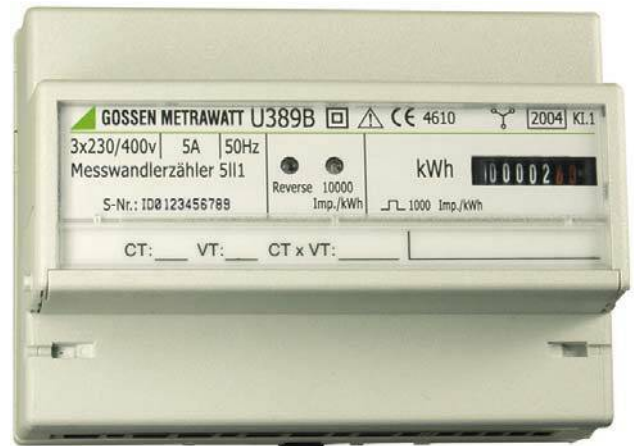


U389A valódi fogyasztásmérő közvetlen 5 (65) A árambemenettel

U389B valódi fogyasztásmérő ..1/5 A, ..1/1 A áramváltós bemenettel

- 4-vezetékes, 3-fázisú rendszer, bármilyen terheléssel
- Pulzus kimenet energia import távadásához (S0 kimenet: 1000 impulzus/kWh)
- Ipari és háztartási alkalmazásokra
- Pontossági osztály: 1
- Kijelzés 7-számjegyes mechanikus számlálóval (vissza-felé-számlálás gátlással)
- Energia import jelzése LED-del
- Árambemenetek helytelen bekötésének jelzése LED-del



3-349-321-03 6/7.15

Applications

The electronic electric meter registers energy consumption in three-phase current systems. Its compact, rugged design allows for universal implementation in industrial systems, at construction sites, in the office, at leisure facilities and in the household. The meter can be mounted in any position on a top-hat rail per EN 50022, or fastened to the wall with screws.

Installation of the energy meter at incoming power supply lines, distribution centers or directly at power consumers allows for the individual acquisition of energy data, and consequently targeted billing of energy costs. The potential-free pulse output for energy import allows for remote transmission of meter readings as well as for use in automatic billing systems, or for peak load optimization.

Applicable Regulations and Standards

- IEC/EN 60529/VDE 0470 Part 1: Degrees of protection provided by enclosures (IP Code)
- EN 62053-31: Pulse output devices for electromechanical and electronic meters
- IEC/EN 61036, VDE 0418 Part 7 / Alternating current static watt-hour meters for active energy (classes 1 and 2)
- DIN EN 62052-11 Electricity metering equipment (AC), General requirements
- DIN EN 62053 21 Electricity metering equipment (AC), Static meters for active energy

Description

Active power is continuously ascertained based on input voltages and input currents.

The power-proportional pulse sequence is then fed to the counter mechanism, as well as to the import LED and the pulse output optocoupler.

The optocoupler output signal is potential-free and is in compliance with the S0 standard per EN 62053-31.

Symbols and their Meanings

Symbol	Meaning
CT	Current Transformer Transformation Ratio (Current Transformer)
CT x VT	CT Factor x VT Factor
f	Frequency
I	Effective Value, Current
IB	Nominal Current (Basic current)
I _{max}	Maximum current
U	Effective Value, Voltage
U _r	Input Voltage Rated Value
VT	Voltage Transformer Transformation Ratio (Voltage Transformer)

Műszaki adatok

Measuring Ranges

Voltages

- 4 Wire System, 3 x 230 V / 400 V Any Load
- Allowable Deviation + 15% / - 20%

Currents

- Direct Reading IB 5 A
- Starting Current Class 1: 0.4% IB
- Direct Reading I_{max} 65 A
- Current Transformer IB 1 A or 5 A
- Starting Current Class 1: 0.2% IB
- Current Transformer I_{max} 6 A

Frequency Range

- Nominal Frequency 50 Hz
- Maximum Frequency 45 Hz ... 65 Hz

Accuracy Class

- Standard 1 per IEC 61036

Overload Capacity

- Counters 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
- Connection via CT 0.5 s 20 x I_{max}

Pulse Output

- The electric meters are equipped with a pulse output as standard equipment, see figure 1. The pulse output is electrically isolated from the measuring circuit via optocoupler.

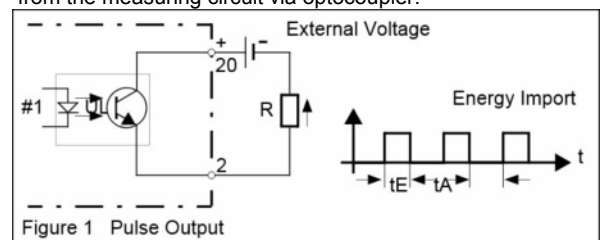


Figure 1 Pulse Output

Electrical Values

- Pulse Generator Constants: 1000 pulses / kWh, up to serial number PF...
- Direct: 100 pulses / kWh, from serial number PG...
- Pulse Generator Constants, Measuring Transducer: 1000 pulses / kWh
- Pulse Duration t_E: 30 ms + 20 %, up to serial number PF..., 120 ms ±20%, from serial number PG...
- Interpulse Period t_A: >30 ms, up to serial number PF..., >50 ms from serial number PG...
- U_{ext} max. 40 V
- Switched Current: max. 27 mA

Display

Counter Mechanism (secondary counter mechanism, kWh)

- Direct Connection: sequence processor, 6+1 places
- Connection via Transducer: sequence processor, 5+2 places

LED Signals

- Bez, Import for Direct Connect Meter: red LED; 1,000 pulses / kWh
- Bez, Import for Meter with 5 A Current, Transformer Terminal red LED: 10,000 pulses / kWh
- Reverse: Inverse current direction red LED

Auxiliary Voltage

- All required auxiliary voltages are generated from measurement voltage.

Power Consumption

- Voltage Circuit**
 - Four-Wire Meters: <1,5 W pro Phase, <8 VA pro Phase
- Current Circuit**
 - at $I_{max} < 1 \text{ VA}$
 - at $I_B = 1 \text{ A} < 0.05 \text{ VA}$
 - at $I_B = 5 \text{ A} < 0.5 \text{ VA}$

Potential Insulation

- Nominal Insulation Voltage**
 - Inputs AC 300 V
 - Outputs DC 50 V
- Insulation Test Voltage**
 - Input <-> Output / Housing AC 4 kV
 - Output <-> Housing 500 V

Electrical Safety

- Protection Class II
- Overvoltage Category III IEC/EN 61036
- Allowable Contamination Level 2

Electromagnetic Compatibility per IEC 61036

- Surge Voltage | 6 kV, 1.2 / 50 ms 10+ / 10- surges (IEC 60255-4)
- Burst 2 kV (DIN EN 61000-4-4)
- Electromagnetic Fields 10 V / m (DIN EN 61000-4-3)
- Electrostatic Discharge_15 kV (DIN EN 61000-4-2)_

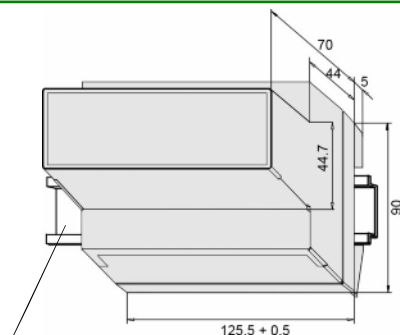
Ambient Conditions

- Nominal Operating Temperature -10 ... +45 °C
- Max. Operating Temperature -20 ... +55 °C
- Storage Temperature -25 ... +70 °C
- Relative Humidity < 75 % annual average
- Height up to 2000 m

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 50022 or wall mount
 - Protection: IP 51
- Terminals**
 - Input Current: ≤ 16 square mm without connector sleeve
 - Input Voltage: ≤ 2.5 square mm with connector sleeve or $\leq 2 \times 1.5$ square mm: without connector sleeve
 - SO Pulse Output / LON: ≤ 2.5 square mm with connector sleeve or $\leq 2 \times 1.5$ square mm: without connector sleeve
 - Protection: IP 20

Dimensional Drawing / Mounting



Top-Hat Rail per DIN EN 50022, 35 x 15 or 35 x 7.5 mm

Figure 2 Dimensional Drawing for Top-Hat Rail Mounting (Front and Side View)

Terminal Cover

A sealable terminal cover provides for contact protection.

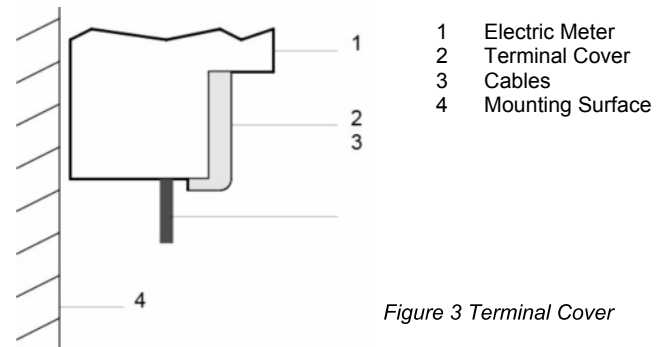


Figure 3 Terminal Cover

Connector Pin Assignment

- Connector elements are safety screw terminals which are provided with a sealable terminal cover as standard equipment.

Electric Meter for Active Energy

Direct Connection

U389A Direct Connection 4600 NO-contact S0

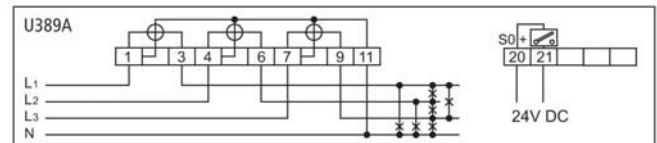


Figure 4. 4-Wire 3-Phase Current System, Any Load (Without Current Transformer)

Transformer Connection

U389B Transformer Connection 4610 NO-contact S0

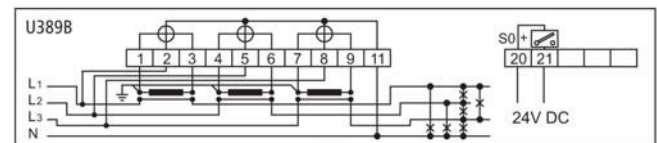


Figure 5. 4-Wire 3-Phase Current System, Any Load (With Current Transformer)

Order Information

Designation	Article Code
Active Energy Electric Meter 4 Wire System, Any Load, uncalibrated	
Direct Connection 5 A (65 A) with Pulse Frequency Output	U389A
Transformer Connection 5//1 (6 A) with Pulse Frequency Output	U389B
Accessories	
Designation	Article Code
Door Mounting Kit (dimensional drawing incl.)	U270A
Plug-on Current Transformer, ASK 31.3... 412.4 *	
Wound-primary Current Transformer, WSK 30... 70.6 *	

* Please state the complete order code for the requested variant as shown in the price list.

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