LT-300 GNSS RECEIVER

designed and built for the demanding and rough environment at sea

NMEA

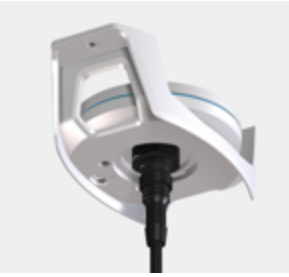
LT-300 IN SHORT

- High-performance GNSS receiver with hot start capability
- UTC time and date, position, satellite information, ground speed, course over ground, magnetic variation
- 72-ch. GNSS (GPS/GLONASS/BeiDou) satellite receiver with SBAS correction
- Simultaneous NMEA 0183 and NMEA 2000
- Configurable NMEA 0183 (enable/disable, talker ID, output rate)
- Configurable NMEA 2000 termination resistor (open or terminated)
- Easy configurable NMEA 0183 data rate (4800 or 38400 baud)
- Each unit is functional tested prior to shipment
- Worldwide maritime certification

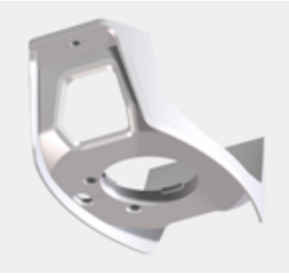
INSTALLATION OPTIONS (MOUNTING KIT)

LT-300 with pole mount

Pole mount



LT-300 with roof mount



Roof mount

Introduction

The LT-300 Global Navigation Satellite System (GNSS) receiver is a maritime navigation product from Lars Thrane A/S. The LT-300 GNSS receiver is designed for the leisure as well as the professional maritime markets. The LT-300 GNSS receiver meets all standards and certification requirements needed for worldwide maritime navigation equipment.

Performance

The LT-300 GNSS receiver is capable of providing positions with an accuracy better than 2 meters. The LT-300 GNSS receiver outputs navigation data (up to 10 Hz): UTC time and date, position, satellite information, ground speed, course over ground and magnetic variation, in order to give your vessel smooth navigation capabilities. The 72-channel GNSS receiver benefits from advanced technologies such as:

- Receive and track multiple satellite systems (GPS, SBAS, GLONASS, and BeiDou)
- Support for Satellite-Based Augmentation System (SBAS): EGNOS, WAAS, and MSAS

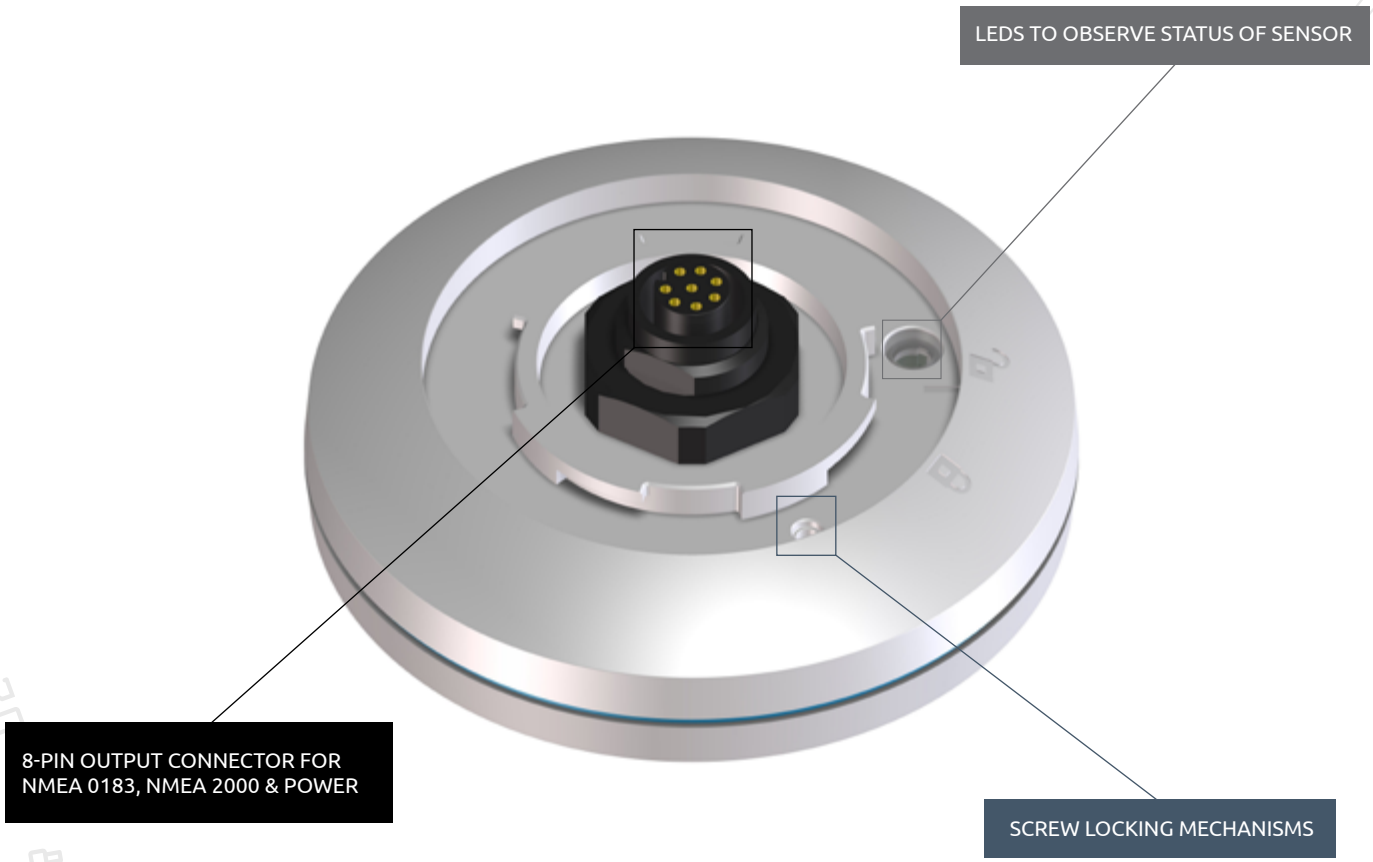
The LT-300 GNSS receiver is designed and built for the demanding and rough environment at sea and with an operational temperature range from -40ºC to +55ºC (-40ºF to +131ºF).

Installation & Navigation

The LT-300 GNSS receiver is easy to mount on a 1” pole (optional installation: roof-mount) with a single cable supporting NMEA 0183, NMEA 2000, and power. The LT-300 GNSS receiver can be configured to either 4800 or 38400 baud (NMEA 0183), and open or short termination (NMEA 2000). Use the LT-Service Tool for optional configuration of the LT-300 GNSS receiver. The LT-Service Tool is a PC program, which may run on any Windows PC.

More than 40 years of experience have been put into the design and construction of the advanced LT-300 GNSS receiver, with an exceptional performance and specification level.

INSTALLATION



PERFORMANCE

OUTPUT	ACCURACY	RESOLUTION	RANGE / COMMENT
Position[1]	GNSS: < 2.5 m SBAS: < 2 m	0.1 m	CEP, 50%, 24 hours static, -130 dBm, > 6 SVs SBAS: default enabled Time-To-First-Fix (cold start): 27 s Time-To-First-Fix (hot start): 1 s
Speed	0.1 knot	0.1 knot	0 to 195 knots

1: The LT-300 GNSS receiver has an immunity filter against Iridium and Inmarsat transceivers

NMEA 0183		
SENTENCE	DESCRIPTION	RATE
4800 BAUD		
GNDTM	Datum Reference	1 Hz
GNGGA	GPS Fix Data	1 Hz
GNGLL	Position Latitude/Longitude WGS84	1 Hz
GNGSA	GNSS DOP and Active Satellite	1 Hz
GNRMC	Recommended Minimum Specific GNSS Data	1 Hz
GNVTG	Course Over Ground and Ground Speed	1 Hz
GNZDA	Time and Date	1 Hz
38400 BAUD		
GNDTM	Datum Reference	1 Hz
GNGGA	GPS Fix Data	1 Hz
GNGLL	Position Latitude/Longitude WGS84	1 Hz
GNGSA	GNSS DOP and Active Satellite	1 Hz
GNRMC	Recommended Minimum Specific GNSS Data	1 Hz
GNVTG	Course Over Ground and Ground Speed	1 Hz
GNZDA	Time and Date	1 Hz
GPGSV[1]	GNSS Satellites in View	1 Hz

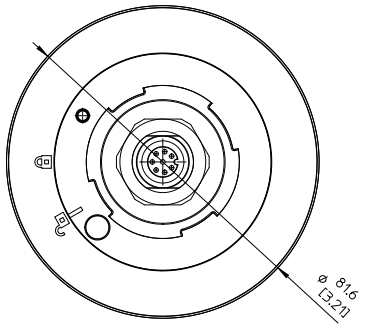
NMEA 2000		
PGN	DESCRIPTION	RATE
PERIODIC PGNs		
126992	System Time	1 Hz
126993	Heartbeat	< 0.1 Hz
127258	Magnetic Variation	1 Hz
129025	Position, Rapid Update	10 Hz
129026	COG & SOG, Rapid Update	4 Hz
129029	GNSS Position Data	1 Hz
129044	Datum	0.1 Hz
129539	GNSS DOPs	1 Hz
129540	GNSS Sats in View	1 Hz
RESPONSE TO REQUESTED PGNs		
126464	PGN List (Transmit and Receive)	-
126996	Product Information	-
129538	GNSS Control Status	-
OTHER PGNs		
059392	ISO Acknowledgement	-
059904	ISO Request	-
060928	ISO Address Claim	-
126208	NMEA Request/Command/Acknowledge	-

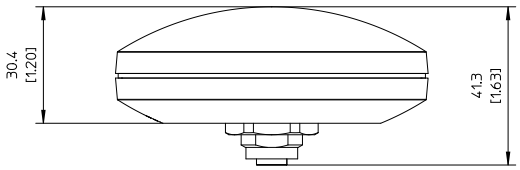
NMEA 0183 sentences are configurable (enable/disable, talker ID, output rate)
For all GNSS sentences, talker ID "GN" can be configured to "GP"
1: Talker ID (GP, GL, GB) depends on satellite system (GPS/SBAS, GLONASS, BeiDou)

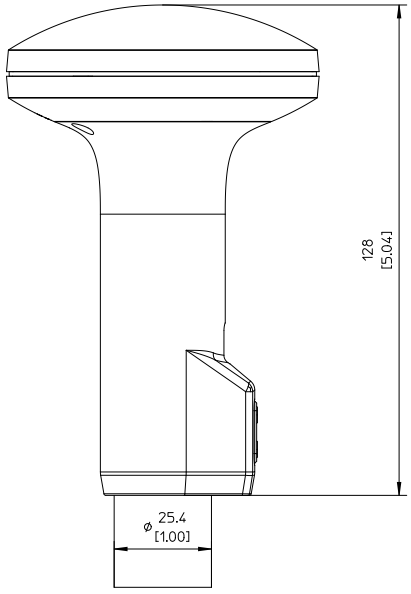
SPECIFICATIONS

LT-300 GLOBAL NAVIGATION SATELLITE SYSTEM

Certification and standards	CE, IEC 60945, IEC 60950, EN 300 440 FCC, IC, RCM, RoHS NMEA 0183, NMEA 2000
Equipment class	Protected, according to IEC 60945
Weight, with pole mount	153 g (0.34 lbs)
Weight, with roof mount	148 g (0.33 lbs)
Dimensions, with pole mount	128.0 x Ø 81.6 mm (5.04 x Ø 3.21 in)
Dimensions, with roof mount	81.6 x 136.0 x 45.2 mm (3.21 x 5.35 x 1.78 in)
Temperature, operational (ambient)	-40°C to +55°C (-40°F to +131°F)
Temperature, storage (ambient)	-40°C to +85°C (-40°F to +185°F)
Vibration, operational	IEC 60945 (sine) & Proprietary Maritime Random profile (240 h)
Vibration, survival	Properitary Maritime Random profile (100 h)
Vibration, shock	Proprietary Maritime profile (60 g pk, 11 ms)
Waterproof rating	IP67
Humidity	95% non-condensing @ 40°C
Wind, operational	80 knots (93 MPH)
Wind, survival	110 knots (127 MPH)
Ice, survival	25 mm (1 in)
Solar radiation	1120 W/m2
Communication interface	8-pin female connector for NMEA 0183, NMEA 2000 and power
Input voltage	9-40 VDC
Power consumption	< 1 W (@ 12 VDC)
Load Equivalent Number (LEN)	2 (NMEA 2000)
Compass safe distance standard	0.3 m (1 ft)
Compass safe distance steering	0.3 m (1 ft)
Mounting, pole mount	25.4 mm (1 in)
Warranty	2 year
Maintenence	None







IN THE BOX

LT-300 GNSS (incl. pole mount)	P/N: 51-100142
LT-300 GNSS roof mount	P/N: 91-100233
10 m Cable Multi 8-pin Simple-Cut (M)	P/N: 91-100172
Screw-in Conn. NMEA 2000 Micro-C (M)	P/N: 91-100174
Quick Installation Guide	P/N: 97-100230
Safety Instruction Sheet	P/N: 97-100450
Unit Test Sheet	P/N: 46-100381

ACCESSORIES

LT-300 GNSS roof mount	P/N: 91-100233
LT-300 GNSS pole mount	P/N: 91-100234
10 m Cable Multi 8-pin Simple-Cut (M)	P/N: 91-100172
30 m Cable Multi 8-pin Simple-Cut (M)	P/N: 91-100173
Screw-in Conn. NMEA-2000 Micro-C (M)	P/N: 91-100174

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98-100228 Rev. 1.02 LT-300 Product Sheet
Subject to change without further notice