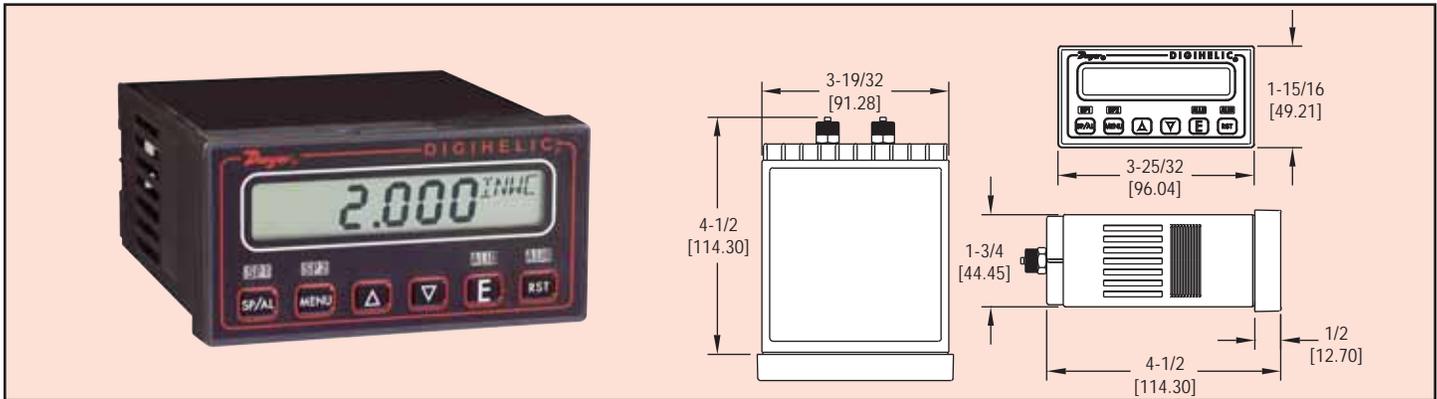


Series
DH

Digihelic® Differential Pressure Controller

3-in-1 Instrument: Gage, Switch and Transmitter, Square Root Extractor for Air Flow



The Series DH Digihelic® Differential Pressure Controller is a 3-in-1 instrument possessing a digital display gage, control relay switches, and a transmitter with current output. Combining these three features allows the reduction of several instruments with one product, saving inventory, installation time and money. The Digihelic® Controller is the ideal instrument for pressure, velocity and flow applications, achieving a 0.5% full scale accuracy on ranges from 5 to 100 in. w.c.

The Digihelic® Controller allows the selection of pressure, velocity or volumetric flow operation in several commonly used engineering units. Two SPDT control relays with adjustable dead bands are provided along with a scalable 4-20 mA process output. The Series DH provides extreme flexibility in power usage by allowing 120/220 VAC and also 24 VDC power which is often used in control panels.

Programming is easy using the menu key to access five simplified menus which provide access to: security level; selection of pressure, velocity or flow operation; selection of engineering units; K-factor for use with flow sensors; rectangular or circular duct for inputting area in flow applications; set point control or set point and alarm operation; alarm operation as a high, low or high/low alarm; automatic or manual alarm reset; alarm delay; view peak and valley process readings; digital damping for smoothing erratic process applications; scaling the 4-20 mA process output to fit your application's range; Modbus® communications; and field calibration.

With all this packed into one product it is easy to see why the Digihelic® Controller is the only instrument you will need for all your pressure applications.

APPLICATIONS

- Dust collection bag filters
- SCFM flow in ducts
- Air flow for industrial ovens
- Filter status
- Clean room pressure
- Fume hood air flow
- Pharmaceutical or bio-medical glove box pressures
- Static pressures in ducts or buildings
- Damper control
- Fan control

SPECIFICATIONS

Service: Air and non-combustible, compatible gases.

Wetted Materials: Consult factory.

Housing Material: ABS plastic, UL approved 94-V-0.

Accuracy: ±0.5% at 77°F (25°C) including hysteresis and repeatability.

Stability: < ±1% per year.

Pressure Limits: Ranges ≤ 2.5 in. w.c. = 2 psi; 5": 5 psi; 10": 5 psi; 25": 5 psi; 50": 5 psi, 100": 9 psi.

Temperature Limits: 32 to 140°F (0 to 60°C).

Compensated Temperature Limits: 32 to 140°F (0 to 60°C).

Thermal Effects: 0.020%/°F (0.036/°C) from 77°F (25°C).

Power Requirements: High voltage power = 100 to 240 VAC, 50 to 400 Hz or 132 to 240 VDC. Low voltage power = 24 VDC ±20%.

Power Consumption:

Low voltage power = 24 VDC - 130 mA max;

High voltage power = 100 to 240 VAC, 132 to 240 VDC - 7VA max.

Output Signal: 4-20 mA DC into 900 ohms max.

Zero & Span Adjustments: Accessible via menus.

Response Time: 250 ms.

Display: 4 digit LCD 0.4" height. LED indicators for set point and alarm status.

Electrical Connections: Screw terminals.

Process Connections: Compression fitting for use with 1/8" ID X 1/4" OD tubing (3.175 mm ID x 6.35 mm OD).

Enclosure Rating: Face designed to meet NEMA 4X (IP66).

Mounting Orientation: Mount unit in horizontal plane.

Size: 1/8 DIN.

Panel Cutout: 1.772 x 3.620 in (45 x 92 mm).

Weight: 14.4 oz (408 g).

Serial Communications: Modbus® RTU, RS485, 9600 baud.

Agency Approvals: CE, UL.

SWITCH SPECIFICATIONS

Switch Type: 2 SPDT relays.

Electrical Rating: 8 amps at 240 VAC resistive.

Set Point Adjustment: Adjustable via keypad on face.

One Control for all your Pressure Applications

Reduces Instruments, Inventory, Installation Time and Cost

Compact 1/8 DIN housing reduces panel space.

Set Point Status LED Indicators display set point activation. Allows user to view process status from a distance.

"Hot Key" saves time by allowing instant access to set point and alarms. Set points/alarms can be easily adjusted with arrow keys.

Menu Key Scrolls through menus to adjust settings. 5 simple menus allow for quick set-up and reduced installation time.

Adjustable clip for panel mounting.

Set point 2 or alarm output (SPDT). Selectable direct acting control relay with adjustable deadband or high, low or high low alarm.

4-20 mA process output. View process remotely or send signal to PLC. Alleviates purchase of a separate transmitter.

24 VDC power supply. Universal power supply eliminates options, inventory and ordering mistakes.



Selectable Engineering Units in Pressure, Velocity or Flow, programmed on one unit. Alleviates time consuming conversions and flow charts.

Alarm LED Indicator shows alarm activation status. View alarm status from a distance.

Reset button for clearing an alarm when alarm is set for manual operation.

Enter a menu or store a value. From home display press to view full scale range.

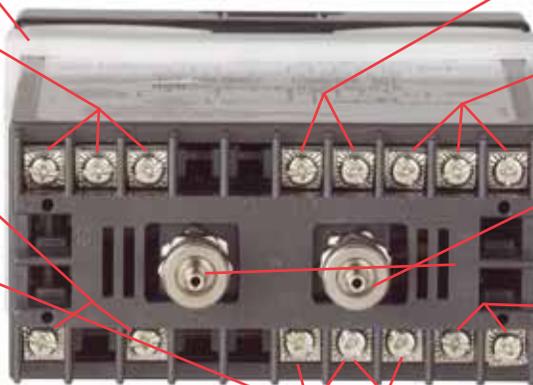
120-240 VAC power supply. Reduce inventory and eliminate lead times with universal power supply.

Set point 1 output (SPDT). Direct or reverse acting control relay with adjustable deadband.

Durable compression fittings for 1/4" O.D. x 1/8" I.D. plastic tubing. Secures tubing in harsh applications where vibration & temperature fluctuations occur.

RS-485 serial communications. View, record, and adjust control settings remotely from a computer with Modbus® protocol.

Remote reset switch for alarm. Acknowledge alarm from remote location. For users that need quick alarm reset from a distance.



Available Pressure Engineering Units

Model	in wc	ft wc	mm wc	cm wc	psi	in Hg	mm Hg	mbar	Pa	kPa	hPa	oz/in ²
DH-002	.2500		6.350	0.635			0.467	0.623	62.28		0.623	0.144
DH-004	1.000		25.40	2.540			1.868	2.491	249.1	0.249	2.491	0.578
DH-006	5.000	.4167	127.0	12.70	.1806	.3678	9.342	12.45	1245	1.245	12.45	2.890
DH-007	10.00	.8333	254.0	25.40	.3613	.7356	18.68	24.91	2491	2.491	24.91	5.780
DH-008	25.00	2.083	635.0	63.50	.9032	1.839	46.71	62.27	6227	6.227	62.27	14.45
DH-009*	50.00	4.167	1270	127.0	1.806	3.678	93.42	124.5		12.45	124.5	28.90
DH-010*	100.0	8.333	2540	254.0	3.613	7.356	186.8	249.1		24.91	249.1	57.80

Bi-Directional* Ranges also available: **DH-012**, Range: 0.25 - 0 - 0.25" w.c.
DH-014, Range: 1.0 - 0 - 1.0" w.c.
DH-015, Range: 2.5 - 0 - 2.5" w.c.
DH-016, Range: 5 - 0 - 5" w.c.
DH-017, Range: 10 - 0 - 10" w.c.

*Velocity and volumetric flow not available on bi-directional range units and models DH-009 & DH-010.

ACCESSORIES

The Mother Node™ and Mini-Node™ converters are an easy solution for utilizing the Digihelic® Controller's RS-485 serial communication and connecting to virtually any PC.

MN-1, Mini-Node™ USB/RS-485 converter

351-9, Mother Node™ silver RS-232 to RS-485 Converter with DB9F Connector.

Includes 120 VAC to 12 VDC adapter

A-266, Digihelic® surface mounting bracket

A-203, 1/8" I.D. x 1/4" O.D. PVC tubing

Digihelic Links™, Communication Software

