



# QLTX Lightning Detection Sensor

## 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



## OVERVIEW

The QLTX Lightning Detection Sensor detects and locates lightning events that occur within 200 nautical miles (300 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.

SENSORS

# SPECIFICATIONS

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

Aviation Parameters	Specification
Reporting Resolution	1 NM distance 1° Azimuth
Reporting Ranges	0–5 NM 5–10 NM 10–30 NM
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%
Reporting	Lightning information updated every 10 seconds and in real time as strikes occur

## ORDERING INFORMATION

Part Number	Description
QLTX	<i>Direct Connect</i> for use with Model 1192 DCP, RS-422 interface, powered from DCP — Reports distance and direction every 2 seconds
M488606-00	Stainless steel mounting pole for foundations
M105655-00	Deck mounting pole

## DIMENSIONS & WEIGHTS

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



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