



Differential pressure sensor

QBE64-DP4

for neutral and mildly corrosive liquids and gases

Differential pressure sensor, suitable for gases or liquids, for the measurement of positive or negative pressures and pressure differentials in HVAC systems.

- **Measuring system based on ceramic lever technology**
- **Simple, robust construction for highly reliable operation**
- **For neutral and mildly corrosive liquids and gases**
- **Supply voltage AC 24 V or DC 18 ... 33 V**
- **DC 0...10 V output signal**
- **Female-threaded G¹/₈" connection**
- **Delivery includes 2 screwed fittings for copper pipes, 6 mm diameter**

Use

The QBE64-DP4 differential pressure sensor is particularly suitable for use in HVAC systems for continuous monitoring of the level or flow rate of neutral or mildly corrosive gases or liquids.

The pressure to be monitored acts on a ceramic sensor element. The measured pressure is converted electronically into a linear DC 0 ...10 V output signal.

Types

This sensor represents an extension of the QBE63-DP... sensor range (see data sheet CA1N1920E) at the higher end, extending the maximum pressure range to 4 bar.

Type	Pressure range		Output signal
QBE64-DP4	0 ... 4 bar	0 ... 400 kPa	DC 0 ...10 V

A suitable fixing bracket is supplied with the sensor.

Ordering

When ordering, please specify the quantity, product name and type code.

Example: 1 differential pressure sensor, type QBE64-DP4 and 2 mounting kits, type AQB51.1

Accessories

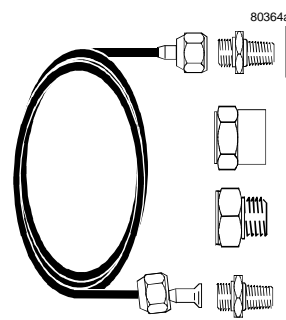
Any accessories required must be ordered separately.

The components of the AQB51 mounting kit are supplied by SERTO, but the kit must be ordered from Landis & Staefa Division.

Other mounting arrangements can be ordered directly from the SERTO range.

AQB51.1 Mounting kit comprising:

- 2 brass thread adapters, 2 x G¹/₈", male
- 2 copper seal, ¹/₈"
- 1 m copper capillary (tube?) with retaining nuts at each end, G¹/₈" female
- 1 thread adapter, G¹/₈" female to G¹/₂" female, with 1 copper seal, ¹/₂"
- Thread adapter, G¹/₈" female to R¹/₂" male
- Mounting instructions (no. 35757)



Compatibility

The QBE64-DP4 differential pressure sensors can be used in conjunction with all devices or systems capable of processing the DC 0...10 V output signal.

Technology

The pressure to be monitored acts on a ceramic sensor element. The ceramic element has the following significant advantages

- Very low susceptibility to temperature
- Resistance to high temperature
- No mechanical ageing or creepage

The sensor signal is linearised, temperature-compensated and amplified by the sensor electronics.

Mechanical design

The QBE64.DP4 differential pressure sensor comprises the following:

- Sensor cover with connecting cable and gland
- Pressure sensor casing with ceramic element, screw connections and purging points
- Printed circuit board
- 2 screwed fittings for copper pipe, 6 mm diameter
- Fixing bracket, enclosed loose, with sensor

Mounting instructions

Mounting instructions are enclosed with the differential pressure sensor.

The QBE64-DP4 sensor can be connected directly with R¹/₈" screwed fittings. Special precautions must be taken on site when mounting the sensors to ensure airtight screw connections.

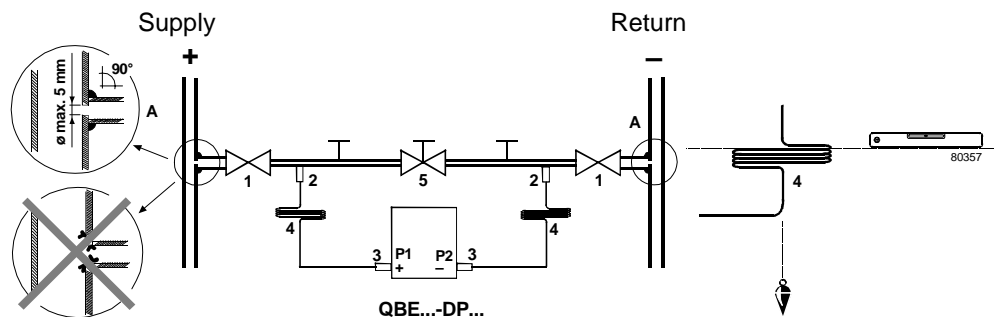
Recommended measures

- Use standard T-fittings or drill and de-bur measuring holes, each 5 mm diameter, for the pressure tapping points (A).
- An isolating bypass (5) can be fitted, to avoid overloading the pressure sensor on one side while making adjustments.
- For inspection purposes, measuring circuits can be fitted with a measuring-T at the sensor head.

Important note

Mounting for use with liquids:

- Always mount the sensor lower than the pressure measuring points
- Mount on a vibration-free surface
- Always evacuate the system



- Key:
- A Measuring holes
 - 1 Isolating valves (SERTO SO 7100-6 GREY and, if required, screw-on base SERTO SO 09904-4-8)
 - 2 T-joints (SERTO SO 03000-1/8)
 - 3 Connection pieces (from mounting kit AQB 51.1)
 - 4 Copper pipes (from mounting kit AQB 51.1)
 - 5 Isolating bypass

Technical data

Electrical interface	Power supply	Low voltage (SELV, PELV)
	Operating voltage	AC 24 V, 50/60 Hz or DC 18 ... 33 V ±15 % with AC 24 V
	Current consumption	< 5 mA with maximum output signal
	Output signal against	DC 0 ... 10 V, short-circuit-proof and proof polarity reversal
	Zero-point voltage	< 50 mV
Product data	Working resistance	> 10 kOhm
	Differential pressure range	0 ... 4 bar
	Measuring element	Ceramic element
	Measuring accuracy	Factory calibrated
	Sum of linearity, hysteresis and repeatability	< ± 0.5 % FS FS = Full Scale
	TC zero point	< ± 0.06 % FS / K
	TC sensitivity	Typically < ± 0.015 % FS / K
	Overload on one side P1 / P2	8 / 8 bar
	System pressure	25 bar (P1 and P2 simultaneously)
	Bursting pressure	37.5 bar (1.5 x system pressure)
	Dynamic response:	
	Response time	< 5 ms
	Load alternation	< 50 Hz
Suitable media	Air or mildly corrosive gases and liquids	
Admissible temperature of medium	– 15 ... +80 °C	
Maintenance	No maintenance required	
Materials	Pressure casing, cover	Aluminium (AlMgSi1)
	Parts in contact with medium	Stainless steel (1.4305), ceramic element
	Sealant	FPM Viton® (fluoroelastomer)
	Mounting bracket	Stainless steel (1.4305)
Connections	Mounting kit AQB51.1	See "Accessories"
	Connecting cable	3-core, 1.5 m long
	Cable entry	Cable gland
	Pressure connections	Male-threaded G ¹ / ₈ " With screwed fittings for scopperpipes 6 mm dimension
Mountings	Mounting bracket	For mounting in ducts, on walls or ceilings and in control panels
	Orientation	Any (factory-calibrated with pressure connections at bottom) When used with liquids: Purging points at top
General ambient conditions	Temperature ranges	
	Operation	– 15 ... + 60 °C (electronics)
	Storage / Transport	– 40 ... + 80 °C
Dimensions / Weight	Ambient humidity	<90 %rH, Ambient humidity
	Weight (including packaging)	0.43 kg
	Dimensions	See "Dimensions"
Safety	Protection standard	IP65 to IEC529
	Meets the requirements for CE marking in:	EG89/336 (EMC), EN50081-1, EN50081-2, EN50082-2

Connection terminals

	80358		<i>Color</i>	
G		←	Brown	Supply voltage AC 24 V or DC 18 ... 33 V
U		→	Green	DC 0 ...10 V output signal (reference point GND)
M		←	White	GND

Dimensions

All dimensions in mm

