

Air Pressure Sensor Thies

Piezo-ceramic air pressure sensor



Description

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

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, longterm 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

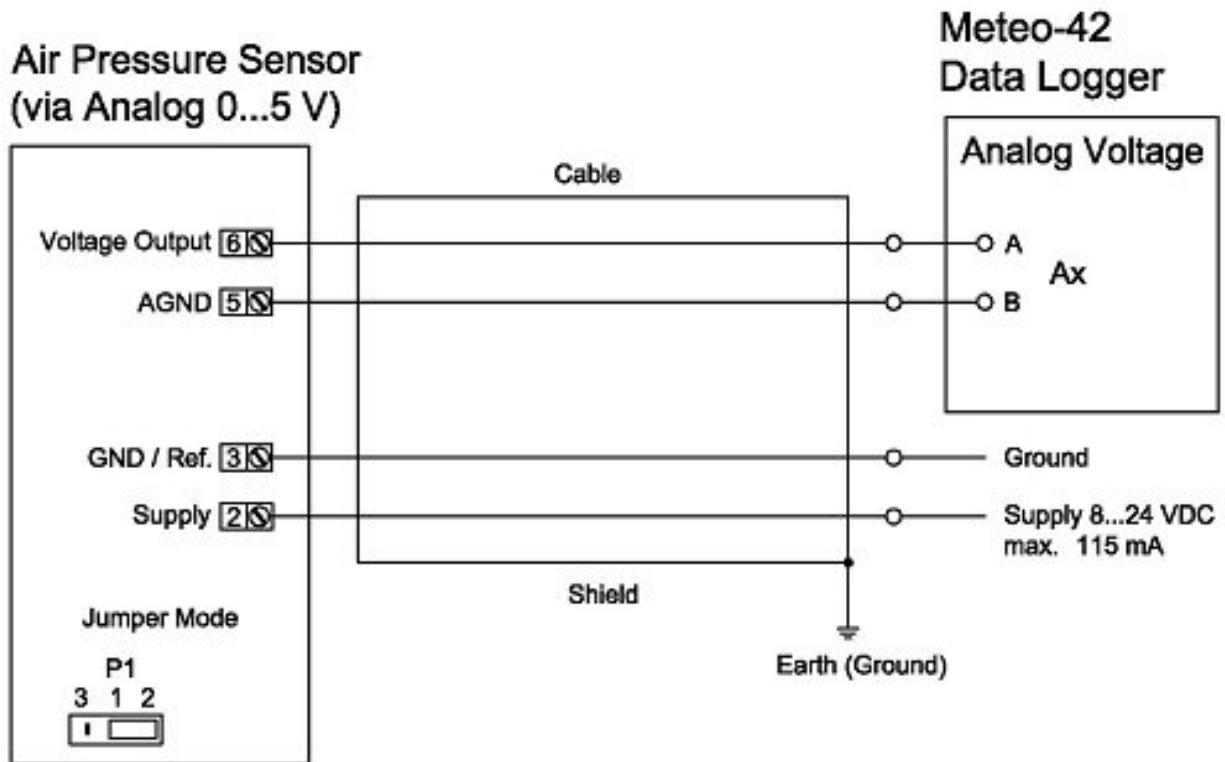
The sensor is a tempered, piezo-electric absolute-pressure sensor, which shows excellent thermal and mechanical stability.

Specifications

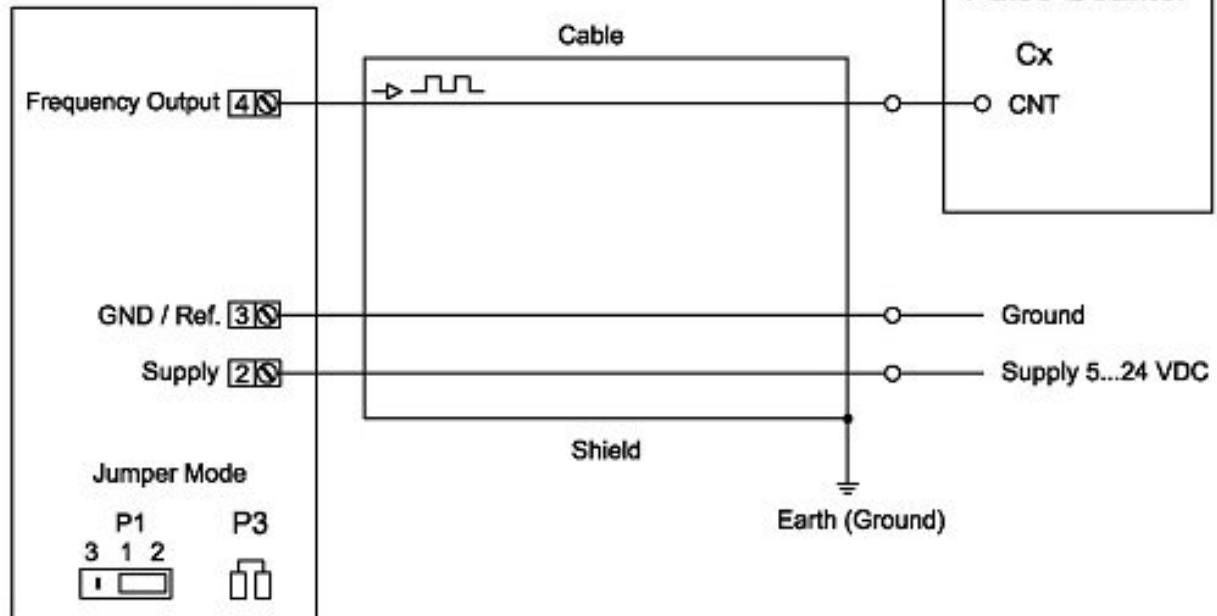
Characteristic	Value
Measuring range	600 hPa ... 1060 hPa
Resolution	0.001 hPa

Characteristic	Value
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
Accessory	For RS485 output: Module set M83575 (incl. isolated repeater)

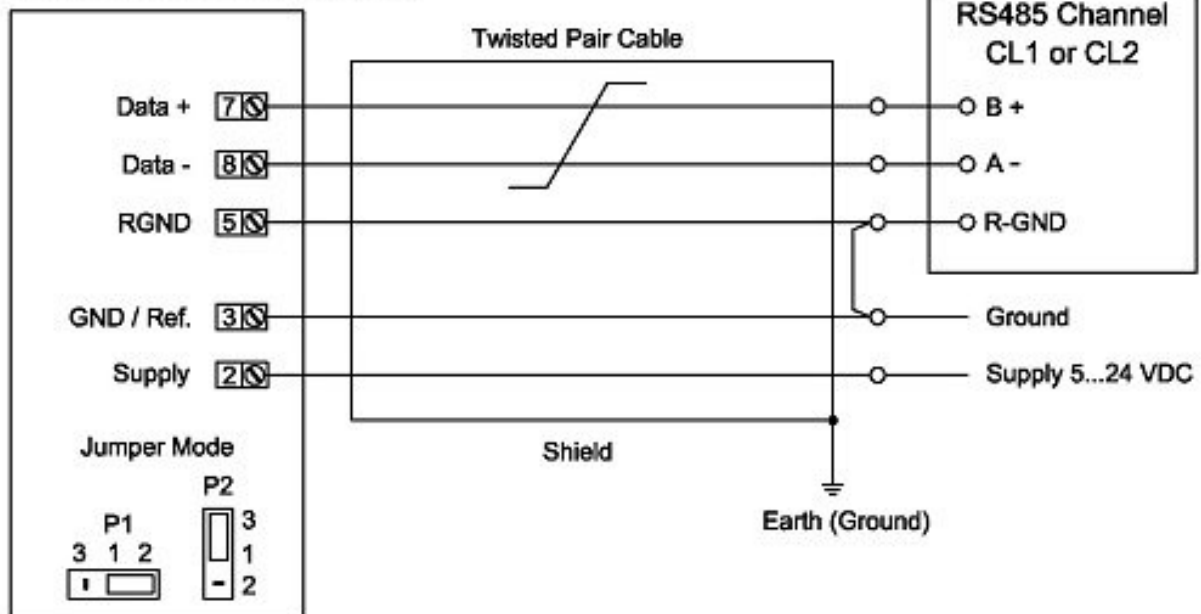
Sensor connection diagram



**Air Pressure Sensor
(via Frequency 300...1100 Hz)**

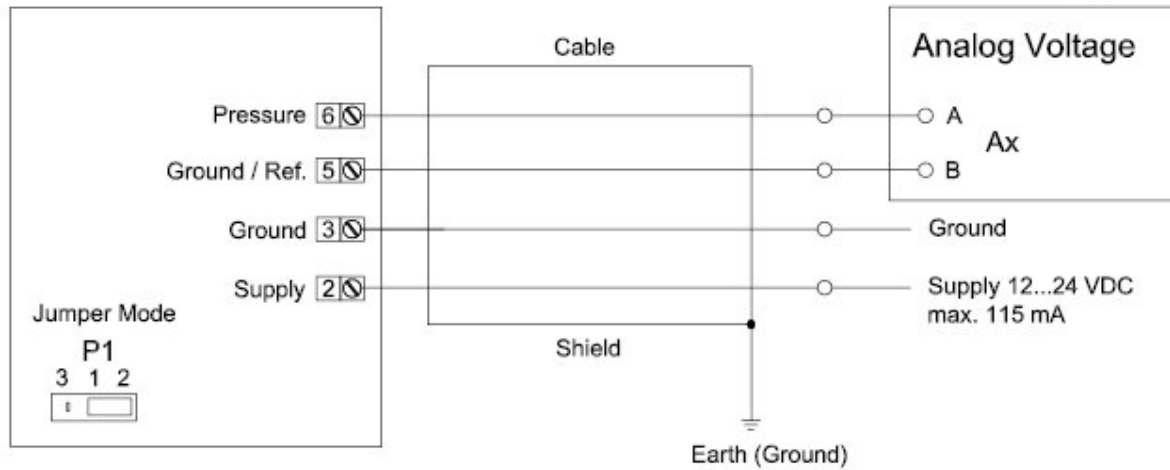


**Air Pressure Sensor
(via RS485 Half Duplex)**



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

Meteo-40
 Data Logger



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