

## Operating Instructions

### U3589 Energy Meter

3-349-185-21  
1/2.03

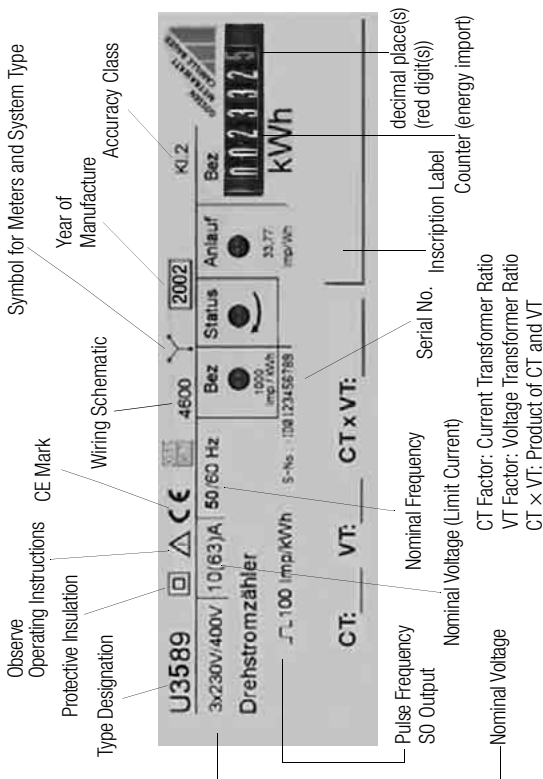




## Safety Precautions

- 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.

# 1 Key to Serial Plate Entries

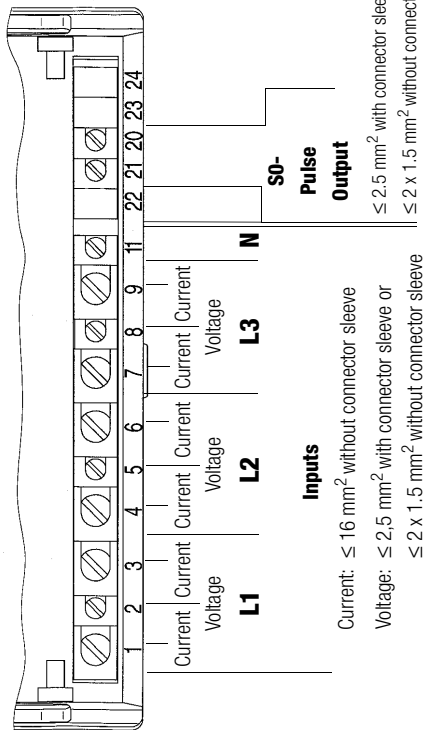


## 2 Terminal Assignments



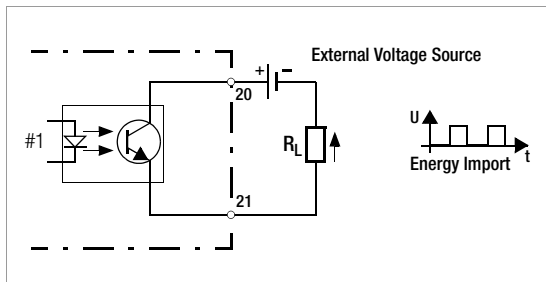
**Note:** Observe the connection schematic in the terminal cover.

**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



### 3 Pulse Output

Electrical Values	
Pulse Duration Interpulse Period	100 ms + 50% > 50 ms
$U_{\text{ext}}$	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** blinks with the indicated pulse rate in both energy directions and allows for an accelerated start-up and open-circuit test.

## 5 Technical Data

### Measuring Ranges

Voltage	
See order information	100 V or 400 V
Allowable deviation	+ 15% / - 20%

Current	
Direct measuring $I_B$	10 A
Starting current	Class 1: 0.4% $I_B$ Class 2: 0.5% $I_B$
Direct measuring $I_{max}$	63 A
Current transformer $I_B$	1 A or 5 A
Starting current	Class 1: 0.2% $I_B$ , Class 2: 0.3% $I_B$
Current transformer $I_{max}$	2 A or 6 A

Frequency Range	
Nominal frequency	50 Hz
Cut-off frequency	45 Hz ... 65 Hz

Accuracy Class	
Standard	1 or 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 $I_{max}$

## Power Consumption

Voltage Path	
4-wire meter	< 1 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 61 036 / EN 61 036
Allowable fouling factor	2

Electromagnetic Compatibility per IEC 61 036	
Surge voltage	6 kV, 1.2 / 50 ms $10^+$ / $10^-$ surges (IEC 255-4)
Burst	2 kV (EN 61 000-4-4)
Electromagnetic fields	10 V / m (EN 61 000-4-3)
Electromagnetic discharge	15 kV (EN 61 000-4-2)
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 <sup>+0.5</sup> 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 16 - 20  
90471 Nürnberg • Germany  
Phone +49 911 86 02 - 0  
Fax +49 911 86 02 - 2 53  
E-Mail [service@gmc-instruments.com](mailto:service@gmc-instruments.com)

This address is only valid in Germany.

Please contact our representatives or subsidiaries for service in other countries.

\* **DKD** Calibration Laboratory for Electrical Quantities  
DKD – K – 19701 accredited as per DIN EN ISO/IEC 17025

## Competent Partner

### State-approved EB8 Test Center

We also offer the initial and re-verification of GOSEN METRAWATT GMBH meters as an after sales service.

## 10 Product Support

When you need support, please contact:

GOSEN METRAWATT GMBH

Product Support Hotline

Phone +49 911 86 02 - 112

Fax +49 911 86 02 - 709

E-Mail [support@gmc-instruments.com](mailto:support@gmc-instruments.com)

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