

DNX8038 Senturion X Speed Transmitter



- Speed Proximity or Magnetic Probe Driver
- Direct 4-20mA loop powered output.
- Trigger Lamp and TTL output
- Auto threshold control
- Switch selectable system cable lengths 5m, 7m and 9m.
- Double screened cable for high noise immunity.
- Snap lock and shake proof cable connection.

The DNX8038 speed transmitter is designed to provide both a current output and TTL signal proportional to speed directly from a proximity probe driver. The unit operates in conjunction with SensoNics Senturion X range of 8mm tip diameter proximity probes.

Instead of utilising rack based hardware the 8038 integrates the speed measurement with the proximity probe driver for direct connection to a PLC or DCS. The unit offers an auto threshold adjustment to cater for a wide range of target scenarios. The number of target slots per revolution is factory set during unit calibration.

Additional interfaces include a facility for magnetic / other probe inputs, selected via a manually operated switch, and a TTL speed output that can be utilised for a 1/REV signal. Valid triggering of the unit is indicated by a flashing green led indicator.

The cable system incorporates snap lock connectors which require no torquing and provide a shake proof solution important for heavy industrial applications. The double screened cable offers robustness in combination with high immunity to interference with optional stainless steel convoluted armour.

System Performance

Measurement Range: Options	0 to 5,000 RPM 0 to 10,000 RPM Others available on request
Hi / Lo Output:	4.0 mA to 20.0 mA +24Vdc 3-wire system
Accuracy:	± 1% (% of FS)
Current Loop Sensitivity: Options	312.5 RPM / mA ± 1 % (0 to 5,000 RPM) 725 RPM / mA ± 1 % (0 to 10,000 RPM)
Resolution:	1 RPM
Target Sensitivity:	Minimum target area 80mm ² Minimum Key (height) / Slot (depth) 1.0mm Target Material 4140 Steel or similar
Available system lengths:	5 m, 7 m and 9 m
Cable length tolerance	
Probe (1 metre):	1.0 m to 1.5 m
Cable Extension (4 metre):	4.0 m to 4.4 m
Cable Extension (6 metre):	6.0 m to 6.6 m
Cable Extension (8 metre):	8.0 m to 8.8 m
Frequency Response:	1 Hz to 10 kHz
Probe Gap Working Range:	0.25 mm – 2.25 mm (10 mils – 90 mils)
Reference Target Material:	ANSI 4140

Probe

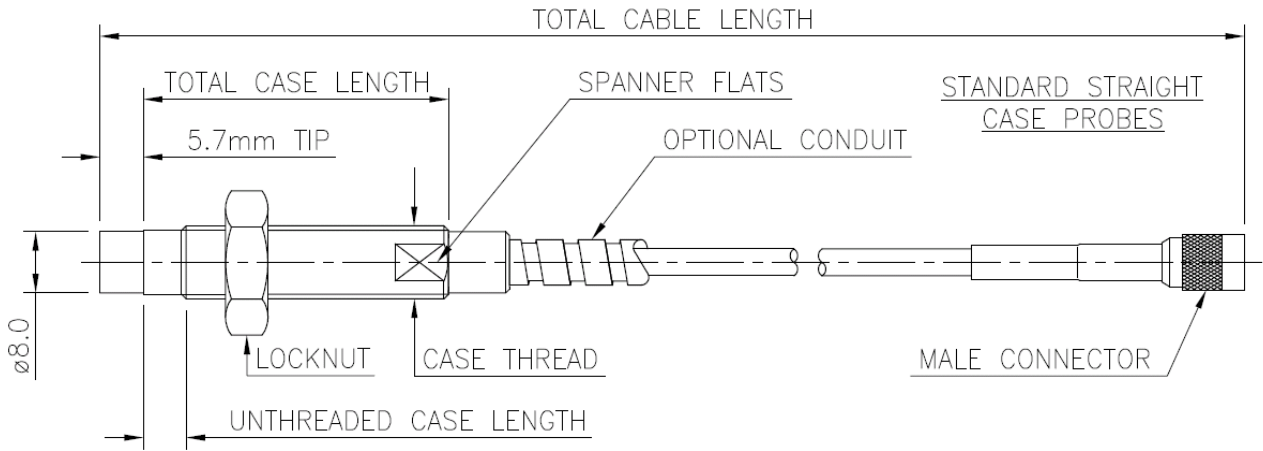
Probe tip diameter:	8.0 mm
Probe tip material:	PPS 40 % Glass Filled
Probe body material:	303 stainless steel
Available probe body lengths:	20 mm to 250 mm 0.8 in to 9.6 in
Cable type:	Triaxial 75Ohm Coaxial FEP outer jacket 3.2 mm outer diameter
Armoured option:	Convolute Stainless Steel 6.4 mm outer diameter
Probe Resistance:	3.1 Ohms ± 0.2 Ohm
Operating Temp Range:	-30 °C to +180 °C
Storage Temp Range:	-40 °C to +180 °C
Minimum target diameter:	16 mm
Effect of target curvature:	+2 % for shaft diameter 150 mm +5 % for shaft diameter 25 mm
Magnetic field effect:	<1 % at 110 mT
Connector	Female Miniature Coaxial

Driver

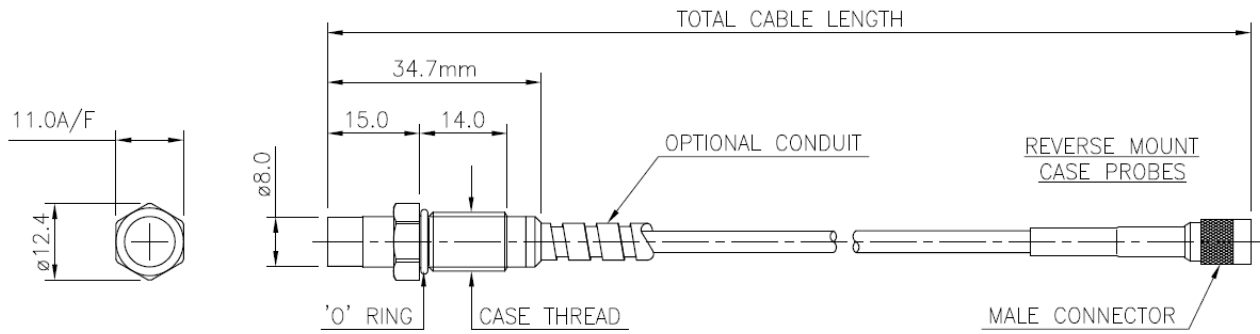
Maximum loop resistance:	1000 Ohms at +35.0V 0.0 Ohms at +15.0V 50 x (V – 15) Ohms
Input Voltage Range:	+15.0 to +35.0 Vdc
Recommended Power:	+24.0 Vdc
Current Consumption:	< 40 mA
TTL+ / TTL- Output:	High > 3.3 V Low < 0.35 V
TTL Max Drive Capacitance:	10 nF at 1.0 kHz
System Length Selection:	Internal switch 5 m, 7 m or 9 m
LED:	Flashing green indicates signal integrity proportional to speed. Note will appear continuous at higher speeds
Magnetic Probe Input	50.0 mV rms minimum
Sensitivity to: Power Supply	Negligible
Transducer Failure:	S/C or O/C, Loop Current <3.8mA (out of range)
Sensor Connector type:	Self Locking Miniature Male Coaxial
Mounting:	Din Rail or Plate
Mass:	250 grams
Operating Temp Range:	-30 °C to +85 °C
Storage Temp Range:	-40 °C to +90 °C

Probe Mechanical Configuration

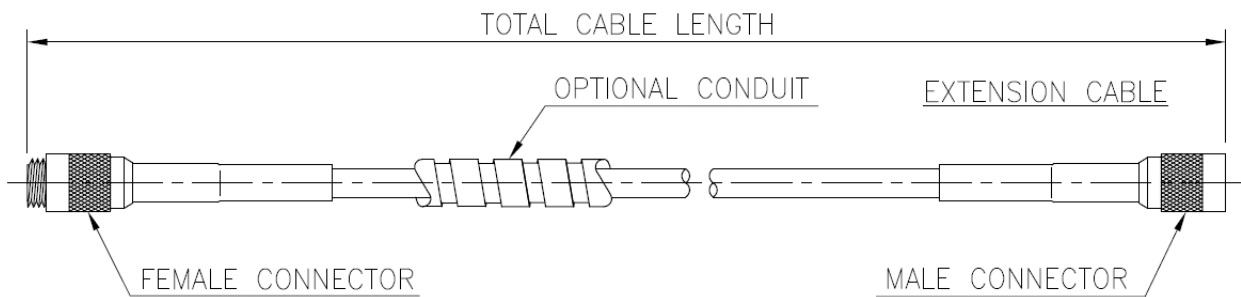
Straight Mount



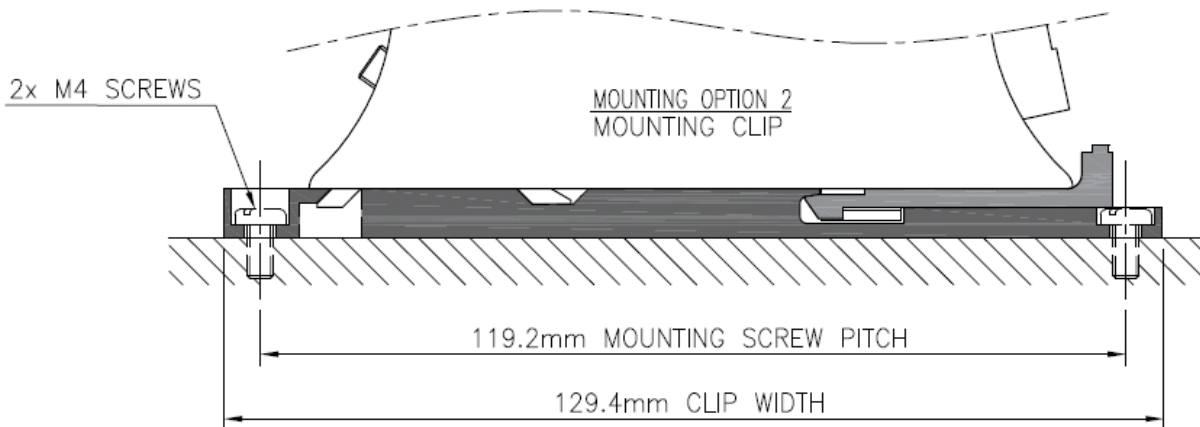
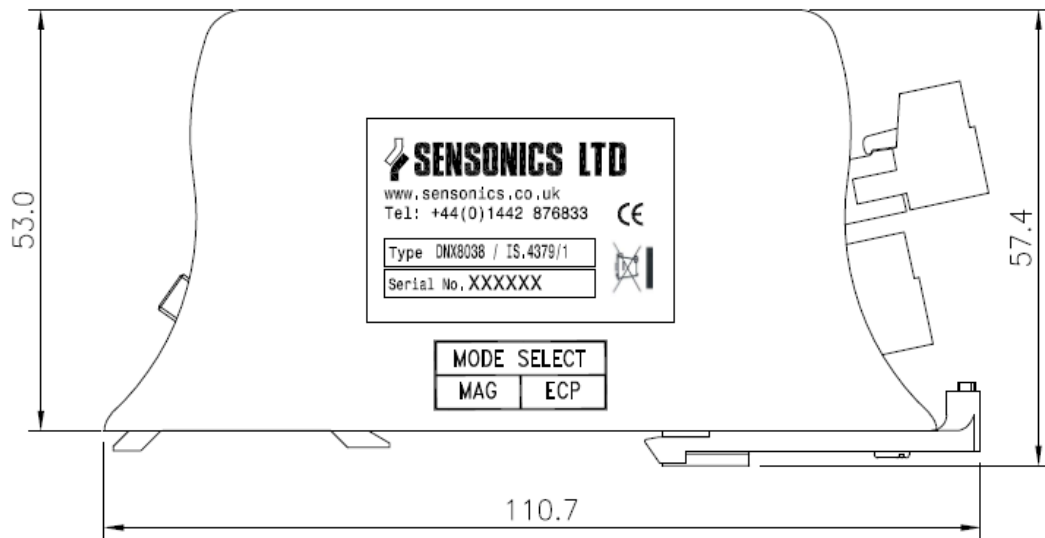
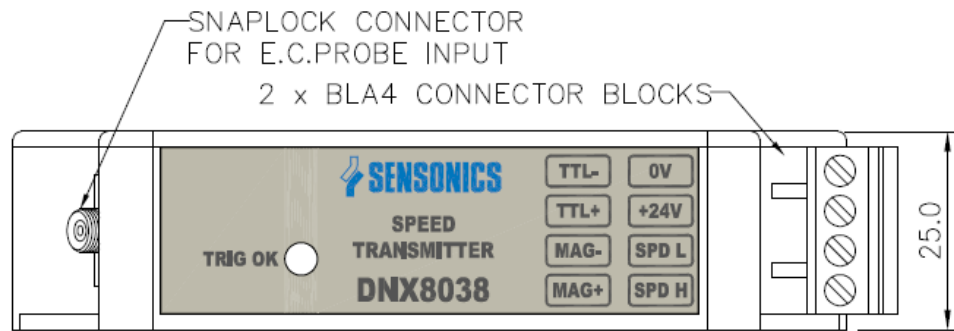
Reverse Mount



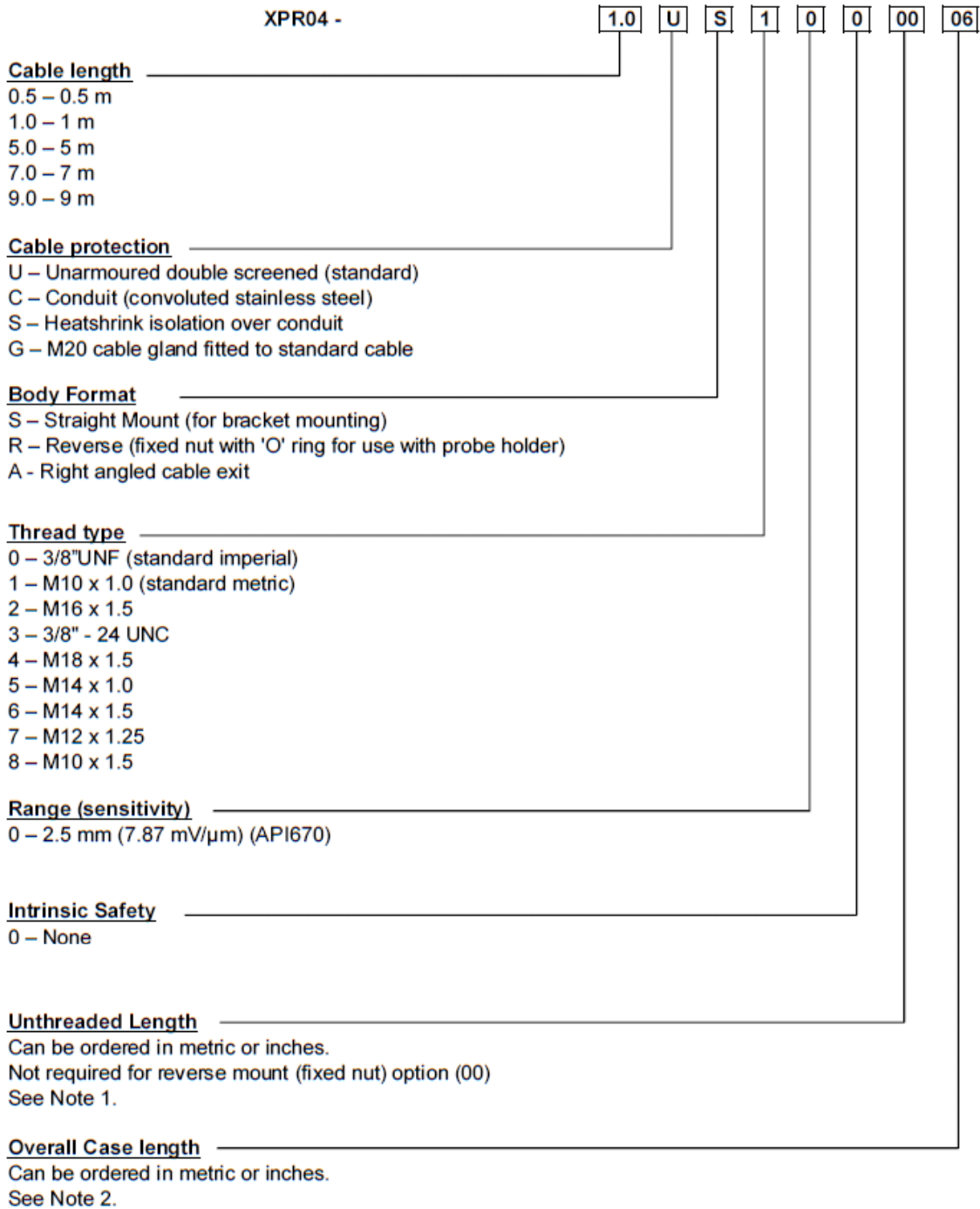
Extension Cable Mechanical Drawing



Driver Mechanical Configuration



Probe Ordering Information



Note 1 - Unthreaded Length Option

Imperial Case

Unthreaded length must be at least 0.8 inches less than the case length. Order in increments of 0.1 in.
 Maximum unthreaded length: 8.8 in.
 Minimum unthreaded length: 0.0 in.
 Example: 04 = 0.4 in.

Metric Case

Unthreaded length must be at least 20 mm less than the case length. Order in increments of 10 mm.
 Maximum unthreaded length: 230 mm.
 Minimum unthreaded length: 0 mm.
 Example: 06 = 60 mm.

Note 2 - Overall Case Length Option

Imperial Case

Order in increments of 0.1 in.
 Maximum case length: 9.6 in
 Minimum case length: 0.8 in
 Example: 24 = 2.4 in

Metric Case

Order in increments of 10 mm.
 Maximum length: 250 mm.
 Minimum length: 20 mm.
 Example: 06 = 60 mm.

Driver Ordering Information

DNX8038 / 5 1 60

System length _____
0 - Mag / Other probe
5 - 5m
7 - 7m,
9 - 9m

Speed Range _____
1 = 0 - 5000 rpm
2 = 0 - 10000 rpm
3 = Other, please specify

Number of Teeth / Slots _____
XX - please specify

Extension Cable Ordering Information

XEC - 4.0 U 0

Cable length _____
4.0 – 4m
4.5 – 4.5m
6.0 – 6m
6.5 – 6.5m
8.0 – 8m
8.5 – 8.5m

Cable protection _____
U – Unarmoured double screened (standard)
C – Conduit (Convolutted SS)

Intrinsic Safety _____
0 – None



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