

Air Pressure Sensor Thies

S33100A



Air Pressure Sensor Thies

Order number	Availability
S33100A	On request

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

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General Information

Order Number S33100A

Measurement

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

Sensor Heating Control Temp 50°C $\pm 1^\circ\text{K}$

Electrical

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

Frequency Output Levels 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

Environmental

Temperature Range -40 ... +65 °C

Storage Temperature -30 ... +70 °C

Humidity Range Non-condensing

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Physical Properties

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	Polycarbonate
Housing Classification	IP 54 (in-use position)
Outdoor Housing (on request)	IP 67

Manufacturer

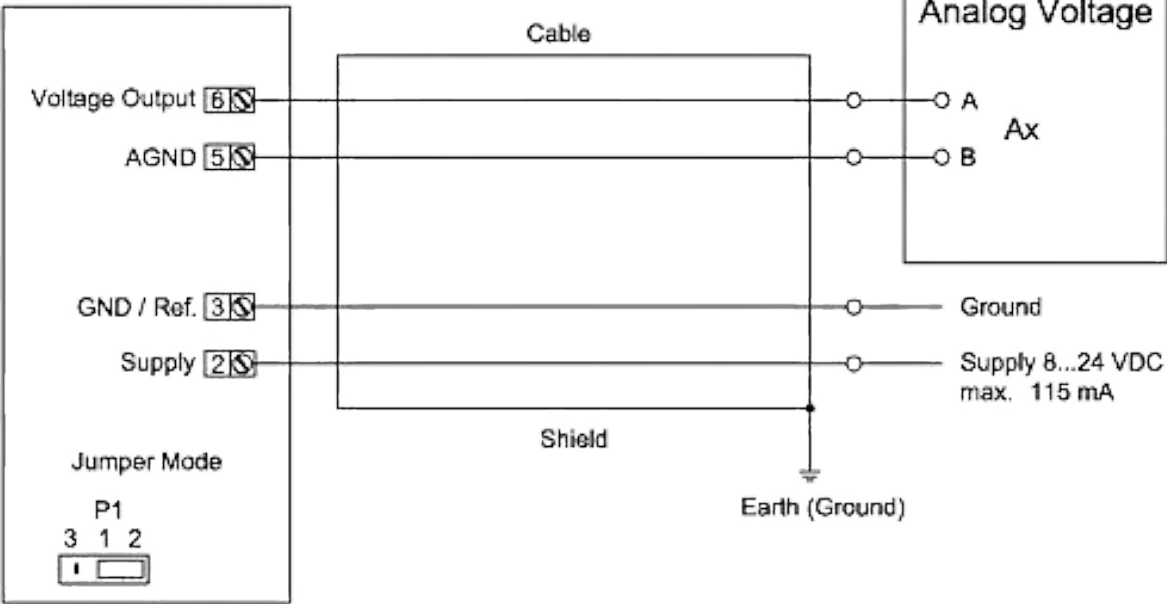
Manufacturer	Thies Clima
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Accessories

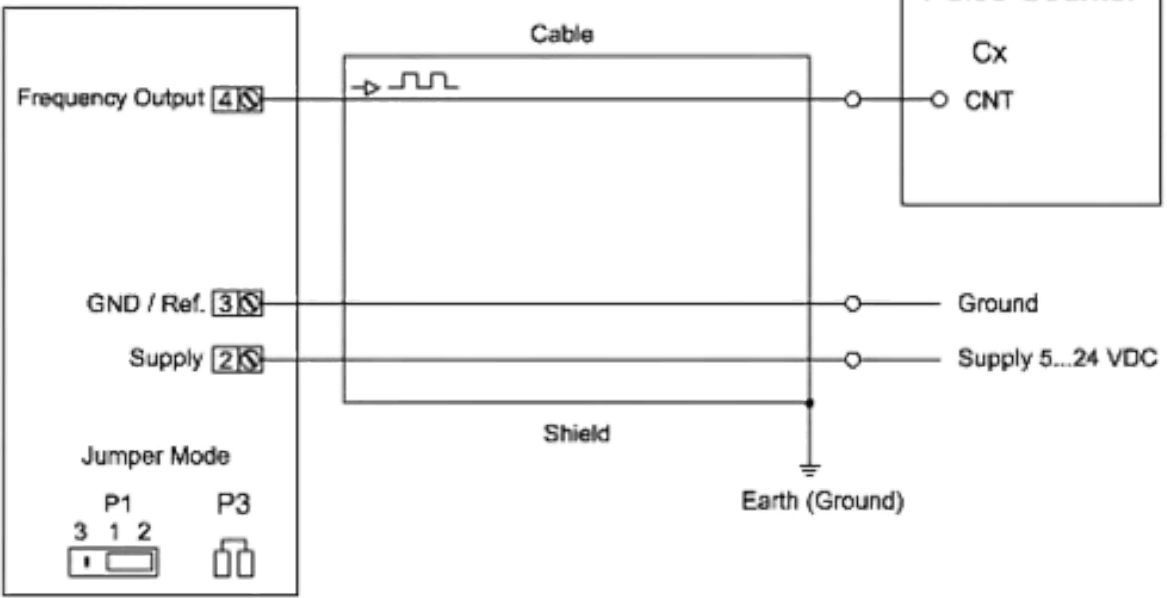
Accessory	For RS485 output: Module set M83575 (incl. isolated repeater)
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Sensor connection diagram

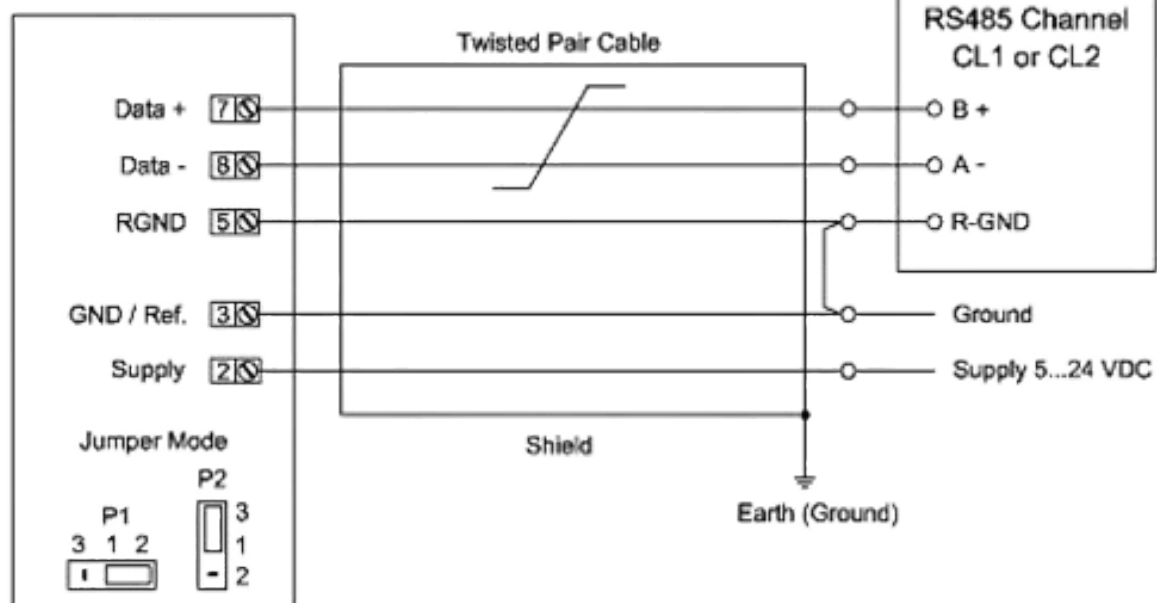
Air Pressure Sensor
(via Analog 0...5 V)



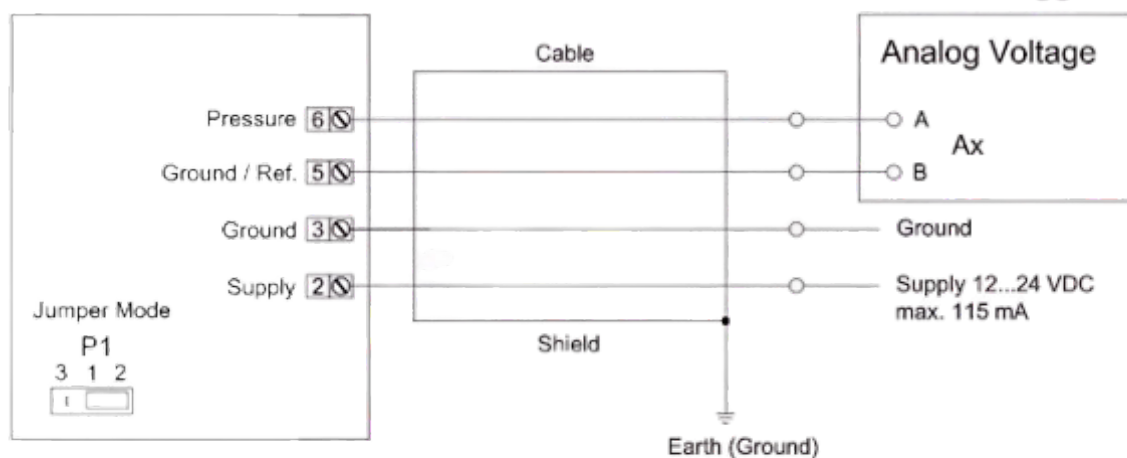
Air Pressure Sensor
(via Frequency 300...1100 Hz)



Air Pressure Sensor (via RS485 Half Duplex)



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



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

Accessories

- Calibration Air Pressure Sensor