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 torqueing 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
- 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%
  (0 to 5,000 RPM)
- 725 RPM / mA ± 1%
  (0 to 10,000 RPM)

**Resolution:**
1 RPM

**Target Sensitivity:**
- Minimum target area 80mm²
- 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**
- 1.0 m to 1.5 m
- 4.0 m to 4.4 m
- 6.0 m to 6.6 m
- 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:**
- Convoluted 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

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**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:**
- Negligible

**Power Supply**
- 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**

![Straight Mount Diagram]

**Reverse Mount**

![Reverse Mount Diagram]

**Extension Cable Mechanical Drawing**

![Extension Cable Diagram]
Driver Mechanical Configuration

SNAPLOCK CONNECTOR FOR E.C.PROBE INPUT

2 x BLA4 CONNECTOR BLOCKS

SENONICS
SPEED TRANSMITTER
DNX8038

SENONICS LTD

MODE SELECT
MAG | ECP

2x M4 SCREWS

MOUNTING OPTION 2
MOUNTING CLIP

119.2mm MOUNTING SCREW PITCH

129.4mm GAP WIDTH

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Probe Ordering Information

XPR04 -

Cable length
0.5 - 0.5 m
1.0 - 1 m
5.0 - 5 m
7.0 - 7 m
9.0 - 9 m

Cable protection
U - Unarmoured double screened (standard)
C - Conduit (convoluted stainless steel)
S - Heatshrink isolation over conduit
G - M20 cable gland fitted to standard cable

Body Format
S - Straight Mount (for bracket mounting)
R - Reverse (fixed nut with 'O' ring for use with probe holder)
A - Right angled cable exit

Thread type
0 - 3/8"UNF (standard imperial)
1 - M10 x 1.0 (standard metric)
2 - M16 x 1.5
3 - 3/8" - 24 UNC
4 - M18 x 1.5
5 - M14 x 1.0
6 - M14 x 1.5
7 - M12 x 1.25
8 - M10 x 1.5

Range (sensitivity)
0 - 2.5 mm (7.87 mV/μm) (API670)

Intrinsic Safety
0 - None

Unthreaded Length
Can be ordered in metric or inches.
Not required for reverse mount (fixed nut) option (00)
See Note 1.

Overall Case length
Can be ordered in metric or inches.
See Note 2.

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**

**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

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**Extension Cable Ordering Information**

**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 (Convoluted SS)

**Intrinsic Safety**
- 0 - None