

**Sentry-FT Battery Thermal Runaway Monitor** is designed for telecom carriers to manage large numbers of remote cell sites. The Sentry-FT detects and prevents thermal runaway and reliably measures battery deterioration, without the need to directly connect to any battery posts.

**Sentry-FT** provides powerful functionality for reliable thermal runaway detection and remote battery management, for any number of remote telecom sites. The compact design makes it suitable for any size indoor/outdoor 24V or 48V system cabinet with 2V, 6V or 12V Lead Acid (VRLA) or Nickel Cadmium battery blocks. It combines superior data quality, reliable analysis, and ease of installation to create an unmatched remote battery monitoring solution.



## Functions and Features

- No connection to individual batteries needed
- Compatible with Lead Acid and Nickel Cadmium battery banks
- Intelligent embedded algorithm detects thermal runaway risk at its earliest stage, and analyzes "Battery Working Status" to avoid false alarms
- Temperature monitoring for ambient, as well as every battery string
- String voltage monitoring. Precise floating current monitoring
- Automatic selection of 24V or 48V. Minimal settings, ease of installation
- Secured wireless interconnection links multiple Sentry-FT monitors on a site
- Historical data (20+ years) stored on board and accessible via Ethernet
- Plug and play HMI for technician visits
- Laptop connection for data downloads, when device is not in network
- Remote access to battery data using http/ftp. IPv4 and IPv6 dual stack
- Risk alarms/dry contacts sent to NOC or rectifier for counter adjustments
- Modbus-TCP for integration

[Contact BatteryDAQ for Lithium battery applications.]



**Specifications**

	<b>Battery Bank</b>
<b>Battery Configuration</b>	24V or 48V cabinet/rack Lead Acid VRLA or Nickel Cadmium 1 to 15 strings per bank
<b>Power Input</b>	Internal DC/DC converter, 18-72V input Maximum Consumption: 5W
<b>Bus Voltage</b>	Range: 18 – 72V Measurement Accuracy: 0.1%
	<b>Float Current/Temperature Measurement</b>
<b>Current Transducer</b>	Battery bank current measurement Split core, window size 40x104mm Range: +/-450A, resolution: 0.1A
<b>Temperature Sensing</b>	1 ambient 4 pilot probes per unit (default, for 1 to 4 strings) T-Bus with up to 15 nodes/probes (for 5 to 15 strings) Intelligent thermal runaway detection algorithm
<b>Temperature Range</b>	Measurement range: -40 to 100°C (-40°F to 212°F) Accuracy 1 °C
	<b>Environmental Limits</b>
<b>Temperature</b>	Operating range: -30°C to 75°C (-22°F to 167°F) Storage range: -40°C to 85°C (-40°F to 185°F)
<b>Relative Humidity</b>	5 to 95% (non-condensing)
<b>Altitude</b>	2,000 M
	<b>Communication</b>
<b>Ethernet</b>	Onboard Ethernet DTU with HTTP and FTP. IPv4 and IPv6 dual stack Embedded web pages for real-time data and historical file access Modbus-TCP for integration with 3 <sup>rd</sup> party central management software
<b>Wireless</b>	Secured wireless connection to multiple units on a site
	<b>Indication and Output</b>
<b>LED indication</b>	Dual-color LEDs for status and alarm
<b>Alarm/Control Output</b>	Alarm-1: Normal Close/Open, 1A capacity, thermal alarm Alarm-2: Normal Close/Open, 1A capacity, service alarm
	<b>Dimensions</b>
<b>Unit Dimensions</b>	181mm(L) x 102mm(W) x 38mm(H), 7.2 x 4.0x 1.5 in.
<b>Mounting</b>	Dual magnetic cups that can be removed if another method is preferred.

**\*Specifications subject to change without notice**



**Ordering Information**

Sentry-FT units are 24V / 48V compatible. The kit can be ordered for sites with multiple battery banks. Each site will need one **main** unit for Ethernet connection and data storage, plus multiple dependent units for additional battery banks.

Each battery bank needs a Sentry-FT unit, a CT and multiple temperature probes depending on number of battery strings.

Please provide basic site/battery configuration information as shown below example for kit preparation.

Kit Type	Site Type	Site Number	Main Battery Bank	Bank#2	Bank#3	Bank#4
VZW-K001	Shelter	100	24x2V, 1 string	4x12V, 4 strings	2x12V, 15 strings	-
VZW-K002	Outdoor	50	NiCad, 2 strings	NiCad, 3 strings	NiCad, 1 string	-
VZW-K003	-	-	-	-	-	-




The kit will be labeled with Kit Type and Battery Bank information on the outside of the package.

Item	Part Number	Name	Quantity	Notes
1	Sentry-FT-M	Main Sentry-FT unit	1	Main unit with Ethernet network port and data storage Includes ambient probe, fused bus connection cable, and ring terminals.
2	Sentry-FT	Dependent Sentry-FT unit	N	Multiple dependent units can be installed on one site. Includes ambient probe, bus connection cable, and ring terminals.
3	CT-SCY10-300Q	Current transducer	1 per unit	Each Sentry-FT unit needs one CT. Comes with 6FT cable on terminal plug#1
4*	TS-PT1000-1	Temperature probe	4 per unit	4 pilot probes (default) for battery bank with <b>1 to 4</b> strings.
5*	TBS-P1075-N	Temperature bus	1 per unit	Temperature bus cable with <b>N</b> nodes/probes for battery banks with <b>5 to 15</b> strings. TBS-P1075-6 for 6 strings of 4x12V TBS-P1075-15 for 15 strings of 2x12V
6	HMI-GT02-FT	HMI display	Additional	One for each technician, plug & play service tool.




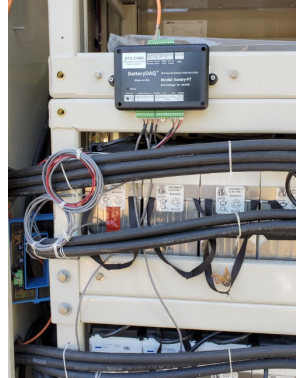
\* Choose item #4 for 1-4 strings per bank, or choose #5 for 5 to 15 strings per bank.



**Kit Example**

		
<p>Attach probes to the battery surface with included adhesive mounting strips. 3M Scotch 1"x 3", P/N: <b>414P-ST</b></p>	<p>Fused leads for BUS connection 6mm (1/4") and 8mm (5/16") Bolts/nuts are not included.</p>	<p>Example for 2 battery banks 1x Sentry-FT-M, 1x Sentry-FT 2x CTs, 2 sets of pilot probes 1x HMI-GT02-FT</p>

**Installation Examples**

			
<p>48V Bank 24x2V Cells 2 pilot probes</p>	<p>24V Bank 12x2V Cells 2 pilot probes</p>	<p>48V Bank NiCad 3 power systems 1 main unit 2 dependent units</p>	<p>48V Bank 3 strings of 4x12V 3 pilot probes</p>

