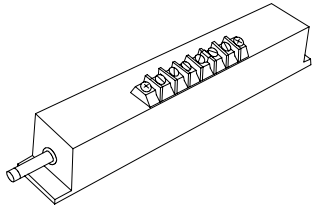


Valve Position Transducer

Bently Nevada™ Asset Condition Monitoring



Description

A complete Turbine Supervisory Instrumentation System (TSI) should include measurement of governor valves on the steam turbine. By measuring the opening of these valves, you can monitor and adjust the amount of steam that flows to the individual valves in the group to provide the highest machine operating efficiency.

The 18639 Valve Position Transducer consists of an AC Linear Variable Differential Transformer (LVDT) that connects to the governor valve and measures valve opening. The LVDT has an internal nickel-iron core that moves in and out of a stainless steel casing. This casing contains primary and secondary coils that provide an electrical output based on the position of the core.

The AC LVDT Valve Position Transducer system must be attached to the 3500/45 Position Monitor or the 3300/70 Dual Valve Position Indicator to measure valve position. The 1-, 2-, and 4-inch models can also measure steam turbine case expansion for high temperature applications when used with the 3500/45 monitor.

The transducer may require a core connecting rod to link up with a flange on the governor valve. This rod is made of aluminum and is available in six lengths.

Specifications

Electrical

Linearity:

0.25% of full-scale

Null Voltage:

0.5% of full-scale, maximum

Environmental Limits

Operating

Temperature:

-54 °C to +149 °C (-65 °F to +300 °F)

Mechanical

Height:

50.8 mm (2.0 in)

Option -04 has a height of 69 mm (2.7 in).

Width:

31.8 mm (1.25 in)

Option -04 has a height of 50.8 mm (2.0 in).

Length:

18639-01: 165 mm (6.50 in).

18639-02: 194 mm (7.64 in).

18639-04: 546 mm (21.5 in).

18639-05: 280 mm (11.01 in).

18639-06: 352 mm (13.85 in).

18639-07: 481 mm (18.92 in).

18639-08: 810 mm (31.9 in).

18639-09: 424 mm (16.7 in).

Weight:

Typically, 1.1 kg (2.4 lb)

Ordering Information

18639 AC LVDT Valve Position Transducer Assembly (ac)

18639-AXX

A: Linear Range Option

01	25 mm (1.0 in)
02	51 mm (2.0 in)
04	305 mm (12.0 in)
05	102 mm (4.0 in)
06	152 mm (6.0 in)
07	254 mm (10.0 in)
08	508 mm (20.0 in)
09	703 mm (28.0 in)

Core Connecting Rod

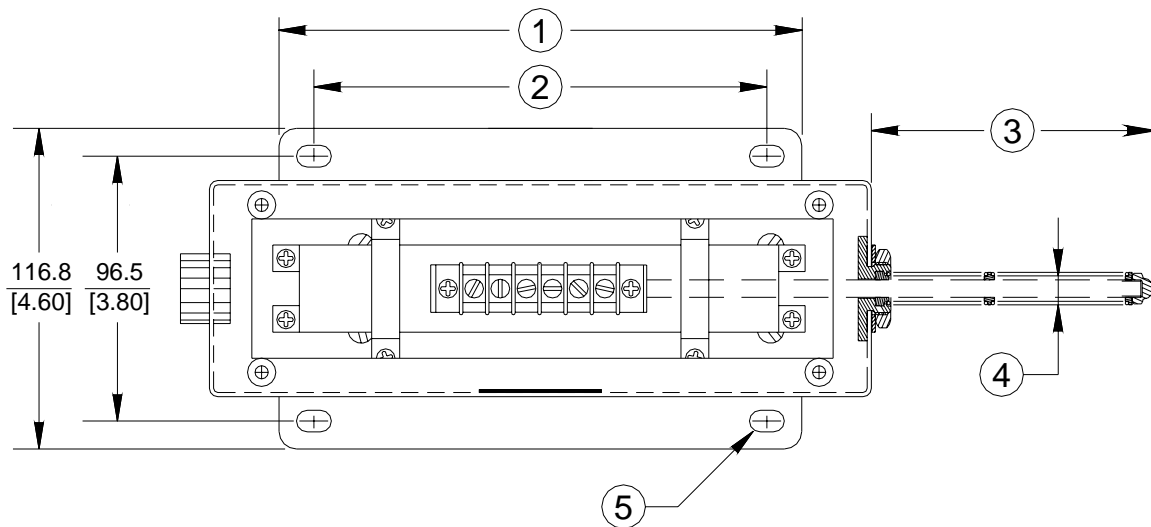
37959-AXX

A: Overall Length Option

01	81.3 mm (3.2 in)
02	111.5 mm (4.39 in)
03	185.7 mm (7.31 in)
04	370.8 mm (14.6 in)
05	118.9 mm (4.68 in)
06	141.2 mm (5.56 in)

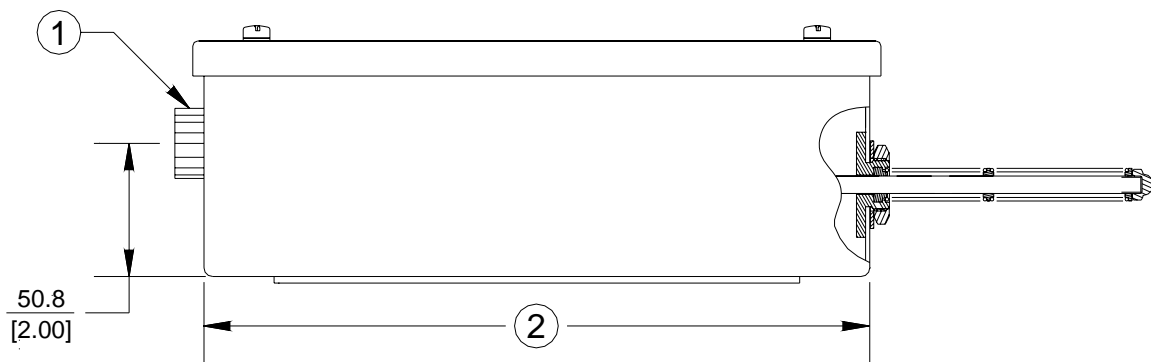
Dimensional Drawing

Note: All dimensions shown in millimetres [inches] except as noted.



1. Dimension "A" (refer to Table 1)
2. Dimension "B" (refer to Table 1)
3. Fully extended position, 330.2 mm [13.0 in]
4. 6.4 mm [0.25 in] diameter
5. 7.9 mm x 12.7 mm [0.312 in x 0.500 in] oval, 4 places

Figure 1: Top View of Valve Position Transducer with Weatherproof Housing Option (cover removed for clarity)



1. 1/2-inch conduit fitting (typical) supplied by but not installed at factory
2. Dimension "C" (refer to Table 1)

Figure 2: Side View of Valve Position Transducer with Weatherproof Housing Option

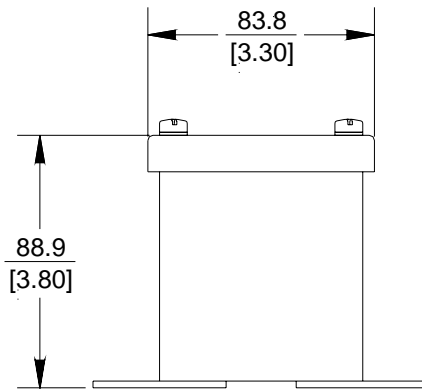


Figure 3: end View of Valve Position Transducer with Weatherproof Housing Option

Table 1: LVDT Weatherproof Housing Information

Weatherproof Housing	Includes ac LVDT	Range in mm (in)	Dimension A in mm (in)	Dimension B in mm (in)	Dimension C in mm (in)
36393-01	18639-01	25 (1.0)	191 (7.5 in)	165 (6.5)	241 (9.5)
36393-02	18639-02	51 (2.0)	191 (7.5)	165 (6.5)	241 (9.5)
78628-01	18639-05	102 (4.0)	260 (10.25)	235 (9.25)	400 (15.75)
77138-01	18639-04	305 (12.0)	572 (22.5)	546 (21.5)	622 (24.5)
78628-02	18639-06	152 (6.0)	260 (10.25)	235 (9.25)	400 (15.75)
27465-01	18639-07	254 (10.0)	368 (14.5)	343 (13.5)	508 (20.0)

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