

Instruction



The MICO range of products are manufactured by Akse S.r.l. in compliance with EMC 89/336/EEC regulations and in accordance with the following standards: EMISSIONS = EN 50081-1 1992; IMMUNITY = EN 50082-1 1992 (light industry)

1 SAFETY

This instrument was manufactured and tested in compliance with class 2 IEC 1010 and VDE 411 standards, in accordance with group B VDE 0110 standards for operating voltages up to 250 VACrms phase to neutral. To maintain this condition and to ensure safe operation, the user must comply with the indications and markings contained in the following instructions:

- when the instrument is received, before beginning installation, check that it is still intact and no damage was incurred during the transport;
- before mounting, ensure that the operating voltage and mains voltage set are the same and then proceed with the installation;
- the power supply does not require an earth connection;
- a 30 mA T fuse should be installed in the power supply circuit to the instrument;
- maintenance and/or repairs must be carried on only by qualified, authorized personnel;
- if there is ever the suspicion that safe use is no longer possible, the instrument must be disconnected and precautions must be taken against accidental use;
- operation is no longer safe when:
 - 1) there are clearly visible damages;
 - 2) the instrument no longer functions;
 - 3) after a prolonged storage in unfavorable conditions;
 - 4) after serious damages incurred during transport.

1.1 OPERATOR SAFETY

Read these pages carefully before installing and utilizing the instrument. The instrument described in this user manual is intended for use by properly trained staff only. Maintenance and/or repairs must be carried out by authorized personnel only. For proper, safe use of the instrument and for maintenance and/or repair, it is essential that the persons instructed to carry out these procedures follow normal safety precautions.

1.2 SYMBOLS

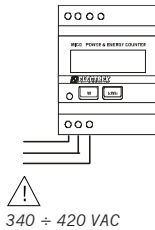
This symbol means: "Read the instructions"



2 POWER SUPPLY

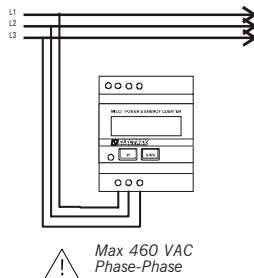
ATTENTION:

The instrument must have a power supply with voltage ranging from 340 ÷ 420 VAC 50/60 Hz using max. cable gauge 2.5 mm² and attached to the power supply terminals (see Fig. below). The instrument power supply does not need an earth connection. The instrument requires the installation of an external 30 mA AT type fuse in the power supply circuit.



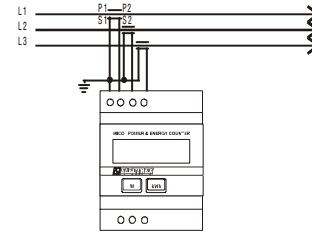
2.1 CONNECTION OF THE VOLTAGE INPUT

Use cables with max. gauge 2,5 mm² and attach them to the screw terminals for voltage output. The following drawings show how to connect the screw terminals to the phases. Refer to the detailed wiring diagram to make the correct connection of the voltage input depending on the selected instrument on the plant it is installed into.



2.2 CONNECTION OF THE CURRENT INPUT

The instruments are equipped with terminals for connection of the current signal inputs. Connect cables as indicated in the following diagrams. The P1 and P2 indications identify the current correct direction.



N.B.: In case the CT connection is accidentally reversed, the instrument provides an automatic compensation and, hence, inputs will be correct. Above feature applies to reversed voltage connection too. It is, however, absolutely essential to follow the sequence of the phases between voltage and current

N.B. The secondary CT must always short circuit when it is not connected to the instrument to avoid damages and risks to the operator.

3 INSTRUMENT PROGRAMMING

The writing "WAIT" appears when the instrument is powered. After a few seconds the power measurement will be displayed (the LED on the key is lighted).

The programming key is located at the bottom left corner of the front panel.

To enter into programming mode, press simultaneously the key and the key

On the display the CT selection will appear.

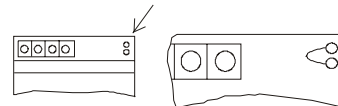


Pressing the key the available CT ratio is selected (see diagram in the following page) Once the selection is operated, press the programming key to confirm/exit set up.

Pressing simultaneously the key and the key the kWh values are zeroed.

The CT ratio prompted by default is 5/5. Once the instrument has been programmed it is possible to disable the key by cutting the jumper placed under the terminal cover relative to the current inputs. To remove the terminal cover it is necessary to lever with a screwdriver in the middle of it. The jumper is, facing the instrument, located to the right of the current inputs. Once the jumper is cut it will not be possible to reset the kWh counter and to change the CT ratio. To enable again the programming functions, it is necessary to restore the jumper.

Cut the jumper for disabling set up and reset

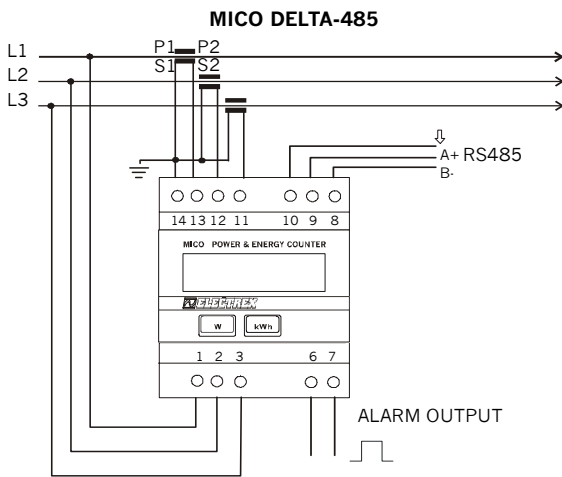
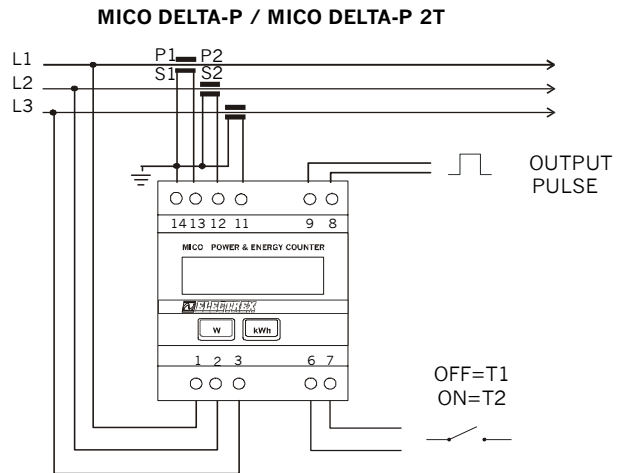
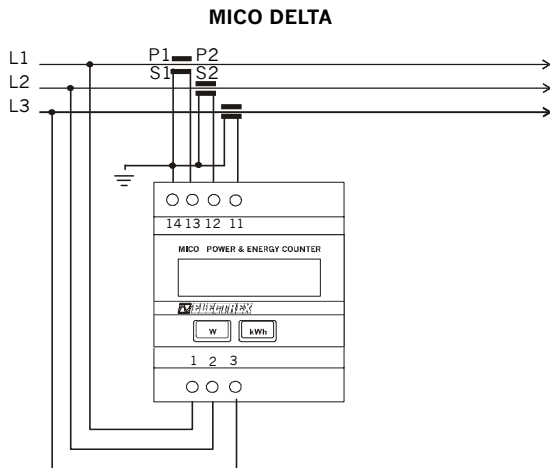


4 TECHNICAL CHARACTERISTICS

Inputs:	Voltage: 460V from 20 to 800 Hz Current: 5 A from 20 to 800 Hz
Input overload:	Voltage: max.264 Vrms phase to neutral Current: max 20 Arms,
Number of scales:	2 current scales 1 voltage scale
Size:	Length = 105 mm. (4 DIN modules) Height = 90 mm. Depth = 58 mm.
Weight:	270 g.
IP rating :	Instrument = IP20 Front panel = IP40
Temperature range:	from -10°C to +40°C
Relative humidity:	R.H. max 90%
Condensation:	not permitted
Isolation:	in accordance with group B VDE 0110 standards for 250 VACrms operating voltages.

N.B. Do not expose the instrument display to the sunlight.

5 WIRING DIAGRAM



Selectable CT Ratios

5/5	500/5
25/5	600/5
40/5	750/5
50/5	800/5
60/5	1000/5
75/5	1200/5
80/5	1250/5
100/5	1500/5
120/5	1600/5
150/5	1800/5
200/5	2000/5
250/5	2500/5
300/5	3200/5
320/5	4000/5
400/5	