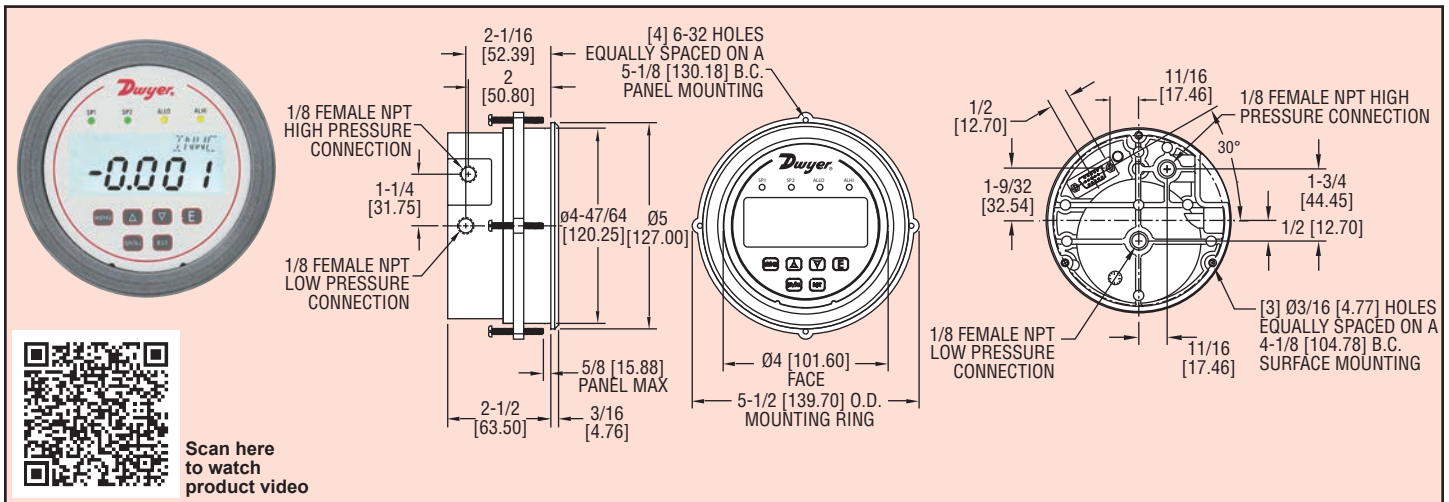




Series  
DH3

# Digihelic® Differential Pressure Controller

Digihelic® Controller in Photohelic® Gage, Square Root Output for Flow



The Series DH3 Digihelic® Differential Pressure Controller is a 3 in 1 instrument possessing a digital display gage, control relay switches, and a transmitter with current output all packed in the popular Photohelic® gage style housing. Combining these 3 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 1% full scale accuracy on ranges down to the extremely low 0.25 in w.c. to 2.5 in w.c. full scale. Ranges of 5 in w.c. and greater maintain 0.5% F.S. accuracy. Bi-directional ranges are also available.

The Series DH3 Digihelic® controller allows the selection of pressure, velocity or volumetric flow operation in several commonly used engineering units. 2 SPDT control relays with adjustable deadbands are provided along with a scalable 4-20 mA process output.

Programming is easy using the menu key to access 5 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 reading; digital damping for smoothing erratic process applications; scaling the 4-20 mA process output to fit your applications range and field calibration.

## APPLICATIONS

- SCFM flow in ducts
- Filter status
- Static pressures in ducts or buildings
- Damper control
- Fan control

Model	Ranges
DH3-002	0-0.25 in w.c.
DH3-003	0-0.5 in w.c.
DH3-004	0-1 in w.c.
DH3-005	0-2.5 in w.c.
DH3-006	0-5 in w.c.
DH3-007	0-10 in w.c.
DH3-009	0-25 in w.c.
*DH3-010	0-50 in w.c.
*DH3-011	0-100 in w.c.
*DH3-013	0.25-0-0.25 in w.c.
*DH3-014	0.5-0-0.5 in w.c.
*DH3-015	1-0-1 in w.c.
*DH3-016	2.5-0-2.5 in w.c.
*DH3-017	5-0-5 in w.c.
*DH3-018	10-0-10 in w.c.

\*Velocity and volumetric flow not available on bi-directional range units and models DH3-010 and DH3-011.

## SPECIFICATIONS

**Service:** Air and non-combustible, compatible gases.

**Wetted Materials:** Consult factory.

**Housing Material:** Die cast aluminum case and bezel.

**Accuracy:** ±1.5% for 0.25" and ±0.25" w.c. ranges. Ranges 0.5" to 5" w.c. and corresponding bi-directional (except ±2.5" w.c.) ±1%; All other ranges: ±0.5% @ 77°F (25°C) including hysteresis and repeatability (after 1 hour warm-up).

**Stability:** < ±1% per year.

**Pressure Limits:** Ranges ≤ 2.5 in w.c.: 25 psi; ±2.5", 5 in w.c.: 5 psi; 10 in w.c.: 5 psi; 25 in w.c.: 5 psi; 50 in w.c.: 5 psi; 100 in w.c.: 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). For 0.25" and ±0.25" w.c. ranges: ±0.03%/°F (±0.054%/°C).

**Power Requirements:** 12-28 VDC, 12-28 VAC 50 to 400 Hz.

**Power Consumption:** 3 VA max.

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

**Zero & Span Adjustments:** Accessible via menus.

**Response Time:** 250 ms (damping set to 1).

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

**Electrical Connections:** 15 pin male high density D-sub connection. 18" (46 cm) cable with 10 conductors included. 4' and 10' cables available.

**Process Connections:** 1/8" female NPT. Side or back connections.

**Mounting Orientation:** Mount unit in vertical plane.

**Size:** 5" (127 mm) OD x 3-1/8" (79.38 mm).

**Weight:** 1.75 lb (794 g).

**Agency Approvals:** CE.

## SWITCH SPECIFICATIONS

**Switch Type:** 2 SPDT relays.

**Electrical Rating:** 1 amp @ 30 VAC/VDC.

**Set Point Adjustment:** Adjustable via keypad on face.

## ACCESSORIES

**A-298,** Flat Aluminum Bracket for flush mounting

**A-301,** Static Pressure Tip for 1/4" metal tubing connection

**A-302,** Static Pressure Tip for 3/16" and 1/8" I.D. plastic or rubber tubing

**A-302F-A,** 303 SS Static Pressure Tip with mounting flange. For 3/16" ID rubber or plastic tubing. 4" insertion depth. Includes mounting screws

**A-370,** Mounting Bracket flush mount bracket. Bracket is then surface mounted. Steel with gray hammertone epoxy finish

**A-489,** 4" Straight Static Pressure Tip with Flange

## OPTIONS

For NIST traceable calibration certificate, add suffix -NIST to model numbers.

Example DH3-004-NIST.

For factory calibration certificate, add suffix -FC to model numbers.

Example DH3-004-FC.

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