SERIES OF DIGITAL BAROMETERS DB-X

(DB-1, DB-2 and DB-3)

→ follow-on device of DB278 D, DB278 D2* and DB278 D3* with extended features

General:

The application range of the serie DB-X are the measurements of pressure in meteorological stations, aviation use and in laboratories. Depending on the technical requirements and of the needed redundancy the user can select the specific model of DB-X, namely DB-1 with one, DB-2 with two or DB-3 with three independent working pressure transducers. The implemented software allows the convenient calculation and presentation of the measured pressure values according the specific application, as QNH, QFE, pressure tendence and historical values.

The used barometric pressure sensor is designed for measurements that require excellent accuracy, fast dynamic response and long-term stability and reliability. All barometers of the series DB-X are operable in temperatures from -40°C to +60°C. The sensor and the electronic units consume low levels of power while in operation.

Important benefits are given with this type of digital barometers:

- Resolution 0,01 hPa, 0,1 hPa or 1 hPa selectable
- Touch display 6 cm x 12 cm for digital pressure display analogue trend
- Pressure Trend, adjustable between 28 min, 2,8 hours and 28 hours
- Long Term Stability: better than 0.1 hPa/year
- Measurements free of hysteresis
- Instant startup: < 1 sec
- Low power consumption with added main supply
- Rechargeable battery pack as UPS
- Meets CE conformance standards
- Proof pressure 1500 hPa
- Burst pressure 2000 hPa

The standard version with one sensor is an economic barometer for use on meteorological stations with an accuracy +/- 0,3 hPa and and resolution of 0,1 hPa.

For requirements of higher and highest accuracy with large reliability and redundancy the user should select DB-2 or DB-3 with two respective three combined pressure capsules. For the use in aviation the touch display shows the values for Local Pressure, QNH (air pressure on sea level), QFE (air pressure on runway level) in hPa and additional the TRL (transition level). The resolution is freely selectable with two, one or no decimal place.

A display of tendency shows the trend of recent pressure values. The user can change the time line and select it in steps. By touching on the tendency display the pressure values can be displayed to prior points of time.

The high accuracy of < 0.1 hPa over the whole measuring range is achieved by comparing each transducer at 17 points with a Control Mercury Barometer Type 20k as pressure standard.

Specifications for DB-1

Numbers of transducers	:	1 pc. of pressure measure capsule
Pressure range	:	**600...1100 hPa** (possible alternative: 800...1100 hPa or 500...1100 hPa)
Resolution	:	selectable between 0.01 hPa, 0.1 hPa or 1 hPa
Accuracy	:	± 0.2 hPa at 18...28°C (± 0.3 hPa at 0 ... 40°C)
Long Term Stability	:	0.1 hPa / year
Display of tendency	:	updated / time line: 10s / 28 min or 1 min / 2.8 h or 10 min / 28 h
Language of Software	:	English, German
Interface	:	mini USB for software updates
Proof Pressure	:	1500 hPa
Burst Pressure	:	2000 hPa
Operating temperature	:	0 ... + 50°C
Storage temperature	:	- 40... + 60°C
Pressure Media	:	Non-condensing air or gas.
Pressure connection	:	1/8” barbed fitting
Supply voltage	:	5 VDC
Mains appliance	:	100-240 VAC (output 5 VDC)
Buffering battery	:	3 x 1,2 V Ni/MH accumulators LR14 “type baby”
Dimension	:	130 mm x 110 mm x 145 mm (W x H x L)
Weight	:	1,2 kg
Data Transfer	:	LAN (optional: only in special request)

Specifications for DB-2

Numbers of transducers	:	2 pcs. of pressure measure capsule
Pressure range	:	**600...1100 hPa** (possible alternative: 800...1100 hPa or 500...1100 hPa)
Resolution	:	selectable between 0.01 hPa, 0.1 hPa or 1 hPa
Accuracy	:	± 0.1 hPa at 18...28°C (± 0.3 hPa at 0 ... 40°C)
Long Term Stability	:	0.1 hPa / year
Display of tendency	:	updated / time line:

		10s / 28 min or 1 min / 2.8 h or 10 min / 28 h
Language of Software	:	English, German
Interface	:	mini USB for software updates
Proof Pressure	:	1500 hPa
Burst Pressure	:	2000 hPa
Operating temperature	:	0 ... + 50°C
Storage temperature	:	- 40... + 60°C
Pressure Media	:	Non-condensing air or gas.
Pressure connection	:	1/8” barbed fitting
Supply voltage	:	5 VDC
Mains appliance	:	100 -240 VAC (output 5 VDC)
Buffering battery	:	3 x 1,2 V Ni/MH accumulators LR14 “type baby”
Dimension	:	130 mm x 110 mm x 145 mm (W x H x L)
Weight	:	1,4 kg
Data Transfer	:	LAN (optional: only in special request)

Specifications for DB-3

Numbers of transducers	:	3 pcs. of pressure measure capsule
Pressure range	:	**600...1100 hPa** (possible alternative: 800...1100 hPa or 500...1100 hPa)
Resolution	:	selectable between 0.01 hPa, 0.1 hPa or 1 hPa
Accuracy	:	± 0.1 hPa at 18...28°C (± 0.3 hPa at 0 ... 40°C)
Long Term Stability	:	0.1 hPa / year
Display of tendency	:	updated / time line: 10s / 28 min or 1 min / 2.8 h or 10 min / 28 h
Language of Software	:	English, German
Interface	:	mini USB for software updates
Proof Pressure	:	1500 hPa
Burst Pressure	:	2000 hPa
Operating temperature	:	0 ... + 50°C
Storage temperature	:	- 40... + 60°C
Pressure Media	:	Non-condensing air or gas.
Pressure connection	:	1/8” barbed fitting
Supply voltage	:	5 VDC
Mains appliance	:	100 -240 VAC (output 5 VDC)
Buffering battery	:	3 x 1,2 V Ni/MH accumulators LR14 “type baby”
Dimension	:	130 mm x 110 mm x 145 mm (W x H x L)
Weight	:	1,6 kg
Data Transfer	:	LAN (optional: only in special request)

DR. ALFRED MÜLLER
METEOROLOGISCHE INSTRUMENTE KG
Chausseestraße 39 / 42c
D-15712 Königs Wusterhausen

Tel.: +49 3375 9025-32
Fax: +49 3375 9025-36
e-mail: dr.a.mueller-r.fuess@t-online.de
www.rfuess-mueller.de