

# VacTest

## Digital Transmitter Pirani – Hot Cathode DPH 400



The Digital Transmitter DPH 400 is the latest generation of micro-controller-based vacuum gauges combining an ionization sensor after the Bayard-Alpert principle with a robust spiral coil filament Pirani to provide a full range pressure measurement from atmosphere to  $5 \cdot 10^{-10}$  mbar.

- Fully customizable parameters
- Optional display version (DPH 400 D)
- 0–10 V signal and RS485 interface
- Bayard-Alpert with double filaments for extended lifetime and high reliability
- Automatic control of the ionization sensor
- Bake-out up to 180°C without electronics removal
- 2 setpoint relays as standard
- Plug and play sensor replacement



VacTest DPH 400

VacTest DPH 400 D

Technical data		DPH 400, DPH 400 D
Measurement principle		Pirani / Bayard-Alpert
Materials exposed to vacuum		Stainless steel 1.4307, Ni, W, Pt, Yttrium coated Iridium, glass
Number of filaments		1 (Pirani) / 2 (Bayard-Alpert)
Filament material		Tungsten (Pirani) / Yttrium coated Iridium (Bayard-Alpert)
Measurement range	mbar	$1000-5 \cdot 10^{-10}$
Overpressure limit	bar abs.	4
Measurement uncertainty	% of reading	< 30% (1000–10 mbar)
		< 10% ( $10-1 \cdot 10^{-8}$ mbar)
Repeatability of measurement	% of reading	$\pm 2\%$ ( $10-1 \cdot 10^{-2}$ mbar)
		$\pm 5\%$ ( $1 \cdot 10^{-2}-1 \cdot 10^{-8}$ mbar)
Leakage rate	mbar·l/s	< $5 \cdot 10^{-10}$
Reaction time	ms	< 50
Serial interface		RS485
Electrical connection		D-Sub, 15 poles, male
Supply voltage	V	20–30
Max. power consumption	W	9/0.8 (relays / display)
Output signal		0–10 V, RS485
Setpoint relay		2 dry contacts
Relay contact rating		2A, 50VAC / 2A, 30VDC, max. 60 VA
Operating temperature	°C	+5...+60
Max. bake-out temperature	°C	180
Approximate weight	g	475
Dimensions (L x W x H)	mm	45 x 66 x 141
Vacuum connection		DN 40 ISO-KF / DN 25 ISO-KF / DN 40 CF-F

Vacuum gauges	Part number
DPH 400, DN 25 ISO-KF	0656202940
DPH 400, DN 40 ISO-KF	0656202942
DPH 400, DN 40 CF-F	0656212836
DPH 400 D, with display, DN 25 ISO-KF	0656202941
DPH 400 D, with display, DN 40 ISO-KF	0656202943

Spare parts	Part number
Spare sensor, DN 25 ISO-KF	0680204600
Spare sensor, DN 40 ISO-KF	0680204601
Spare sensor, DN 40 CF-F	0680212837

Controllers	Part number
Active Sensor Controller CTR 002, 2 channels	0656202928
Active Sensor Controller CTR 004, 4 channels	0656202929

Connection	Part number
Connecting cable 2 x D-Sub 15 poles, 2 m	0671204577
Connecting cable 2 x D-Sub 15 poles, 6 m	0671204578
Connecting cable 2 x D-Sub 15 poles, 10 m	0671204580
Connecting cable 2 x D-Sub 15 poles, 20 m	0671204581
RS485 Interface converter to Bluetooth	0680204592
RS485 Interface converter to USB	0671204593
Power supply 100–240 VAC / 50–60Hz, with EU/US/UK/AUS plugs	0671204594

For the entire product range please refer to the corresponding leaflets.

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Technical data is subject to change. Created in Germany. MG SPAL VACTESTDPH400 USen 01/2019 8CA