

## **SERIES OF DIGITAL BAROMETERS DB-X** (DB-1, DB-2 and DB-3)



### **General:**

The application range of the series 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 tendency 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  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ . The sensor and the electronic units consume low levels of power while in operation.

Important benefits are given with this type of digital barometers:

- 17 steps factory calibration and linearization
- highest accuracy up to 0.1 hPa
- Resolution selectable: 0.01 hPa, 0.1 hPa or 1 hPa
- 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 (standard with 3 accumulators, optional with 6 / 9 / 12 accumulators available for extended mobile use)
- Meets CE conformance standards

**DR. ALFRED MÜLLER**  
**METEOROLOGISCHE INSTRUMENTE KG**  
**R. FUESS**

---

The standard version with one sensor is an economic barometer for use on meteorological stations with an accuracy +/- 0.3 hPa 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, DB-2 and DB-3:**

	<b>DB-1</b>	<b>DB-2</b>	<b>DB-3</b>
<b>Numbers of transducers</b>	<b>1 pc.</b>	<b>2 pcs.</b>	<b>3 pcs.</b>
<b>Pressure range</b>	<b>600...1100 hPa</b> (standard) alternative ranges on special request: 800...1100 hPa or 500...1100 hPa		
<b>Resolution</b>	selectable between 0.01 hPa, 0.1 hPa or 1 hPa		
<b>Accuracy at 18...28°C</b>	<b>± 0.2 hPa</b>	<b>± 0.1 hPa</b>	<b>± 0.1 hPa</b>
<b>Accuracy at 0...40°C</b>	<b>± 0.3 hPa</b>	<b>± 0.3 hPa</b>	<b>± 0.2 hPa</b>
<b>Long Term Stability</b>	0.1 hPa / year		
<b>Display of tendency</b>	updated / time-line: 10s / 28 min or 1 min / 2.8 h or 10 min / 28 h		
<b>Language of Software</b>	English, German		
<b>Interface</b>	mini USB for software updates		
<b>Operating temperature</b>	0 ... + 50°C		
<b>Storage temperature</b>	- 40... + 60°C		
<b>Pressure Media</b>	Non-condensing air or gas		
<b>Pressure connection</b>	1/8" barbed fitting		
<b>Supply voltage</b>	5 VDC		
<b>Mains appliance</b>	100-240 VAC (output 5 VDC)		
<b>Buffering battery</b>	3 x 1,2 V Ni/MH accumulators HR6 "type AA" (2600 mAh)		
<b>Proof pressure</b>	1500 hPa		
<b>Burst pressure</b>	2000 hPa		
<b>Dimension</b>	130 mm x 110 mm x 145 mm (W x H x L)		
<b>Weight</b>	1,2 kg	1,4 kg	1,6 kg
<b>Data Transfer</b>	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:** info@meteomueller.de  
**www.rfuess-mueller.de**