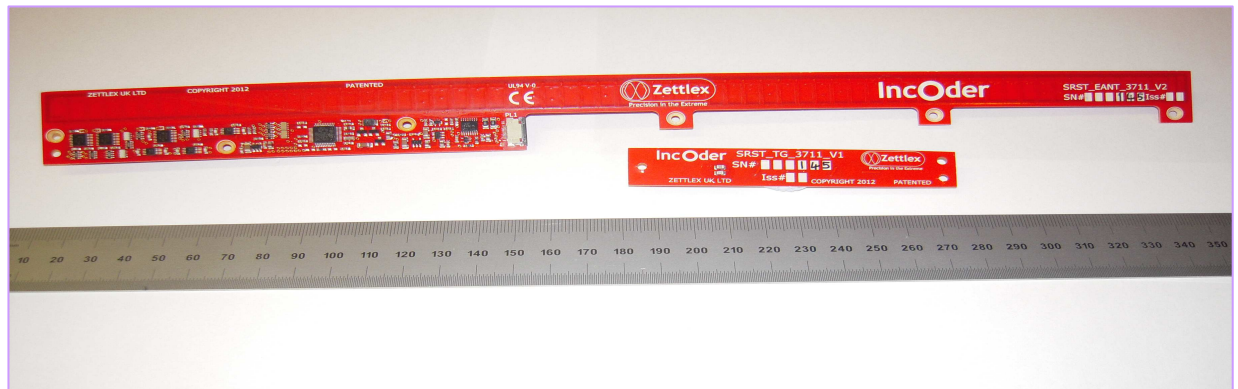


Product Guide – Absolute Linear Transducer Type 3711_V2



No contacts, no bearings, no bushes, no fine wires.....just reliable measurements all day, every day.

Zettlex transducers are **non-contacting, absolute** position measuring devices. They utilise a unique inductive technique and comprise two main components – a Target and a Stator. The Stator is powered from an electrical supply and the Target is passive. A digital electrical output from the Stator shows the position of the Target relative to the Stator.

The 3711 unit is an OEM (unpackaged) transducer for **measurement of linear displacement**. The transducer's Stator & Target can simply be attached to a host product such as an actuator. The transducer is ideally suited to **harsh environments** where electrical contacts or optical transducers would prove unreliable.

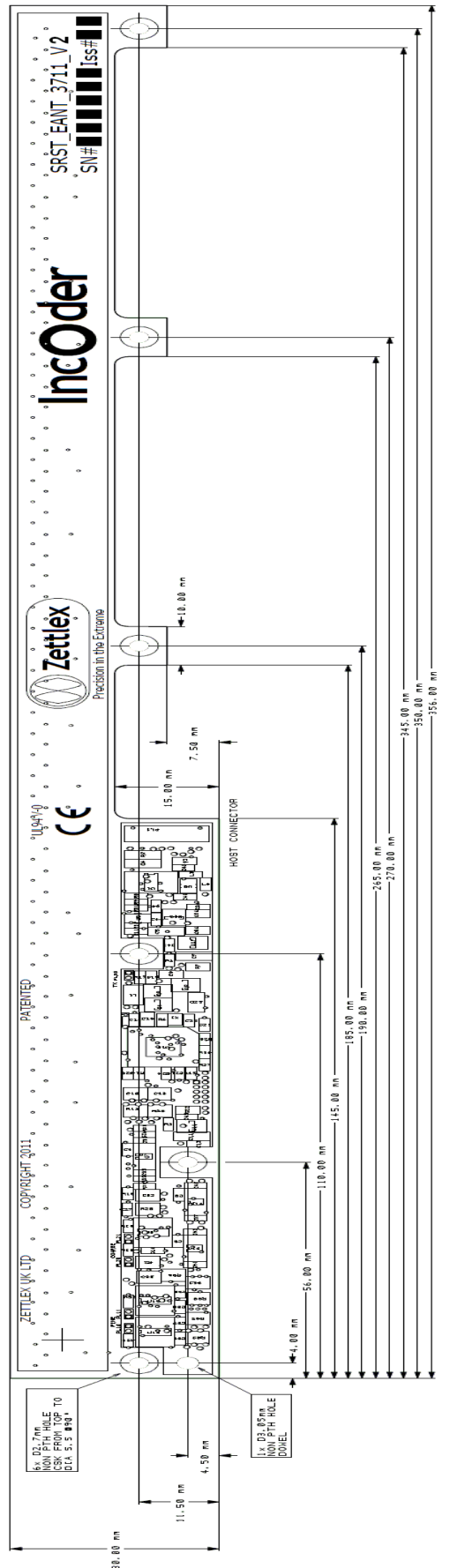
Custom versions are available for OEMs with alternative temperature ranges, mechanical mounts, finer linearity etc. - simply contact Zettlex for further details.

Technical Specification

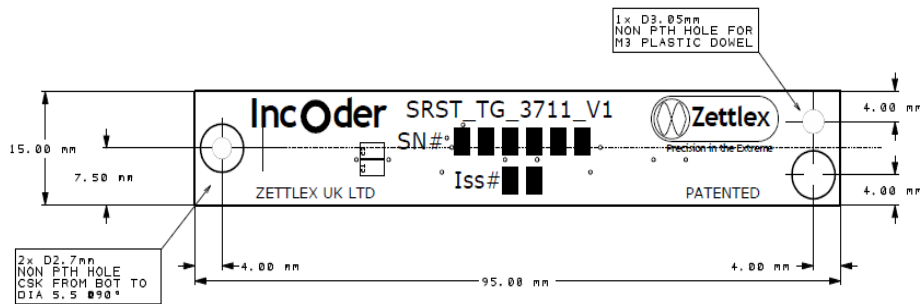
- | | |
|-------------------|--|
| a. Measurement: | Absolute (needs no recal/reset after power loss) |
| b. Full Scale: | 258mm
(centre point = coincident centres of Stator & Target) |
| c. Resolution: | 0,016mm
Equivalent to 14 bits or 16384 points over full-scale |
| d. Repeatability: | ±0,032mm |
| e. Linearity: | ≤0,10mm |

- f. Connector: JST - part number : 11FLZ-SM2-GB-TB(LF)(SN)
- g. Electrical interface: RS422
- h. Data Port: SPI Slave (3 wire)
Salve Select (Sample) Active Low
Clock (SCLK) Idle High
Data (SDO) Change on 1st Clock Edge (falling)
Data (SDO) Read on 2nd Clock Edge (rising)
MSbit First
- i. Data Format: Position & Status (2 Bytes) :-
MSB: Position (8 bits)
LSB: Position (6 MSbits) & Status (2 LSbits)
bit1: Transient Errors if Set
bit0: Checksum Error if Set
Followed by CRC (1 Byte) :-
CRC Format: Dallas One Wire CRC-8
- j. SPI Clock Rate: 1-10MHz
- k. Measurement time: <0,75milliseconds
- l. Max. linear speed: 300mm/second
- m. Supply Voltage: 5VDC
- n. Current Consumption: $\leq 100\text{mA}$
- o. Op. Temp. Range: -20 to 85°C
- p. Storage Temp. Range: -20 to 85°C
- q. Humidity Range: 0 to 99% RH NC
- r. IP rating: 00 (*Units are conformally coated and so unaffected by temporary liquid contact*)
- s. Vibration Rating: IEC 60068-2-6 20g for 10-2000Hz
- t. Sensor operating freq.: 1MHz
- u. External Materials: Acrylic coated FR4 epoxy with nylon spacers.
- v. Dimensions: See overleaf:-

TOP VIEW (THROUGH TARGET)

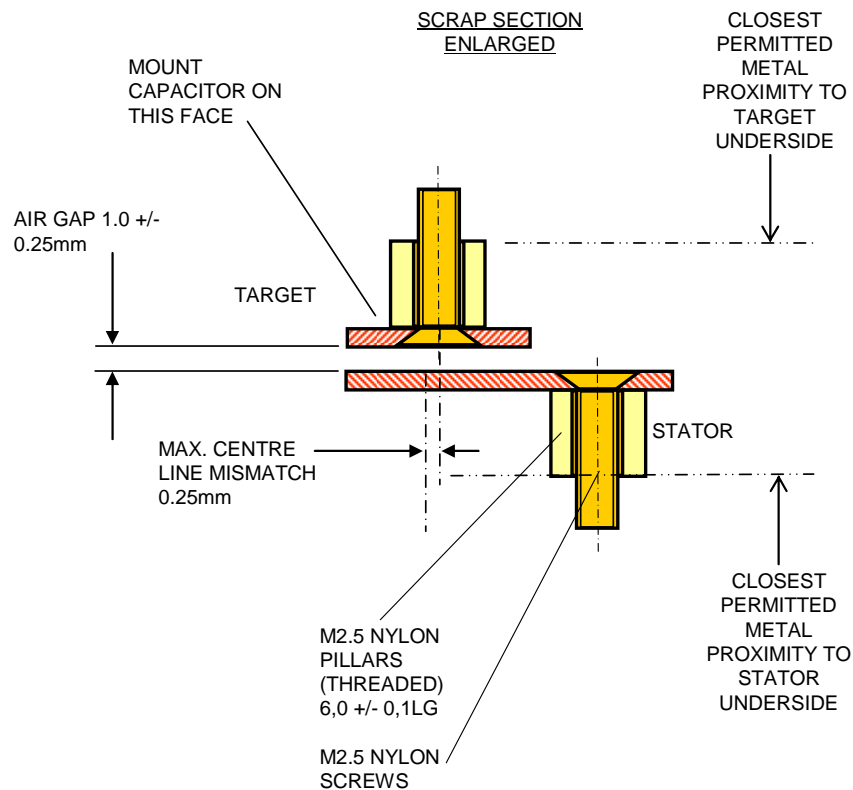


TOP VIEW (BOT SIDE TOWARDS THE ANTENNA)



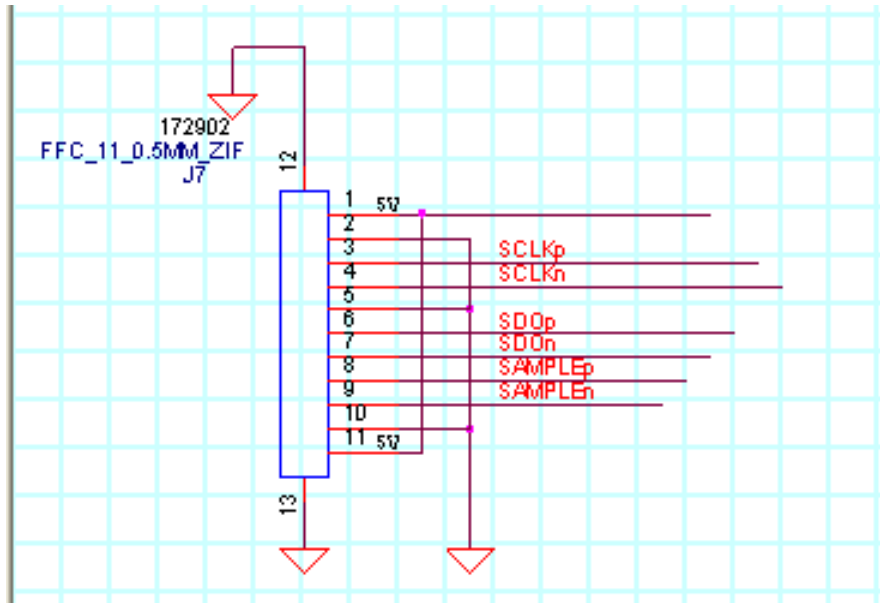
Note – Travel from Left to Right = Increasing Output

PCBs Installation Drawing



Note – air gap should be maintained within limits to ensure stated maximum non-linearity. Air gaps outside this tolerance will increase non-linearity. Generally – up to a limit – non-linearity will increase by +100% for each 100% increase in tolerance band. Resolution and repeatability are generally independent of air-gap up to a tolerance of +/-1.0mm from nominal.

Connector Pin Order Drawing



CRC Table

```
{
0,94,188,226,97,63,221,131,194,156,126,32,163,253,31,65,
157,195,33,127,252,162,64,30,95,1,227,189,62,96,130,220,
35,125,159,193,66,28,254,160,225,191,93,3,128,222,60,98,
190,224,2,92,223,129,99,61,124,34,192,158,29,67,161,255,
70,24,250,164,39,121,155,197,132,218,56,102,229,187,89,7,
219,133,103,57,186,228,6,88,25,71,165,251,120,38,196,154,
101,59,217,135,4,90,184,230,167,249,27,69,198,152,122,36,
248,166,68,26,153,199,37,123,58,100,134,216,91,5,231,185,
140,210,48,110,237,179,81,15,78,16,242,172,47,113,147,205,
17,79,173,243,112,46,204,146,211,141,111,49,178,236,14,80,
175,241,19,77,206,144,114,44,109,51,209,143,12,82,176,238,
50,108,142,208,83,13,239,177,240,174,76,18,145,207,45,115,
202,148,118,40,171,245,23,73,8,86,180,234,105,55,213,139,
87,9,235,181,54,104,138,212,149,203,41,119,244,170,72,22,
233,183,85,11,136,214,52,106,43,117,151,201,74,20,246,168,
116,42,200,150,21,75,169,247,182,232,10,84,215,137,107,53
};
```

Ordering Code

3711_V2

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