



Pressure Controller DCY-2057

- Direct input for pressure, gases and liquids.
Ranges: 0 to 250 mmH₂O, 1 psi, 5 psi, 15 psi, 30 psi, 100 psi, 250 psi, 500 psi and 1000 psi.
Gauge or absolute pressure and vacuum.
- Auxiliar universal input for RTD, thermocouple, 0-55 mV, 4-20 mA, 1-5 Vdc and 0-10 Vdc.
- Mounting options in weather-proof box.
- High control capacity, performing the functions of:
 - Auto-tune.
 - ON-OFF, P-PI-PD-PID, ratio, cascade control.
 - Remote Setpoint, programmable set point up to 10 segments
 - Auto/manual station.
- Several options available:
 - Up to 2 analog output modules 4-20 mA, 1-5 Vdc and 0-10 Vdc.
 - Up to 3 alarm modules with SPDT and SPST relays.
 - Front Aspersation-proof.
 - RS-232 or RS-422/485 Communication.
- Robust construction in order to support the harshest conditions of industrial use.
75 to 264 Vac, 50/60 Hz or 100 to 360 Vdc; 24 Vac/dc and 12 Vdc power supply, as ordered.
- High level of accuracy, also performs square root extraction.
- Fully programmable from the front panel. Configuration stored in non-volatile memory.

Ideal for
Pressure and
Temperature
Control
in
Reactors

Order Code DCY-2057 - [] [] [] [] [] [] [] [] [] []

Input

Range

- 1 - 0 to 250 mmH₂O
- 2 - 0 to 1 psi
- 3 - 0 to 5 psi
- 4 - 0 to 15 psi
- 5 - 0 to 30 psi
- 6 - 0 to 100 psi
- 7 - 0 to 250 psi
- 8 - 0 to 500 psi
- 9 - 0 to 1000 psi

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Pressure Type

- 1 - Gauge
- 2 - Absolute
- 3 - Vacuum (0 to 1 atm)

Sensor Type

- 1 - For air or non-corrosive gases
- 2 - For fluids compatible with 316 Stainless Steel (sealed)

* air or non-corrosive gases

** sealed

Output 1 (Control)

- 0 - None
- 1 - 4-20 mA
- 2 - 1-5 Vdc
- 3 - 0-10 Vdc
- 4 - SPST Relay
- 5 - Open Collector Voltage
- 6 - External Solid State Relay

Output 2 (Alarm)

Same code as Output 1

Output 3 (Alarm)

- 0 - None
- 1 - SPDT Relay
- 2 - Open Collector Voltage
- 3 - Solid State Relay

Output 4 (Alarm)

Same code as Output 3

Power Supply

- 1 - 75 to 264 Vac 50/60 Hz or 100 to 360 Vdc (any polarity)
- 2 - 24 Vac or 24 Vdc ($\pm 10\%$)
- 3 - 12 Vdc ($\pm 10\%$)
- 4 - Others, upon request

Communication

- 0 - None
- 1 - RS-232
- 2 - RS-485
- 3 - RS-422

Case Protection Grade

- 0 - General usage, protected place
- 1 - Front Aspersation-proof
- 2 - Weather-proof - IP66

Specifications

Inputs

Input for vacuum, gauge or absolute pressure. Ranges from 250 mmH₂O to 1000 psi (Gauge Pressure). Ranges from 15 psi to 1000 psi (Absolute Pressure). Range up to 1 atm (Vacuum). Use with compressed air and non-corrosive / conductive gases, up to 5 psi. Above 5 psi, use with liquids and fluids compatible with 316 stainless steel. Auxiliat analog input for TC (J, K, T, E, R, S under ITS-90), 0-55 mV, RTD Pt-100, under DIN-43760, 4-20 mA, 1-5 Vdc and 0-10 Vdc. 250 Ω input impedance for mA, >10 M Ω up to 5 Vdc and 2 M Ω above 5 Vdc.

Control Functions

ON-OFF, PID, PID with AUTO-TUNE, Ratio, Cascade and Remote Set point.

Control Output

Analog 4-20 mA (750 Ω maximum load), 1-5 Vdc or 0-10 Vdc. Up to 2 optional module galvanically isolated to 300 Vac from power supply and inputs. SPST Relay rated for 3A/220 Vca. Open collector transistor (24 Vdc/40 mA maximum with isolation). Solid state relay (2A/250 Vac maximum with isolation).

Alarm Outputs

SPDT relay rated for 3A/220 Vac. Open Collector Transistor (24 Vdc/40 mA maximum with isolation). Solid state relay (2A/250 Vac with isolation).

Serial Communication

RS-232 or RS-422/485 with 50 Vdc isolation. MODBUS@-RTU Communication Protocol.

Indication

Two 4-digit red leds displays (14 mm) which can be configured together with the decimal point.

Configuration

By front-panel push-buttons and internal jumpers.

Sampling Rate

130 ms standard. Half second display update rate.

Accuracy

- $\pm 1\%$ of full scale for the range of 250 mmH₂O.
- $\pm 0.1\%$ of full scale for the other pressure ranges.
- $\pm 0.1\%$ of full scale for TC, RTD, mA, mV and Vdc inputs.
- $\pm 0.5\%$ of full scale for analog retransmitter output, 750 Ω maximum load.

Linearization

$\pm 0.1\%$ for RTD and $\pm 0.2\%$ for TC.

Square Root Extraction

$\pm 0.5\%$ of reading, for inputs above 10 % of span. Programmable Cut-off from 0 to 5 %.

Cold Junction Compensation

$\pm 2.0\%$ at range from 0-60 $^{\circ}\text{C}$ ambient temperature.

2-wire transmitter Power Supply

24 Vdc/50 mA maximum, isolated from output, with short circuit protection.

Span Temperature Coefficient

$\pm 0.005\%$ of span / $^{\circ}\text{C}$ for auxilair analog input.
 $\pm 0.01\%$ of span / $^{\circ}\text{C}$ for pressure inputs.
 Reference temperature: 25 $^{\circ}\text{C}$

Power Supply

75 to 264 Vac 50/60 Hz or 100 to 360 Vdc (10 W nominal); 24 Vac/dc ($\pm 10\%$); 12 Vdc ($\pm 10\%$).

Operating Range

0 to 60 $^{\circ}\text{C}$ temperature and 90 % maximum relative humidity.

Dimensions

1/4 DIN (96 x 96 x 187 mm) HxWxD, (92 x 92 mm) HxW panel cutout.

Weight

1.0 kg nominal.

Warranty

One year.