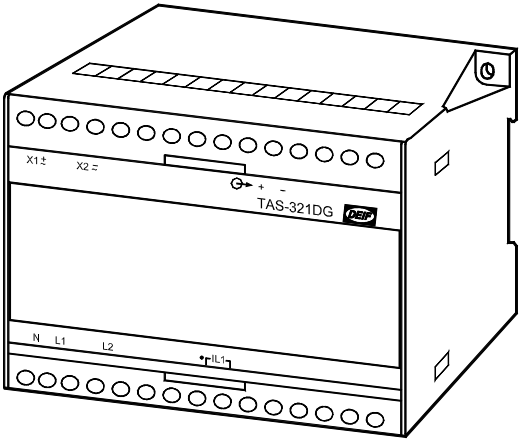
DEIF A/S

*Installation and start up instructions*

# *TAS-321DG*

## *Selectable AC transducer*

***4189300014G (UK)***




- *Directional current/power measurement on 2 phases in a 3-phase system*
- *Supply voltage up to 690V*
- *Configuration via PC-interface possible*
- *35 mm DIN rail or base mounting*

CE

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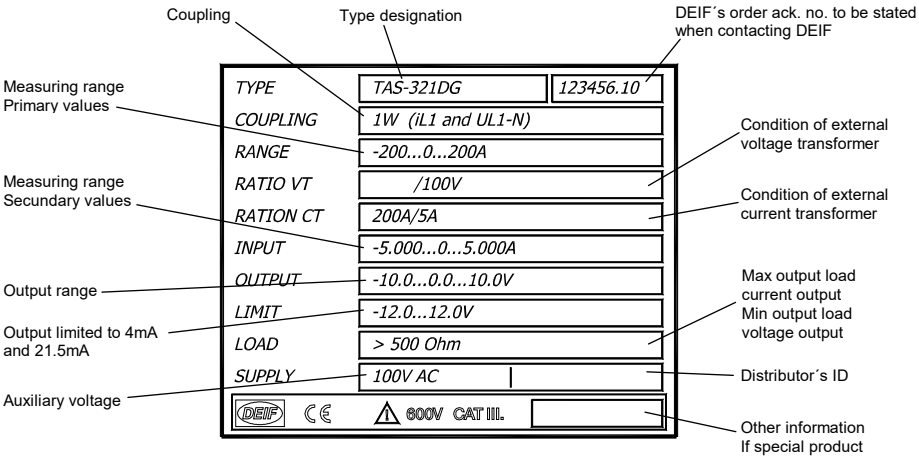
## Description

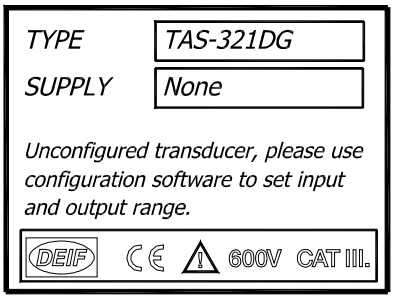
TAS-321DG is a micro controller based transducer with 1 analogue output for current measurement with specification of sign character. The sign character of the current measurement is based on the measured power direction. Moreover the transducer can be applied for measurement of active or reactive power on a 3-phase network where only 2 phases are available for the measurement.

## Label

The configured transducer is provided with a label with the following data (the example is for a current transducer):

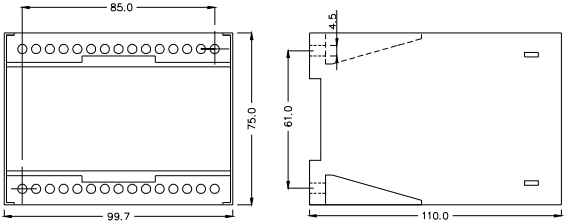



The un-configured transducer is provided with a label with the following data:




DEIF´s order ack. no. can be found on a paper label on the transducer box.
About configuration see special manual.

**Mounting instructions**




TAS-321DG is designed for panel mounting, being mounted on a 35 mm DIN rail, or by means of two 4-mm screws.

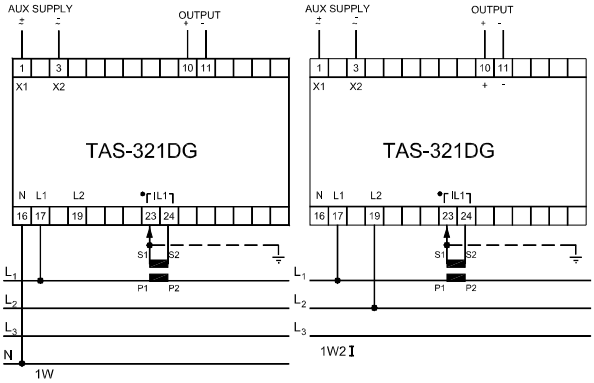
Weight: Approx. 0.600 kg

The design of the transducer makes mounting of it close to similar equipment possible, however make sure there is min. 50 mm between the top and bottom of the transducer and other equipment.

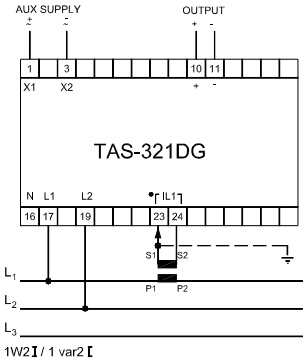
The DIN rail must always be placed horizontally when several transducers are mounted on the same rail.

## Connection diagram

CURRENT *




POWER *




**With voltages above 480V phase-phase.**
**The secondary side of the current transformer must be connected to earth. Alternatively a double insulated current transformer can be used.**

It is not necessary to protect the measuring voltage inputs. But it is recommended to use a 2A fuse for the supply input (terminals 1 and 3).

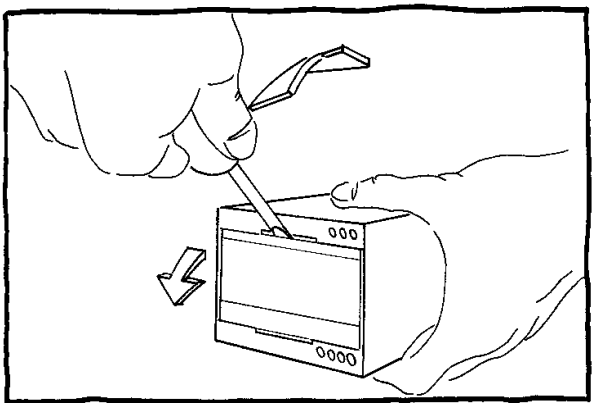
The transducer is protected against ESD (electrostatic electricity), and further special protection against this during the mounting of the transducer is not necessary.

**Connection/set up**

The transducer is equipped with a red LED for indication of errors in the calibration or the configuration. This LED is placed under the front plate. The function of the LED is as follows:

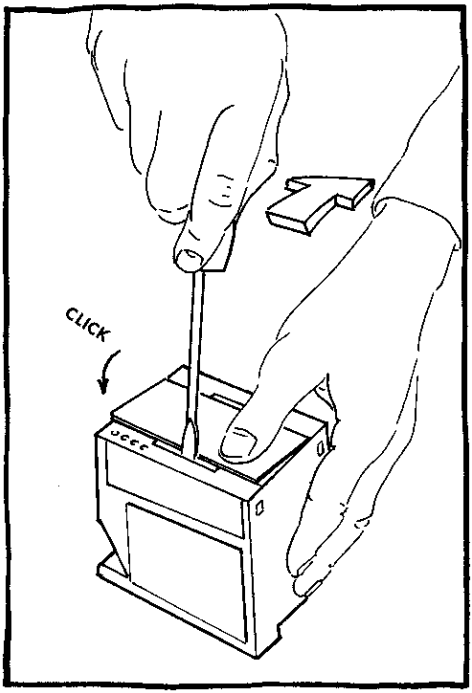
Fast pulse 5Hz. The calibration data are corrupted. Contact DEIF.
Slow pulse 1Hz. The configuration data are wrong or corrupted. Make a re-configuration or contact DEIF. About configuration see special manual.

**Opening of the unit**



The front panel is removed by means of a screwdriver. The front panel may be loosened in the right side first and is then totally demounted by moving the screwdriver towards left.

**Mounting of the front panel**




Press with a screwdriver as indicated by the arrow and simultaneously press the front panel down with your thumb. It is recommended that one side of the front panel snaps into place before the other.

**General technical specifications**

| | |
|---|---|
| Accuracy: | Current/power:<br>Class 0.5 (-10…15…30…55°C) according to IEC 688 |
| Influence, phase angle: | ≤ ±0.75° |
| Meas. current (In): | 0.75/1.5/3.0/6.0A Meas. range (In): 0…200% |
| Overload, currents: | 20A max., continuously<br>75A max. for 10 s<br>240A max. for 1 s |
| Load: | Max. 0.5VA |
| Meas. voltage (Un): | 73/140/254/400V phase to neutral<br>Meas. range (Un): 30..120% (57...400V)<br>127/240/440/690V phase to phase<br>Meas. range (Un): 30..120% (100...690V)<br>$U_n$ can be set between 57.7…690V |
| Overload, voltages: | 1.2 x $U_n$ max., continuously<br>2 x $U_n$ max. for 10 s |
| Load: | Min. 480kΩ |
| Frequency range: | 30…45…65…80Hz<br>Note: For fundamental frequency (1. harmonic) outside 20Hz...80Hz the input is fixed at 0 |
| Indication: | Red LED function:<br>(The LED is located behind the front plate)<br>Calibration error = flash frequency 5Hz<br>Configuration error = flash frequency 1Hz |
| Output: | 1 analogue output |
| Standard range: | Output (0...100%):<br>0...1mA, 0…5mA, 0...10mA, 0...20mA, 0...1V, 0...5V, 0...10V<br>Output (10...100%):<br>0.1...1mA, 0.5...5mA, 1...10mA, 2...20mA, 0.1...1V, 0.5...5V, 1...10V<br>Output (20...100%):<br>0.2...1mA, 1...5mA, 2...10mA, 4...20mA, 0.2...1V, 1...5V, 2...10V<br>Output (-100...0...100%):<br>-1...0...1mA, -5...0...5mA, -10...0...10mA, -20...0...20mA, -1...0..1V, -5...0...5V, -10...0...10V<br>Other ranges possible |
| Limit: | ±120% of nominal output |

| | |
|---|---|
| Output load: | Burden if current output: Max. 10V (max. 1kΩ)<br>Burden if voltage output: Max. 20mA |
| Output cable: | Max. length 30m |
| Ambient temperature: | -10…55°C (nominal)<br>-25…70°C (operating)<br>-40…70°C (storage) |
| Temperature coefficient: | Max. ±0.2% of full scale per 10°C |
| Response time: | <150ms, typically 125ms |
| Ripple: | Twice the class index (peak to peak measurement) according to IEC 688 |
| Galvanic separation: | AC aux. supply models:<br>Between inputs, outputs and aux. supply: 3750V-50Hz-1 min.<br>DC aux. supply models:<br>Between inputs and outputs: 3750V-50Hz-1 min.<br>Between inputs and supply: 3750V-50Hz-1 min.<br>Between supply and outputs: 1500V-50Hz-1 min. |
| Aux. supply voltage: | 57.7-63.5-100-110-127-200-220-230-240-380-400-415-440-450-480-660-690V AC ±20%<br>24-48-110-220V DC -25/+30% |
| Consumption: | (Aux. supply) 3.5VA/2W |
| Climate: | HSE, to DIN 40040 |
| EMC: | According to EN 61000-6-1/2/3/4 |
| Protection: | Housing: IP40. Terminals: IP20 to IEC 529 and EN 60529 |
| Connections: | Max. 2.5mm² multi-stranded<br>Max. 4.0mm² single-stranded |
| Materials: | All plastic parts are self-extinguishing to UL94 (V1) |
| Weight: | 0.600kg |

**Specific technical specifications**

| | | | |
|---|---|---|---|
| Current: | Meas. current: | 0.5...8A | |
| | Start value: | -100…+67% of end value | |
| | End value: | 100% of measuring current | |
| Current: | 1W: | (IL1 and UL1-N) or (IL2 and UL2-N) or (IL3 and UL3-N): | 57…400V |
| | 1W2 I: | (IL1 and UL1-L2): | 100…690V |
| | 1W2 II: | (IL1 and UL2-L3): | 100…690V |
| | 1W2 III: | (IL1 and UL3-L1): | 100…690V |
| Power: | 1W2 I: | (IL1 and UL1-L2): | 100…690V |
| | 1W2 II: | (IL1 and UL2-L3): | 100…690V |
| | 1W2 III: | (IL1 and UL3-L1): | 100…690V |
| | 1var2 I: | (IL1 and UL1-L2): | 100…690V |
| | 1var2 II: | (IL1 and UL2-L3): | 100…690V |
| | 1var2 III: | (IL1 and UL3-L1): | 100…690V |

If the current transformer is placed in another phase than L1, the voltage is connected in accordance with the tables below.

CT in phase L1 standard

| COUPLING | 17 | 19 |
|---|---|---|
| 1W2/1var2 I | L1 | L2 |
| 1W2/1var2 II | L2 | L3 |
| 1W2/1var2 III | L3 | L1 |

CT in phase L2

| COUPLING | 17 | 19 |
|---|---|---|
| 1W2/1var2 I | L2 | L3 |
| 1W2/1var2 II | L3 | L1 |
| 1W2/1var2 III | L1 | L2 |

CT in phase L3

| COUPLING | 17 | 19 |
|---|---|---|
| 1W2/1var2 I | L3 | L1 |
| 1W2/1var2 II | L1 | L2 |
| 1W2/1var2 III | L2 | L3 |