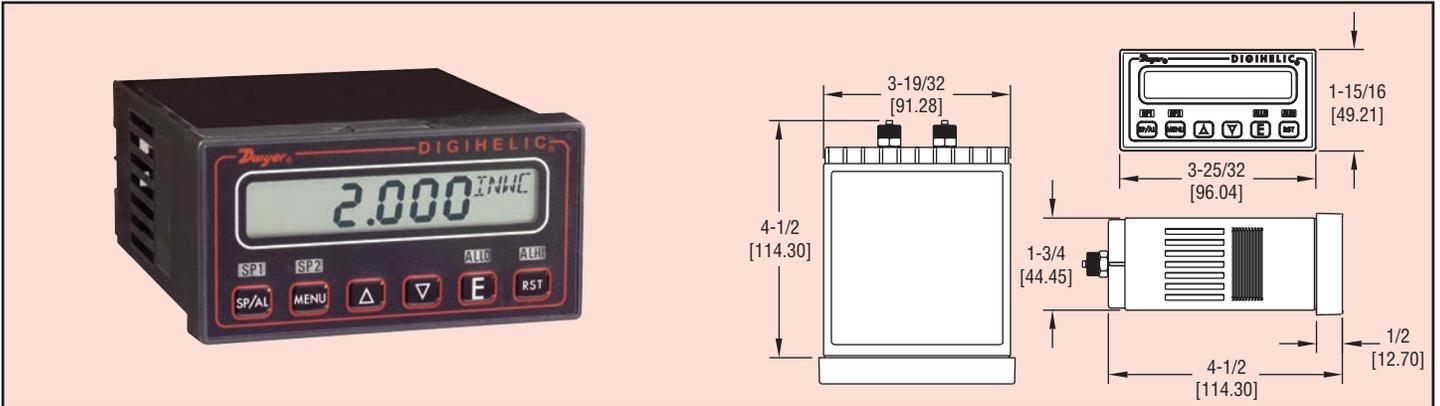




Series
DH

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 deadbands 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.

OPTIONS

Barbed fitting for 3/16" ID tubing -B
For NIST traceable calibration certificate, add suffix -NIST to model numbers.
Example DH-004-NIST.
For factory calibration certificate, add suffix -FC to model numbers.
Example DH-004-FC.

ACCESSORIES

The 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
A-266, Digihelic® surface mounting bracket
A-203, 1/8" ID x 1/4" OD PVC tubing
Digihelic Links™, Communication Software

Available Pressure Engineering Units												
Model	in w.c.	ft w.c.	mm w.c.	cm w.c.	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

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 Ω 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). Optional barbed fitting for 3/16" ID tubing.
- 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.

Bi-Directional* Ranges also available:

- DH-012**, Range: 0.25 - 0 - 0.25 in w.c.
- DH-014**, Range: 1.0 - 0 - 1.0 in w.c.
- DH-015**, Range: 2.5 - 0 - 2.5 in w.c.
- DH-016**, Range: 5 - 0 - 5 in w.c.
- DH-017**, Range: 10 - 0 - 10 in w.c.

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

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Process Tubing Options: See page 547 (Gage Tubing Accessories)