FTS
QD QUICK DEPLOY

The QD Quick Deploy can be set up completely in 15-minutes by one person, with no tools and no technical training. Its portability means that several can be placed at the fire line and rapidly relocated as needed. It offers the same sensors and telemetry options as the Fixed RAWS, and all components are interchangeable with the Fixed Raws.

Because it was designed for fire management professionals, the Quick Deploy is not like any other portable weather station. It's exceptionally durable—no plastic components—so it can take a beating. We also designed it to be extremely simple to set up quickly and get working every time without any training, since we ship it preconfigured to your specifications and it doesn't require a laptop or alignment of a GOES antenna.

A fixed site can be configured with any other digital and analog sensors required.

Technical Specifications

Standard Components

Tripod Base:	• Aluminum, adjustable-length legs, adjustable "lilypad" feet with optional ground spike
Ground Anchor:	• Includes both spiral (screw-in) ground anchor and duck-bill anchor • Includes pounding rod for driving duck-bill anchor with sledgehammer (not included)
Enclosure:	• Heavy gauge (.08") marine-grade aluminum, powder coated finish. • Lockable heavy-duty stainless steel clasps • Rain drip rail over lid to keep rain out of enclosure when door is open • Foam gasket at bottom of door perimeter seals out insects and dust yet allows door to close over cables • FTS toll-free service number printed inside door
Datalogger:	• Axiom F6 datalogger integrates a powerful computer and the NIFC fire RAWS (or specified CDN) program, accessed through a built-in, waterproof touchscreen • Integrated GOES transmitter
Connectors:	• 100% waterproof military-style bayonet connectors • Each connector is keyed differently and color-coded
Antennae:	• Eon CS2 GOES antenna requires no aiming • GPS antenna provides accurate time to datalogger once per day to ensure GOES transmission is within allotted window
Sensors:	• Dual wind speed/wind direction sensor (includes mast extension to raise height to 10') • Temperature/humidity sensor • Tipping bucket rain gauge • Typical lifecycle is 10+ years, depending on maintenance frequency, parts obsolescence and physicalinstallation
Cables:	• Combination of braided stainless steel and UV-stable PVC cable housing • Cables are lightweight, flexible and permanently attached to sensors

Technical Specifications

Power System:	• (3) 7.5 Amp-hour batteries • 20W solar panel • Microprocessor-controlled, intelligent power manager monitors solar panel output and optimizes chargingvoltage according to ambient temperature, greatly extending battery life • All data, programming and telemetry configuration data is saved in the event of a power failure • System will automatically start up and resume full operation when power is detected following a power failure
Carrying/Shipping Case:	• Two cases total, both soft yet rugged Cordura weatherproof, UV-stable and abrasion-resistant outer shell with crushproof inner molded closed cell foam (molded cavity for each component) • Carrying handles are made from nylon webbing which exceeds burst capacity of case weight when full. Straps run full length of load bearing surface • Case 1: 15" x 20" x 38" • Case 2: 12" x 24" x 38" • No sharp buckles on outside of case • Includes easy (graphical) 12-step setup and packing instructions inside, in top of lid

Optional Components

Sensors:	• Solar radiation sensor • Fuel moisture/fuel temperature (fuel stick) • Barometric pressure sensor • Ultrasonic wind speed and direction sensor • Soil moisture/soil temperature • Hydromet: – Turbidity – Water temperature – Stage (pressure transducer) • Compatible with other vendor's sensors in most cases

Technical Specifications

Telemetry:	• GOES satellite data • Digitized voice radio UHF/VHF • Cellular (GPRS) • Digital radio modem • Setup, configuration and testing of each telemetry type is accomplished easily through the integrated touchscreen in Axiom datalogger
Other:	• Analog-to-SDI expansion module (SDI-AM) provides terminal strip connections for integrating legacy analog sensors – 4 analog inputs – 1 counter input – 2 sensor excitation outputs (0-rV) – 2 switched 12V outputs

Axiom F6 Datalogger - Hardware

Display / touchscreen:	• Graphical color touch screen display, 3.65" (diagonal), QVGA (320x240 pixels) • Display is transflective (readable in low light and outdoors in bright daylight) • Displays system status, configuration, stored data (graphical and tabular) and provides systemconfiguration and troubleshooting diagnostics • Displays voltage and current separately for battery and solar panel and battery temperature • Supports troubleshooting, configuration and programming
CPU:	• (2) CPUs total, both low-power RISC • Main CPU is 200MHz 32-bit ARM
Memory / Storage:	• 64MB RAM • 256MB fixed physical, non-volatile flash memory for data and program storage • Data is stored in a circular 10MB buffer (oldest data overwritten by newest when buffer full) • Based on NFDRS logging criteria, 7,575 days (about 20 years) of data can be stored

Technical Specifications

Device Ports:	• 2 waterproof USB 2.0 host ports, 1.5Mbps and 12 Mbps, support for flash memory and other USB-compliant devices • 1 waterproof USB 2.0 12 Mbps device port with automatic PC detect • Supports USB keyboard and mouse • **GOES RF output:** N-type jack • **GPS RF input:** SMA jack
Sensor Ports:	• Waterproof, color-coded, military-style connectors • Dedicated ports for: – wind speed (frequency input) – wind direction (potentiometer input) – rain gauge (counter) – temperature (thermistor, 0-20mA) & humidity (thermistor, 0-1.0V) – fuel stick (thermistor, 0-1.0V) • 2 independent SDI-12 V1.3 ports, expandable using external expansion modules to support up to 61digital sensors • Optional, configurable analog-to-SDI expansion module (SDI-AM) to connect legacy analog sensors(terminal strips)
Serial Ports:	• F6-G6-QD and F6-G6-RVT2-QD: one port factory configured as internal GOES transmitter • No external serial ports available
Environmental Sealing, Size, Weight:	• Waterproof to IP67, O-ring sealed, cast aluminum & stainless steel hardware • **Dimensions:** 10" W x 8" H x 6" D • **Weight:** approx. 8 lbs.
Power Supply:	• Internal, temperature compensated charge regulator • Waterproof, military style bayonet connectors for solar panel and battery • Sensing of battery voltage, battery current, battery temp, solar voltage and solar current 9.6VDC to 20VDC operating voltage

Technical Specifications

Axiom F6 Datalogger - Software

Station Identification:	• The station's name, NESID and GOES data can be easily identified on the touchscreen display • This is critical whencontacting RSFWSU or FTS for site troubleshooting or reporting
Programming:	• All programming done through intuitive graphical user interface (GUI) without writing code • No laptop required; GUI accessed through integrated touchscreen • Unlimited setup configurations are stored directly on the datalogger; different configurations can be selected or a new one created with the GUI
Electronic Service Reports:	• All of the data recorded by field techs during a service call can be captured electronically in the Axiom and saved to a USB memory stick • Data includes: – a list of sensor serial numbers before and after the service trip – audit log – datalogger program version – latitude, longitude, elevation • The trip report can be sent to WFMI/CMMS electronically (plain text) • This report could be customized to be directly imported into WFMI
Datalogger Performance Verification:	• Graph sensor data and diagnostic parameters • Battery load tests; view voltage before and after (requires dummy load on battery) View current sensor readings • View historical data • View GPS performance stats • View forward and reflected power stats to check GOES antenna performance
Rain Count:	• Custom NFDRS rain GUI allows users to quickly test tipping buckets each year by viewing manual tip measurement in real-time and quickly removing the test tips from memory • User can select a rain reset date if desired and set the action on power failure (rain total can be set to return toprevious values or reset to zero)

Technical Specifications

One-touch Current Conditions:	• Users can customize the Current Conditions screen so that all of sensors' real-time data are viewable with one button press, extremely handy when validating wind quadrants or simply validating each sensor as it is replaced • The electronic service report automatically captures the current conditions at the start (pre-swap) and after (post-swap)	
Data Transfer Via USB Memory Stick	• Data, Programs and Firmware updates can be transferred to and from datalogger via a conventional USBmemory stick • Historical data download is fast: approximately 5 seconds for 1 year of data including logger and telemetryrecords • Data downloaded in universal .CSV (comma-separated values) format; importable into Excel and many othersoftware	
GOES Transmitter (integrated into Axiom F6-G6-QD and Axiom F6-G6-RVT2-QD)		
Manufacturer	• FTS	
Supported Baud Rates:	• 100 bps **EUMETSAT SRD** • 300 bps • 1,200 bps	
Operating Supply Voltage:	• 10.8 VDC to 16 VDC	
Supply Current (at 12VDC):	• **Idle:** <3 mA • **Transmitting:** <2.6A • **GPS on:** <50 mA	
Output Power:	**GOES** • 300 bps: 6.3 W max • 1,200 bps: 6.3 W max	**METEOSAT** • 100 bps: 14 W max
EIRP:	• 40-45 dBm	
Data Validity:	• Integrated GPS time synchronization on start-up and once every 24 hours • Maximum 28-day transmit timing accuracy without a GPS fix	

Technical Specifications		
Frequency Range:	**GOES** • 401.701 MHz - 402.09850 MHz	**METEOSAT** • 402.0355 MHz – 402.4345 MHz
Frequency Stability:	• Initial Accuracy: +/-20Hz disciplined to GPS • GPS Schedule: 1 fix at power up, 1 fix per day thereafter	
Channel Bandwidth:	• 100 bps: 3KHz • 300 bps: 750 Hz • 1,200 bps: 1.5 KHz	
Time-keeping	• < 100 microseconds initial accuracy, automatically synchronized to GPS • < 10ms per day drift without GPS • 28 day operation without GPS signal (after initial GPS synchronization)	
Interface Serial Ports		
Command Port:	• N/A	
SDI-12 Port:	• N/A	
User Interaction		
User Interface:	• Always-present status indicator of GPS time, data received by transmitter, success of transmission • Number of satellites in view, average signal strength and other GPS status information available	
Forced Transmissions:	• User can select any channel and time to force a test GOES transmission	
Environmental Protection		
Operational Moisture Range:	• 0-100% RH, condensing	
Operational Temperature Range:	• **Display operation:** -20°C to +60°C • **Datalogger operation:** -40°C to +60°C • **Storage:** -55°C to +70°C	

Technical Specifications	
Lightning Protection:	• Three-stage protection circuit offers superior protection: **Stage 1:** transient earth clamp **Stage 2:** series impedance **Stage 3:** high speed shunt diode
UV Resistance:	• Excellent, as minimal plastics are used. Cable housing and omnidirectional GOES antenna are UVstable
Electronics Protection:	• Core electronics sealed from moisture and dust in waterproof housings, completely isolated from environment and user • All non-telemetry data exchange (firmware upgrades, report downloads) performed through waterproof USB port • Battery overcharge protection
IP Code Rating:	• IP67
Power Consumption	
Datalogger Current:	• 2-3mA at idle • 7.5mA average while collecting data • 60mA with touchscreen backlight on • **GOES transmit:** 2.6 A • **GPS on:** <50 mA
Power status:	• Datalogger measures and logs solar panel voltage, solar panel current, battery voltage, battery current and battery temperature • Status indicators (always visible) allow techs to identify if the system is charging correctly or not • This data is also part of the Current Conditions screen call and are captured in the electronic service report

Technical Specifications

Resolution, Accuracy and Stability

I/O Accuracy (with optional SDIAM digital to analog module):

Input Ranges	Accuracy
5 V	± 1.5 mV
2.5 V	± 0.75 mV
1 V	± 0.3 mV
100 mV	± 0.1 mV
55 mV	± 0.055 mV
25 mV	± 0.0375 mV

Bits of Resolution:

- 24 bits

Logging Rates:

- Logging rates are user-defined and can be as frequent as 1 second
- Logging can be done on a timed basis or conditionally
- Logging can be increased whenever a specific condition is met, for example if relative humidity drops below a certain percent, logging frequency can increase to every 15 minutes.
- Multiple logging routines can be set and stored

Miscellaneous

Assembly:

- Completely tool-less design. All components secured to enclosure (which is supported by tripod base) with custom-designed, stainless steel “fast fit” mounting brackets and grenade pins
- All mounting hardware is designed to eliminate any sharp or hazardous edges
- All mounting hardware is securely tethered to station frame.
- Allows complete assembly with no tools and full operation within 15 minutes by one person

Technical Specifications

Service and Support:

- Lifetime, unlimited, toll-free telephone 1.800.548.4264, email techsupport@ftsinc.com and online http://ftsinc.com/contact/
- Telephone support hours are 7:00 am to 4:30 pm Pacific time, Monday through Friday, excluding Canadian statutory holidays.
- Extended support hours available
- Free datalogger firmware updates provided for life of the product
- Firmware updates can be done easily in the field by end user (via USB memory stick)
- Several service contracts offered, including premium Annual On-site Maintenance