

AIR PRESSURE DIFFERENTIAL DETECTOR

SDA 7.. Eng.



- Active transducer of pressure differential 0...10 V-
- Installation on wall with a plate or on DIN rail
- Power supply 24 V ~, IP54 protection

1. APPLICATION

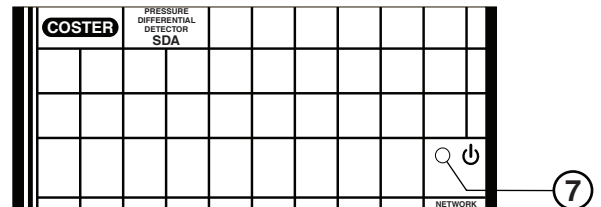
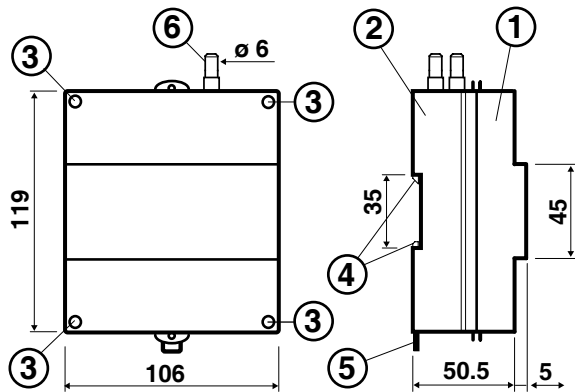
Detector for measuring difference of pressure for air or neutral gases.
Normally used in air-handling and heating systems for measuring the difference of overpressure or underpressure between, for example:

- air ducts and ambient air,
- filters inputs and outputs.

2. MODELS

Code	Measurement range		Max. overpressure		Output signal (Volt -)
	(Pa)	(mbar)	(Pa)	(mbar)	
SDA 701	0.....100	0...1	5000	50	0...10
SDA 703	0.....300	0...3	5000	50	0...10
SDA 705	0.....500	0...5	5000	50	0...10
SDA 730	0...3000	0...30	5000	50	0...10

3. OVERALL DIMENSIONS AND FACIA



- 1 - Cover
- 2 - Base
- 3 - Fixing screws
- 4 - DIN rail securing elements
- 5 - DIN rail release lever
- 6 - Intake for pressure measuring
- 7 - Power supply LED

4. TECHNICAL DATA

• Detector:			
- measurement range	see models available	Protection	IP 54
- time constant	<10 ms	Electromagnetic compatibility	89/336 EEC
Output signal	0...10 V-	Radio disturbance	VDE0875/0871
Precision:		Vibration test	with 2g (DIN 40 046)
- SDA 701 - 703	± 3.5%	Construction standard	CEI (Italian Electr. Committee)
- SDA 705	± 2%	• Mechanical:	
- SDA 730	± 0.4%	Container	DIN 6E module
Linearity	± 0.3% end scale	Installation	on DIN 35 rail
Hysteresis	0.2% end scale	Materials:	
Influence of temperature:		- base	ABS
- typical	± 0.02% end scale	- cover	ABS
- min / max	-0.04 / +0.04 % end scale	- gasket	natural PVC
Maximum overpressure	50 mbar	- diaphragm	silicon (LSR)
• Electrical:		Ambient temperature:	
Power supply	24 V ~	- operation	0...45°C
Frequency	50...60 Hz	- storage	-10...70°C
Consumption	0.5 VA	Ambient humidity	class F DIN 40040
Load	≥ 1 kOhm	Weight	200 g

5. OPERATION

The detector converts the difference in pressure acting on its incorporated internal membrane into an 0...10V- output signal, proportional to the difference measured.

The detector is calibrated in factory so that no further calibration is necessary.

6. SITING AND INSTALLATION

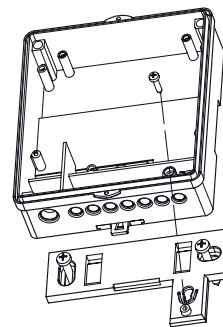
In th package are included all the accessories (mounting plate, connections for air intake, fixing screws) necessary for the installation of the detector.

The detector must be installed in a vertical position directly on the air duct or on the wall of the room.

Installation can be:

- on a standard 35 mm DIN rail (nbot included),
- with the supplied plate. Open the hole (8.6) in the base of the detector, insert it on the plate and lock it with the screw (8.5).after its screwed on the wall, the detector is mounted with the screw (8.5).

The intake for the high pressure must be connected to the input indicated by the "+" sign, that of the lower pressure must be connected to the input indicated by the "-" sign.

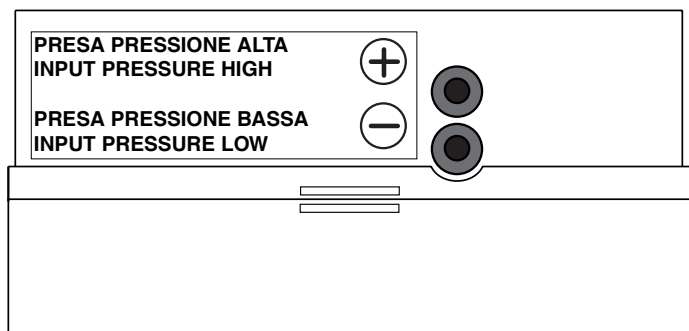


7. WIRING

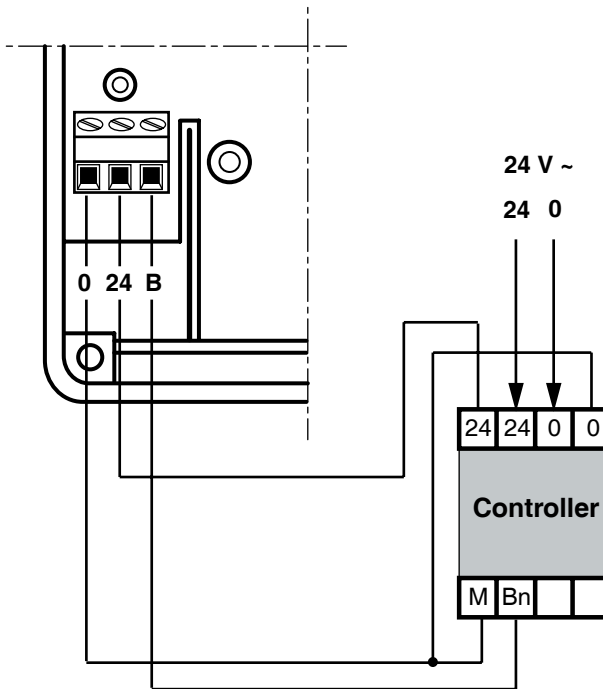
Proceed as follows:

- separate base and cover,
- carry out the electric wiring paying strict attention to the wiring diagram and to the safety regulations in force, and using 1.5 mm² cross section cables for the power supply and for the 0...10 V- signal,
- apply power (24 V~) and check the voltage across terminals 0 and 24,
- remove power, replace the cover on the base and secure it with the four screws supplied (4.3).

8. PRESSURE TUBE VIEWED FROM ABOVE



9. WIRING DIAGRAM



- 0 - 0 Volt signal = neutral of 24 V~ power supply
- 24 - 24 V power supply
- B - 0...10 V- output signal

Amendments to data sheet

Date	Revision No.	Page	Section	Details of amendments
26.06.06 MZ 30.01.07 MZ		2 1-2	8. INTERNAL COMPONENTS 3., 8., 9.	Updated diagram Amended diagrams and drawings, new mechanical version
16.04.07 MZ	01	1	2. MODELS; 4. TECHNICAL DATA	Update "Max. overpressure" values



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