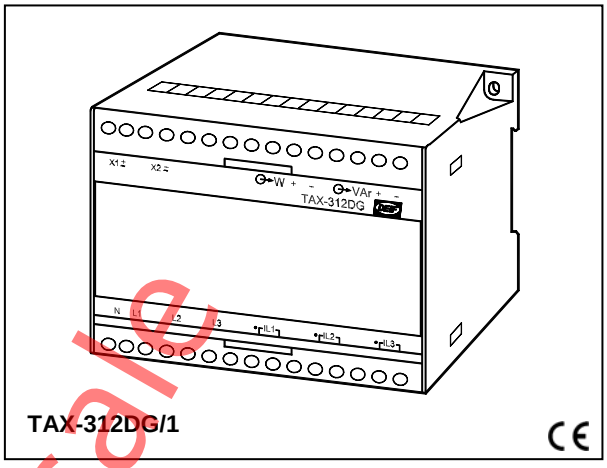
Dual Output Power Transducer

Type TAX-312DG/1

4921240181F

- ***Combined watt and var measurement***
- ***Accuracy class 0.5/1.0***
- ***Voltage up to 690V***
- ***Galvanic separation 4000V***
- ***35 mm DIN rail or base mounting***



TAX-312DG/1

Application

The dual output transducer type TAX-312DG/1 is a power transducer for measurement of active power and reactive power, on a single phase or 3-phase network, providing a separate output for both measurements.

The 2 outputs can be configured for all standard output ranges.

Measuring Principle

The transducer measures current(s) and phase voltage(s). The TDM (Time-Division-Multiplication) principle ensures an accurate measurement of the RMS value of both the active power and the reactive power (U x I x cos-φ) and (U x I x sin-φ), irrespective of wave form. The TAX-312DG/1 is available with the following couplings:

1W/1VAr	single phase[1]
1W3/1VAr3	1 element 3 phase 3 wire, balanced load[1]
1W4/1VAr4	1 element 3 phase 4 wire, balanced load[1]
2W3/2VAr3	2 element 3 phase 3 wire, unbal. load[2]
3W3/3VAr3	3 element 3 phase 3 wire, unbal. load[3]
3W4/3VAr4	3 element 3 phase 4 wire, unbal. load[3]

1) 1 external current transformer
2) 2 external current transformers
3) 3 external current transformers

In order to measure the reactive power of coupling 1VAr and 1VAr4, the voltage input of the transducer is provided with a built-in 90° phase shifter network. To ensure correct measurements in this coupling, the net frequency must be stable and correspond with the information on the transducer type label (50Hz / 60Hz).

Calculation of Measuring Range

3-phase network

Lowest measuring range: $0.5 \times \sqrt{3} \times U \times I$

Highest measuring range: $2 \times \sqrt{3} \times U \times I$

For single phase networks the factor $\sqrt{3}$ is omitted.

Note: The calibration range of the VAr measurement is equal to 50% of the calibration range of the Watt measurement.

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Technical specifications

Meas. current (I_n): 0.5…5A AC

overload: 4 x I_n, continuously,
20 x I_n for 10 s (max. 75A)
80 x I_n for 1 s (max. 300A)

load: Max. 0.5VA per phase.

Meas. voltage (U_n): (see supply voltage - AC ranges).

overload: 1.2 x U_n, continuously,
2 x U_n for 10 s

load: 2kΩ/V.

Frequency range: 40...45...65...70Hz.

Outputs: 2 analog outputs, referring to mutual ground.

Range:
Output (0…100%): 0..1mA, 0…5mA, 0..10mA, 0..20mA, 0..1V, 0..10V
Output (20…100)%: 0,2..1mA, 1..5mA, 2..10mA, 4..20mA, 0,2V..1V, 2..10V
Output(-100..0..100%): -1..0..1mA, -5..0..5mA, -10..0..10mA, -20..0..20mA, -1..0..1V, -10..0..10V
Output load current: Max. 10V
Output load voltage: Max. 20mA

Accuracy:
Watt: Class 0.5 (-10..15…30…55°C) according to IEC 688.
Var: Class 1.0 (-10..15…30…55°C) according to IEC 688.

Response time/ ripple: 150ms/1%pp

Temperature coefficient: max. +/-0.2% of full scale per 10°C.

Ambient temperature: -10..+55 °C (nominal)
-25..+70 °C (operating)
40..+70 °C (storage)

Galvanic separation: Between inputs, outputs and aux. voltage: 4000V - 50Hz - 1 min.

Supply voltage (U_n): 57.7-63.5-100-110-127-200-220-230-240-380-400-415-440-450-660-690VAC ±20% (max. 3.5VA)

24-48-110-220V DC -25/+30% (max. 2W).

Climate: HSE, to DIN 40040.

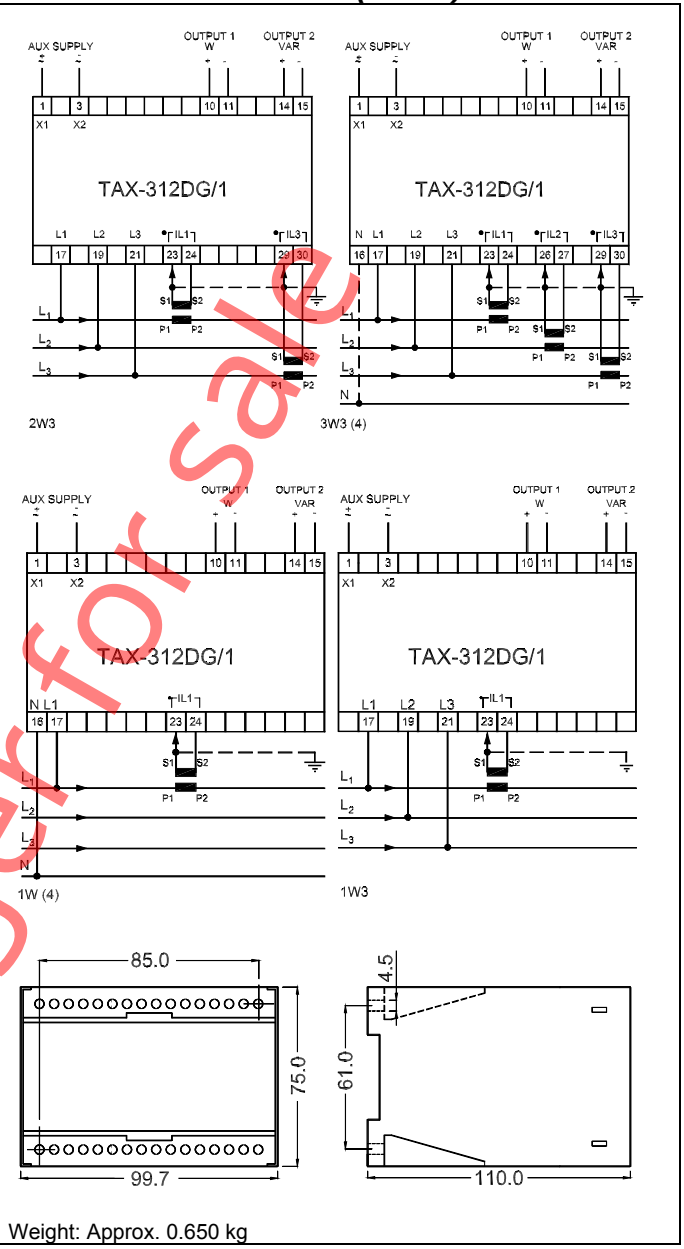
Connections: Max. 4 mm² (single-stranded).
Max. 2.5 mm² (multi-stranded).

Materials: All plastic parts are self-extinguishing to UL94 (V1).

Protection: Case: IP40. Terminals: IP20, to IEC 529 and EN 60529.

The transducer is equipped with a green LED marked "POWER" for indication of power ON.

Connections/dimensions (in mm)



Weight: Approx. 0.650 kg

Order specifications

Type – Coupling – Measuring range (W) – Ct – Measuring voltage – Vt – Nom. frequency (only for coupling 1W/1VAr and 1W4/1VAr4) – Output 1 – Output 2 – Supply

Due to our continous development we reserve the right to supply equipment which may vary from the described.

DEIF A/S, Frisenborgvej 33
DK-7800 Skive, Denmark
Tel.: +45 9614 9614, Fax: +45 9614 9615
E-mail: deif@deif.com, URL: www.deif.com