

Model DW7U DC-DC



Submersible* Displacement Transducer

DESCRIPTION

Model DW7U 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

- ± 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 [± 0.5 in to ± 4.0 in range]
- Infinite resolution
- Single or dual supply wiring (field selectable)
- Reverse polarity protected
- Free unguided armature
- Not RoHS compliant

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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	Free unguided
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]

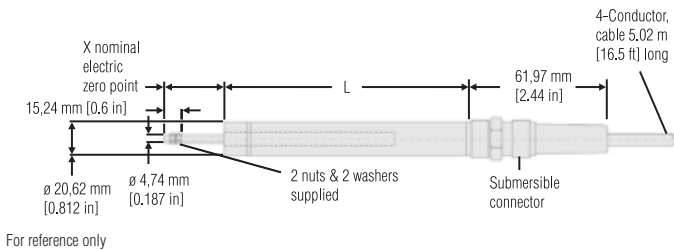
OPTION CODES

Range Code	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see http://sensing.honeywell.com/TMsensor-ship 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])

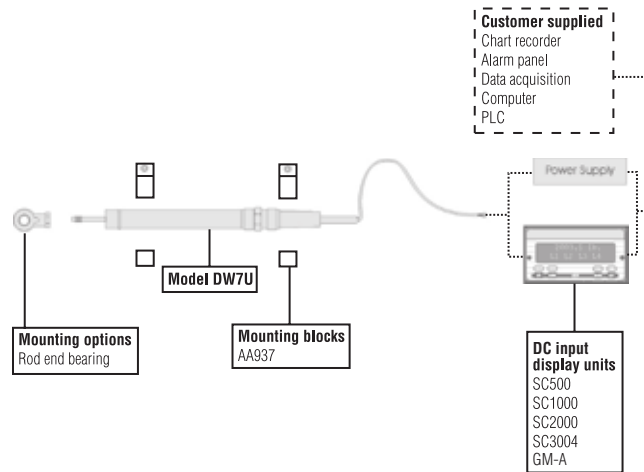
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MOUNTING DIMENSIONS

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



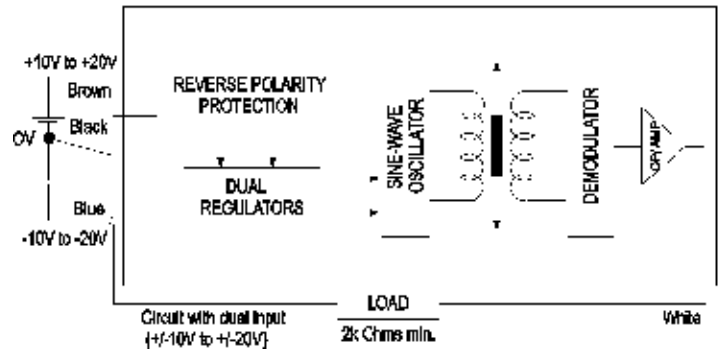
TYPICAL SYSTEM DIAGRAM



WIRING CODES

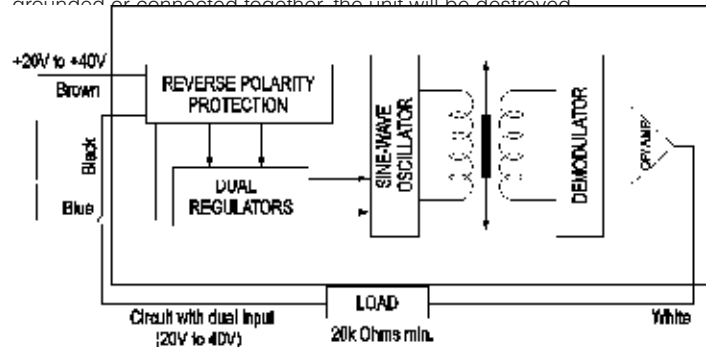
Wire color	Dual power supply
Brown	(+) supply, 10 Vdc to 20 Vdc
Blue	(-) supply, -10 Vdc to -20 Vdc
Black	(-) output common/supply return
White	(+) output, ±5 Vdc (min. 2k ohm across black and white)

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.



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NOTES

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

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847

Email inquiries to 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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