for anyone who installs or maintains Autarco inverters in conjunction with a Consumption meter. Before any further action, the operators must first read all safety regulations and be aware of the potential danger to operate high-voltage devices. Operators must also have a complete understanding of this device's features and functions.



ATTENTION! Qualified personnel means a person with valid license from the local authority in:

- Installing electrical equipment and PV power systems (up to 1000 V).
- Applying all applicable installation codes and using Personal Protective Equipment.
- Analyzing and reducing the hazards involved in performing electrical work.



WARNING! Do not use this product unless it has been successfully installed by qualified personnel in accordance with the instructions in chapter 4 "Installation".

1.3 Intended Application

This manual applies to the following products;

- S2.1P-SMARTMETER For 1 phase inverters

Please note that all current inverter models excluding the UX Series are capable of internal power export limitation using an external current clamp or consumption meter. The internal PELD functionality is only applicable for systems with one inverter. Please see the relevant inverter series manual for more information. External power export limitation with the help of the PELD is possible with all inverters.

2. Preparation

2.1 Safety instructions



DANGER! Do not touch any internal components whilst the inverter is in operation.



NOTICE! Do not directly connect AC output of the inverter to any private AC equipment. The PV inverter is designed to feed AC power directly into the public utility power grid.



WARNING! The installation, service, recycling and disposal of the inverters must be performed by qualified personnel in compliance with national and local standards and regulations. Please contact your dealer to get the information of an authorized repair facility for any maintenance or repairmen.

Any unauthorized actions including modification of product functionality of any form will affect the validation of warranty service; Autarco may deny the obligation of warranty service accordingly.

3. Overview

3.1 Front Panel Display

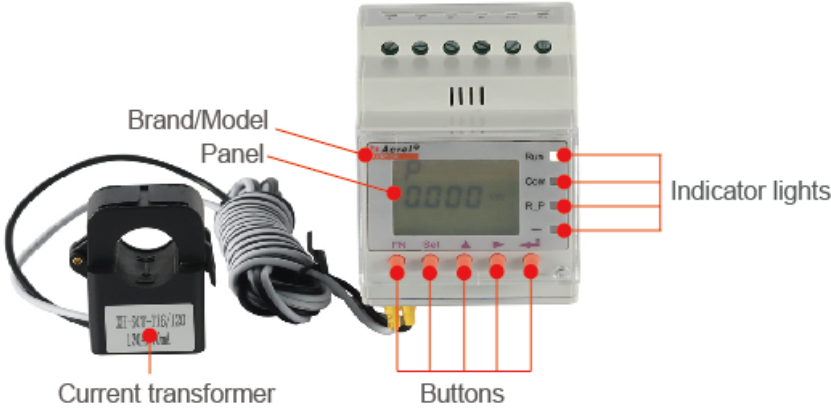


Figure 3.1: Front display

3.2 LED Status Indicator Lights

There are four LED status indicator lights at the front panel of the consumption meter, as shown in figure 3.1.

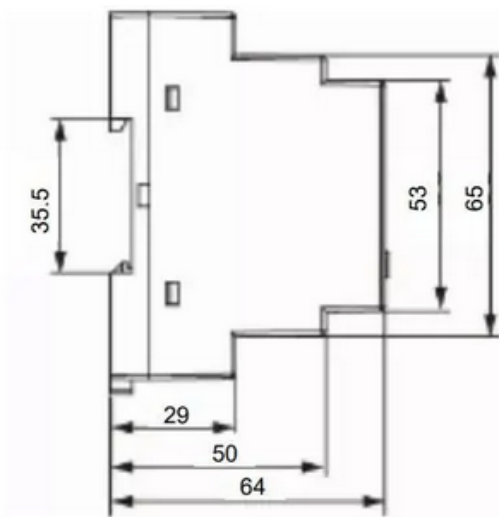
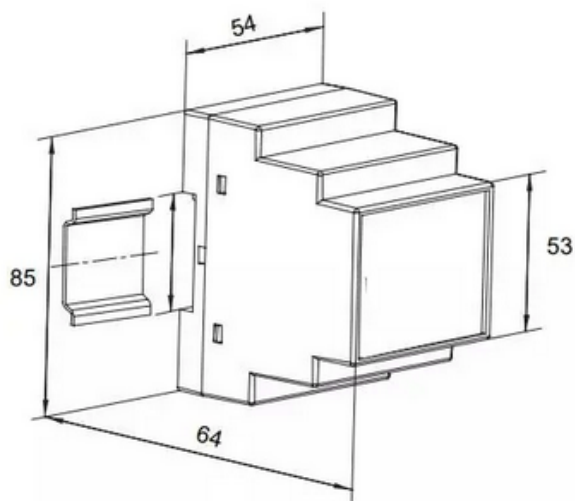
Light	Status	Description
Run	GREEN FLASHING	Device is on
	OFF	Device id off
Com	FLASHING	Communication with inverter
	OFF	No communication with inverter
R_P	ON	Importing from grid
	OFF	Exporting to grid
-	ON	Importing from grid
	OFF	Exporting to grid

Figure 3.2: Status indicator lights

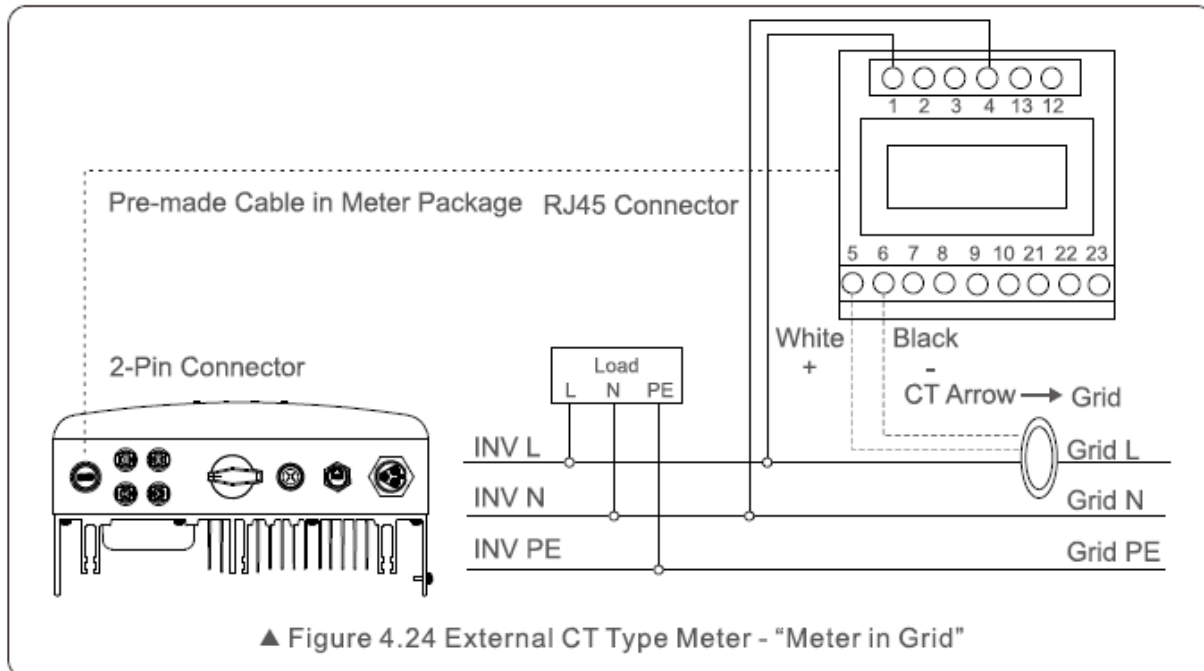
4. Installation

4.1 Mounting the Consumption meter

The consumption meter needs to be installed in the meter cupboard and can be installed on a 35mm DIN 35 rail.



4.2 Electrical Connections



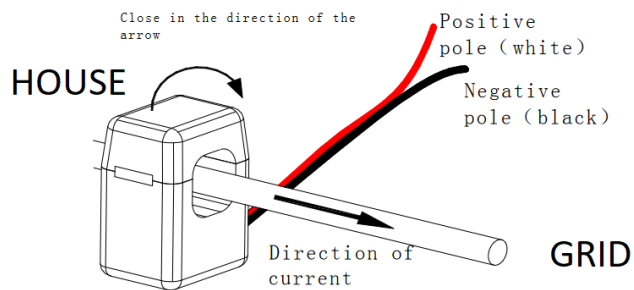
4.3 Wiring

Use port 1 and 4 to supply power to the S2.1P-SMARTMETER.

Connect the meter with the supplied RS485 cable to the meter port of the inverter. You can only use the RJ45 port for connecting the consumption meter to the inverter.



Install the current clamp on the phase cable that goes to the grid. Note the arrow on the current clamp and make sure it is installed in the right direction.



4.4 Monitoring

In order to get consumption data a WIFI-STICK-D needs to be used, and settings on the inverter need to be changed.

Use the up and down buttons on the inverter to navigate the menu.

- Go to Advanced settings
- Select 24h Switch
- Set to ON and press ENTER
- Go to Internal EPM set -> Mode Select
- Select Consumption Monitor and press ENTER
- Go to Internal EPM set -> Meter Select
- Select 1PH Meter and press ENTER
- Select ACR10RD16TE and press ENTER

5. Specifications

Model name	S2.1P-SMARTMETER
Grid Topology	1P+N
Rated Voltage	220V/230V
Input Current	40mA (External CT: 120A:40mA)
Accuracy	Voltage $\pm 0.2\%$ Current $\pm 0.5\%$ Power (P,Q,S) $\pm 0.5\%$ Active Energy $\pm 0.5\%$ Reactive Energy $\pm 1\%$
Operating Temperature	-10°C - 55°C
Relative Humidity	<95% (Non-condensing)
Dimension	45L*85W*64H (mm)