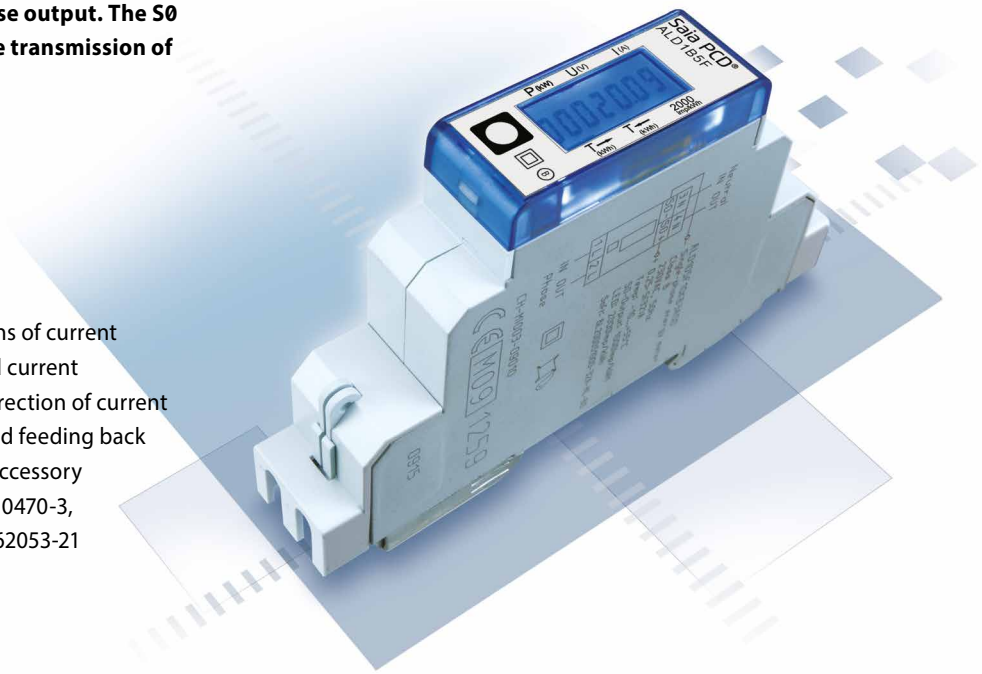
Single-phase bidirectional energy meter
with S0 pulse output

Bidirectional energy meter with S0 pulse output. The S0 interface is a hardware interface for the transmission of measured values via pulses.



Specifications

- 1-pase energy meter, 230 VAC 50 Hz
- Direct metering to 32 A in both directions of current
- Display of the active power, voltage and current
- S0-pulse-output; independent of the direction of current
- 7-digit LCD display for energy supply and feeding back
- Can be sealed with a sealing cap as an accessory
- Accuracy class B in accordance with EN50470-3, Accuracy class 1 in accordance with IEC62053-21

Order number

Standard version:	ALD1B5F10KA2A00
MID version:	ALD1B5F10KA3A00
Sealing cap:	4 104 7420 0

Technical data

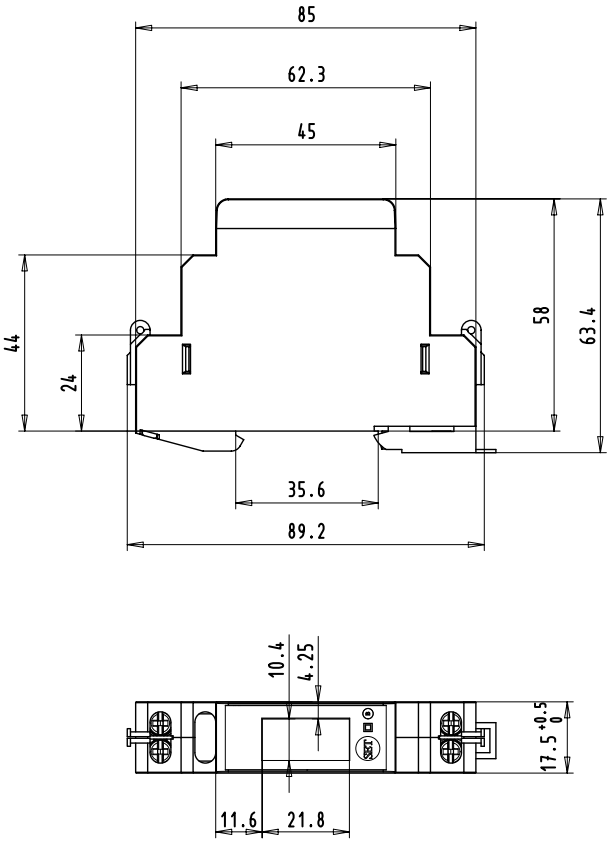
Accuracy class	B in accordance with EN50470-3, 1 in accordance with IEC62053-21	
Operating voltage	230 VAC, 50 Hz	
	Tolerance –20 %/+15%	
Reference current/maximal	I_{ref} = 5 A, I_{max} = 32 A	
Start current/minimum current	I_{st} = 20 mA, I_{min} = 0.25 A	
Power consumption	Active 0.4 W per phase	
Meter range	00'000.00…99'999.99 100'000.0…999'999.9	
Display	Backlight LCD, numbers 5 mm high	
Pulses per kWh	LC display S0-output	2000 pulses/kWh 1000 pulses/kWh

Assembly

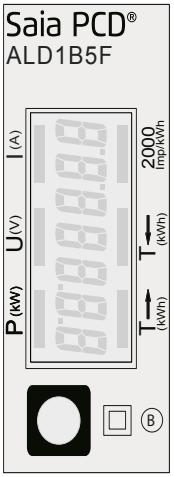
Assembly	on 35 mm top-hat rail in accordance with EN60715TH35
Connections Main circuit	Max. conductor cross section 6 mm², Pozidrive screwdriver size 1, flat-head screwdriver size 1 Torque: 1.2 Nm
Connections Control circuit	Max. conductor cross section 2.5 mm², Pozidrive screwdriver size 0 or flat-head screwdriver size 1 Torque: 0.5 Nm
Insulating properties	4 kV / 50 Hz test in accordance with VDE0435 for energy meters
	6 kV 1.2 / 50 µs overvoltage in accordance with IEC255-4
	2 kV / 50 Hz in accordance with VDE0435 for interfaces
	Device protection class II
Ambient temperature	–25 °…+55 °C
Storage temperature	–30 °…+85 °C
Environment	Mechanical M2 Electromagnetic E2
Relative humidity	75 % without condensation
EMC/resistance	Surge voltage in accordance with IEC61000-4-5 at the main circuit, 4 kV at the S-bus interface, 1 kV
	burst voltage in accordance with IEC61000-4-4, at the main circuit, 4 kV at the S-bus interface, 1 kV
	ESD in accordance with IEC61000-4-2, contact 8 kV, air 15 kV

Dimension drawings

Architecture

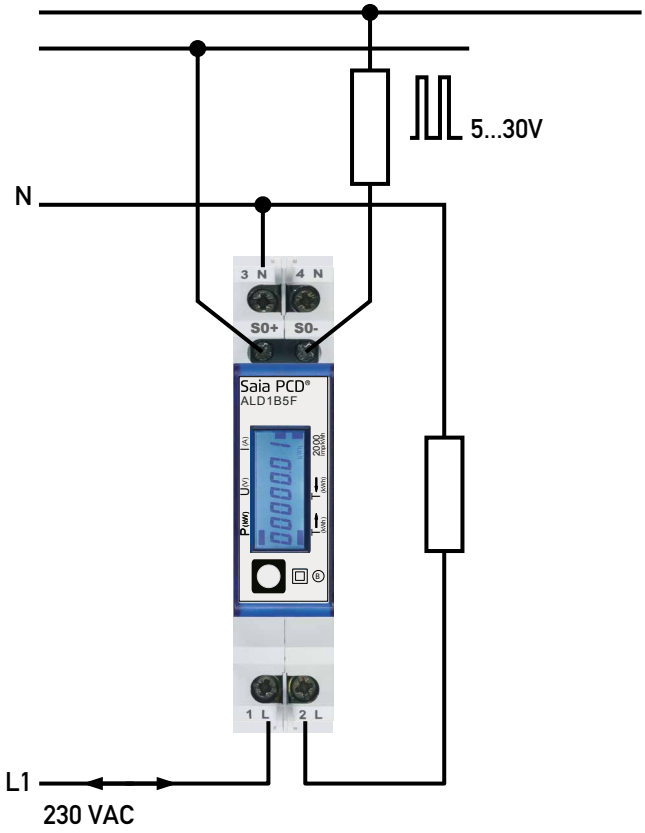


Display components, direct measurement

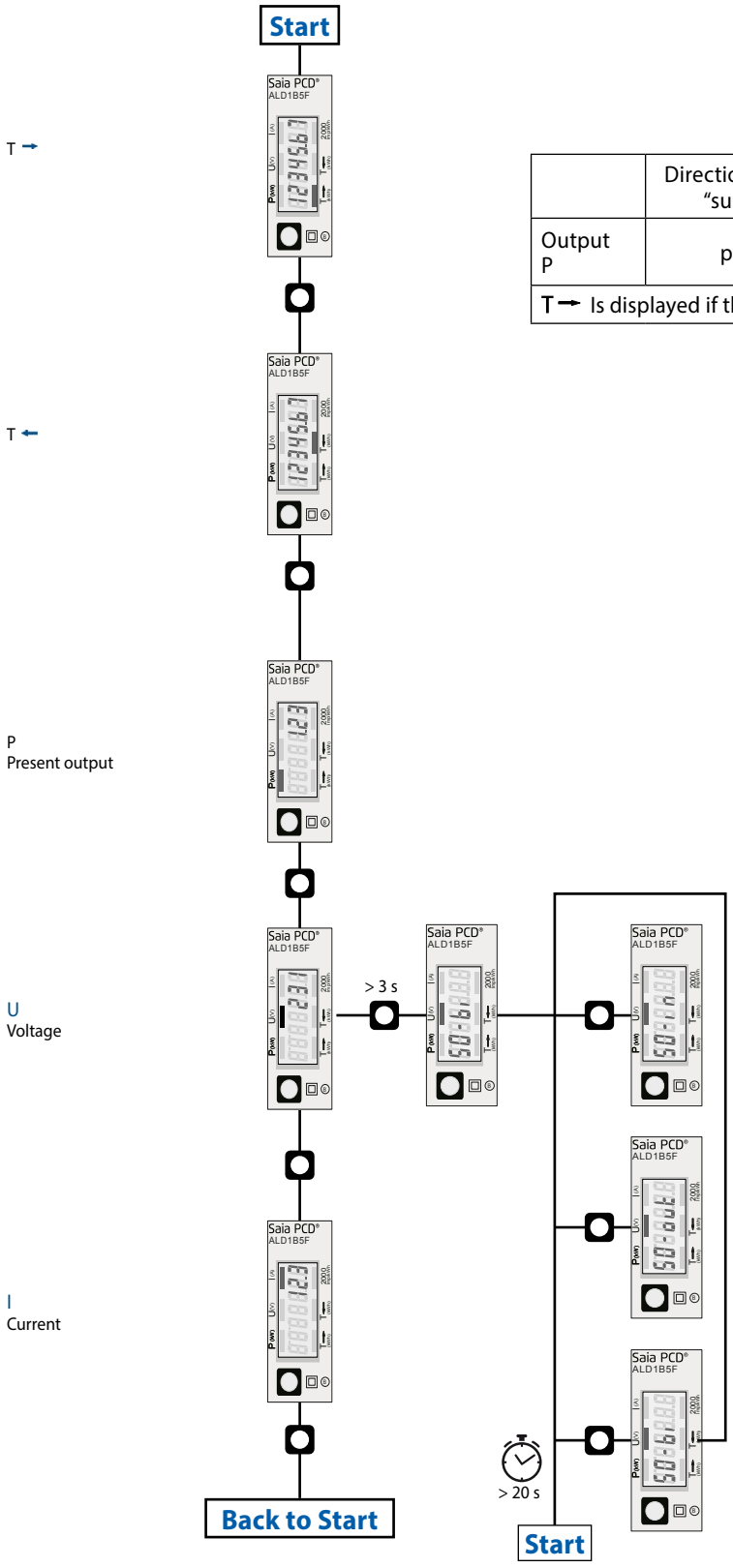


- T (kWh) — Shows the total consumption →
- T (kWh) — Shows the total feeding back ←
- P (kW) — Shows the present power
  current « → » = reference (P positive)
  current « ← » = feeding back (P negative)
- U (V) — Shows the voltage
- I (A) — Shows the current
- 2000 pulses/kWh — Pulses in accordance with the supplied power.

Connection diagram



Menu used to display the values on the LCD display

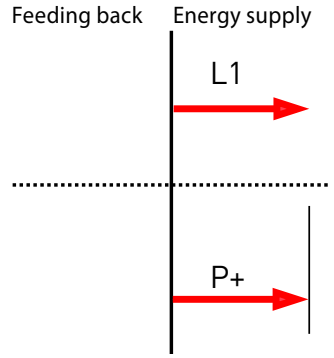


	Direction of current "supply →"	Direction of current "feeding back ←"
Output P	positive	negative
T → Is displayed if there is no flow of current.		

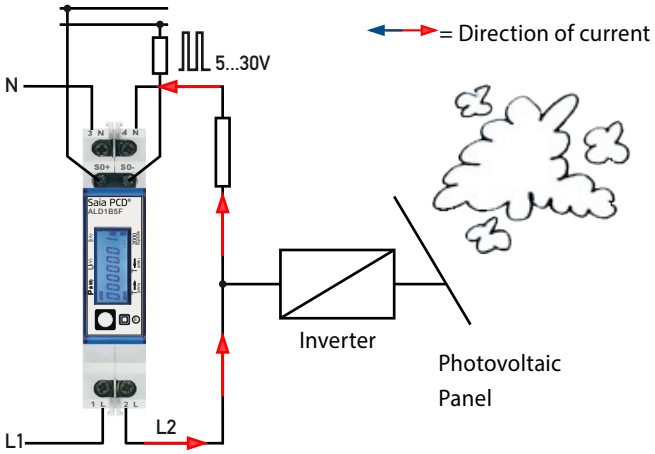
Connection diagram / method of operation

Energy is added as indicated by the arithmetic operator. Positive output in the meter indicates that energy is being supplied, while negative output indicates that energy is being delivered.
If the supply of energy (P positive) is greater than the delivery of energy (P negative), the count register T→ increases.
The LCD segment «2000 pulses/kWh» is OFF and only switches on if there is a pulse.
If the delivery of energy is greater than the supply of energy, the count register T ← increases.
The LCD segment «2000 pulses/kWh» is ON and only switches off if there is a pulse.
The S0 output can be configured.
S0 IN: S0 pulses only for consumption
S0 OUT: S0 pulses only for feeding back
S0 BI: S0 pulses for both directions of current

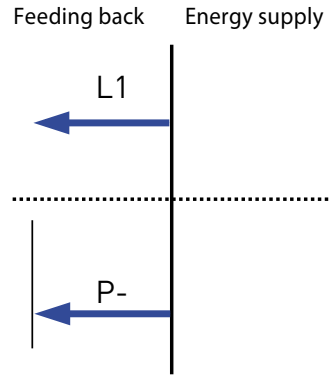
Method of operation with direction of current «supply →»



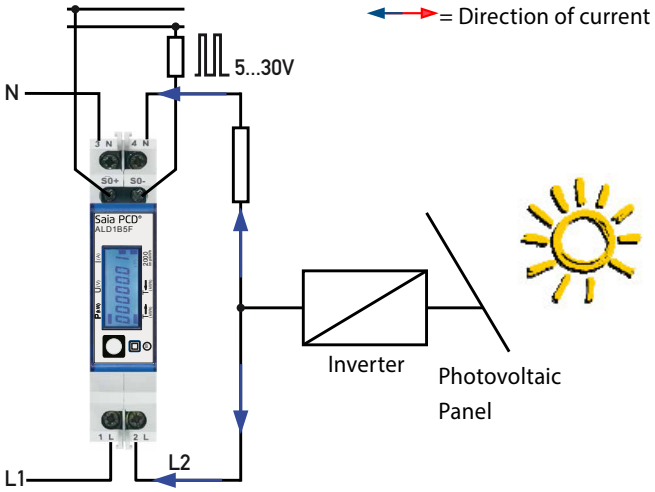
Tariff "→" increases



Method of operation with direction of current «feeding back ←»



Tariff "←" increases



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