

## Model DW7C DC-DC



## Submersible\* Displacement Transducer

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### DESCRIPTION

Model DW7C submersible displacement transducer is often ideal for drilling, mining, and hydraulic engineering applications which require a displacement transducer with a stainless steel, waterproof construction. This model may be used as direct

measuring linear displacement devices or positional feedback elements in dynamic systems. They are suitable for submersion in fresh water and some corrosive fluids for long periods.

### FEATURES

- $\pm 0.25$  % non-linearity
- Submersible
- Stainless steel construction
- Easy to operate
- 5 m [16 ft] submersible mating connector (standard)
- $\pm 12.7$  mm to 101.6 mm range [ $\pm 0.5$  in to  $\pm 4.0$  in range]
- Infinite resolution
- Single or dual supply wiring (field selectable)
- Reverse polarity protected
- Captive guided armature
- Not RoHS compliant

# Model DW7C DC-DC

## PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Stroke range	±12,7 mm to 101,6 mm [±0.5 in to 4 in]
Non-linearity (max.)	±0.25 % full scale
Output sensitivity	See table

## ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-40 °C to 70 °C [-40 °F to 158 °F]
Temperature effect, zero (max.)	0.005 % full scale/°F
Temperature effect, span (max.)	0.015 % full scale/°F
Pressure rating, standard	150 psi, up to 3000 psi with cable options

## ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Element type	dc-dc displacement transducer
Input supply (acceptable)	±10 Vdc to 20 Vdc unregulated (45 mA max.) or 20 Vdc to 40 Vdc unregulated (45 mA max.)
Electrical termination	Submersible mating connector with 5.03 m [16.5 ft] cable

## MECHANICAL SPECIFICATIONS

Characteristic	Measure
Case material	Stainless steel
Probe material	Stainless steel
Armature type	Captive guided
Probe thread	M5 x 0.8 in
Spring force (max.)	Not applicable

## RANGE CODES

Range Code	Available ranges
HP	±12,7 mm [±0.5 in]
HQ	±25,4 mm [±1.0 in]
HR	±50,8 mm [±2.0 in]
HS	±76,2 mm [±3.0 in]
HT	±101,6 mm [±4.0 in]

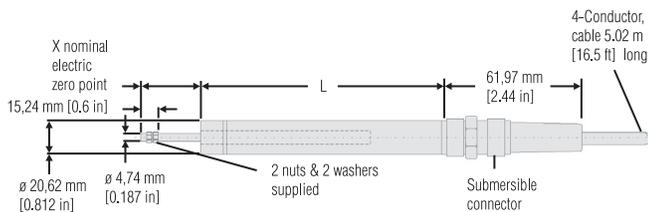
## OPTION CODES

Range Code	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see <a href="http://sensing.honeywell.com/TMsensor-ship">http://sensing.honeywell.com/TMsensor-ship</a> for updated listings.
Stroke ranges	±12,7 mm to 101,6 mm [±0.5 in to 4 in]
Electrical termination	Submersible mating connector with 5.03 m [16.5 ft] cable OPT1. No connector or cable, terminated with solder pins OPT5. Mineral insulated welded stainless steel sheathed cable (3 mm [0.12 in] dia. cable, 50 m [1 ft to 164 ft] lengths available, -55 °C to 200 °C [-67 °F to 390 °F], 200 bar [3000 psi])
Electrical cable orientation	OPT7. Radial output submersible connector with 5.03 m [16.5 ft] cable
Improved linearity	L10. ±0.1 % max. linearity (less than or equal to 101,6 mm [±4.0 in])

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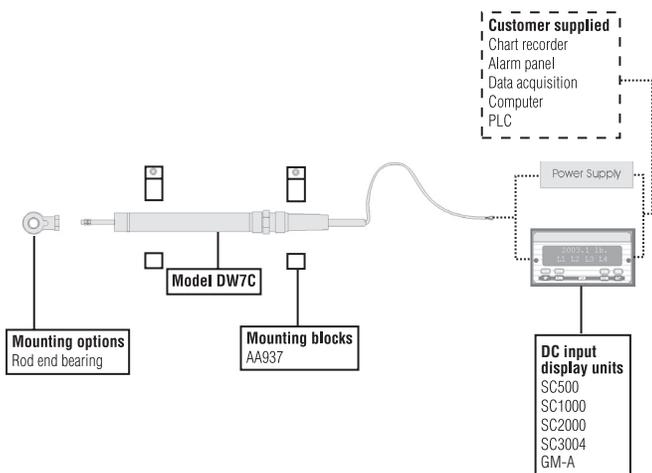
## MOUNTING DIMENSIONS

Range code	Available stroke range	L	X	Weight armature	Typical full scale output
HP	±12,7 mm [±0.5 in]	203,2 mm [8.00 in]	38,1 mm [1.5 in]	21,26 g [0.75 oz]	±5 Vdc
HQ	±25,4 mm [±1.0 in]	231,14 mm [9.10 in]	63,5 mm [2.5 in]	28,35 g [1.0 oz]	±5 Vdc
HR	±50,8 mm [±2.0 in]	354,33 mm [13.95 in]	76,2 mm [3.0 in]	42,52 g [1.5 oz]	±5 Vdc
HS	±76,2 mm [±3.0 in]	470,41 mm [18.52 in]	114,3 mm [4.5 in]	85,05 g [3.0 oz]	±5 Vdc
HT	±101,6 mm [±4.0 in]	502,92 mm [19.80 in]	127,0 mm [5 in]	104,89 g [3.7 oz]	±5 Vdc



For reference only

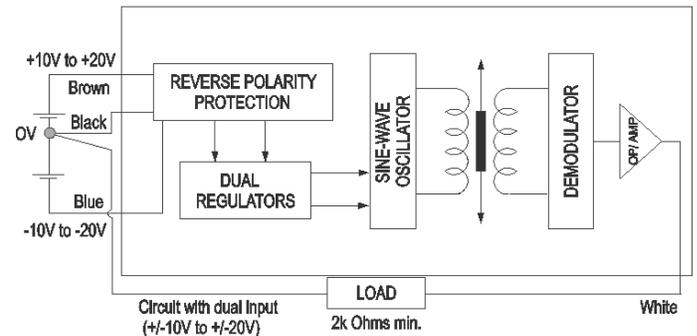
## TYPICAL SYSTEM DIAGRAM



## WIRING CODES

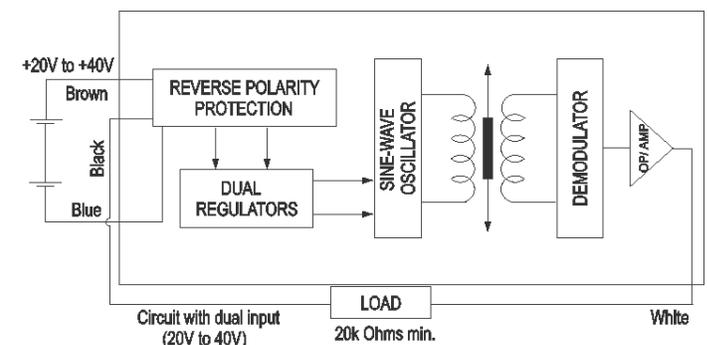
Wire color	Dual power supply
Brown	(+) supply, 10 Vdc to 20 Vdc
Blue	(-) supply, -10 Vdc to -20 Vdc
Black	(-) output common/supply return
White	(+) output, ±5 Vdc (min. 2k ohm across black and white)

Reverse polarity protected with voltage regulator. Cable shield is not connected to transducer.



Wire color	Single power supply
Brown	(+) supply, 20 Vdc to 40 Vdc
Blue	Supply return
Black	(-) output
White	(+) output, ±5 Vdc (min. 20k ohm across black and white)

Reverse polarity protected with voltage regulator. Cable shield is not connected to transducer. Either black or blue must float. If both are grounded or connected together, the unit will be destroyed.



# Model DW7C DC-DC

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## NOTES

\* Not recommended for salt water use. Consult factory for saltwater submersible applications.

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Email inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

### **WARNING** **PERSONAL INJURY**

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARNING** **MISUSE OF DOCUMENTATION**

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

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