

- Piezo-electric barometric pressure sensor
- High accuracy 0.3 hPa @ 25 °C
- Scalable measurement range 600 ... 1060 hPa
- Quick responding behaviour
- Long-term sturdiness

Description

The sensor measures barometric air pressure. The instrument is designed for application in the field of meteorology and environmental protection, where high accuracy, quick responding behaviour, long-term sturdiness and reliability are required. The barometric pressure sensor measures the „ABSOLUTE AIR PRESSURE“.

The measuring results are available in 3 different forms

1. Analog voltage output: 0 V ... 5 V (Standard/default configuration)

only on request, special configuration necessary

2. Frequency output: 300 Hz ... 1100 Hz
3. Digital output: RS485

The sensor is a tempered, piezo-electric absolute-pressure sensor, which shows excellent thermal and mechanical stability.

Mechanical mounting

The housing of the sensor is suited for wall mounting or installation on other plane surfaces. For mounting, remove the cover. The housing lower part can be mounted by appropriate screws through the now visible and accessible fixing borings (Ø 4mm).

Note: The cable gland and the hose connection must point downwards.

In case there is no sufficient pressure balance for the barometric pressure sensor at an installation site, a hose can be plugged on via the 1/8"-hose connection. The open side of the hose is to be placed in an area where a pressure balance is prevailing.

Maintenance

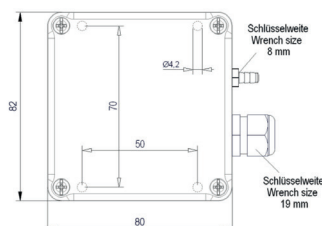
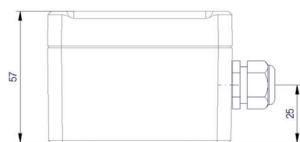
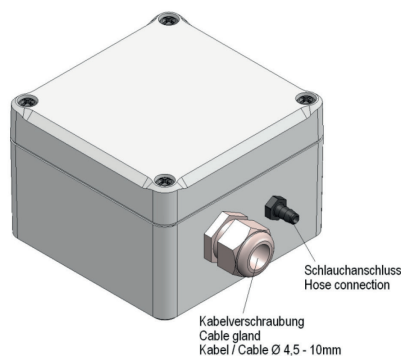
With proper mounting the instrument operates maintenance-free. The measuring results are effective at the moment of factory-calibration. The user is responsible for repeating the calibration and determination of the date.



Specifications

Characteristic	Value
Measuring range	600 hPa ... 1060 hPa
Resolution	0.001 hPa
Accuracy with sensor heating	± 0.25 hPa
Accuracy without sensor heating	± 0.3 hPa @ 25°C ± 1.1 hPa @ -20°C to 65°C
Long-term stability	± 0.1 hPa/year
Pressure sensor heating control temperature	50°C ±1°K
Supply voltage	9 V DC ... 24 V DC
Current Consumption @ 12 V DC	< 5 mA (with default configuration: heating off)
Electrical Outputs	
Analog voltage output	0 V ... 5 V corresponding to 600 hPa ... 1060 hPa
Frequency output	Open collector with internal pull up resistor
Output voltage levels of frequency output	Low: 0 V, high: 3 V
Frequency range	260 ... 1260 Hz (corresponding to 260 ... 1260 hPa)
Serial interface RS485	Half duplex (two wire)
Communication protocol	Thies ASCII
Supported baudrates	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Recommended baudrate for Meteo-40 plus	38400
Data format	8N1
General	
Temperature range	-40 ... +65 °C
Storage temperature	-30 ... +70°C
Humidity range	non-condensing
Dimensions	82 x 80 x 57 mm (see dimensional drawing)
Weight	approx. 150 g
Connection	Screwed cable gland M16 x 1.5 and 8-pole terminal strip
Housing	Polycarbonat
Housing classification	IP 54 (in-use position)
Outdoor housing (on request)	IP 67
Manufacturer	Thies Clima

Dimensional drawing (in mm)



Sensor connection to Ammonit Meteo-40 data logger

Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40	Supply Sensor
Air Pressure: Output Voltage	6: Voltage +	white	Voltage Input: Ax	
Ground	5: AGND	blue	Voltage Input: B _x	
Supply	2	red		10 V DC ... 24 V DC
Ground	3	black	Counter: GND	Main Ground
Shutdown	1			
Frequency	4		Counter: CNT	
Data +	7		B+ (RS485-M)	
Data -	8		A- (RS485-M)	

* The pins GND and AGND are connected to the same electrical potential.

Connect the shield logger-sided to ground (GND)

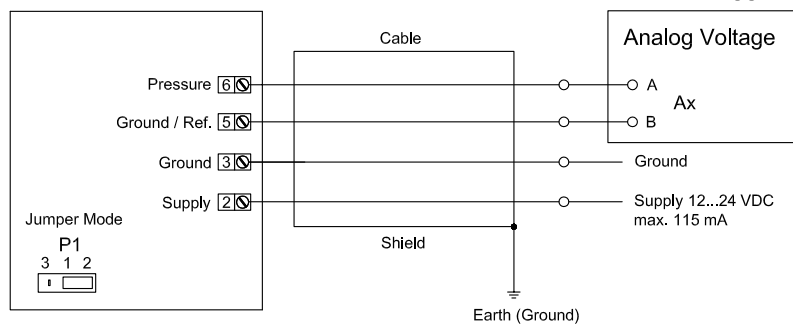
Cable type: LiYCY 4 x 0.25 mm²

Sensor connection diagrams: connection to Ammonit Meteo-40 data logger

1. Voltage output of sensor connected to voltage input of Meteo-40

Baro Transmitter Thies
Analog 0...5 V
600...1060 hPa

Meteo-40
Data Logger



HT0
Jumper P1: 1-2 / PS2
Slope: 92
Offset: 600

2. Frequency output of sensor connected to counter input of Meteo-40

Baro Transmitter Thies
 Frequency 260...1260 Hz
 260...1260 hPa

Meteo-40
 Data Logger

