

# Lightning Sensor

QLTX



## Overview

The QLTX Lightning Detection Sensor detects and locates lightning events that occur within 200 nautical miles (370 km) of its antenna. The antenna detects the electrical and magnetic fields generated by intra-cloud, inter-cloud, or cloud-to-ground electrical discharges. The resulting "discharge signals" are sent to the processor.

The QLTX sensor uses a combined crossed-loop and passive antenna, which correlates the electric and magnetic signatures of lightning strikes. The antenna has been designed to filter out pulsed noise from sources other than lightning discharges.

The QLTX antenna detects the electrical and magnetic fields generated by the electrical discharges and sends the resulting "discharge signals" to the processor. The processor digitizes, analyzes, and converts the discharge signals into range and bearing data, then stores the data in memory.

Detects:

- Optical, magnetic, and electrostatic pulses from lightning events
- Cloud and cloud-to-ground lightning within 200 nautical miles
- Cloud-to-ground lightning classified into three range intervals for AWOS:
  - 0–5 NM
  - 5–10 NM
  - 10–30 NM
- Cloud-to-ground lightning classified into directions for AWOS:
  - N, NE, E, SE, S, SW, W, and NW

## Ordering Information

Part Number	Description
QLTX	Direct Connect for use with Model 1192 DCP, RS-422 serial interface, powered from DCP — reports data every 2 seconds
M105655-00	Deck mounting pole
M488606-00	Stainless steel mounting pole kit

## Dimensions & Weights

<b>Dimensions</b>	30.5 cm × 36.8 cm × 21.6 cm (12.0" H × 14.5" W × 8.5" D)
<b>Weight</b>	5.2 kg (11.5 lb)
<b>Shipping Weight</b>	6.4 kg (14 lb)

## Specifications

Parameter	Specification
<b>Measurement Range</b>	Distance 0 – 200 nautical miles (0 – 370 km)
	Direction 0 – 360°
<b>Operating Temperature</b>	-40 to +70°C (-40 to +158°F)
<b>Storage Temperature</b>	-55 to +85°C (-67 to +185°F)
<b>Humidity</b>	noncondensing up to 100%
<b>Serial Protocol</b>	RS-422
<b>Baud Rate</b>	9600 bps
<b>Serial Parameter Setting</b>	8-N-1 (8 data bits, no parity, 1 stop bit)
<b>Serial Connector</b>	screw terminal block pins
<b>Supply Voltage</b>	9–17 VDC
<b>Power Consumption</b>	8 W
<b>Enclosure</b>	NEMA 4X painted plastic
<b>Mounting</b>	mounts to 1.5–3" pipe

Aviation Parameter	Specification
Reporting Ranges	0 – 5 NM 5 – 10 NM 10 – 30 NM
Reporting Resolution	1 NM distance 1° azimuth
Reporting Accuracy	0 – 10 NM: • 3 NM >10 NM: • 20%
Detection Methods	E field B field Optical
Detection Efficiency	>99% of lightning strikes, including cloud-to-cloud and cloud-to-ground
False Reports	<1%
Detection Rate	Up to 40 strikes every 2 seconds
Reporting	Lightning information updated every 10 seconds and in real time as strikes occur