

## Vaisala Thunderstorm Local Lightning Sensor TSS928™



*Vaisala TSS928™ accurately reports the range and direction of cloud-to-ground lightning and provides cloud lightning counts.*

*Vaisala TSS928™ is a local-area lightning detection sensor that can be integrated with automated surface weather observations.*

### Features/Benefits

- Meets ASOS requirements for lightning range and bearing
- Detects and reports range and bearing of cloud-to-ground lightning
- Detects and counts cloud lightning
- AC, DC, and DC/AC power options
- Data format supports direct interface with common communication systems
- Self-diagnostics features for checking sensor function status
- Sustained performance in extreme weather conditions
- Modular design allows easier field service and on-site maintenance

### Vaisala TSS928™ offers superior performance in local area lightning tracking

Lightning-sensitive operations rely on Vaisala TSS928™ sensors to provide critical local lightning information, both for meteorological applications as well as threat data, to facilitate advance warnings, initiate safety procedures, and isolate equipment with full confidence. The patented lightning algorithms of the Vaisala TSS928™ provide the most precise ranging of any stand-alone lightning sensor available in the world today. The optical coincident requirement eliminates reporting of non-lightning events. ALARM, Automated Lightning Alert and Risk Management System software is used to visualize the TSS928™ data.

Vaisala TSS928™ detects:

- Optical, magnetic, and electrostatic pulses from lightning events with zero false alarms
- Cloud and cloud-to-ground lightning within 30 nautical miles (56 km)
- Cloud-to-ground lightning classified into three range intervals: 0-5; 5-10; and 10-30 nautical miles (0-9, 9-19, and 19-56 km)
- Cloud-to-ground lightning classified into directions: N, NE, E, SE, S, SW, W, and NW

Vaisala TSS928™ can be used to integrate lightning reports with automated weather observation programs such as METAR.

# Technical data

## Detection Range

30-nautical miles (56 km) radius from sensor location

## Range Resolution

0-5 nautical miles (0-9 km), 5-10 nautical miles (9-19km) and 10-30 nautical miles (19-56km) (range can be set in nautical miles or kilometers).

## Bearing Resolution

1° increments, 0° to 360°, reported by octant

## Thunderstorm Detection Efficiency

90% within 10 nautical miles with one discharge; 99% with two discharges; 99.9% with three discharges

## Electrical Specifications

AC Power	115VAC±10% to 230VAC±10%
DC/AC Power	11-32VDC, 115VAC±10%
DC Power	11-32VDC
Power Consumption	100 watts maximum
Standards/Approvals:	UL, CSA, CE

## Communications

Metallic or fiber optic links  
Serial ASCII format  
RS-232 and RS-422 serial at 9600 bps  
Output via automatic one-minute preset weather messages, instantaneous broadcast of data as event occurs or sensor can store and be polled by user.

## Mounting Configuration

Ground mount option  
Roof mount option with tripod  
Frame mount for either roof or ground options  
Height 3.0 m max height recommended

## Environmental Conditions

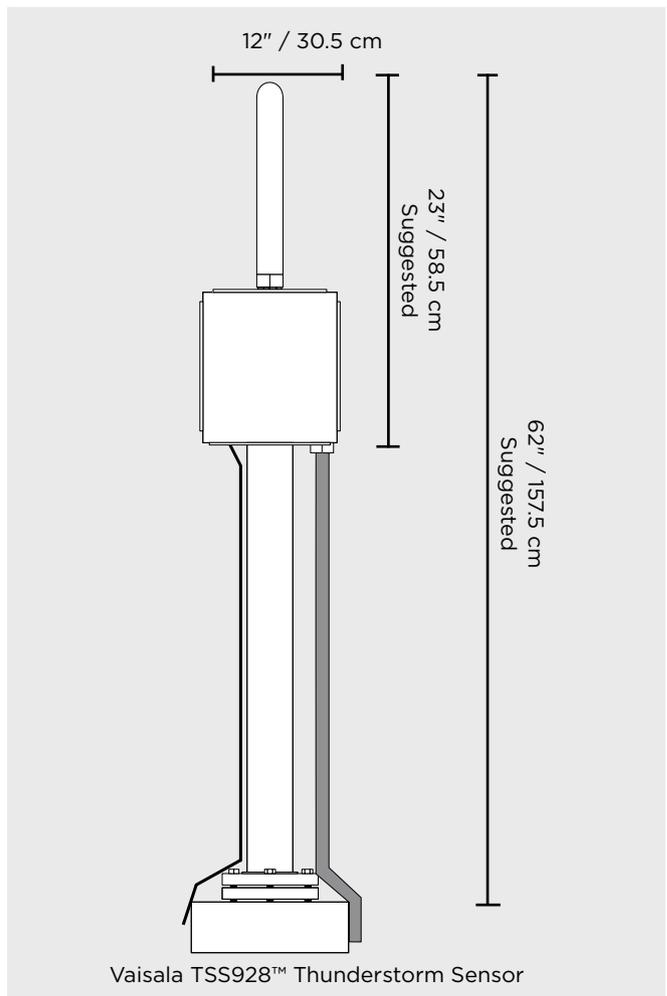
Operating/Storage  
Temperature Range -50°C to +50°C (with heater)  
Maximum Wind Load 0-120 knots, 222 km/h  
Humidity Tolerance 0% to 100%  
Siting Requirements Flexible installation requirements.  
Questions should be referred to your distributor or your Vaisala sales representative.

## Support Services

Vaisala TSS928™ is fully supported by our Customer Support Center, Technical Service Group, and Field Service Engineering Team. Maintain optimal performance by purchasing a service agreement customized to your unique system requirements.

## Standard Warranty

Vaisala warrants all products manufactured by Vaisala to be free from defects in workmanship or material for one year from the date of delivery. Contact your Vaisala Sales Representative for specific product warranty and service warranty details.



For more information, visit [www.vaisala.com](http://www.vaisala.com) or contact us at [sales@vaisala.com](mailto:sales@vaisala.com)

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