

# Easy & quick control of relative or differential pressure

The presence of very pure air, i.e. with a very low content of microparticles of suspended dust, is in some fields mandatory. In the **industrial and scientific research** and **microelectronics industry** in general, in the field of bottling and food and moreover in the **pharmaceutical field**, **cleanrooms** are used to always ensure a controlled atmosphere.

Especially in these applications, a highly precise and reliable instruments are indispensable for the measurement of differential pressure.

The series of small and compact transmitters **HD402xT...** is suitable for measuring relative pressure with respect to atmosphere or differential pressure in the range from **as low as 0-50 Pa to 0-200 kPa**.

These transmitters use a **silicon piezoresistive sensor with high accuracy** and temperature compensation, which **has excellent linearity, repeatability and stability** over the time. Thanks to the particular sensor used, the transmitters are insensitive to orientation and position. Moreover, the **high stability** of the sensor over the time and in comparison to the changes in temperature allows the elimination of the operations of maintenance typically required to **compensate for the aging and the deviation of the sensor zero**.

Depending on the needs, the wide variety of the models offer an output signal of the sensor that is converted into a **digital RS485 Modbus-RTU output** (HD402ST), into a **voltage 0...10 V or active current 0...20 mA / 4...20 mA analog output** (HD402T) or into a **2-wire (current loop) 4...20 mA analog output** (HD402AT).



Member of GHM GROUP

**Series HD402T...L  
HD402AT...L  
HD402ST...L**

**PRESSURE TRANSMITTER**

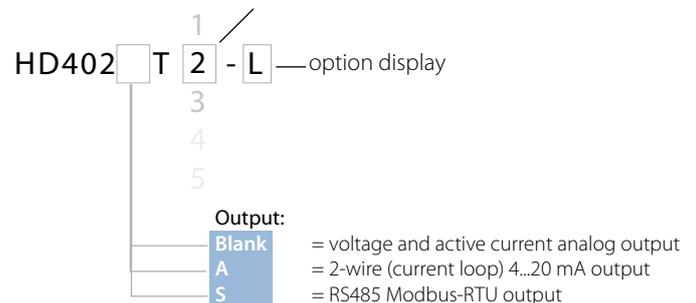


- | Small and compact
- | Modbus version
- | 2-Wire version for quick and easy installation
- | Excellent long-term stability
- | IP65

## Technical Specification

<b>Output</b>	HD402T...: Active analog 0...10 Vdc ( $R_{Lmin} = 10\text{ k}\Omega$ ) or 0...20 or 4...20 mA ( $R_{Lmax} = 500\ \Omega$ ) HD402AT...: 2-wire (current loop) 4...20 mA ( $R_{Lmax} = (Vdc-12)/0,022$ ) HD402ST...: Digital RS485 Modbus-RTU
<b>Power Supply</b>	HD402T...: 24 Vac $\pm 10\%$ or 18...40 Vdc HD402AT... and HD402ST...: 12...30 Vdc
<b>Absorbtion</b>	HD402T... and HD402AT...: < 1 W @ 24 Vdc HD402ST...: < 100 mW @ 12 Vdc
<b>Pressure connection</b>	$\varnothing 6.2$ mm pressure inputs
<b>Compatible media</b>	Air and non-aggressive dry gases

Depending on the nominal full scale



	Accuracy @ 25 °C	Measuring range	Resolution
HD402T/ST/AT 1	$\pm 1.5\%$ f.s. nominal	$\pm 50/100/250$ Pa (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O, mbar)	0.1 Pa (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O, mbar)
HD402T/ST/AT 2	$\pm 0.75\%$ f.s. nominal	$\pm 250/500/1000$ Pa (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O, mbar)	1 Pa, (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O, mbar)
HD402T/ST/AT 3		$\pm 2.5/5/10$ kPa (also in mmHg, PSI, mbar)	0.01 kPa, (also in mmHg, PSI, mbar)
HD402T/ST/AT 4	$\pm 1\%$ f.s. nominal	$\pm 25/50/100$ kPa, (also in mmHg, PSI, mbar)	0.1 kPa, (also in mmHg, PSI, mbar)
HD402T/ST/AT 5		$\pm 50/100/200$ kPa (also in mmHg, PSI, mbar)	0.1 kPa, (also in mmHg, PSI, mbar)

# Series HD402TR...L

## LOW PRESSURE CONTROLLERS WITH ON/OFF RELAY SWITCH OUTPUT

Pa - kPa - mbar - mmH<sub>2</sub>O - inchH<sub>2</sub>O - mmHg - PSI



- Rugged **technopolymer** case
- **Relay output**
- **Configurable** from your PC
- Manual setting possible with push buttons
- Visible **(LED) alarm** and **audible alarm**
- Settable thresholds, hysteresis and delay
- **Auto-zeroing** feature in the low range model to ensure **highest precision** and excellent long term stability
- **Clear LCD display** with measured value
- **Wide selection in ranges**
- Selectable units of measurement
- **Excellent linearity**, repeatability and stability
- Very low maintenance
- Factory calibrated

Operating condition	-10...+60 °C / 0...95% RH
Response time	0.5 seconds for the display updating
Storage temperature	-20...+70 °C
IP protection	IP65
Pressure connection	Ø 6.2 mm pressure inputs
Absorbion	< 1 W @ 24 Vdc
Power supply	24 Vac ± 10% or 15...36 Vdc
Compatible Media	Air and non-aggressive dry gases

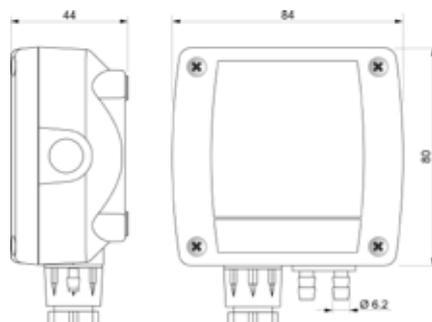
### Technical specification

	Accuracy@25°C	Measuring range	Resolution
HD402TR1L	± 1.5% f.s. nominal	± 250 Pa, (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O, mbar)	0.1 Pa, (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O, mbar)
HD402TR2L	± 0.75% f.s. nominal	± 1000 Pa, (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O mbar)	1 Pa, (also in mmH <sub>2</sub> O, inchH <sub>2</sub> O mbar)
HD402TR3L		± 10 kPa, (also in mmHg, PSI, mbar)	0.01 kPa, (also in mmHg, PSI, mbar)
HD402TR4L	± 1% f.s. nominal	± 100 kPa, (also in mmHg, PSI, mbar)	0.1 kPa, (also in mmHg, PSI, mbar)
HD402TR5L		± 200 kPa, (also in mmHg, PSI, mbar)	0.1 kPa, (also in mmHg, PSI, mbar)

### Applications

- Control of HVAC
- Control of filters
- Cleanrooms monitoring
- Pneumatic control
- Respirators
- Vaporizers

### Dimensions



### Internal view

