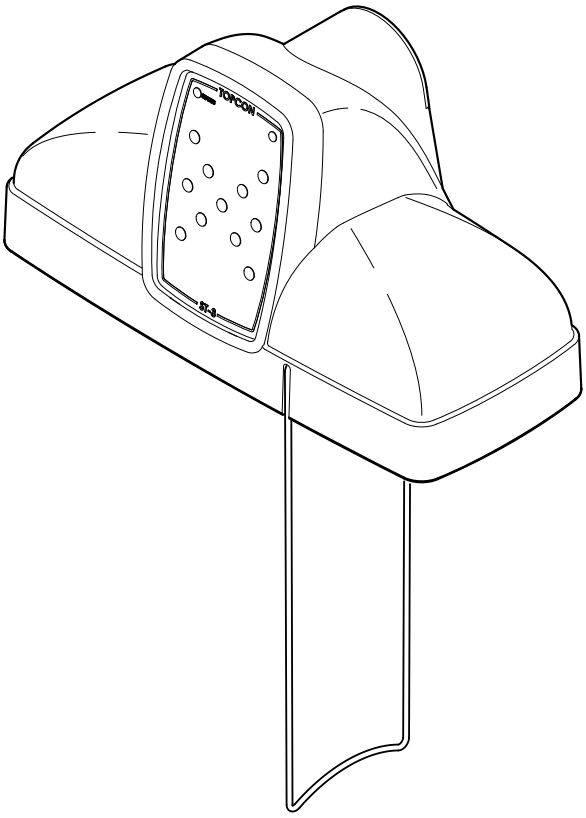
ST-3 Sonic Tracker 9144-0000



Description

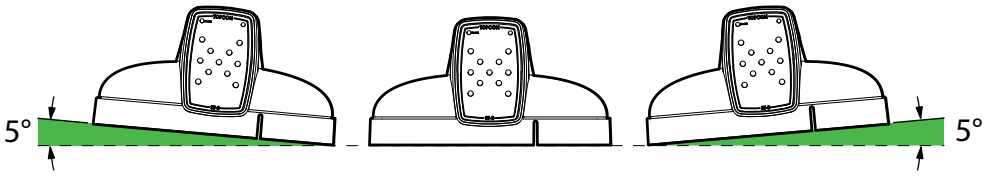
The ST-3 is Topcon's new generation Sonic Tracker. The ST-3 was designed after years of experience with non-contacting sonic grade controls in the construction industry.

The ST-3 has two detection modes to ensure the best accuracy possible as well as changing sensor characteristics to optimize the detection zone based on application. The two modes are Surface Mode and Stringline Mode. Surface Mode is used to detect the ground or curb. While in Surface Mode, the grade indicators display the traditional up/down and ongrade arrows. Stringline Mode is used to detect an elevated stringline. While in Stringline Mode, the grade indicators display left/right and centered arrows. You can select the mode through the GC-35 control box, using firmware version 1.1 or newer, under the Sonic Tracker 3 menu item. The GC-35 screen displays an icon as a reminder of which mode is active. You can load new ST-3 firmware in the field through a GC-35 control box using firmware version 1.1 or newer.

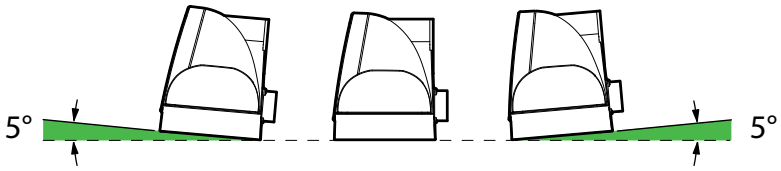
The ST-3 contains two types of temperature compensation. The ST-3 uses both the internal temperature sensor and the temperature bail to measure a fixed distance. This compensates for any atmospheric disturbance that may affect measurement making the ST-3 the most stable and accurate grade sensor available in the construction industry.

Features

- Bright Left/Right guidance arrows (Stringline Mode only)
- Bright grade indication lights (Surface Mode only)
- Snap on temperature bail
- Easy to clean transducers
- Rugged sealed electronics
- Field replaceable sonic transducer assembly
- Field updatable firmware
- Specific detection modes for Stringline and Surface
- Backward compatible with Sonic Tracker II (9142)



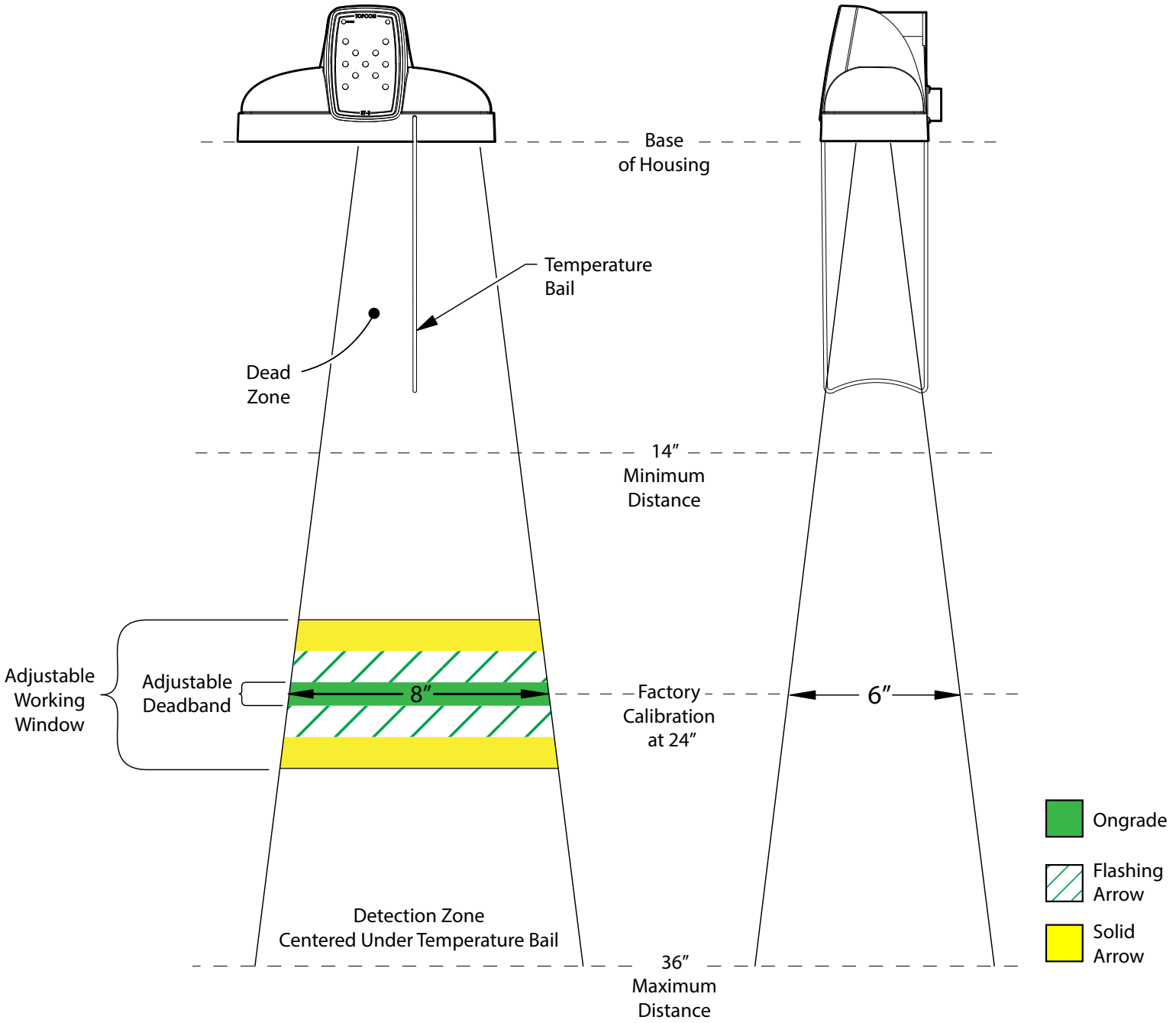
For optimal performance, make sure the ST-3 is parallel to the surface/stringline within 5° in any direction.



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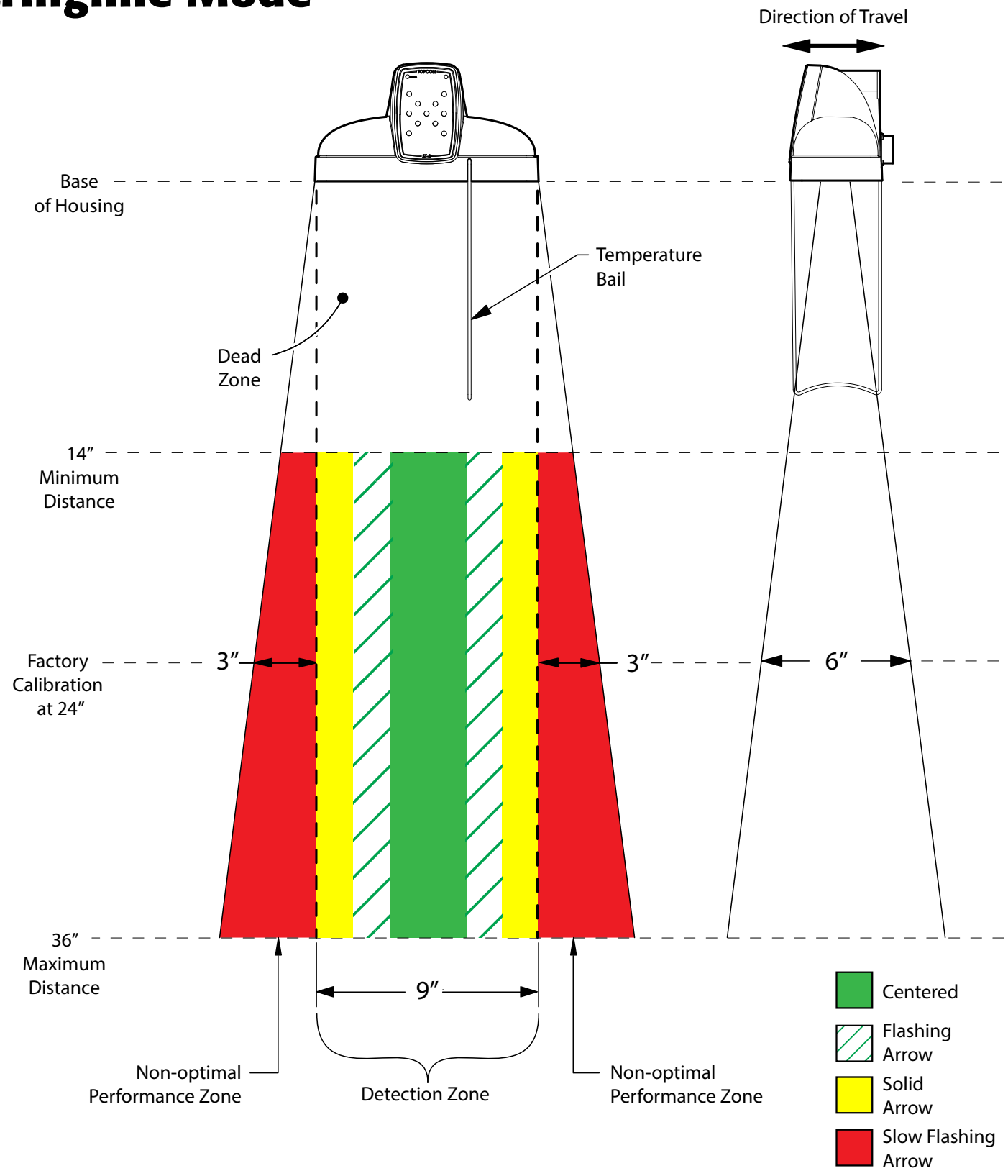
Surface Mode

Note: The direction of travel is not critical in surface mode.



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Stringline Mode



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Specifications

Electrical

Resolution	.0025ft	
Supply Voltage	10-32 VDC	
Supply Current	300mA Typical operating current	
Emissions	FCC Part 15, Subpart B Class A/CISPR 11	ISO 13766/EN 13309
Immunity	ISO 13766 for radiated RF immunity and ESD	
Transducer Frequency	50kHz burst	
Target Range	14 in to 36 in	
Detection Zone	9 in x 6 in at 2 ft - Stringline mode 8 in x 6 in at 2 ft - Surface mode	

Physical

Display LEDs	1 ea. Bail 1 ea. Status 11 ea. Left/Right/Centered - Stringline mode Raise/Lower/Ongrade - Surface mode
Housing	Powder-coated, cast aluminum Note: See “Envelope Dimensions” section Sealed electronics
Connectors	11 pin bayonet/shell size 18
Weight	3.0 lbs

Compatibility

- Sonic Tracker II (9142) Connector/Cable
- GC-35 Control Box (9259) for Stringline Mode and Surface Mode
- All other Control Boxes for Surface Mode Only

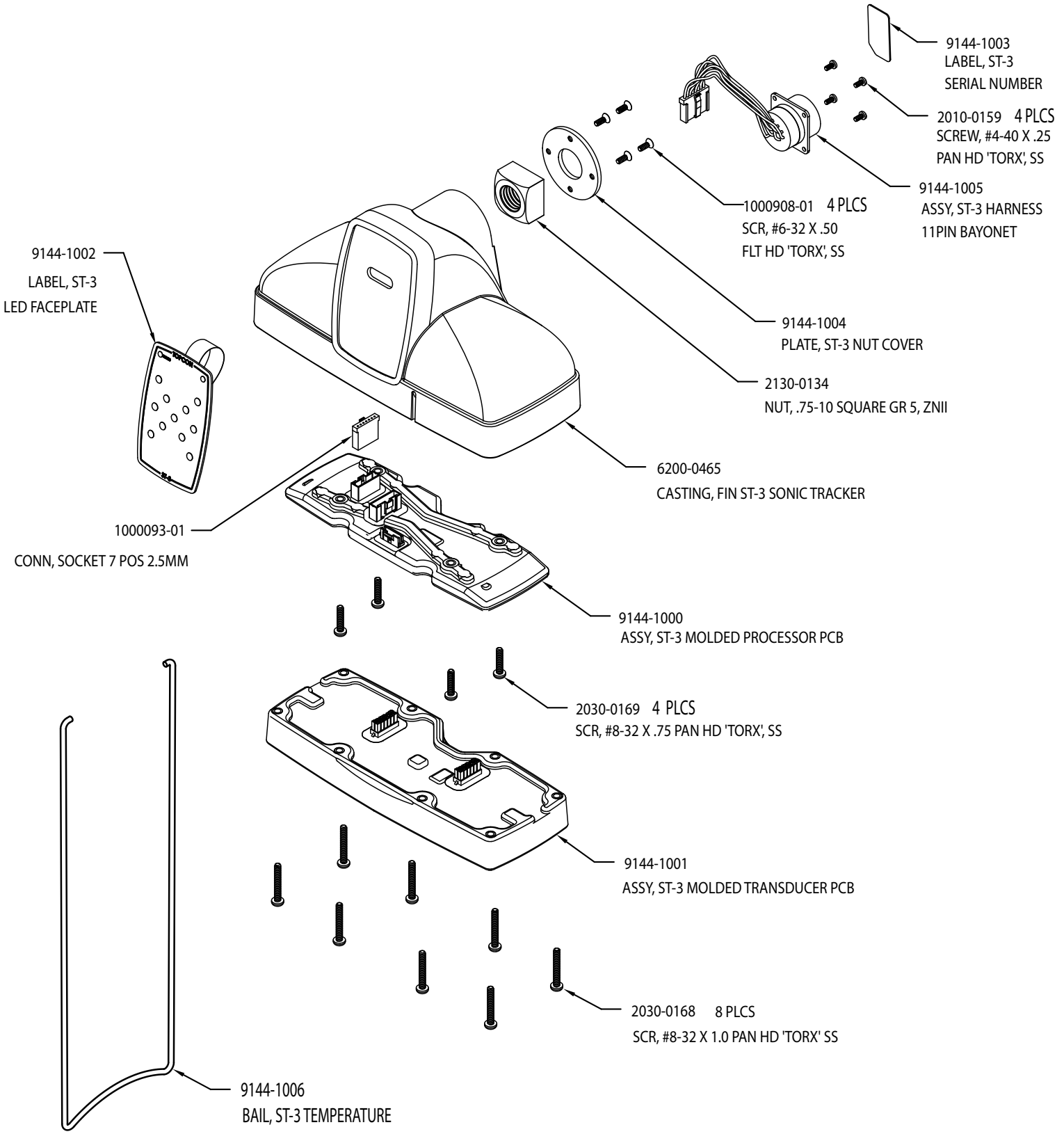
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Environmental

Operating Temperature	0°C to +80°C
Storage Temperature	-40°C to 100°C
Ingress Protection	IP-67 IP-69K
Vibration	Random 10-2000Hz, 10Grms, 30 min per axis
Shock	Drop from 500mm, faces and edges 50G saw-tooth 6ms, 600 total
Hot Start	80°C
Cold Start	-40°C
Temperature/Humidity Cycle	-20°C to 60°C, 95%R.H. 30 cycles
Temperature Shock	-40°C to 80°C, 12 cycles
Humidity	96%R.H. at 40°C, 10 days
Salt Fog	5%NaCl, 48 hours
UV	300 hours
Chemical	Diesel, hydraulic oil, ethylene glycol

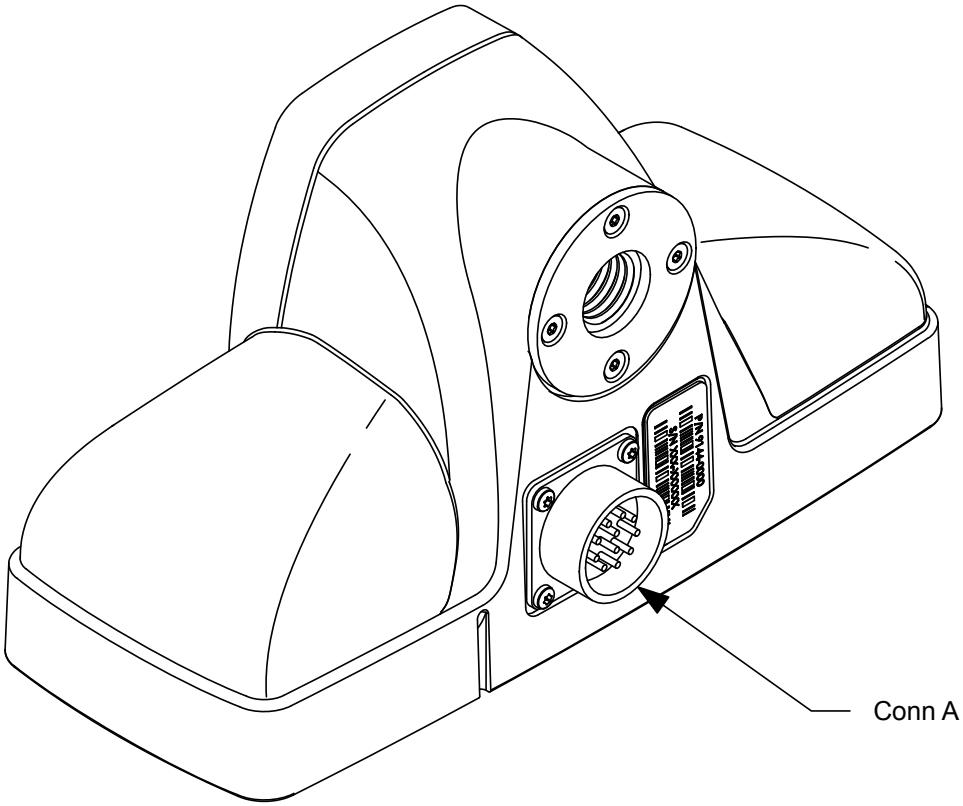
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Service Parts



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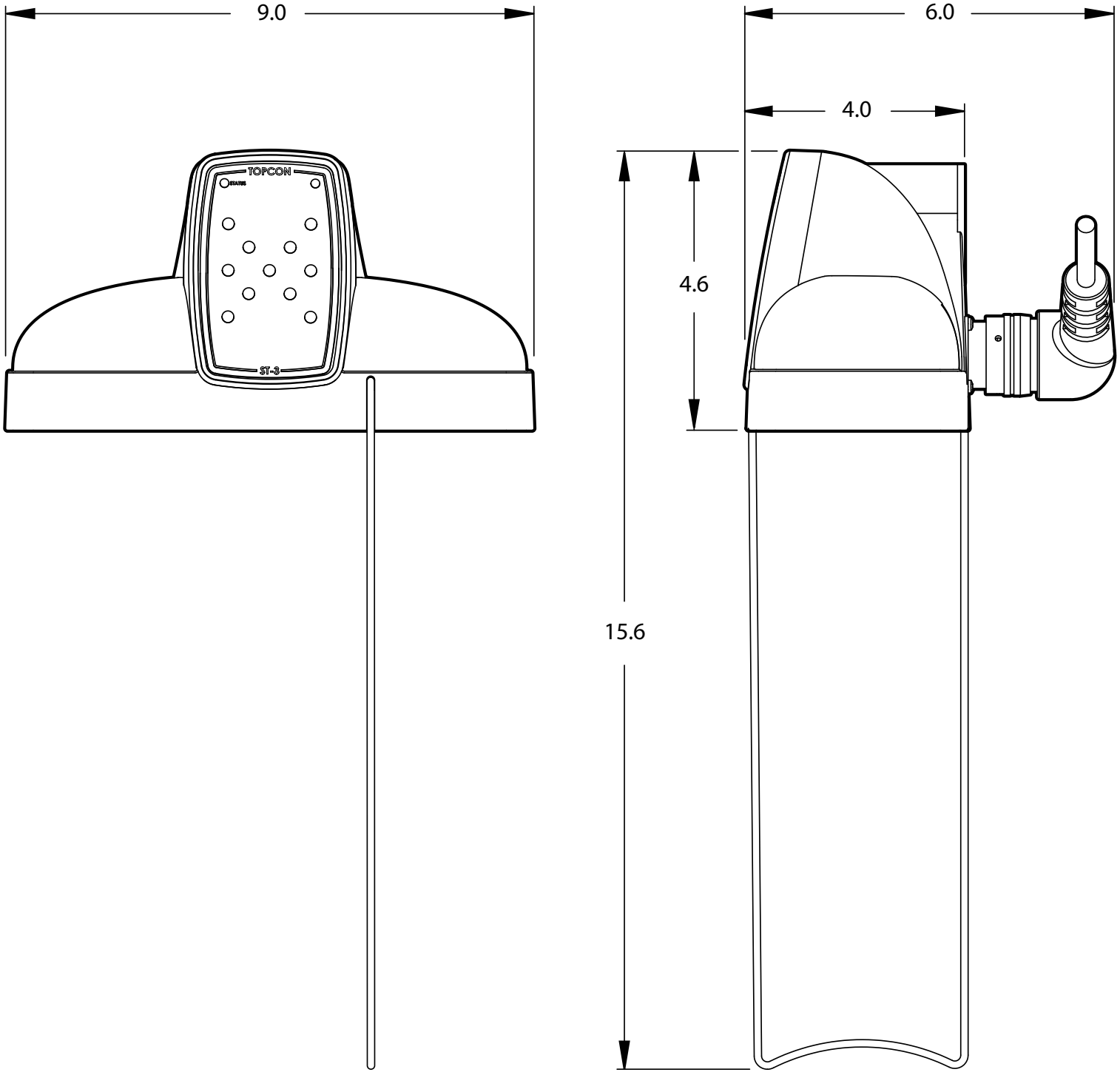
Connector Pinouts



Conn A (18-11 Pin Bayonet)	
A	Comm A
B	Comm B
C	CAN high
D	
E	
F	V supply
G	
H	CAN low
J	CAN shield
K	Ground
L	Config

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Envelope Dimensions (Inches)



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