

Test Measurement via SMARTFOX current transformer

The following instructions show methods for checking the SMARTFOX measurement at the house connection point.

Items needed:

"Multimeter"
of any manufacturer



ATTENTION! The work may only be carried out by electrotechnical personnel or skilled persons.

1. Switch off all generating plant components on the AC and DC sides (inverters, battery systems, hydroelectric power plant, wind turbines...).
2. Check the arrow direction of the current transformers. The arrows of the current transformers must point towards the consumer side (K = power plant, L = load).
3. The current transformers must be installed in the correct phase (observe the labelling and colour coding).

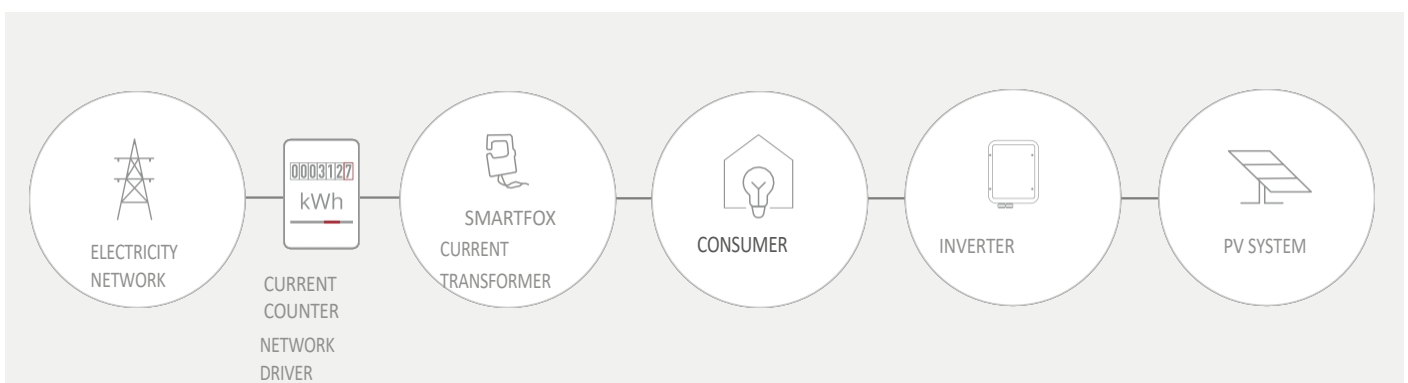
L1 = Brown

L2 = Black

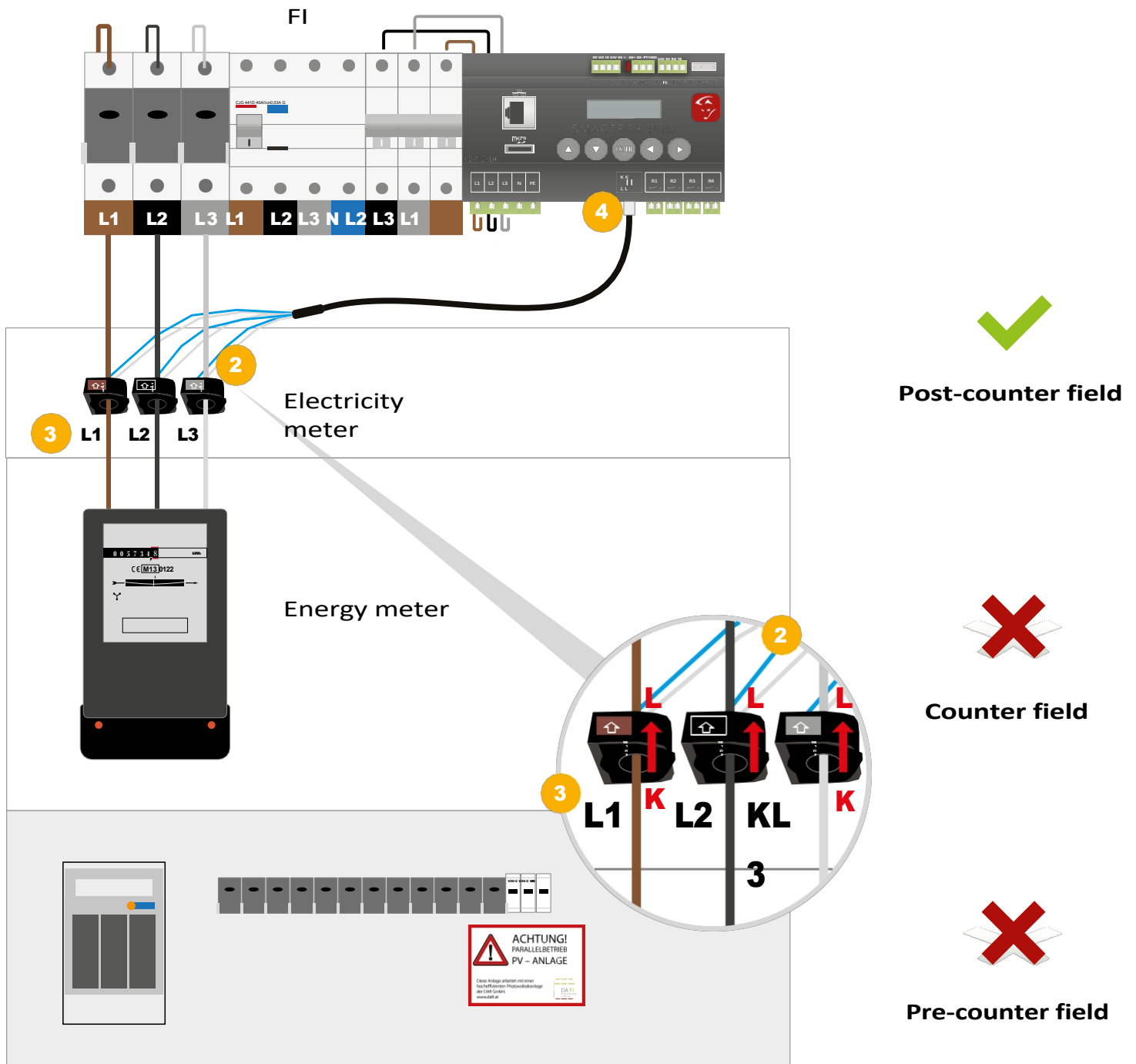
L3 = Grey



Overview diagram



INSTALLATION OF CURRENT TRANSFORMERS SMARTFOX



Attention! The SMARTFOX current transformers must always be connected as shown in the picture above. (Arrows point in the direction of the consumer).

4. Check that the RJ12 plug of the current transformers is correctly connected to the SMARTFOX.
When measuring the current, the unit must output a measured value on all 3 phases (labelled A, B, C on the unit). To do this, navigate to the menu "Displaying the measured values" → "Current".

Power

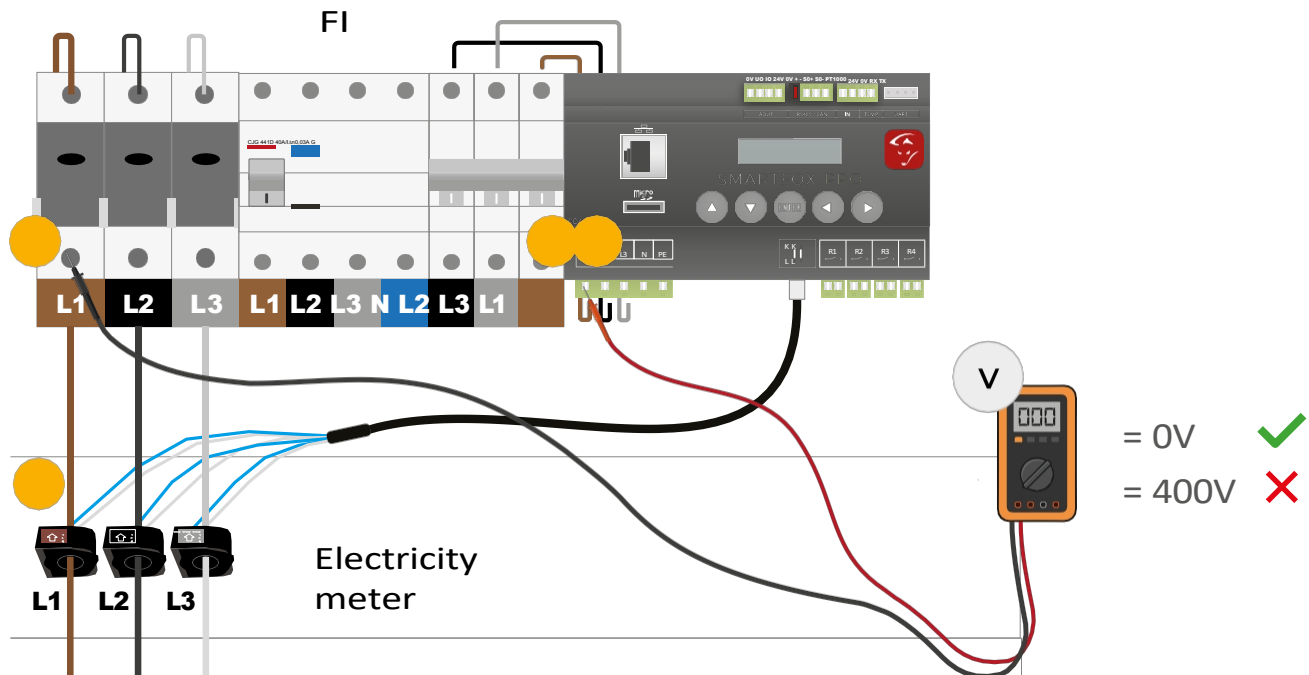
*STROM: A = 4.30 A
B = 3.80 A C = 4.50 A*



*STROM: A = 4.30 A
B = 3.80 A C = 0.00 A*



5. Check the correct phase assignment on the 5-pin connector (L1/L2/L3/N/PE) of the SMARTFOX.
- The phase L1 connected to the SMARTFOX must match the phase of the current transformer L1.
 - To check the correct phase assignment, carry out a voltage measurement (AC) between a measuring point on current transformer L1 and terminal L1 on the SMARTFOX. The measurement should result in 0V. If 400V are measured, the phase assignment is not correct. Change the assignment at the 5-pin connector of the SMARTFOX. Repeat the measurement for phases L2 and L3.



Navigate to the P(W/kW) display on the SMARTFOX. Here, the individual power values per phase are displayed with the correct sign. After all generating system parts (see point 1) have been switched off, all three measured values must show a positive sign. If one or more measured values show a negative sign, repeat **points 1 to 5**.

Power

*P (W/KW): A = 82 W
B = 4.05 W C = 80 W*



*P (W/KW): A = - 82 W
B = 4.05 W C = 80 W*



USE OF ADDITIONAL CURRENT TRANSFORMERS

"200/5A current transformer divisible

Art.no. 0791732486490

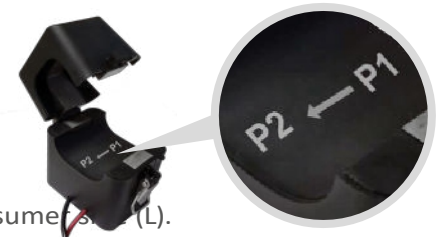


"500/5A current transformer divisible

Art.no. 0791732486490



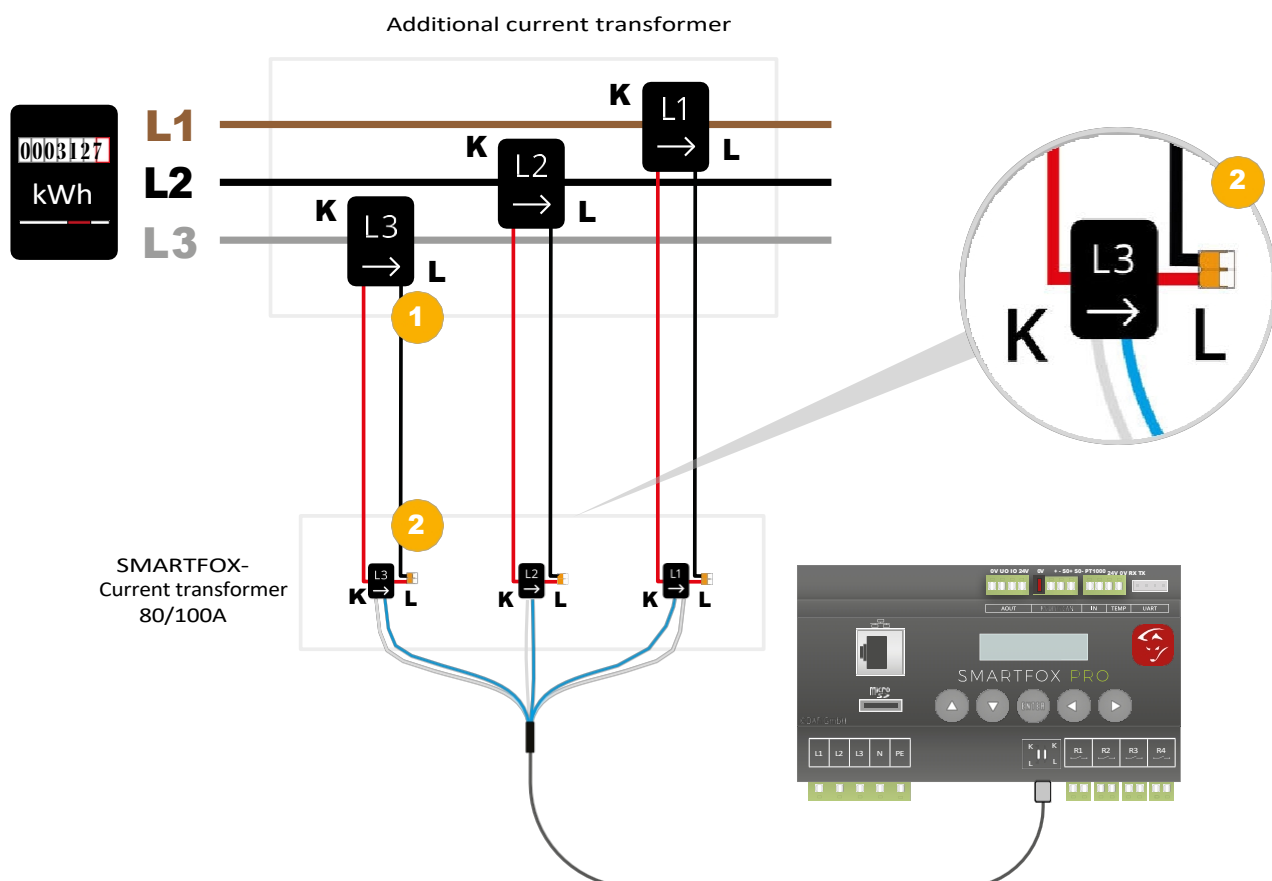
As with the current transformers for direct connection (RJ12 plug), arrows indicate the mounting direction for the additional current transformers (see illustration on the right).



1. The arrow direction of the transducers points in the direction of the consumer (S → L).
2. Lead the connection wires K= Red & L= Black of the secondary side through the current transformer to the direct connection and short-circuit them using a suitable clamp. Plug the RJ12 connector of the smaller transformers into the corresponding connector of the SMARTFOX.



ATTENTION! The additional current transformers may only be mounted over a current-carrying conductor. after the secondary side has been short-circuited.



3. Adjust the current transformer ratio on the SMARTFOX.

If only converters for direct connection are used (80A or 100A with RJ12 plug), the converter ratio must be left at 1:1.

200/5A transformer ratio

$200/5 = 40 \rightarrow 40:1$

Ratio 500/5 transducer

$500/5 = 100 \rightarrow 100:1$

General x/y converter

$x/y = z \rightarrow z:1$

The screenshot shows the SMARTFOX web interface. On the left is a sidebar menu with options: Home, Einstellungen, Allgemein (selected), Analogausgang, Relais, Eingänge, RS485/CAN, Ladestation, Batterie, Wärmepumpe, Wechselrichter, Verbrauchsregler, Externe Zähler, Administration, and Netzwerk. The main content area is titled 'Allgemein' and contains several settings:

- Sprache: DE
- Uhr Modus: Automatik
- Datum/Uhrzeit: 19.07.2021 14:16
- Zeitzone: GMT +1: Amsterdam, B✓
- SMARTFOX Tarif: AUS
- Stromwandler (x:1): 40** (highlighted with a yellow box and a red circle with the number 3)
- Logintervall in Sekunden: 30
- SD Karte: EIN (3187MB verfügbar)

A red 'Speichern' (Save) button is located at the bottom center of the settings area.

4. Check the measurement Using points 1 to 5 (see pages 1-3)

USE OF TRANSDUCER EXTENSIONS

"SMARTFOX Transducer Extension 15m

Art.no. 0791732486520



NOTE! Only **one** measuring transformer extension (max. 15m) may be used.

