This document illustrates the main steps involved in the installation of VibroSystM equipment.

Keep in mind that only a general overview is presented, as this document is intended for planning purposes only. Concerns about safety issues or specific installation considerations are not included.

For safe operation and to ensure that your system functions at its optimum capability, the installation and adjustment process should be handled only by VibroSystM trained service specialists.

WICKET-GATE POSITION

LINEAR DISPLACEMENT TRANSDUCER

DESCRIPTION

The Wicket-Gate Position Transducer measures the linear displacement of the servomotor stroke to know the opening position of the gates on hydrogenerators. Various models are available for different measuring ranges up to 12.7 m *(500 in.)*; to be specified. The 4-20 mA analog output is connected to the ZOOM Processing Unit for integration of gate opening monitoring.

The transducer is attached to a fixed body (cylinder head) and the connecting cable to a moving element (end of stroke). A constant torque spring controls the cable tension while a cable extension rotates a precision potentiometer. The long-life stainless steel cable is replaceable.

APPLICATIONS

- Measurement of servomotor stroke to monitor wicket-gate opening (position) on hydrogenerating machines
- Connection to VibroSystM ZOOM® System

FEATURES

- High precision linear displacement measurement
- Various models available for measuring ranges between 0-25 cm *(0–10 in.)* and 0–12.7 m *(0–500 in.)*; commonly 0–50 cm *(0–20 in.)* supplied; To be specified by customer
- 4-20 mA analog output
- Long-life stainless steel replaceable cable 0.38 mm *(0.015 in.)* diameter
- Precision hybrid potentiometer
- Accuracy: ±0.15% F.S. for ranges between 0–25 and 0–63 cm *(0–10 to 0–25 in.)*; ±0.1% F.S. for ranges above 0–72 cm *(0–30 in.)*
- External +24 VDC power supply required via 4-20 mA signal loop

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WICKET-GATE POSITION TRANSDUCER GENERAL SPECIFICATIONS

Operating

• Ranges	0–25 cm up to 0–12.7 m *(0–10 in. up to 0–500 in.);* To be specified by customer
• Common Ranges	0–50, 0–76, 0–101 cm *(0–20, 0–30, 0–40 in.)*
• Accuracy	±0.15% full scale for ranges 0–25 to 0–63 cm *(0–10 to 0–25 in.)*, ±0.1% full scale for ranges above 0–76 cm *(0–30 in.)*
• Resolution	Infinite
• Output	4-20mA ±0.16mA at set points

Power

• Input Voltage	14–40 VDC max.
• Input Current	3 to 30 mA max.
• Input/Output	2-wire loop powered
• Protection	Reversed polarity

Environmental

• Operating Temperature	-18° to 93°C *(0° to 200°F)*
• Humidity	95% RH at 24°C *(75°F)*
• Vibration	20 g, 20–2 kHz

Physical Characteristics

• Body	Anodized and powder coated aluminum	
• Cable	Stainless steel 0.38 mm *(0.015 in.)* dia.	
• Tension	Approx. 24 oz.	
• Dimensions (common range models)		
- Width	13.3 cm	*(5.25 in.)*
- Height	5.7 cm	*(2.25 in.)*
- Depth	6.7 cm	*(2.63 in.)*

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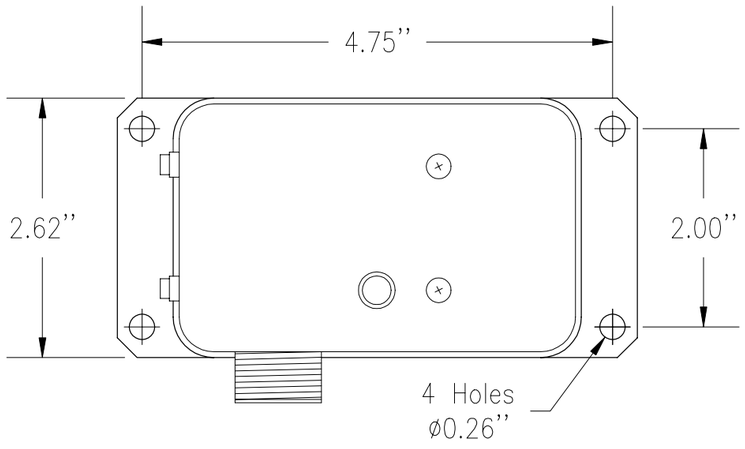
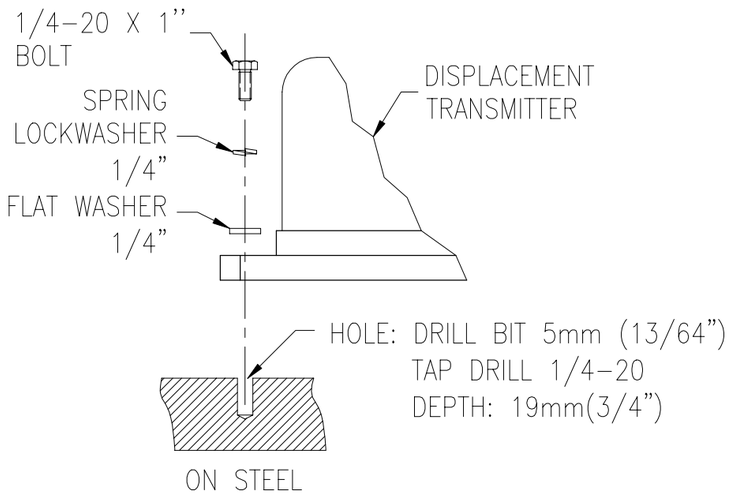
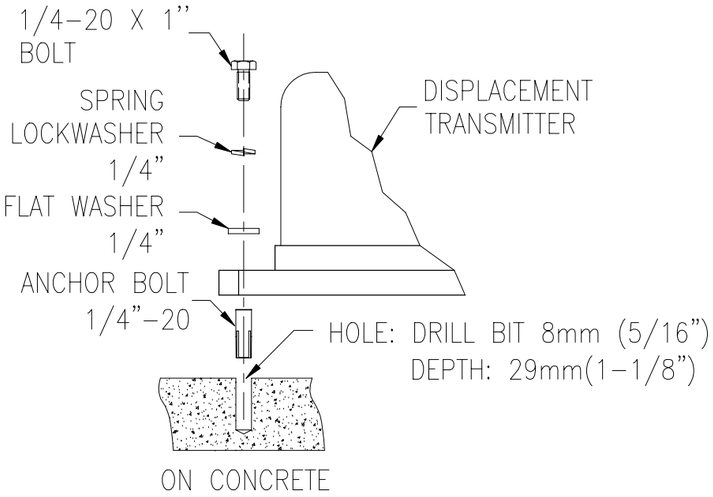
Rév du Produit	Rév. du Dessin	Date	Description	Dessiné par:	Conçu ou révisé par:	Vérifié par:
0	A	18/01/2007	Design initial	Yves Réhel	Yves Réhel	Yves Réhel

DISPLACEMENT TRANSMITTER

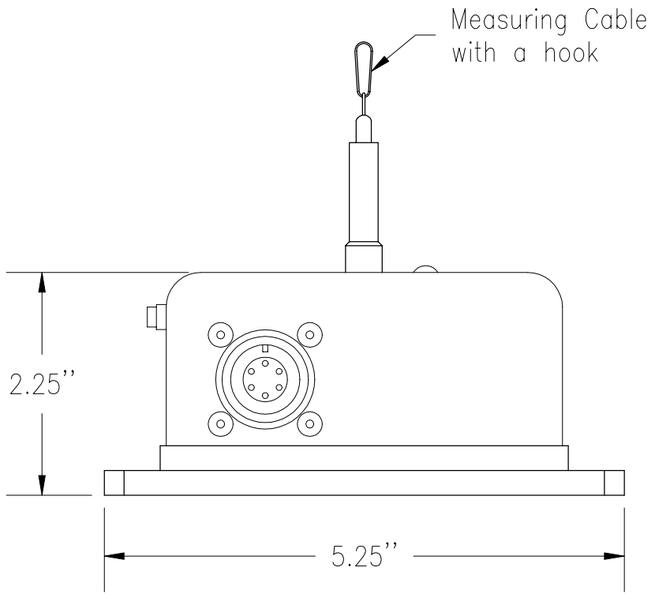




ON STEEL

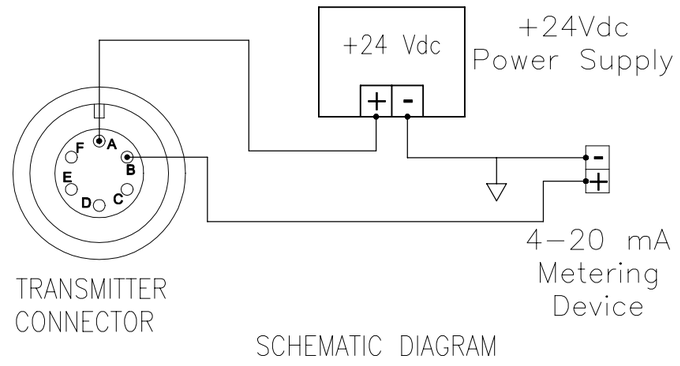


ON CONCRETE



OUTPUT SIGNAL WIRING (4-20 mA loop with +24 Vdc)		
WIRE	FROM TRANSMITTER CONNECTOR	TO ZPU INPUT #1 to #9
POSITIVE LEAD (red)	A (+/PWR)	TERMINAL #6 or 12
NEGATIVE LEAD (black)	B (-)	TERMINAL #3 or 9
SHIELD	NONE	TERMINAL #1 or 7

24 Vdc SUPPLY
4-20 mA OUTPUT SIGNAL (500 ohms max.)
(SINGLE PAIR SHIELDED CABLE; WIRING BY OTHERS)



SCHEMATIC DIAGRAM

CONFIDENTIEL
VibroSystM inc. se réserve le droit de faire des modifications sans préavis pour améliorer le produit.

Sauf indication contraire les tolérences pour les dimensions en métriques sont:		Sauf indication contraire les tolérences pour les dimensions en pouces sont:	
X.XXX = ±0.125mm		X.XXX = ±0.005"	Frac. = ±1/64"
X.XX = ±0.250mm		X.XX = ±0.010"	
X.X = ±0.375mm		X.X = ±0.015"	
X. = ±0.500mm	Ang. = ±0.5°	X. = ±0.020"	Ang. = ±0.5°

	SIGNATURE	DATE
Vérifié par:	Yves Réhel	18/01/2007
Approuvé par:	Jean Pronovost	18/01/2007
PUBLICATION EXTERNE: ☐ INIT:		

VIBROSYSTM
Longueuil, Québec, Canada.

TITRE: Displacement Transmitter (4-20 mA)
Installation and connection details

Échelle: PAS DE FACTEUR D'ÉCHELLE	Feuille: 1 de 1	
No. Produit: 9400-0914A-100	No. Dessin: 9400-0914A-100-D01	Rev.: A

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