



Type 4-20mA Absolute Shaft Encoder & Optional Flow Sensor DLS-00X

User Manual

hohner

OPTICAL ENCODERS



Hohner Corporation

5536 Regional Road 81
Beamsville,
Ontario
Canada
L0R 1B3
Canada

Tel: 1 - (905) - 563 - 4924
hohner@hohner.com



Hohner Automation Ltd

Units 14 - 16
Whitegate Industrial Estate
Wrexham,
LL13 8UG
Wales
United Kingdom

Tel: (44) - 1978 - 363 - 888
uksales@hohner.com



Hohner Eletronica Ltda

Rua João Bombo 754
Parque Itamaraty
Artur Nogueira,
São Paulo
Brasil

CEP - 13-160-000
Tel: (55) - 1938 - 77 - 5214
vendas@hohner.com.br



Hohner Automazione

Piazzale cocchi 10
Vedano olona (VA)
Italia

Tel: (39) 0332 866109
hohner.info@hohner.it



Senso Tec / Im Trade

Moscow
Tel: + 7 845 287 1346
Samara

Tel: + 7 846 373 4939
sales@imtrade.ru



Hohner Elektrotechnik GmbH

Gewerbehof 1
D- 59368 Werne
Deutschland

Tel: + 49 (0) 2389 / 98780
info@hohner-electrotechnik.de

Contents of this Manual

Page 3 – Kit Contents

Page 4 – Overview of Dragon Flow Line Sensor

Page 5 – Fitting The Paddle

Page 6 – Fitting Dragon Flow Line Sensor to Saddle

Page 7 – Safety notice

Page 8 – Access to Terminal Blocks

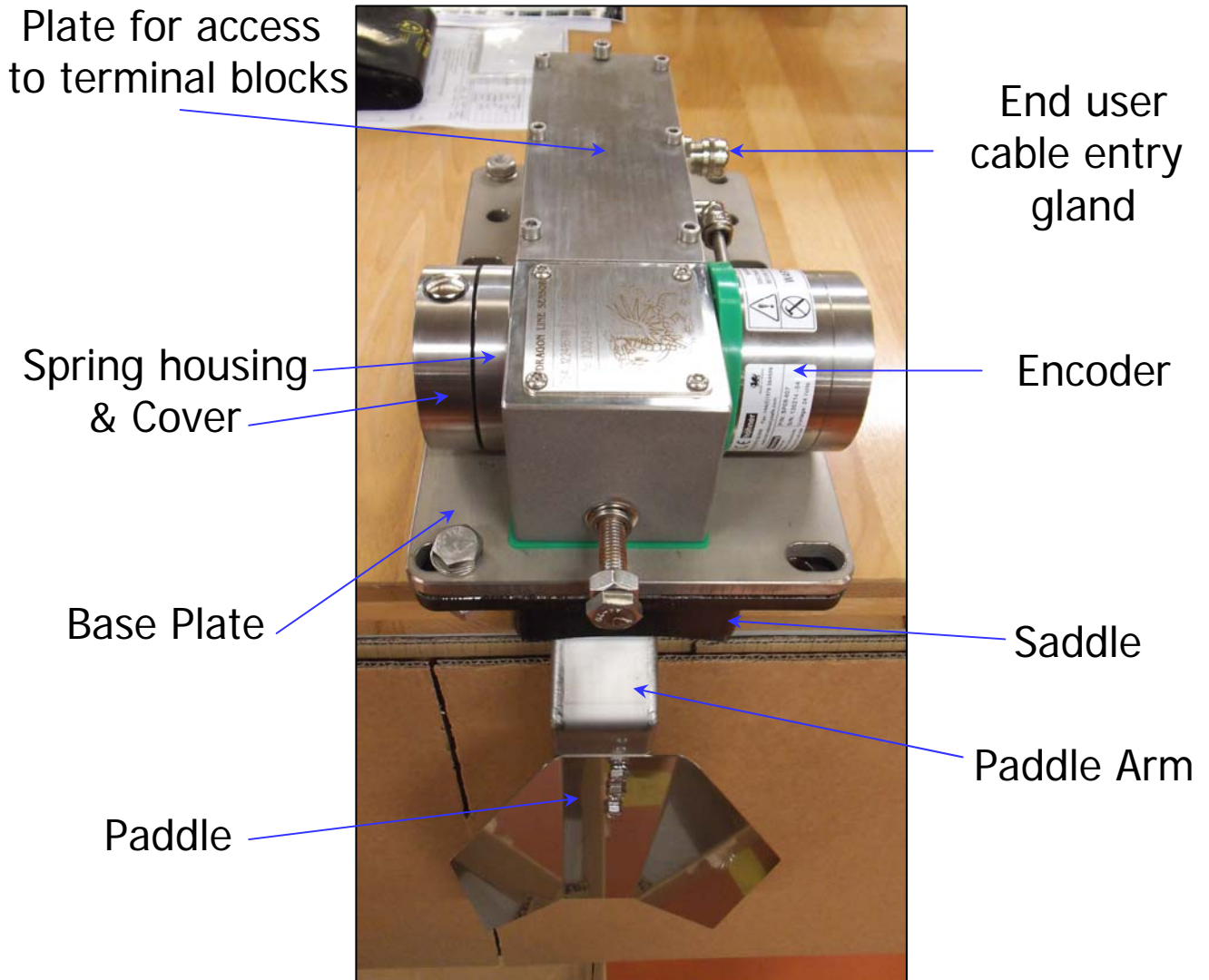
Page 9 – Changing the Tension Spring

Page 10 – Installation Drawing for CSA Certification

Kit Contents

- 1 x Dragon Flow Line Sensor
- 1 x Dragon Flow Line Sensor Saddle (optional)
- 1 x Small Paddle
- 1 x Medium Paddle
- 1 x Large Paddle
- 1 x Grey Tension Spring (factory fitted)
- 1 x Yellow Tension Spring
(15% Weaker than grey Spring)
- 1 x Blue Tension Spring
(15% Stronger than grey Spring)
- 2 x 10mm Spanners
- 1 x 17mm Spanner
- 1 x 4mm Allen Key
- 1 x Arm Handle
- 1 x Spare Sensor Gasket

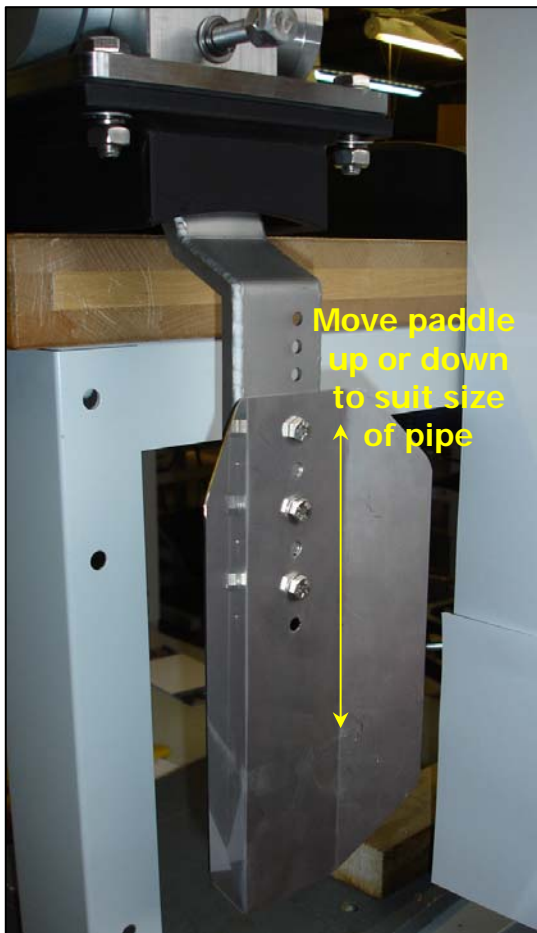
Overview of Dragon Flow Line Sensor



Fitting the Paddle



- Select the paddle to suite the size of pipe that the sensor is being fitted to.

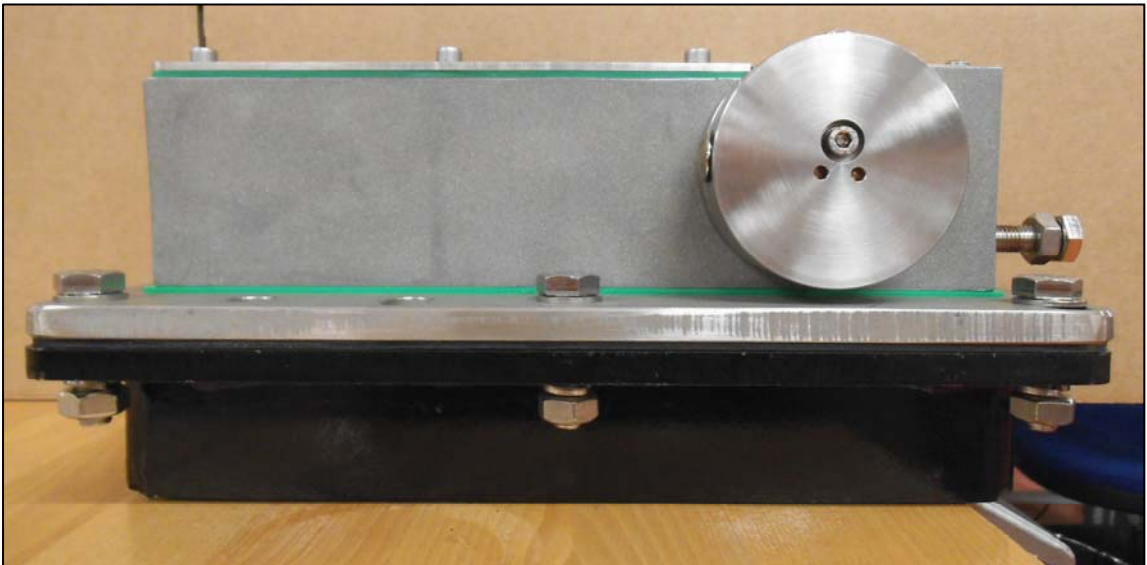


- Fit the required paddle to the arm of the sensor as shown in photo, the paddle can be fitted higher or lower on the arm to suit the size of pipe. Secure the paddle in place with the supplied nuts, bolts and washers using 10mm spanners.
- The procedure is the same for changing the paddle size from one to another

Fitting Sensor to Saddle



- Saddle should be welded to required pipe before Dragon Flow Line Sensor is fitted



- Saddle is now secured to sensor with the supplied nuts, bolts and washers using a 17mm spanner.

Safety Notice

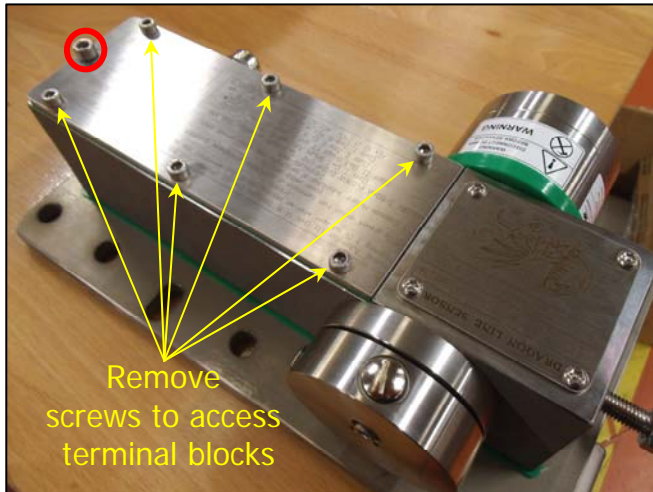
The cover-plate contains important certification and safety information relating to certification bodies

The following Page of this Instruction details how to remove the cover-plate to access to the terminal blocks

After end user access has been completed the cover plate **MUST** be replaced to ensure the integrity of both the product and the certification covering the product

In the event of the cover-plate being lost the product must not be used until a replacement cover-plate is obtained from Hohner Automation Ltd

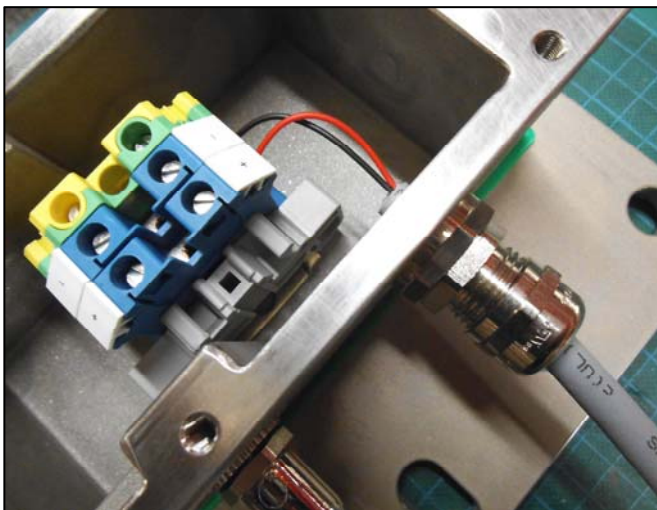
Access to Terminal Blocks



- Remove the six screws from the top plate using a 4mm Allen key

DO NOT REMOVE THE 6MM SCREW (CIRCLED IN RED)

- The plate and gasket can now be raised and rotated away to reveal the connector blocks



- Thread cable through gland and tighten gland with:
20mm spanner for M16 Gland.
22mm spanner for M20 Gland.
**Note* spanners not included in kit*
- Terminate cable + (red) & - (black) to corresponding terminals

- Plate is now replaced and the six screws are re-fitted and tightened using a 4mm allen key

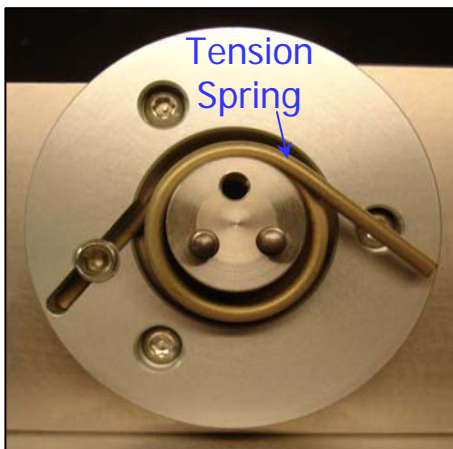
***Please Note... cable in photograph is for example only
Cable is not supplied as part of the Dragon Flow Line Sensor kit***

Changing The Tension Spring

**** It Is important that the tension spring is only changed with the Paddle arm in the fully downward position****



- Remove the spring housing cover by removing retaining screw & washer using a 4mm allen key

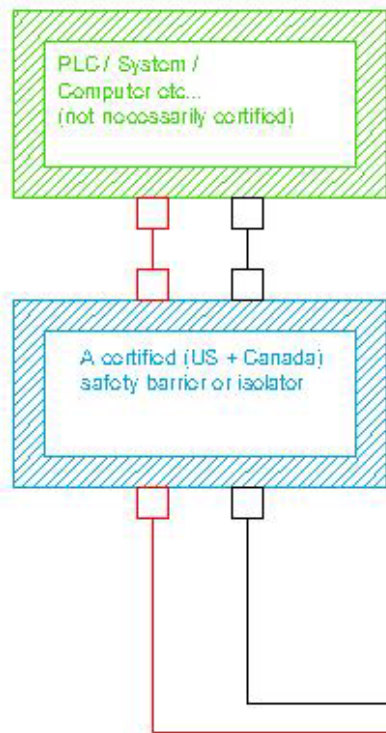


- Remove the exposed spring and fit replacement spring of desired tension
Yellow = 15% Weaker
Blue = 15% Stronger



- Ensuring that spring is in recesses of both spring housing and spring housing cover, twist the spring housing cover clockwise until it locates on the two pins. Refit retaining screw & washer using 4mm allen key

NON HAZARDOUS



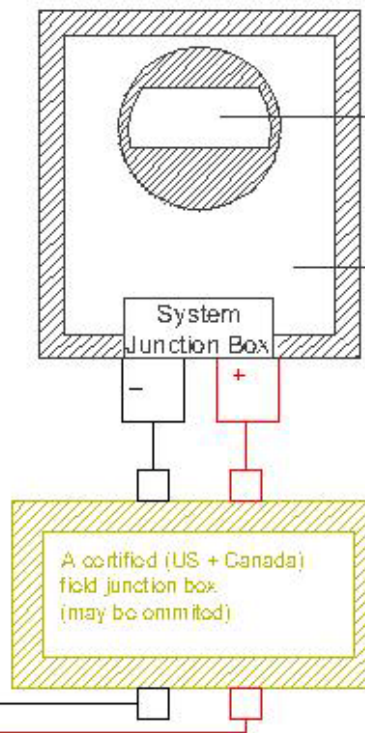
HAZARDOUS



Third Angle Projection

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED
 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED
 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED

4...20 mA Absolute Encoder / FlowLine System



The system comprises of an encoder (mandatory) together with an optional flowline sensor assembly (this can be omitted or incorporated)

Encoder ——— $U_i = 28 \text{ V}$
 $I_i = 150 \text{ mA}$
 $P_i = 0,76 \text{ W}$
 $C_i = 12 \text{ nF}$
 FlowLine System ——— $L_i = 0 \text{ H}$

Hohner
Schedule drawing
No modifications
permitted without
reference to the
Notified Body

Notes:

1) Cable capacitance and inductance plus the IS apparatus unprotected capacitance (C) and inductance (L) must not exceed the allowed capacitance (Ca) and inductance (La) indicated on the associated apparatus

2) Suitable for installation in:
 Class I Div 1, Groups A, B, C and D
 Class II, Div 1, Groups E, F and G
 Class I, Zone 0 Ex Ia IIC
 Class I, Zone 0, AEx Ia IIC
 AEx tD 2L
 AEx la.D 20

3) Barrier / Isolator Notes:
 For obvious reasons the barrier / isolator and field junction box indicated shall be a certified safety barrier / isolator and field junction box for Canada and the US
 a) When installed per control drawing EX-INS-DLS-01, the IS circuit shall comply with Article 504.30 (A) of NFPA 70 and clause F6.1 of CSA C22.1
 b) The wiring between the ABS Absolute shaft encoder to field junction box to safety barrier / isolator shall have a minimum insulation thickness of 0.5mm

Information subject to copyright. This drawing when reproduced shall not be reproduced without written permission.

MATERIAL	SCALE	DRAWN BY	APPROVED / DRAWN BY	DATE	SHEET 1 OF 1
	1:1 = 1:1	Car Gunge	Patric Buerle	24 May 2012	
TITLE: CSA Installation Drawing for 4...20 mA Absolute Encoder / FlowLine				DWG #: Ex-INS-DLS-01	