DRT-430A

Three phase four wires DIN rail energy meter with analogue totaliser

(Four modules – MID certificated)

User manual

1.1 Foreword

Thank you for purchasing the B+G DRT-430 series DIN rail three phase four wire energy meters. With the B+G product range we have provided a large scale of energy meters on the market suitable for 110V AC to 400V AC (50Hz).

Although we produce the B+G DRT-430A series meter according to EN50470-3 and our strict quality inspection, there might be possibilities that our product shows a fault or failure for which we do apologize. Under normal conditions your product should give you years of benefit and pleasure. In case there is a problem with the energy meter you should contact your dealer immediately. All energy meters are sealed with a special seal. Once this seal is broken there is no possibility to claim for warranty. Therefore, NEVER open meter by yourself or break the seal of the energy meter. The warranty time is 12 months after installation, and only valid for construction faults.

1.2General Technical Data

1.2.1 Voltage (V

Voltage AC (Un)	3*230/400
Voltage rang	3*161/279 to 300/500

1.2.2 Current (A)

Base (Ib)	5
Max (Imax)	80
Starting current (mA)	0.4% of Ib
Imin	0.25A for 5(80)A

1.2.3 Power consumption of current ≤2W /10VA per phase

1.2.4 General data

Frequency (Hz)	50(±10%)
Accuracy	Class B

1.2.5Standards EN50470-3

1.2.6 Memory back-up not required (analogue totaliser)

1.2.7 Enclosure material

Upper	Polycarbonate
Lower	Polycarbonate/glass fiber

1.2.8 Temperature range (℃)

Operating	-25℃ to +55℃
Storing	-30℃ to +70℃

1.2.9 Humidity

Operating	75%
Storing	95%

The meter is intended for Non-Condensing humidity.

1.2.10 Protection

Protection against penetration	
Of dust and water	IP51
The meter is intended for Indoor Use	

1.2.11 insulating encased meter

Of Protective class	II

1.2.12 Voltage withstand

AC voltage withstand	2KV for 1 minute
Impulse voltage withstands	6KV-1.2uS waveform

1.2.13 Current withstand 30Imax for 0.01s

1.2.14 Pulse output rate 1000imp/kWh

1.2.15 Data stored more than 20 years when power is off (only LCD version)

1.2.16 Mechanical and EMC environments

The meter is intended to be installed in a Mechanical Environment 'M1', with Shock and Vibrations of low significance, as per 2014/32/EU Directive.

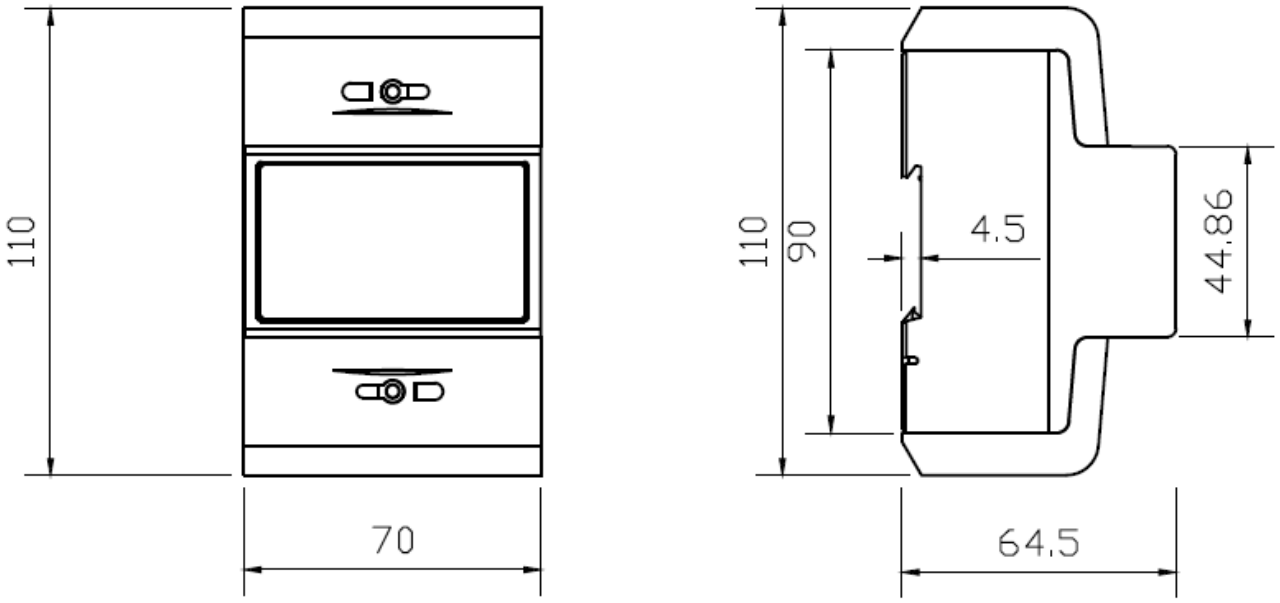
The meter is intended to be installed in Electromagnetic Environment 'E2', as per 2014/32/EU Directive.

1.3 Basic errors:

0.05Ib	Cosφ = 1	±1.5%
0.1Ib	Cosφ = 0.5L	±1.5%
	Cosφ = 0.8C	±1.5%
0.1Ib - Imax	Cosφ = 1	±1.0%
0.2Ib - Imax	Cosφ = 0.5L	±1.0%
	Cosφ = 0.8C	±1.0%

1.4 Dimension

Height	110 mm
Width	70 mm
Depth	64.5 mm
Weight	0.4 kg (net)



Material

Front panel	PC inflammable retarding
Cover	ABS inflammable retarding
Base	ABS inflammable retarding

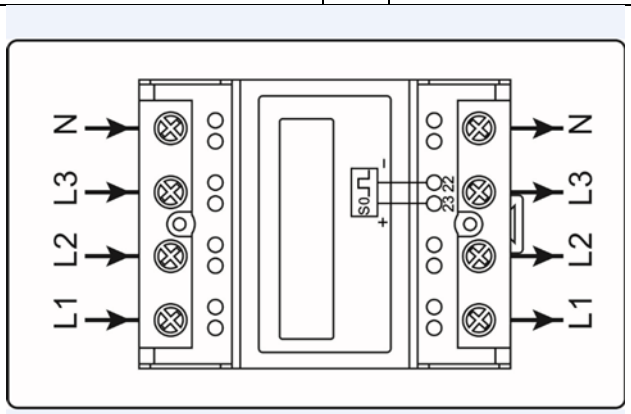
1.5 Installation

⚠ CAUTION
♦ Turn off all the power before working on it. ♦ Always use a properly rated voltage sensing device to confirm that power is off.
⚠WARNING
♦ Installation should be performed by qualified personnel familiar with related procedures and regulations. ♦ Use insulating tools to install the meter. ♦ Fuse or thermal cut-off or single-pole circuit breaker can't be fitted on the supply line and not the neutral line. ♦ The case is sealed, do not broken it

- ✧ We recommend that the connecting wire which is used to connect the meter to the outside circuit should be sized according to local codes and regulations for the capacity of the circuit breaker or over current device used in the circuit.
- ✧ An external switch or a circuit-breaker should be installed on the inlet wire, which will be used as a disconnection device for the meter. And there it is recommended that the switch or circuit-breaker is near the meter so that it is more convenience for the operator. The switch or circuit-breaker should comply with the specifications of the building electrical design and all local regulations.
- ✧ An external fuse or thermal cut-off which will be used as a over-current protection device for the meter must be installed on the supply side wire, and it is recommended that the over-current protection device is near the meter so that it is more convenience for the operator. The over-current protection device should comply with the specifications of the buildings electrical design and all local regulations.
- ✧ This meter can be installed indoor directly, or in a meter box which is waterproof outdoor, subject to local codes and regulations.
- ✧ To prevent tampering, secure the meter with a padlock or a similar device.
- ✧ The meter has to be installed against a wall which is fire resistant.
- ✧ The meter has to be installed in a good ventilated and dry place.
- ✧ The meter has to be installed in a protection box when placed in dangerous or dusty environment.
- ✧ The meter can be installed and used after being tested and sealed with a letter press printing.
- ✧ The meter can be installed on a 35mm DIN rail.
- ✧ The meter should be installed in an available height so that it is easy to read.
- ✧ When the meter is installed in an area with frequent surges due to e.q. thunderstorms, welding machines, inverters etc, protect the meter with Surge Protection Devices.
- ✧ After finishing installation, the meter must be sealed to prevent tampering.

Connection of the wires should be done in accordance with the underneath connection diagram.

connection diagram			
23	active pulse ouput contact “+”	22	active pulse ouput contact “-”
L1	L1 phase wire	L2	L2 phase wire
L3	L3 phase wire	N	Neutral wire



1.6 Operating

Consumption indication:

L1 indicator: it will become yellow when there is current in phase A
L2 indicator: it will become green when there is current in phase B
L3 indicator: it will become red when there is current in phase C
The other indicator is for pulse output. When consumption happens; the LED will flash and display red. The more quickly LED flash, the more consumption there is.

Reading the meter:

The display digit of DRT-430A is 6+1. Six integers are marked with white color and one decimal is marked with red.

Display function: It will display the total kWh consumed.

Pulse output
The DRT-430A Series DIN rail energy meter is equipped with a pulse output which is fully separated from the inside circuit. That generates pulses in proportion to the measured energy for accuracy testing.

1.7 Technical supports

Problem	Check	Solution
No light for the consumption indicator.	Is there current ? Maybe there is a fault in the inside circuit.	Only when there has current, this LED will flash. . Please contact your technical supporter to replace this meter.
The register can't run.	Is there a power supply inside the meter? Is the operating power too low? Maybe there is a fault in the inside circuit.	Check that the power supply If the operating power is too low, the spacing interval of the pulses will take some more time, this is why it seems like the meter won't count. Please contact your technical supporter to replace this meter.
No pulse output.	Is the connecting correct ? Maybe there is a fault in the inside circuit.	Check correct connecting: connect 5-27V DC to connector 20 (anode), and the signal wire (S) to connector 21 (cathode). Please contact your technical supporter to replace this meter.
Pulse output rate wrong.	Maybe there is a fault in the inside circuit.	Please contact your technical supporter to replace this meter.

Your technical supporter

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Declaration of Conformity

We »B+G E-Tech GmbH« · Franz Mehring Str. 36 · 01979 Lauchhammer (Germany) ensure and Declare that the apparatus:

DRT430A

*with the measurement range **3 x 230/400V, 0,25-5(80)A, 50Hz, 1000imp/kWh** are in conformity with the type as described in the EC-type examination certificate 0120/SGS0463 and satisfy the appropriate requirements of the Directive 2014/32/EU.*

Lauchhammer, 01.06.2020

Represented by business executive
Mathias Bruchholz