

MSB780X TS

Portable Transfer Standard Barometer

MSB780X TS is a high precision barometer suitable for usage in the field. It is ideal for on-site comparisons of pressure readings. With optional probe, it is also possible to measure temperature and relative humidity.



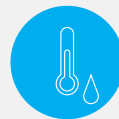
**Graphic LCD
with backlight**



**Weatherproof
design**



**24 hours of battery
operation**



**Measurement of
temperature and
relative humidity
[Optional]**



**Data recording, high
memory capacity 1GB**

Portability and reliability

MSB780X TS is equipped with one, two or three extremely reliable and stable pressure transducers. Rugged waterproof transport case protects the device well in harsh conditions. It is easy to carry the instrument with a practical shoulder strap.

Ease of use

To get accurate pressure reading it is enough to turn on the switch and wait a few seconds, until the reading appears on the display. Within one click, it is possible to display time chart of recent trends of pressure or other values.

Battery operation

MSB780X TS features a built-in rechargeable Li-Ion battery. It can supply the barometer for approx. 24 hours of continuous operation. Longer battery operation can be achieved by setting longer data recording interval. Battery indicator on LCD informs the user on the state of battery charge level. Battery protection circuit turns off the device, if the battery voltage goes very low, to prevent over-discharge. The battery

can be recharged using supplied AC charger, or using a supplied car-lighter charger cable. Alternatively, MSB780X TS can be supplied by 4 pcs AA cells.

Relative Humidity and Temperature Probe

It is possible to order the MSB780X TS with connector for external probe to measure temperature and relative humidity.



Pressure measuring performance

Measuring range	500 hPa to 1100 hPa or custom
Linearity	< 0.02 hPa
Hysteresis	< 0.02 hPa
Accuracy	0.1 hPa (20 °C to 25 °C)
Resolution	0.001 hPa
Total accuracy	0.15 hPa (-40 °C to +70 °C)
Overpressure limit	4000 hPa (not affecting sensor calibration)
Burst pressure limit	7000 hPa
Calibration traceability	National standard
Upgrade to ISO 17025 accredited calibration	optional

Mechanical

Transport case dimensions	407 x 330 x 175 mm
Fully equipped case weight	approx. 5 kg
Sensor cable length	2 m, 3 m or custom

Temperature measuring performance (with optional external digital PT100 sensor)

Measuring range	-40 °C to +70 °C
Accuracy	
• -20 °C to +70 °C	0.1 °C
• -40 °C to +70 °C	0.2 °C
Resolution	0.001 °C
Sensor type	PT100 RTD
Response time	< 20 s (63 %, 3 m/s)
Calibration traceability	National standard

Relative humidity measuring performance (with optional external hygrometer sensor)

Measuring range	0 %RH to 100 %RH
Operating temperature	-40 °C to +70 °C
Resolution	0.1 %RH
Sensor type	Solid state capacitive
Response time	< 10 s (63 %, change from 30 %RH to 70 %RH, 1 m/s)
Calibration traceability	MBW calibration

Environmental

Barometer protection	IP65
Transport case protection	IP67 (case lid closed)
Barometer operating temperature	-20 °C to +60 °C
Display operating temperature	-10 °C to +60 °C
Operating relative humidity	0 %RH to 100 %RH
Transport case buoyancy	Positive, the device floats in water with lid closed
Barometer storage temperature	-20 °C to +40 °C
Charging temperature	0 °C to +40 °C

Communication

Communication port	RS-232, USB or custom
Communication protocol	ASCII with user defined message
Data polling	polled or run mode with adjustable interval

Battery operation

Battery operation time	approx. 24 hours
Battery type	Lithium ion rechargeable, 2000 mAh, 2S

Factory calibration

Calibration point [hPa]	Typical uncertainty U [hPa]
500	0.08
560	0.08
620	0.08
680	0.08
740	0.08
800	0.08
860	0.08
900	0.08
980	0.08
1040	0.08
1100	0.08

