



DTN ObsConnect Weather Station

The DTN ObsConnect Weather Station delivers hyperlocal, real-time weather intelligence at your exact location, not miles away. Integrated with DTN's Weather Hub, ObsConnect Weather Stations provide trusted weather observations and insights to support confident operational decisions.

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PRIMARY PRODUCT COMPONENTS

Standard Station includes:

- ObsConnect communication box with pre-configured cellular module — no additional network setup required
- Professional-grade compact weather station sensor array
- All cables and hardware necessary for mounting to a standard 2 3/8" diameter pole
- Solar panel included
- 8 ft powder-coated pole, pre-drilled (sold separately)
- Non-penetrating roof mount for easy installation (sold separately)
- Mounting hardware available separately for wall, pole, or unique surface configurations

Pro Station includes everything in Standard, plus:

- Factory-integrated radar-based precipitation sensor for full precipitation intelligence, including type detection

Optional add-on sensors (require existing ObsConnect station):

- Tipping bucket rain gauge for high-accuracy precipitation amount and intensity measurement
- AQI laser scattering particulate matter sensor for real-time air quality monitoring

Standard Station specifications:

- Height: 8.5 in (218 mm)
- Diameter: 5 in (126 mm)
- Weight: 1.3 lb (0.6 kg)
- Operating voltage: 12–30V DC
- Power: 18 mA @ 12V DC
- Interface: RS-485
- Protection: IP66
- Operating temperature: -40° to +176°F (-40° to +80°C)
- Operating humidity: 0–100% RH
- Connector: 4-pin / PUR 5m cable

Pro Station specifications:

- Diameter: 5.9 in (150 mm) | Height: 8.7 in (220 mm)
- Weight: 20lb (0.9 kg)
- Interface: RS485 / RS422 | Protocol: Modbus RTU
- Protection: IP67
- Operating voltage: 6–40V DC or 10–28V AC
- Bus operation: supports up to 98 sensors
- Mounting: standard 1.5" mast tube

QI Sensor (PMsense)

- Weight: 330 g
- Interface: RS485 Modbus RTU
- Power supply: 7–30V DC
- Operating temperature: -4° to 158°F
- Operating humidity: 0–95% RH
- Protection: IP53 with rain-proof, UV-resistant inlet air filter

Tipping Bucket Rain Gauge

- Orifice Area: 31.0 in² (200 cm²)
- Weight (including angle brackets): 13.5 oz (380 g)
- Accuracy: ±2%
- Max measurement rate: 12 tips per minute
- Standard resolutions: 0.10 mm, 0.20 mm, 0.25 mm, 0.50 mm

— WHAT DOES THE SYSTEM MEASURE?

Standard Station measures:

- Wind speed (real-time)
- Wind direction (real-time)
- Wind speed and direction (10-minute average)
- Wind gust (real-time)
- Air temperature (real-time)
- Relative humidity (real-time)
- Dew point (calculated)
- Solar irradiance (real-time)
- WBGT — Wet Bulb Globe Temperature (calculated, for heat stress monitoring)

Pro Station measures everything in Standard, plus:

- Precipitation amount (radar-based sensor)
- Precipitation intensity (radar-based sensor)
- Precipitation type — drizzle, rain, snow, ice crystals, hail

Tipping bucket add-on measures:

- Precipitation amount (high accuracy)
- Precipitation intensity (high accuracy)
- Precipitation type detection not available on this sensor

AQI sensor add-on measures:

- PM1 (high accuracy)
- PM2.5 (high accuracy)
- PM10 (higher measurement error expected in presence of coarse particles)

— HOW DOES THE PRODUCT WORK?

- The ObsConnect weather station can be mounted to a standard 2 3/8" diameter pole and connects to the ObsConnect communication box, which transmits real-time sensor data via a pre-configured cellular module — no additional network configuration required.
- Data flows directly into the Weather Hub platform via MetConsole Cloud (DTN SCADA data infrastructure), making it immediately available in the Weather Hub dashboard, mobile app, and automated alert engine.
- Fully integrated with Weather Hub alerting — WBGT heat stress thresholds, wind alerts, and other weather observation notifications can all be configured to trigger based on conditions measured at your specific location.
- Multiple stations can be deployed across locations and managed from a single Weather Hub account.
- Solar-powered configuration standard — no external power source required.
- Compatible with optional tipping bucket rain gauge and AQI sensor add-ons for expanded measurement capability.
- Available as outright purchase or as a 36-month managed service agreement (DaaS) — DTN manages and maintains the hardware under the DaaS model.

System requirements

- One or more ObsConnect weather station units
- A Weather Hub subscription
- Google Chrome, Firefox, or Safari web browser to access Weather Hub and configure station settings
- Add-on sensors require a new or existing DTN ObsConnect weather station — cannot be sold as standalone units

Cellular specifications

- Each ObsConnect communication box includes a pre-configured cellular module — no additional charges required
- Global coverage available
- U.S. version: AT&T and T-Mobile certified
- EU and AU regional versions available

Power requirements

- Solar panel included with all purchase and DaaS configurations — no external power source required for standard deployment

Key product features

- Delivers hyperlocal, site-specific weather data at your exact location — not from a regional forecast miles away
- Integrated to DTN's MetConsole Cloud SCADA infrastructure for reliable, continuous data ingestion
- Fully integrated into the Weather Hub platform with flexible pricing options
- WBGT heat stress monitoring with customizable alert thresholds — aligned to NCAA, NFHS, and state athletic association heat protocols
- Real-time wind, temperature, humidity, solar irradiance, and dew point at your site
- Pro Station adds radar-based precipitation type detection — the only way to know if that precipitation is drizzle, rain, snow, ice crystals, or hail
- Optional AQI sensor extends monitoring to real-time particulate matter concentrations for wildfire smoke, construction dust, and air quality safety decisions
- Audio and visual alerts through Weather Hub ensure your team is notified the moment conditions at your location reach your defined thresholds
- Compatible with DTN OnGuard Siren Solution — existing OnGuard customers can add hyperlocal weather measurement to their alerting infrastructure as a bundled add-on