

Energy Meters

U3089

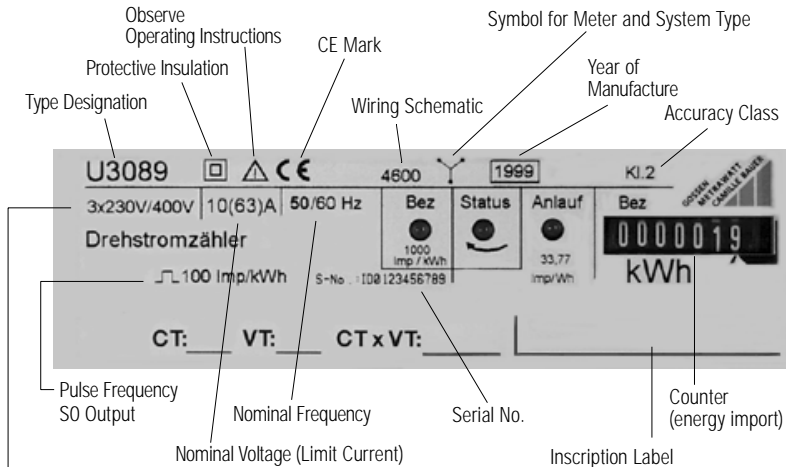
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Safety Precautions

- Check mains voltage before placing your meter into operation, see serial plate.
- Make certain that connection cables are not damaged, and that they are free of voltage during hook-up of the meter.
- If it may be assumed that the instrument can no longer be operated safely, it must be removed from service (disconnect input voltage!). Safe operation can no longer be relied upon if the meter displays visible damage.
Placing the meter back into operation is only permitted after the error has been detected, the meter has been repaired and subsequent testing of calibration and dielectric strength has been carried out at our plant or at an authorized service center.
- When the cover is opened voltage conducting parts may be exposed. If balancing, maintenance or repair of a live, open instrument is required, this may only be carried out by trained personnel who are familiar with the dangers involved.
Capacitors within the meter may still be charged, even after it has been disconnected from all voltage sources.
- Insulation must be high-voltage tested with the values indicated under technical data after the meter has been repaired or serviced, and after the cover has been closed.

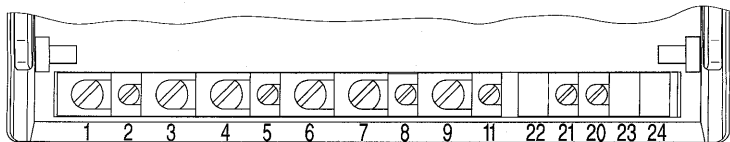


CT Factor: Current Transformer Ratio
 VT Factor: Voltage Transformer Ratio
 CT x VT: Product of CT and VT



Note: Observe the connection schematic in the terminal cover.

Attention: Tighten screws by hand only! Tightening torque
for current terminals (no. 1, 3, 4, 6, 7 and 9) = 2 Nm
and for all other terminals (no. 2, 5, 8, 11, 20 and 21) = 0.4 Nm



1	2	3	4	5	6	7	8	9	11	22	21	20	23	24
Current	Current	Current	Current	Current	Current	Current	Current	Current						
Voltage		Voltage		Voltage		Voltage								
L1		L2		L3		N								

Inputs

Current: $\leq 16 \text{ mm}^2$ without connector sleeve

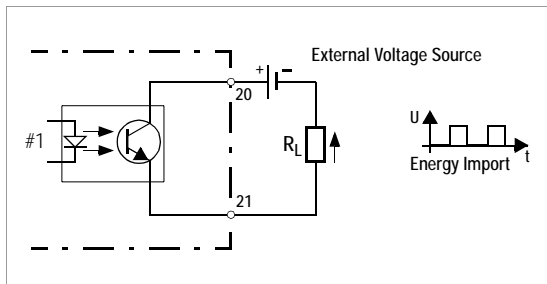
Voltage: $\leq 2,5 \text{ mm}^2$ with connector sleeve or
 $\leq 2 \times 1,5 \text{ mm}^2$ without connector sleeve

S0- Pulse Output

$\leq 2,5 \text{ mm}^2$ with connector sleeve or
 $\leq 2 \times 1,5 \text{ mm}^2$ without connect. sleeve

3 Pulse Output

Electrical Values	
Pulse Duration Interpulse Period	100 ms + 50% > 50 ms
U_{ext}	max. 40 V
Switching Current	max. 27 mA



4 LED

The **Status LED** lights up briefly each time the counter is activated.

The LED blinks with approx. 1 Hz to indicate incorrect phase sequencing, and lights up or “flickers periodically” to indicate phase failure.

The **Bez LED** blinks to indicate energy import.

The **start-up LED** left from the counter allows for an accelerated start-up and open-circuit test.

5 Technical Data

Measuring Ranges

Voltage	
See order information	
Allowable deviation	+ 15% / - 20%

Current	
Direct measuring I_B	10 A
Starting current	Class 2: 0.5% I_B Class 1: 0.4% I_B
Direct measuring I_{max}	63 A
Current transformer I_B	5 A (suitable for 1 and 5 A current transformers)
Starting current	Class 2: 10 mA
Current transformer I_{max}	6 A or 2 A

Frequency Range	
Nominal frequency	50 Hz
Cut-off frequency	10 Hz ... 75 Hz

Accuracy Class	
Standard	Class 2 per IEC 61036

Overload Capacity

All meters	Unlimited, 1.15 U_r and I_{max}
Direct connection	5 times 3 s U_r and 100 A (interval: 5 min.)
Direct connection	1 times 1 s U_r and 250 A
Current transformer terminal	0.5 s, 20 x I_{max}

Internal Loss

Voltage Path	
4-wire meter	< 3 VA per phase

Current Path	
At I_{\max}	< 1 VA
At $I_B = 1 \text{ A}$	< 0.05 VA
At $I_B = 5 \text{ A}$	< 0.5 VA
At $I_B = 10 \text{ A}$	< 0.02 VA

Electrical Safety

Safety class	II
Overvoltage category	III per IEC 61036 / EN 61036
Allowable fouling factor	2

Electromagnetic Compatibility per IEC 61036	
Surge voltage	6 kV, 1.2 / 50 ms 10^+ / 10^- surges (IEC 255-4)
Burst	2 kV (EN 61000-4-4)
Electromagnetic fields	10 V / m (EN 61000-4-3)
Electromagnetic discharge	8 kV (EN 61000-4-2)
Interference emission	EN 55022

Ambient Conditions

Nominal operating temp.	-10 ... +45 °C
Operating temperature limits	-20 ... +55 °C
Storage temperature	-25 ... +70 °C
Relative humidity	< 75% mean annual

Mechanical Design

Housing	
Material	Lexan polycarbonate per UL94 V0
Dimensions	Height ≤ 90 mm Overall depth ≤ 75 mm Width $125.5^{+0.5}$ mm
Weight	< 0.5 kg
Mounting	Top-hat rail per DIN EN 50 022 or wall mount
Protection	IP 51

6 Mounting the Terminal Cover

If the terminal cover is open, it can be easily removed or installed. The terminal cover must be swung out 90° from its closed position. The side panels can then be lifted, one after the other, with the guide slots over the fixed axle studs.

7 Inscription Label

The CT and VT factors, as well as their product types, can be entered onto the inscription label beneath the serial plate (see serial plate key on page 3). To this end, the inscription label can be withdrawn from the corresponding slot, provided the terminal cover is open.

8 Sealing

8.1 Housing Seal

The housing seal is attached to the back panel of the housing. Two drill holes are provided for this purpose, which are located above the hole pattern.

Repairs within the housing may only be undertaken by GOSSEN-METRAWATT service or by authorized service centers.

8.2 Terminal Cover Seal

The terminal cover seal is attached at the left or the right hand side of the terminal cover.

9 Repair and Replacement Parts Service DKD Calibration Lab and Rental Instrument Service

When you need service, please contact:

GOSSEN-METRAWATT GMBH
Service-Center
Thomas-Mann-Strasse 20
90471 Nuremberg, Germany
Phone +49 911 86 02 - 410 / 256
Fax +49 911 86 02 - 2 53
e-mail fr1.info@gmc-instruments.com

This address is only valid in Germany.
Please contact our representatives or subsidiaries for service in other countries.

10 Product Support

When you need support, please contact:

GOSSEN-METRAWATT GMBH

Product Support Hotline

Phone +49 911 86 02 - 112

Fax +49 911 86 02 - 709

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