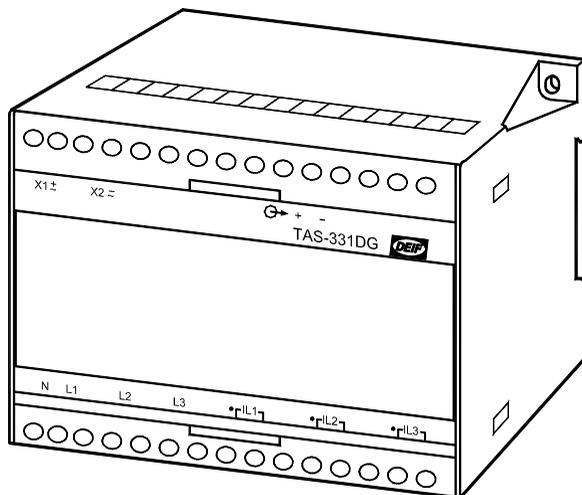


TAS-331DG

Selectable AC transducer
4189300008G (UK)



- *Watt or var transducer*
- *Supply and measuring voltage up to 690V*
- *Configuration via PC-interface possible*
- *35 mm DIN rail or base mounting*



DEIF A/S
Frisenborgvej 33, DK-7800 Skive
Denmark

Tel.: (+45) 9614 9614
Fax: (+45) 9614 9615
E-mail: deif@deif.com





Description

TAS-331DG is a micro controller based power transducer with 1 analog output for measurement of Watt or var. The transducer holds no mechanical moving parts like potentiometers and therefore the calibration stability is excellent.

Label

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

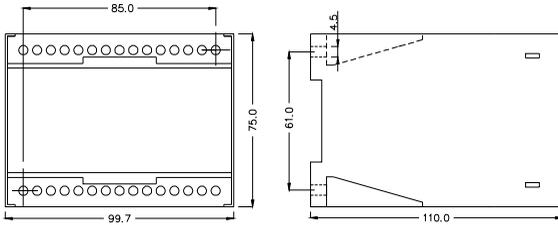
| | Coupling | Type designation | DEIF's order ack. no. To be stated when contacting DEIF |
|-------------------------------------|--------------------------------|------------------|--|
| Measuring range Primary values | TYPE | TAS-331DG | 123456 / |
| Measuring range Secondary values | COUPLING | 3W3 | |
| Output range | RANGE | -2...0...2MW | Condition of external voltage transformer |
| Output limited to $\pm 22\text{mA}$ | RATIO VT | 10kV/100V | Condition of external current transformer |
| Auxiliary voltage | RATION CT | 100A / 5A | |
| | INPUT | 1000W | Max output load current output Min output load voltage output |
| | OUTPUT | 20...0...20mA | |
| | LIMIT | -22...22mA | |
| | LOAD | <500 Ω | |
| | SUPPLY | 100V AC | Distributor's ID |
| | DEIF CE Δ 600V CAT III. | | Other information if special product |

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

| | |
|--|-----------|
| TYPE | TAS-331DG |
| SUPPLY | None |
| <i>Unconfigured transducer, please use configuration software to set input and output range.</i> | |
| DEIF CE Δ 600V CAT III. | |

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

Mounting instructions



TAS-331DG is designed for panel mounting, being mounted on a 35 mm DIN rail, or by means of two 4-mm screws.

Weight: Approx. 0.650 kg

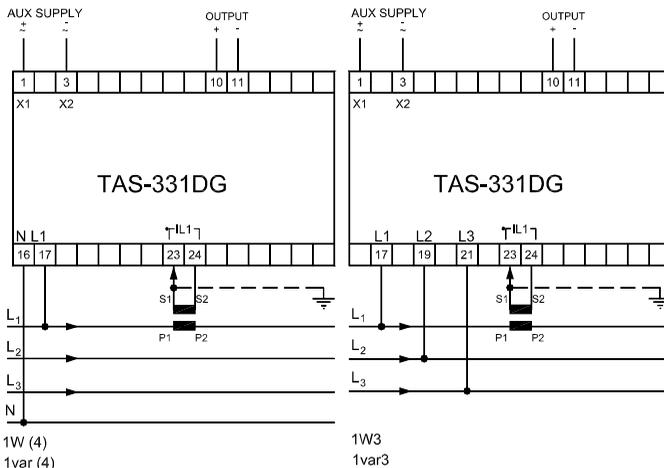
The design of the transducer makes mounting of it close to similar equipment possible, however make sure there is min. 50 mm between the top and bottom of the transducer and other equipment.

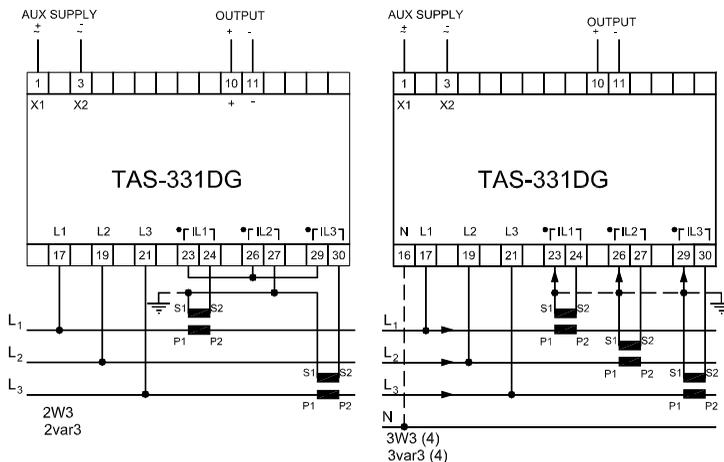
The DIN rail must always be placed horizontally when several transducers are mounted on the same rail.

Connection diagram



**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.**

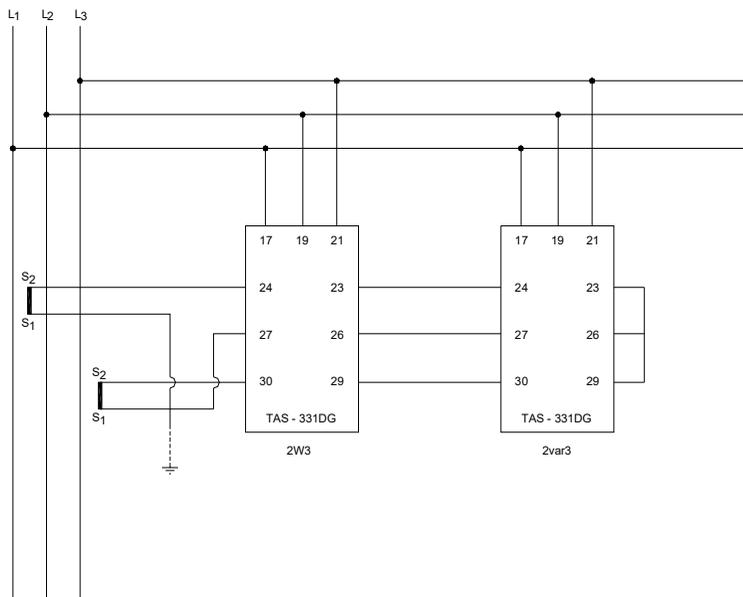




It is not necessary to protect the measuring voltage inputs. But it is recommended to use a 2A fuse for the supply input (terminals 1 and 3).

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

The below diagram illustrates how to connect a TAS-331DG in 2W3 configuration with a TAS-331DG in 2var3 configuration.



The voltage inputs are connected as follows, if the current transformers are placed in other phases than indicated in the above diagram:

2W3/2var3

| External current transformer | Connect | | |
|--|-----------------------|-----------------------|-----------------------|
| connected to L1 (23 + 24) and L2 (29 + 30) | L1 to term. No. 17 | L3 to term. No. 19 | L2 to term. No. 21 |
| connected to L2 (23 + 24) and L3 (29 + 30) | L2 to term. No. 17 | L1 to term. No. 19 | L3 to term. No. 21 |

Couplings 1W/1var and 1W4/1var4: Connect terminal No. 17 to the phase to which the external current transformer is connected.

1W3/1var3:

| External current transformer | Connect | | |
|------------------------------|-----------------------|-----------------------|-----------------------|
| - connected to L2 | L2 to term. No. 17 | L3 to term. No. 19 | L1 to term. No. 21 |
| - connected to L3 | L3 to term. No. 17 | L1 to term. No. 19 | L2 to term. No. 21 |

Connection/set up

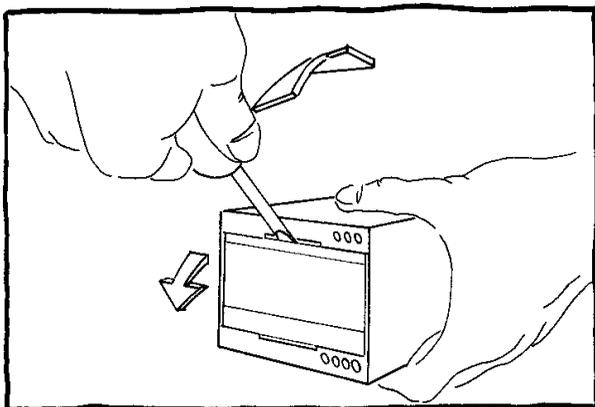
The transducer is equipped with a red LED for indication of wrong phase connection or errors in the calibration / configuration. This LED is placed under the front plate. The function of the LED are as follows:

Constant light. The wiring may be wrong. There is not equal power direction on all phases. There must be signal on all inputs to ensure correct testing and current flow in all phases. Note this function is only activated in coupling 2W3, 2var3 and 3W3(4), 3var3(4).

Fast pulse 5Hz. The calibration data are corrupted. Contact DEIF.

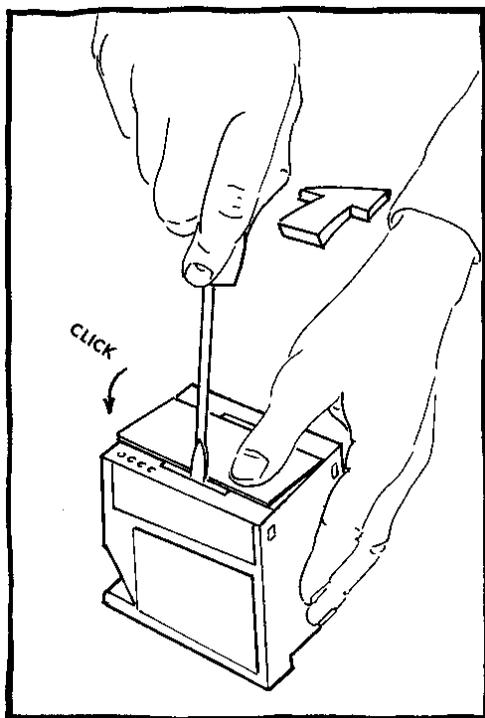
Slow pulse 1Hz. The configuration data are wrong or corrupted. Make a re-configuration or contact DEIF. About configuration see special manual.

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 press the front panel down with your thumb, simultaneously. It is recommended that one side of the front panel snaps into place before the other.

Technical specifications

| | |
|----------------------------------|--|
| Accuracy: | Class 0.5 (-10... <u>15...30</u> ...55°C) according to IEC 688 |
| Influence, phase angle: | $\leq \pm 0.75^\circ$ |
| Meas. current (I _n) | 0.75/1.5/3.0/6.0A Meas. range: 0...200% I _n I _n can be set between 0.375...6A |
| Overload, currents: | 20A max., continuously 75A max. for 10 s 240A max. for 1 s |
| Load: | Max. 0.5VA per phase |
| Meas. voltage (U _n): | 73/140/254/400V phase to neutral Meas. range: 30...120%U _n U _n can be set between 57...400V 127/240/440/690V phase to phase Meas. range: 30...120%U _n U _n can be set between 100...690V |
| Overload, voltages: | 1.2 x U _n max., continuously, 2 x U _n max. for 10 s |
| Load: | Min. 480kΩ |
| Frequency range: | 30... <u>45...65</u> ...80Hz Note: For fundamental frequency (1. harmonic) outside 20Hz ...80Hz the input is fixed to 0 |
| Indication: | Red LED function: (The LED is located behind the front plate) Incorrect wiring = constant light, only active for coupling 1W3, 2W3, 3W3(4) and 1var3, 2var3, 3var3(4). Check at power up, in case of doubt disconnect supply and reconnect Calibration error = flash frequency 5Hz Configuration error = flash frequency 1Hz |
| Output: | 1 analog output |
| Standard range: | Output (0...100%): 0...1mA, 0...5mA, 0...10mA, 0...20mA, 0...1V, 0...5V, 0...10V Output (10...100%): 0.1...1mA, 0.5...5mA, 1...10mA, 2...20mA, 0.1...1V, 0.5...5V, 1...10V Output (20...100%): 0.2...1mA, 1...5mA, 2...10mA, 4...20mA, 0.2...1V, 1...5V, 2...10V Output (-100...0...100%): -1...0...1mA, -5...0...5mA, -10...0...10mA, -20...0...20mA, -1...0...1V, -5...0...5V, -10...0...10V Other ranges possible |



| | |
|--------------------------|--|
| Limit: | Max. $\pm 120\%$ of nominal output |
| Output load: | Burden if current output: Max. 10V (max. 1k Ω) Burden if voltage output: Max. 20mA |
| Output cable: | Max. length 30m |
| Ambient temperature: | -10...55°C (nominal) -25...70°C (operating) -40...70°C (storage) |
| Temperature coefficient: | Max. $\pm 0.2\%$ of full scale per 10°C |
| Response time: | Coupling 2W3/2var3, 3W3/3var3, 3W4/3var4 <225ms, typically 200ms Coupling 1W/1var, 1W4/1var4 <150ms, typically 125ms Coupling 1W3/1var3 <125ms, typically 100ms |
| Ripple: | Twice the class index (peak to peak measurement) according to IEC 688 |
| Galvanic separation: | AC aux. supply models: Between inputs, outputs and aux. supply: 3750V-50Hz-1 min. DC aux. supply models: Between inputs and outputs: 3750V-50Hz-1 min. Between inputs and supply: 3750V-50Hz-1 min. Between supply and outputs: 1500V-50Hz-1 min. |
| Supply voltage: | 57.7-63.5-100-110-127-200-220-230-240-380-400-415-440-450-480-660-690V AC $\pm 20\%$ 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. 2.5mm ² multi-stranded Max. 4.0mm ² single-stranded |
| Materials: | All plastic parts are self-extinguishing to UL94 (V1) |
| Weight: | 0.650kg |