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-power in control

CE

DATA SHEET

AC current single function transducer
TAC-311DG/TAC-321DG

- Compact design, 55 x 75 mm
- Easily accessible terminals
- Accuracy class 0.5
- 35 mm DIN rail or base mounting

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1. Data sheet

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1.1 Contents

1.1.1 Application

The current transducers type TAC-311DG and TAC-321DG are transducers for measurement of a sinusoidal AC current converted into a DC current signal proportional to the measured value on a single phase or 3 phase network.

PLCs, PCs, microprocessor control, indicators, alarm units etc. can be operated by the output signal.

1.1.2 Measuring principle

Average measurement.

The transducer consists of a transformer, which gives galvanic insulation between input and output.

The signal is rectified, smoothed and amplified into an A DC output.

The TAC-311DG with zero adjustment needs a constant aux. supply voltage, which is also insulated from output by a transformer.

1.1.3 Available transducers

TAC-311DG, aux. supply 24 V_{dc}

Input, std.	**Input, adjustable span**	**4-20 mA_{dc}**
0-1.0 A_{ac}	0-0.85/1.2 A	1207000005
0-1.3 A_{ac}	0-1.10/1.6 A	1207000015
0-5.0 A_{ac}	0-4.25/6.2 A	1207000006

TAC-311DG, aux. supply 48-110 V_{dc}

Input, std.	**Input, adjustable span**	**4-20 mA_{dc}**
0-1.00 A_{ac}	0-0.85/1.2 A	1207000013
0-5.00 A_{ac}	0-4.25/6.2 A	1207000018
0-6.50 A_{ac}	0-5.50/8.1 A	1207000021

TAC-311DG, aux. supply 88-220 V_{dc}

Input, std.	**Input, adjustable span**	**4-20 mA_{dc}**
0-1.0 A_{ac}	0-0.85/1.2 A	1207000014
0-5.0 A_{ac}	0-4.25/6.2 A	1207000019
0-6.5 A_{ac}	0-5.50/8.1 A	1207000022

TAC-311DG, aux. supply 110/230 V_{dc}

Input, std.	Input, adjustable span	4-20 mA_{dc}
0-1.0 A_{ac}	0-0.85/1.2 A	1207000001
0-5.0 A_{ac}	0-4.25/6.2 A	1207000002

TAC-321DG, without aux. supply

Input, std.	Input, adjustable span	0-20 mA_{dc}
0-1.0 A_{ac}	0-0.91/1.2 A	1207000103
0-5.0 A_{ac}	0-4.60/6.2 A	1207000101

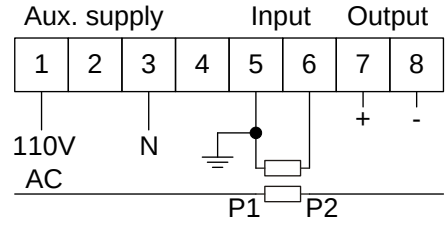
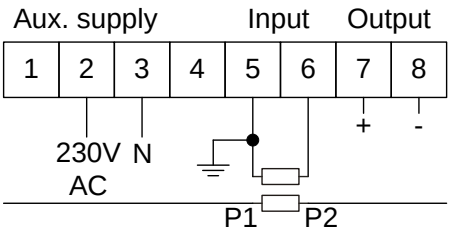
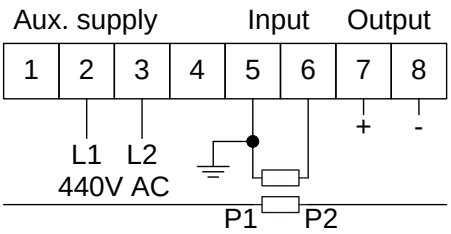
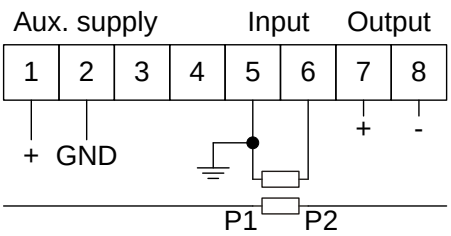
1.1.4 Technical specifications

Measuring current (I_{nom})	
TAC-311DG	1.0...7.25 A_{ac} (≤1.2 VA)
TAC-321DG	0…1 A_{ac} (≤ 2.0 VA) 0…5 A_{ac} (≤ 2.3 VA)
Overload	2 x I_{nom} continuously 10 x I_{nom} for 10 s 40 x I_{nom} for 1 s
Frequency range	45...65 Hz
Range	
Output TAC-311DG (20...100 %)	4...20 mA_{dc} Span adjustment ±20 % of FS Zero adjustment ±20 % of 4 mA Output limit < 22.0 mA_{dc}
Output TAC-311DG (0...100 %)	0...5 mA, 0...10 mA, 0...20 mA_{dc}, 0...10 V_{dc} Span adjustment ±20% of FS output Zero adjustment for all span adjustments
Output TAC-321DG (0...100 %)	0...10mA, 0...20 mA_{dc} Span adjustment +10/-20 % of FS output
Output load current	Max. 12 V
Output load voltage	Max. 1 mA
Accuracy	Class 0.5 (-10...15...30...55°C) according to IEC688
For output 0...10 V_{dc}	Class 0.5 (-10...15...30...55°C) at load ≥ 100 kΩ Class 1.0 (-10...15...30...55°C) at load ≥ 10 kΩ
Response time/ripple	<300 ms/0.5 % pp
Temp. coefficient	Max. 0.1 % of full scale per 10°C
TAC-311DG **$\Delta_{out}/\Delta U_{aux}/\Delta F_{aux}/\Delta R_{load}$**	Max. 0.1 %/Δ10 % U_{aux}/0.1 % (45...65 Hz)/0.1 % R_{load} max.
TAC-321DG **Δout/ΔRload**	0.5 % R_{load} max.
Ambient temperature	-10...+55°C (normal) -25...+70°C (operating) -40...+70°C (storage)
Galvanic separation	Between inputs, outputs and aux. voltage: 2200 V - 50 Hz - 1 min.
Aux. supply voltage (U_n) **only TAC-311DG**	110/230/440V AC ±20% (max. 2.5VA) 35…45Hz max. 1 minute 45…65Hz continuously
Connections	Max. 4.0 mm^2 (single-stranded) Max. 2.5 mm^2 (multi-stranded)
Materials	All plastic parts are self-extinguishing to UL94 (V1)

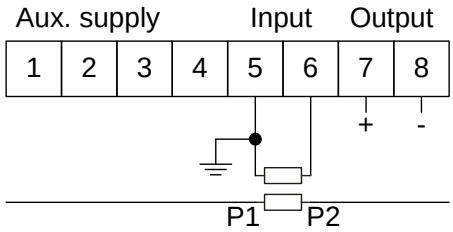
Protection	Case: IP40. Terminals: IP20, to IEC529 and EN60529
EMC	EN50081-1/2, EN50082-1/2

1.1.5 Connections - TAC-311DG

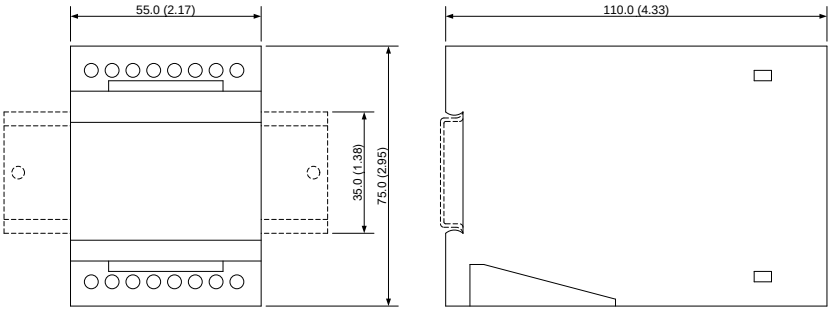
Recommended fuse 2 A on aux. supply.

	For aux. supply 110 V_{ac} (Please note that transducers with 110 V_{ac} supply can also be connected to 230 V_{ac}).
	For aux. supply 230 V_{ac} (Please note that transducers with 230 V_{ac} supply can also be connected to 110 V_{ac}).
	For aux. supply 440 V_{ac}
	For aux. supply V_{dc}

1.1.6 Connection - TAC-321DG



1.1.7 Mechanical drawing/dimensions in mm (inches)



Weight:
TAC-311DG: approx. 0.4 kg
TAC-321DG: approx. 0.3 kg

1.1.8 Order specifications

To order a transducer with a standard input, only quote the type and order no.:
Type - order no.
Example:
TAC-311DG - 1207000018 (see the tables in section "Available transducers").

To order a TAC-311DG transducer with a customised input:
Type - Measuring current - Output - Supply
Example:
TAC-311DG - 0...4.5 A - 4...20 mA - 48...110 V_{dc}

To order a TAC-321DG transducer with a customised input:
Type - Measuring current - Output
Example:
TAC-31DG - 0...6 A - 0...10 mA

Please note that some combinations of input, output and aux. supply are not available as standard.

1.1.9 Disclaimer

DEIF A/S reserves the right to change any of the contents of this document without prior notice.