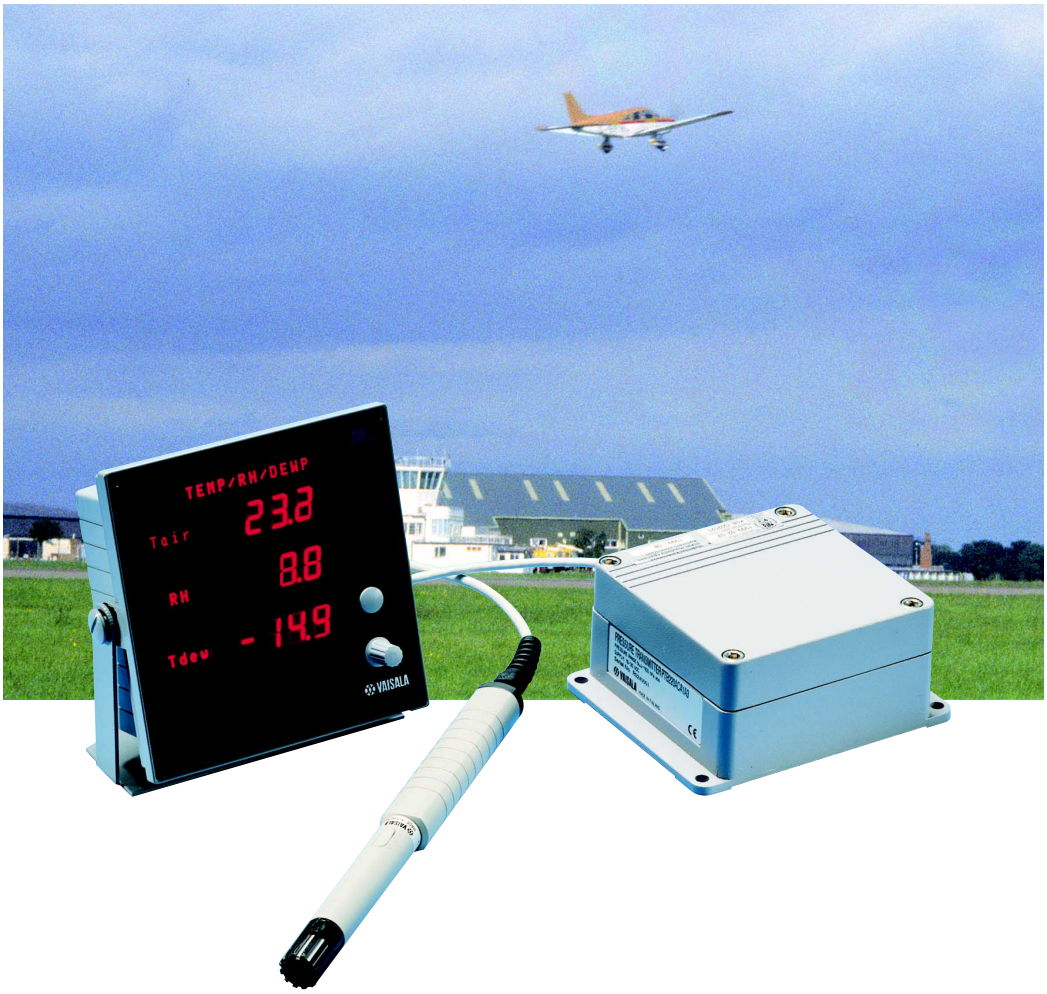
PA50
Aviation Barometer



The PA50 aviation barometer is a small specialized system that provides accurate barometric data for aviation use. It can be used as a basic weather station at small airports, or as a reliable backup at bigger airports. The clear and easy-to-use DD50 digital display, running the PA50 application, measures pressure, temperature and humidity. Based on the data it calculates QNH, QFE and QFF values as well as Transition Levels - the pressure criteria which are user-definable. In addition, dew point is calculated, based on temperature and humidity data. Displays at different locations can be interlinked to present data calculated by a master display.

The PTB220 digital barometer comes with three pressure transducers with class A accuracy and an opto-isolated RS-485 communication interface.

Consisting of standard Vaisala products, the PA50 is very flexible and easily scalable. The basic system includes the DD50 digital display and the PTB220 digital barometer as well as the required accessories.

With the basic system, and with the optional HMP45A temperature & humidity probe, measurements can be made 30 m away from the display. If data from further afield is needed, the following package extends the distance up to 1000 m (protection needs to be taken care of):

- The HMP45D temperature & humidity probe
- The DAT12 analog T/U transmitter

Connecting an optional commercial matrix printer to the Centronics port of the display, pressure, temperature, humidity and dew point data can be plotted out.

TECHNICAL DATA

DD50 DIGITAL DISPLAY

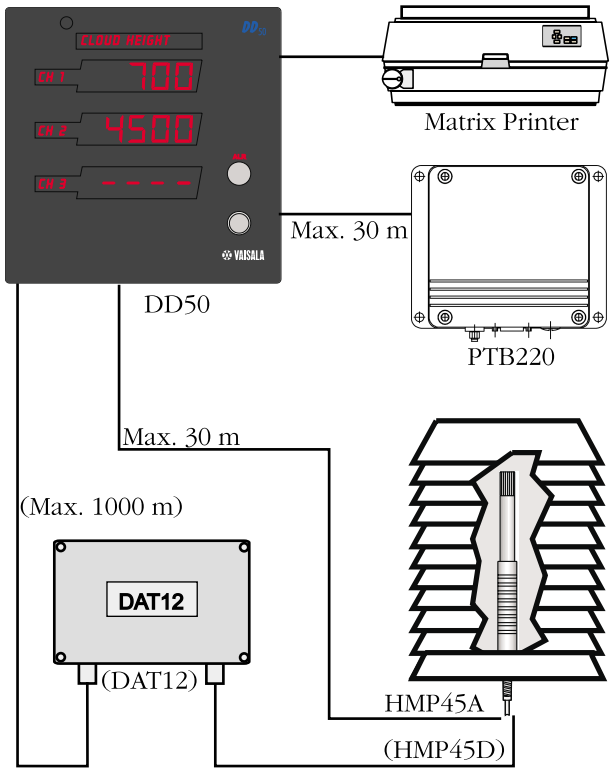
Type	General purpose digital display
Material	Aluminium frame, ABS case, grey
Weight	750 g
Supply voltage	10.5 ... 15.5 VDC
Power consumption at max. brightness	12 W
User interface	
Data fields	
• 3 lines of 5-digit 7-segment red LEDs	
Data type indication	
• 12-character alphanumeric dot matrix field	
• 4-character alphanumeric dot matrix fields	
Alarm and warning indication	
• 5 × 10 mm LED fields	
Operation	
• Rotary switch 1 pcs	
• Double action push button 1 pcs	
• Display parameters configurable with a PC terminal program via serial line	
Connections	
• 20 screw terminals, 1.5 mm² maximum wire	
• Female DB-25 connector for printer	
Environmental	
Storage temperature	–40 ... +60 °C
Operating temperature	+5 ... +55 °C
Humidity	Non-condensing
EMC	CE compliant
Vibration	Acc. to IEC 68-2-64 MIL-STD-167-1

PTB220 DIGITAL BAROMETER

Supply voltage	10…30 VDC reverse polarity protected
Weight	1 kg
Operating Range	**(1 hPa = 1 mbar)**
Pressure range	500…1100 hPa
Temperature range	
Operating	-40…+60 °C
Storage	-60…+60 °C
Humidity range	Non-condensing
Total accuracy	±0.15 hPa
Long-term stability	±0.1 hPa/year

HMP45A & HMP45D

Measurement range	0.8...100 %RH
Accuracy at +20 °C (incl. nonlinearity and hysteresis)	
Against factory references	±1 %RH
Field calibration against references	±2 %RH (0...90 %RH) ±3 %RH (90...100 %RH)
Typical long-term stability	< 1 %RH/year
Temperature dependence	±0.05 %RH/°C
Response time (90%) at 20 °C	15 s with membrane filter
Humidity sensor	HUMICAP® 180
Temperature	
HMP45A	
Measurement range	-39.2...+60 °C
Accuracy at +20 °C	±0.2 °C
Temperature sensor	Pt 1000 IEC 751 1/3 Class B
HMP45D	
Measurement range	-40...+60 °C
Output signal	Resistive four-wire connection
Temperature sensor	Pt 100 IEC 751 1/3 Class B



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