MWS®–M625

Micro Weather Station

The World's Most Advanced All-In-One Micro Weather Station

Key Features

- Integrated Sensing, Processing, Power and Communications
- Two-Way Iridium Satellite Connectivity
- Expansion Port
- Rugged and Portable
- Easy 60-Second Installation
- Autonomous Operations

Weather Data Reported

- Cloud Height
- Temperature
- Barometric Pressure
- Altimeter Setting
- Relative Humidity
- Wind Speed
- Peak Wind Speed
- Wind Direction
- Visibility
- Dust Accumulation
- Compass Reading
- Precipitation Amount / Type
- Lightning Distance
- Lightning Frequency

Other Data Reported

- Visual Imagery
- GPS Longitude and Latitude
- GPS Elevation
- Compass Orientation
- Angular Tilt

Patents

D734,182 | D796,353 | D796,972
9,784,887 | 10,429,546 | 3,013,934

The **MWS®–M625** includes all the same great features as our line of proven Micro Weather Stations (MWS®) and adds cloud height measurement and two-way Iridium satellite for more accurate and reliable meteorological reporting. The engineers at Intellisense designed the world's smallest ceilometer with LIDAR and integrated it into the already compact and wireless weather-sensing package. Alongside its temperature, barometric, wind speed/direction and visibility measurements, the M625 can measure cloud height up to 10,000 feet with 10% accuracy.

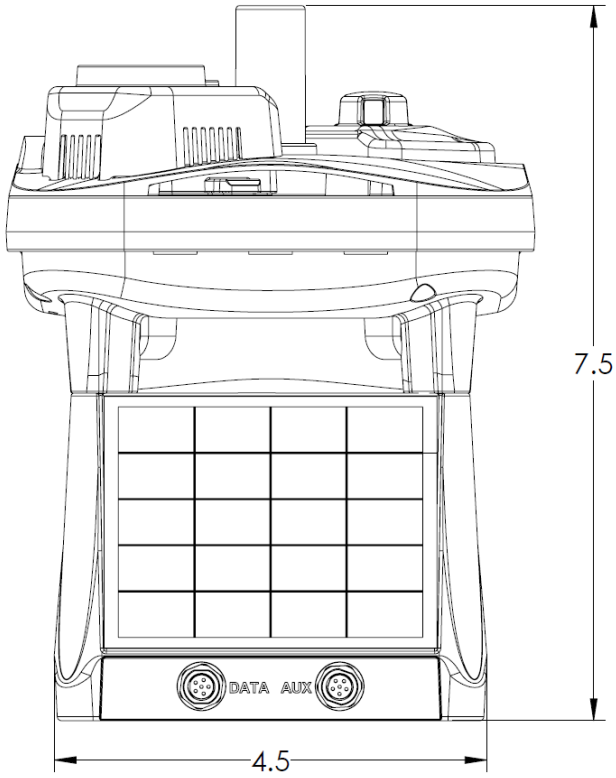
With this breakthrough, the M625 becomes the most ruggedized, lightweight, and low-cost solution for weather sensing with cloud height measurement. Every system component and sensor in the M625 is fully integrated into a single, robust, self-contained unit that weighs just 3.8 pounds. As an unattended ground sensor (UGS), it is capable of being deployed globally in remote or denied locations for meteorological monitoring to improve situational awareness. The M625 can be hand- or air-emplaced and supports continuous, real-time weather reporting without the need for data loggers, processors or communication units being deployed into the field.

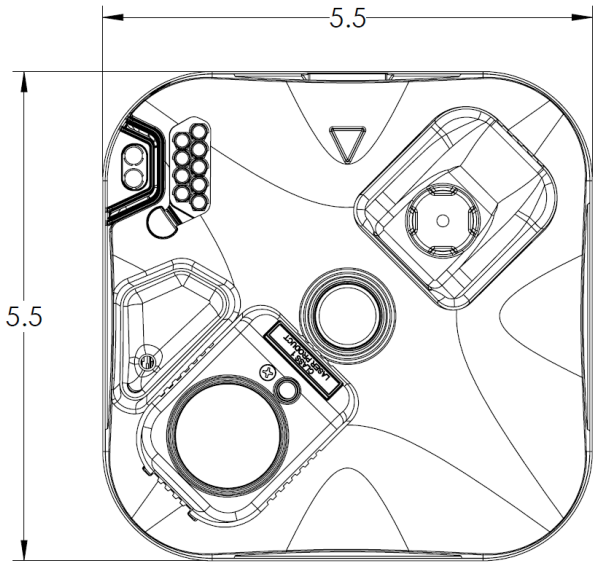
The addition of the world's smallest cloud height-measuring station and Iridium satellite connectivity makes the M625 a superior weather-sensing system that is rugged, lightweight, and available at a significantly reduced cost compared to other tactical meteorological systems.

intellisense SYSTEMS

DIMENSIONS

Small enough to fit inside a backpack, the M625 is easily transportable to any environment. Weighing just 3.8 pounds, it can be readily deployed by hand or by air into any location for accurate weather sensing and data collection, including cloud height, temperature, barometric pressure and wind speed.





UNIT PROPERTIES

Weight	1.72 kg (3.8 lb)
Dimensions	H: 19 cm (7.5 in.) W: 14 cm (5.5 in.) D: 14 cm (5.5 in.)
Operating Temperature	Minimum: -40°C (-40°F) Maximum: +60°C (+140°F)
Mounting Hardware	1/4-20 threaded camera mount
Power Management	**Solar Cell Array and Onboard Nickel-Cadmium Batteries** Continuous operation and the ability to endure extended periods of harsh environmental conditions and rugged deployments
Communications	**Integrated Two-Way Iridium Satellite Transmitter and Receiver:** Transmits data to command and control elements via satellite and can receive commands for observation or image requests
Expansion Port	**Threaded M8 Serial Connector Rated to IP67 Waterproof Standards** Allows new capabilities to be added and easy integration with other devices, including external power and laptop connectivity as well as easy integration of other field sensors, including solar radiation, fuel moisture, surveillance, and CBRNE sensors
Compliance	**Manufactured under ISO 9001, AS9100, and AS9110 Quality Management System**

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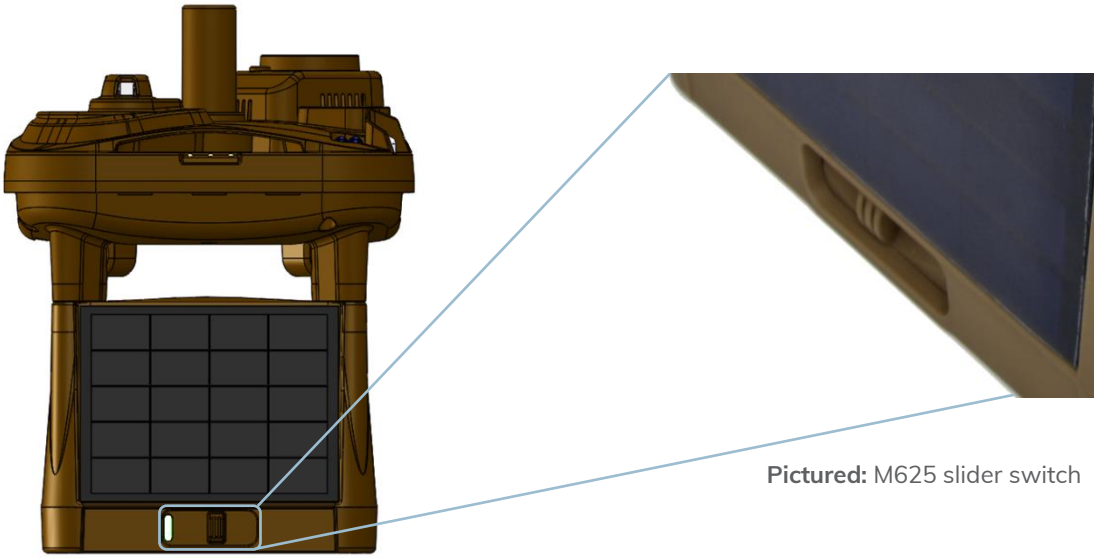
CONTROLS

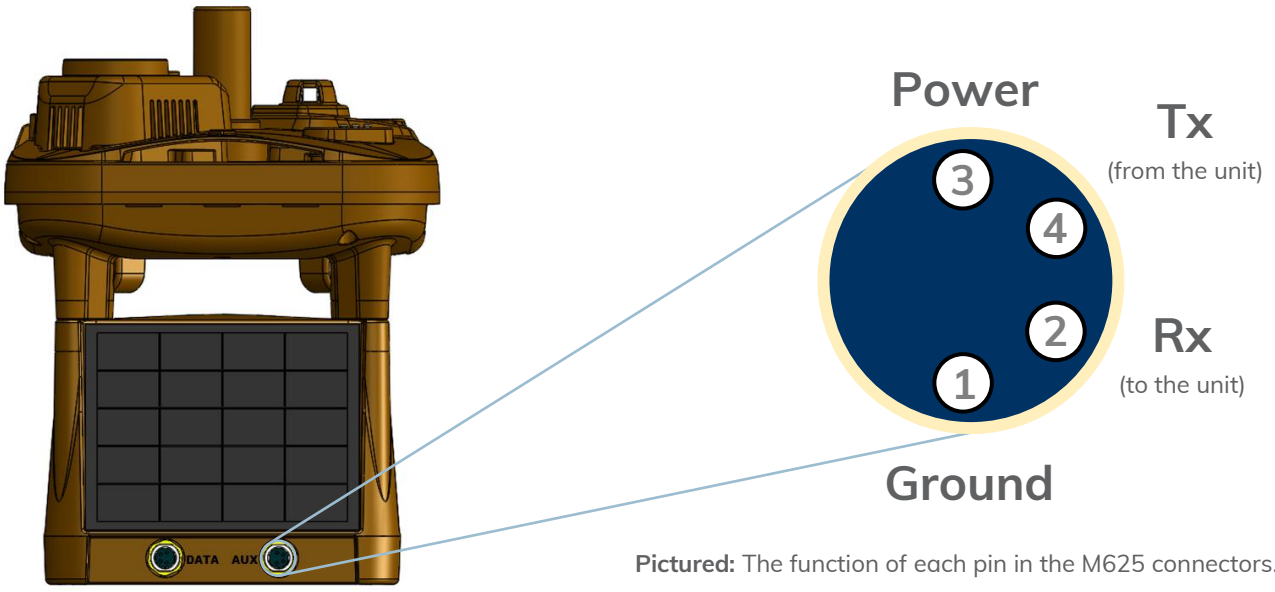
The controls on the M625 are simple, requiring no special training or setup. The station can be up and running in under 60 seconds. Simply power the system on with a single slider switch, and it automatically configures itself for autonomous operation with user-configurable settings, which can be accessed and changed remotely.



Pictured: M625 slider switch

CONNECTIVITY

The M625 features two M8-4 female connectors that are keyed with four pins to prevent mis-insertion and ensure a strong connection throughout the most adverse terrain or weather conditions. They also include screw engagements with O-ring seals to achieve a waterproof rating of IP67 when mated or when a plastic cover cap is in place. They support cables up to 50 meters in length and enable new capabilities to be added and easily integrated, including connectivity to laptops, external power sources and other field sensors.



Pictured: The function of each pin in the M625 connectors.

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STATION SPECIFICATIONS

Temperature	Range: -40 to 60°C (-40 to 140°F) Resolution: 0.1°C Accuracy: ± 0.1°C at 25°C (77°F)
Barometric Pressure	Range: 600 to 1110 mb Resolution: 0.01 mb Accuracy: ± 0.5 mb at 25°C (900–1100 mb)
Humidity	Range: 0 to 100% Resolution: 1% Accuracy: ± 1.5% (0 to 80%), ± 2.0% (> 80%)
Precipitation	Range: 0 to 152 mm/hr (0 to 6 in/hr) Resolution: 0.25 mm/hr (.01 in/hr) Accuracy: ± 2.5 mm/hr (0.1 in/hr) or 10% (whichever is greater)
Cloud Ceiling	Range: Surface to 10,000 ft (Surface to 3048 m) Resolution: 33 ft (10 m) Accuracy: ±100 ft or 10% (whichever is greater)
Wind Speed	Range: 0 to 28 m/s (0 to 55 knots) Resolution: 0.5 m/s (1 knot) Accuracy: ± 3%
Wind Direction	Range: 0° to 359° Resolution: 1° Accuracy: ± 5°
Angular Tilt	Range: -90° to +90° Resolution: 0.1° Accuracy: ± 1°
Visibility	Range: 10 to 10,000 m (0 to 6.2 mi) Resolution: 100 m (0.06 mi) Accuracy: ±10%
Dust Accumulation	Range: 0 to 100% (Quality Control Sensor) Resolution: 1% Accuracy: ± 10%
Lightning Distance	Range: 0 to 40 km (0 to 25 mi) Resolution: 3.2 km (2 mi) Accuracy: Varies
360° Imaging Camera	4 wide-angle color images with 320 x 240 resolution

STANDARDS AND CERTIFICATIONS

Designed and tested in accordance with:

- **MIL-STD-810G**
  Test Method Standard for Environmental Engineering Considerations and Laboratory Tests
- **MIL-STD-461F**
  Electromagnetic Emissions and Susceptibility Requirements for the Control of Electromagnetic Interference
- **FCC Part 15**

ACCESSORIES AVAILABLE

- Line of Sight Radio Supports Two-Way Data up to 11 km (7 mi)
- 6 m USB cable
- Up to 150 m (500 ft) Cabled Data Connection in 15 m (50 ft) Sections
- Extended Range Ceilometer to 7620 m (25k ft)

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