

## 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:	0 to 5,000 RPM
Options	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:	312.5 RPM / mA ± 1 %
Options	( 0 to 5,000 RPM)  725 RPM / mA ± 1 % ( 0 to 10,000 RPM)
Resolution:	1 RPM
Target Sensitivity:	Minimum target area 80mm <sup>2</sup> 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**

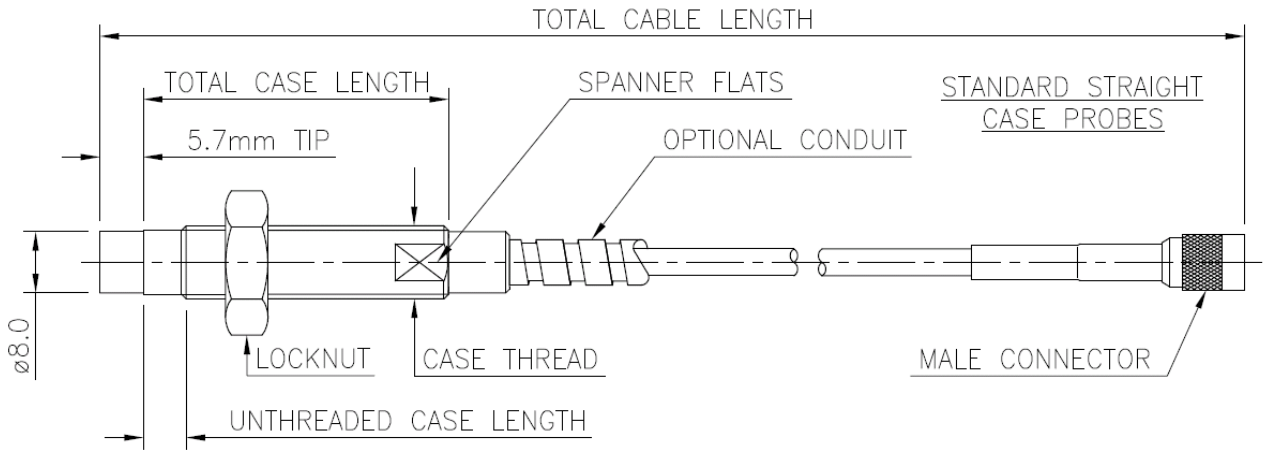
Probe tip diameter:	8.0 mm
Probe tip material:	PPS 40 % Glass Filled
Probe body material:	303 stainless steel
Available probe body lengths:	20 mm to 250 mm 0.8 in to 9.6 in
Cable type:	Triaxial 75Ohm Coaxial FEP outer jacket 3.2 mm outer diameter
Armoured option:	Convuluted Stainless Steel 6.4 mm outer 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**

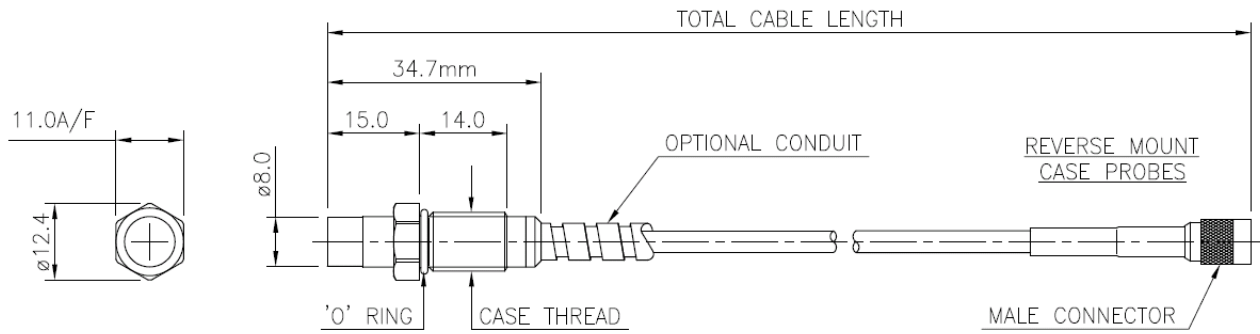
Maximum loop resistance:	1000 Ohms at +35.0V 0.0 Ohms at +15.0V 50 x (V – 15) Ohms
Input Voltage Range:	+15.0 to +35.0 Vdc
Recommended Power:	+24.0 Vdc
Current Consumption:	< 40 mA
TTL+ / TTL- Output:	High > 3.3 V Low < 0.35 V
TTL Max Drive Capacitance:	10 nF at 1.0 kHz
System Length Selection:	Internal 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**

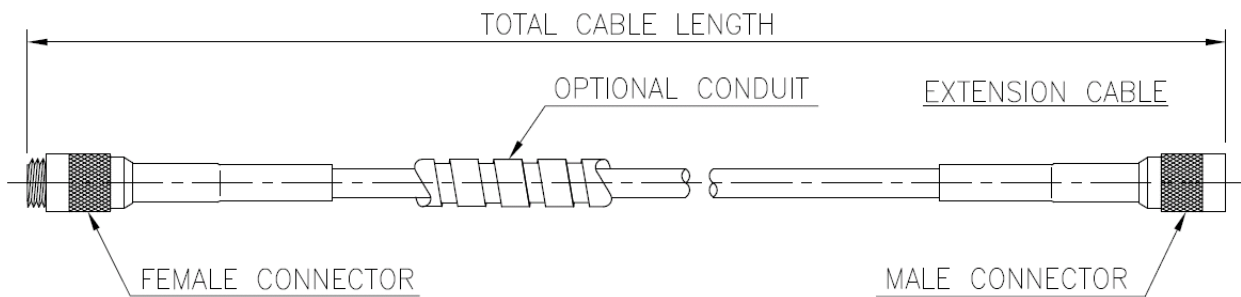
***Straight Mount***



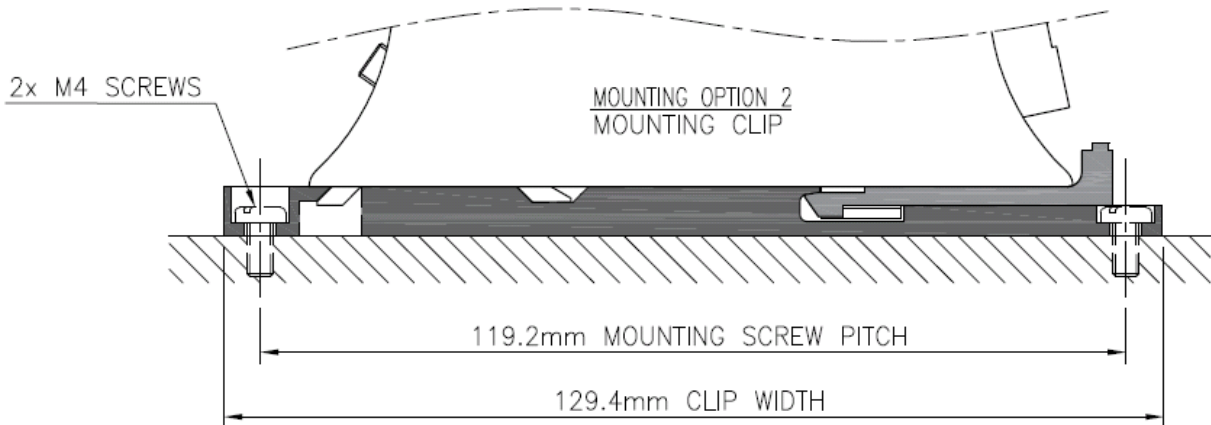
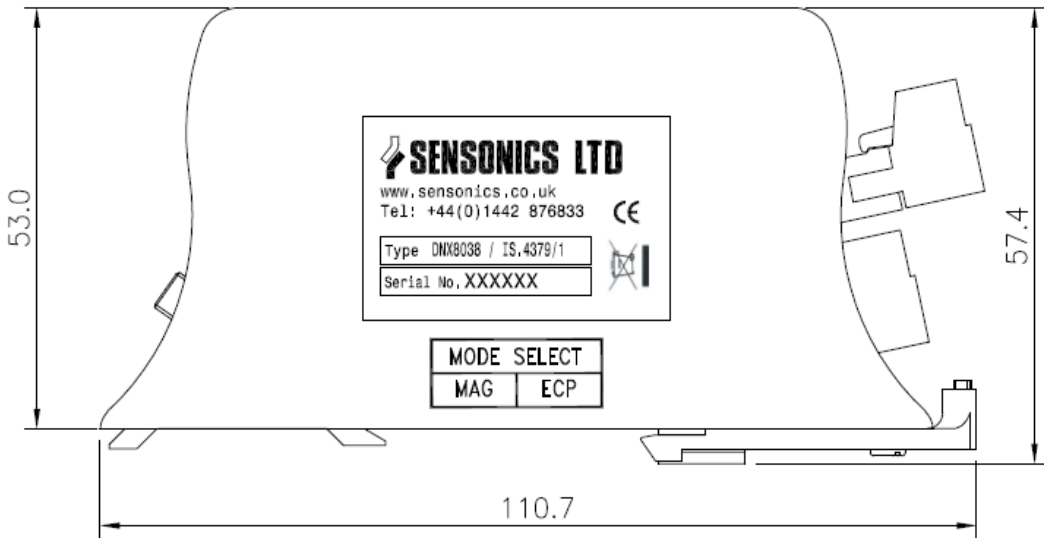
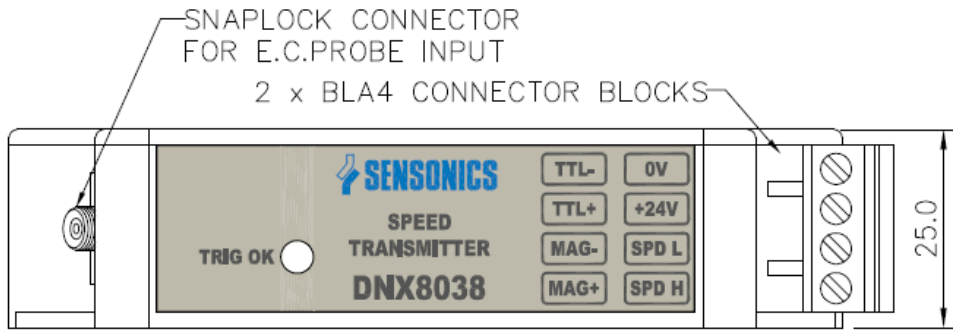
***Reverse Mount***



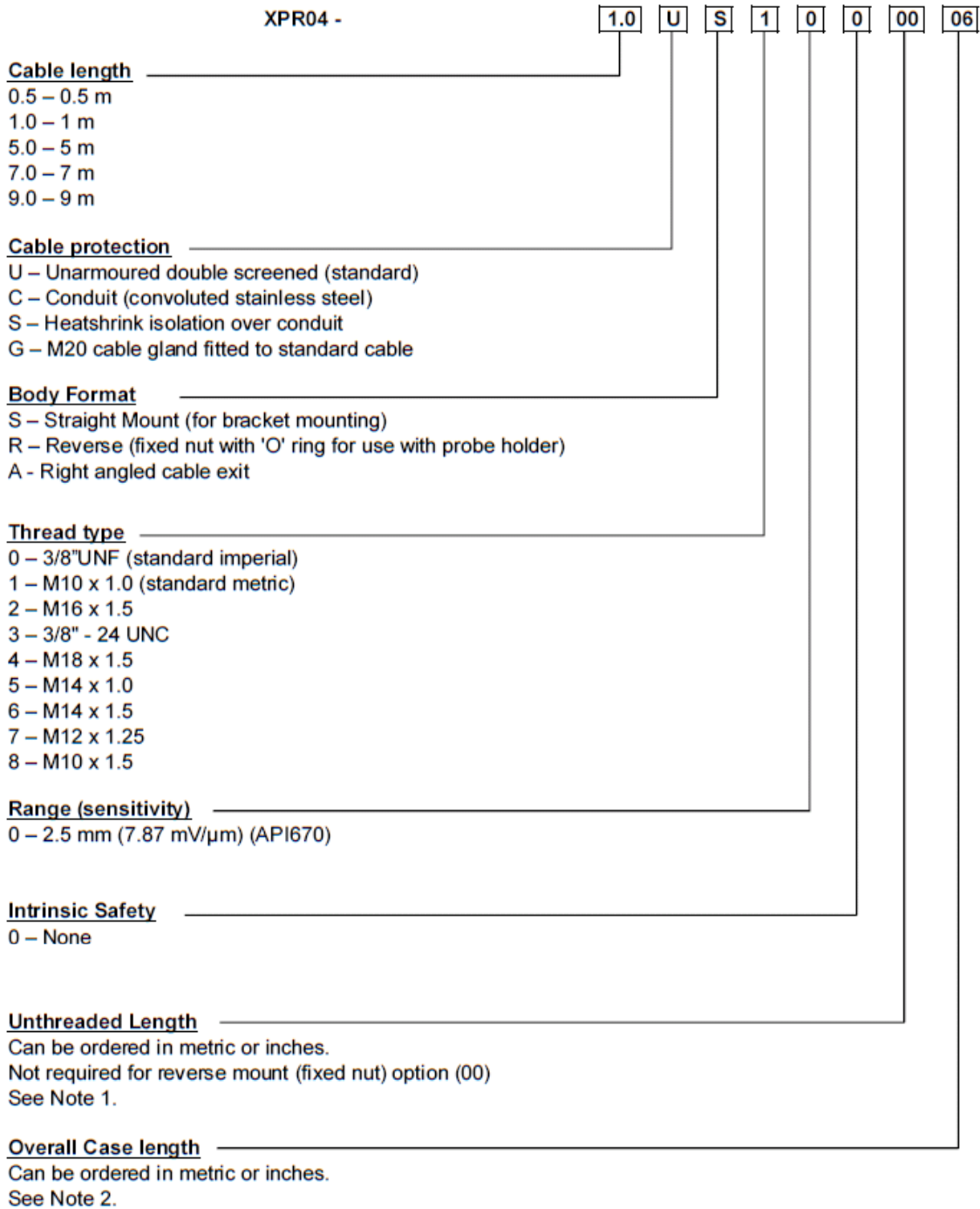
**Extension Cable Mechanical Drawing**



**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**

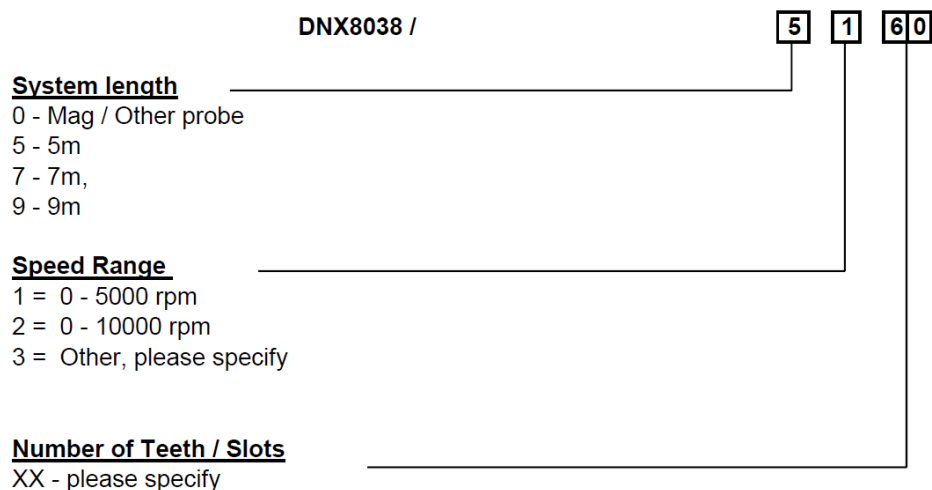
**Imperial Case**

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

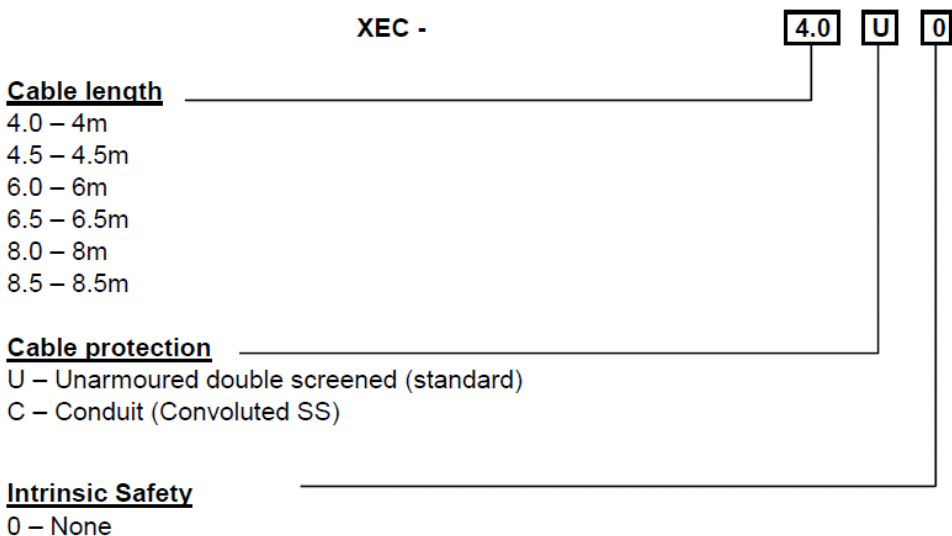
**Metric Case**

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

**Driver Ordering Information**



**Extension Cable Ordering Information**



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