COUNTIS ATd

Operating instructions

F | GB | D | I | NL | E | P

SOCOMEC GROUP SWITCHGEAR AND UPS

Энергетические и телекоммуникационные системы

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Switching and Protection Systems

Contents

PRELIMINARY OPERATIONS

Recommendation:
For personnel and product safety please read the contents of these operating instructions carefully before connecting.

Check the following points as soon as you receive the Countis ATd package:
- the packing is in good condition,
- the product has not been damaged during transit,
- the product reference number conforms to your order,
- the package contains the product fitted with 2 terminal shrouds,
- operating instructions.

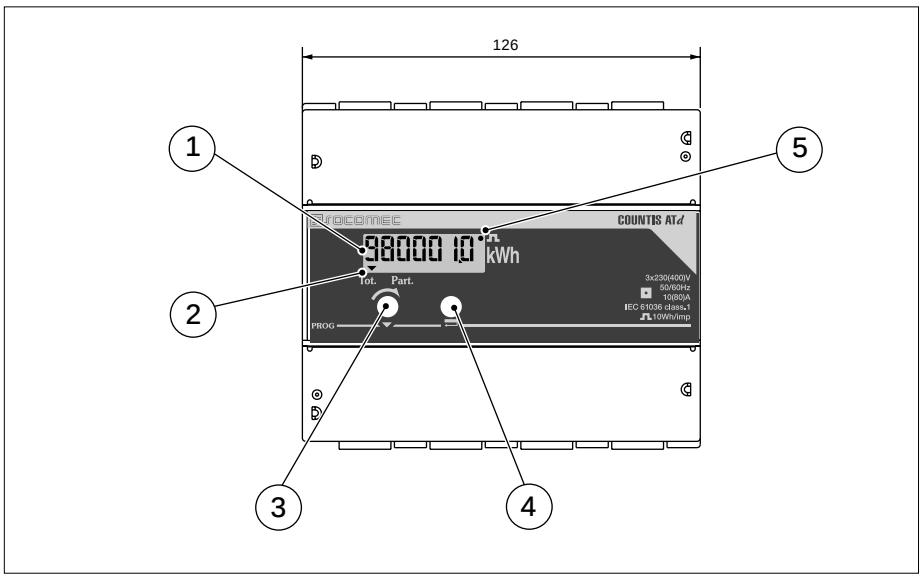
GENERAL INFORMATION

FUNCTIONS

The Countis ATd is an active energy meter with 80A direct input. This product enables direct readings of total or partial consumption via LCD display, and is thus fully compliant with standard IEC 61036 Class 1. It is entirely programmable and has a fixed 100Wh pulse output.

PRESENTATION

The Countis ATd is housed in a modular case (7 versions).
The display and key-pad make it a truly user-friendly instrument.



① kWh consumption display

② Flashing icon indicating incorrect connection

③ Total and partial display, or scrolling in programming mode

④ Confirm programming

⑤ Consumption indicator (10Wh/pulse)

INSTALLATION

The Countis ATd is fitted on a DIN rail, mounting plate or on the front of a control panel with a special mounting kit. (Please contact us for more information)

MECHANICAL ENVIRONMENT

- avoid proximity to systems which generate electromagnetic interference
- avoid vibrations with accelerations in excess of 1 G for frequencies below 60 Hz.

CLIMATIC ENVIRONMENT

To guarantee optimal operation, it is recommended to use this equipment at -5 up to 45°C with maximum relative humidity of 85%.

SAFETY INSTRUCTIONS

To avoid damage to the device please ensure the following points are respected before connecting:

- the indications on the case,
- power supply for model 230: 230V AC phase/phase +/-15%, or power supply for model 400: 400V AC phase/phase +/-20%,
- 60 Hz network,
- 80 A maximum current,
- minimum cable section.

ELECTRICAL CONNECTIONS

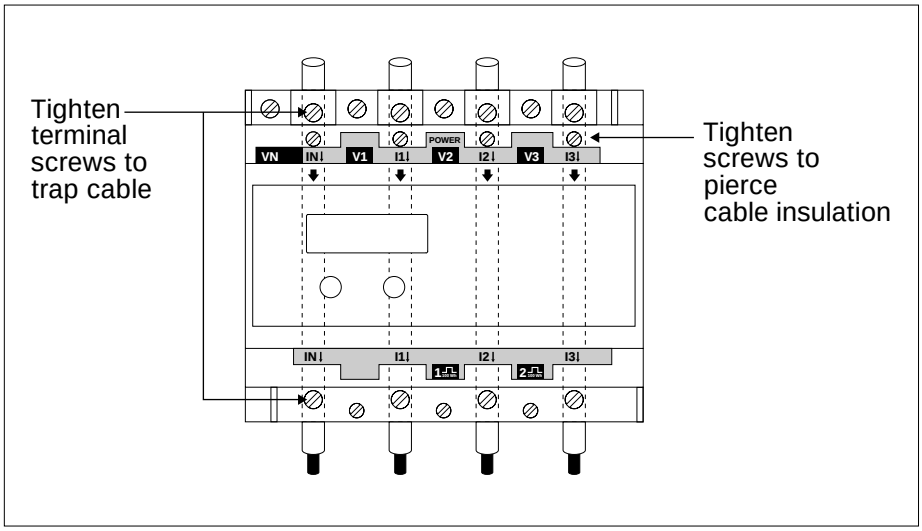
The Countis ATd has two connection modes for current and voltage.

TERMINAL-FREE CONNECTION

Remove the two covers to access the terminals.

NB:
This method offers several connection possibilities for current and voltage. Cables can be passed through the device for the current, whilst other cables can be used for the voltage connected to their respective terminals.

Recommendation:
Cables should follow the direction indicated by the arrows on the enclosure.
The use of 500 mA gG (or BS 88 2A gG) fuses is recommended for voltage input protection when using specific cable for voltage.



- **Single-phase (1 BL):**
  - Current measurement:
  Pass cable through I1 and IN.
  - Voltage measurement:
  Perforate cable insulation for cable passing through I1 and IN, or connect V1 and VN.

NB: It is imperative to use cable with a maximum section of 2.5mm² between terminals V2 and VN.

- **Two-phase (2BL):**
  - Current measurement:
  Pass cable through I1 and I2.
  - Voltage measurement:
  Perforate cable insulation for cable passing through I1 and I2, or connect V1 and V2.

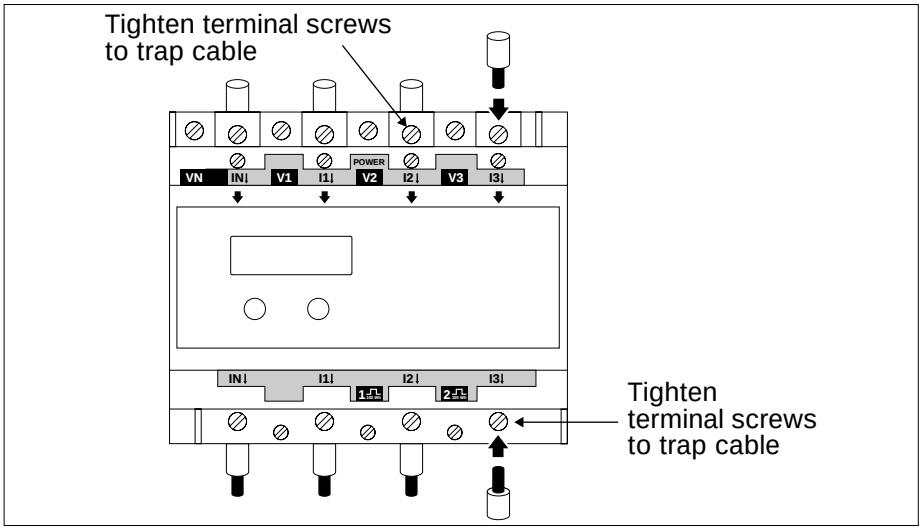
- **Three-phase (balanced) with or without neutral (3 or 4 BL)**
  - Current measurement:
  Pass cable through I1.
  - Voltage measurement:
  Connect V1, V2, V3 and VN (if neutral is distributed).

- **Three-phase (unbalanced) with or without neutral (3 or 4 NBL)**
  - Current measurement:
  Pass cables through I1, I2, I3 and IN (if neutral is distributed).
  - Voltage measurement:
  Perforate cable insulation for cables passing through I1, I2, I3 and IN (if neutral is distributed), or connect V1, V2, V3 and VN (if neutral is distributed).

SCREW-IN CONNECTION

Remove the two covers to access the terminals.

Recommendation:
Cables should follow the direction indicated by the arrows on the enclosure.
The use of 500 mA gG (or BS 88 2A gG) fuses is recommended for voltage input protection when using specific cable for voltage.



- **Single-phase (1 BL):**
  - Current measurement:
  Connect top and bottom of I1.
  - Voltage measurement:
  Connect terminals V1 and VN.

NB: It is imperative to use cable with a maximum section of 2.5mm² between terminals V2 and VN.

- **Two-phase (2BL):**
  - Current measurement:
  Connect top and bottom of I1 and I2.
  - Voltage measurement:
  Connect terminals V1 and V2.

- **Three-phase (balanced) with or without neutral (3 or 4 BL):**
  - Current measurement:
  Connect top and bottom of I1.
  - Voltage measurement:
  Connect V1, V2, V3 and VN (if neutral is distributed).

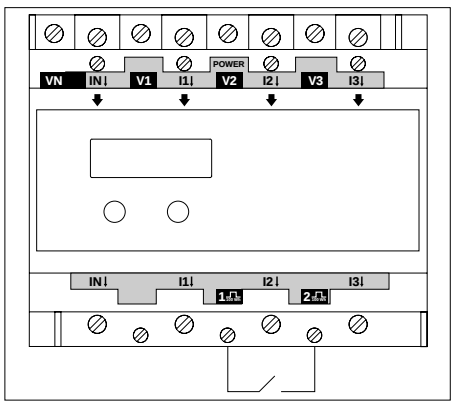
- **Three-phase (unbalanced) with or without neutral (3 or 4 NBL):**
  - Current measurement:
  Connect top and bottom of I1, I2, I3 and IN (if neutral is distributed).
  - Voltage measurement:
  Connect V1, V2, V3 and VN (if neutral is distributed).

For optimal operation use cable connections with the following sections:

4 mm² (flexible and rigid) from 0 to 32 A,
10 mm² (flexible and rigid) from 32 to 63 A,
16 mm² (flexible and rigid) from 63 to 80 A.

PULSE OUTPUT

A reed relay (100 V - 0,5 A - 10 VA) available on the Countis ATd provides a pulse for active energy, the value being fixed at 100 Wh. The duration can be programmed (see § programming).



ENGLISH

PROGRAMMING

KEYS	INSTRUCTIONS
▼ + ↵	Press for approx. 3 seconds to access programming mode password
▼	To enter code 167
↵	To confirm code and access network type programming
▼	To select 3-4 nbL network type (unbalanced three-phase), 3-4 bL (balanced three-phase with 1 CT), 1 bL (single-phase) and 2 bL (two-phase with 1 CT)
↵	To confirm network type and proceed to impulse duration setting (PLS)
▼	To select pulse duration from set list (60, 100, 200, 300, 400, 500, 600, 700, 800 and 900 ms)
↵	To set duration and proceed to partial meter reset (rSEt)
▼	To select ‘rSEt nO’ (no reset to zero) and ‘rSEt YES’ (reset to zero)
↵	To confirm reset to zero and return to network type programming
▼ + ↵	To confirm and quit programming.

NB:
Programming quits automatically if no key is pressed after a 25-second interval.

TECHNICAL CHARACTERISTICS

CASE

Dimensions:	7 modules (7 x 18 mm)
Current and voltage connection (max. 10.5mm):	
• via terminal-free cable:	25 mm^2 max.
• terminals:	from 4 m^2 to 50 mm^2
Voltage and pulse output connection:	1 to 6 mm^2 (flexible cable) and 1.5 to 10 mm^2 (rigid cable)
Weight:	700 gr.
IP index:	IP40 (front panel) and IP20 (case)

FRONT FACE

Display: 7-digit green LCD

INPUTS

CURRENT	
Maximum measured current:	80 A
Minimum measured current:	800 mA
Overload:	
• permanent:	80 A
• intermittent:	30 Imax / 10 ms
Consumption:	
• screw-in cables:	≤ 2.5 VA
• terminal-free cables:	≤ 0.1 VA
VOLTAGE	
Measurement range (Ph/Ph):	
• 230 V AC	± 15% (230 model)
• 400 V AC	± 20% (400 model)
Frequency:	50/60 Hz ± 2Hz
Consumption:	≤ 2 VA

NB:
The Countis ATd is self-supplied via voltage inputs V1 and V2.

PULSE OUTPUTS

Reed relay	100 V DC - 0.5A - 10 VA
Pulse duration:	60 to 900 ms
Maximum number of operations:	5 x 10^7 / 10 V DC/10 mA
Fixed pulse value:	100 Wh

OPERATING CONDITIONS

Operating temperature:	-5 up to 45°C
Storage temperature:	-20 up to 70°C
Relative humidity:	85 %

STANDARDS

Active energy accuracy:	IEC 61036 / Class 1
EC Marking:	EN 50081-2 EN 50082-2 IEC 61000-4/2-3-4-5-6-11
Environment:	IEC 60068-2-6 IEC 60669-1 and 60699-2

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COUNT 662C

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