Site Alarm Module (SAM)

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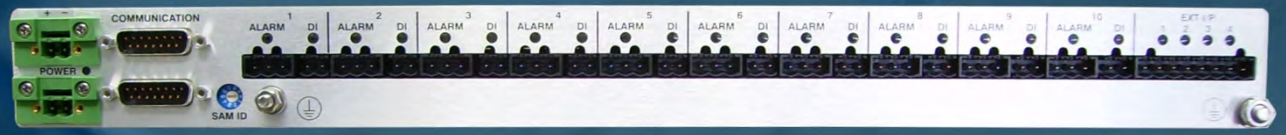
What is the SAM?

Site Alarm Monitor - Front View



Site Alarm Monitor - Rear View

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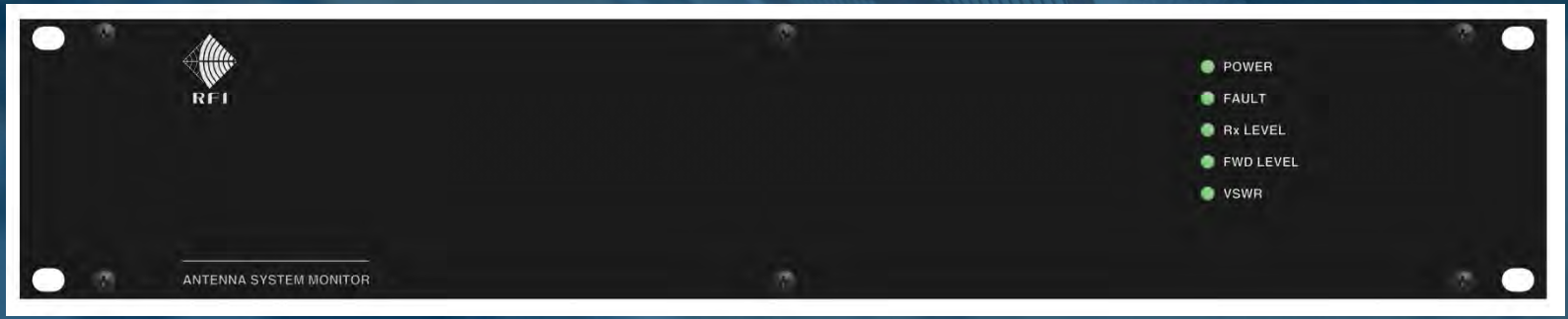
The SAM and the ASM

- The Site Alarm Monitor (SAM) is an option to the Antenna System Monitor (ASM). The SAM adds additional functionality to the ASM installation, enhancing the ASM's own features.



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What is it for?

- The SAM may be used to enhance the Antenna System Monitor's existing RF measurement and alarm capabilities, using the SAM's External and Digital Inputs to allow the monitoring of other customer equipment at a site.
- The SAM's Alarm Outputs can be used to provide individual alarm relay outputs that are activated by the ASMs monitoring, such as "low RF output power" on a transmitter, or "high VSWR" on an antenna.

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What can it do?

- The SAM may be used to monitor;
  - the site's temperature, or battery temperature….
  - a solar array's output voltage, or a backup battery's voltage, or a power supply's voltage….
  - the building door, a movement detector, or other security devices….
  - other detectors on the site - such as a generator fuel tank low level indicator, a radio link's RSSI indicator level….
  - the alarm outputs from other equipment - such as Mains fail, rectifier fail, base station alarms, microwave link fail….
  - the "PTT" lines of base stations to monitor their operational status….

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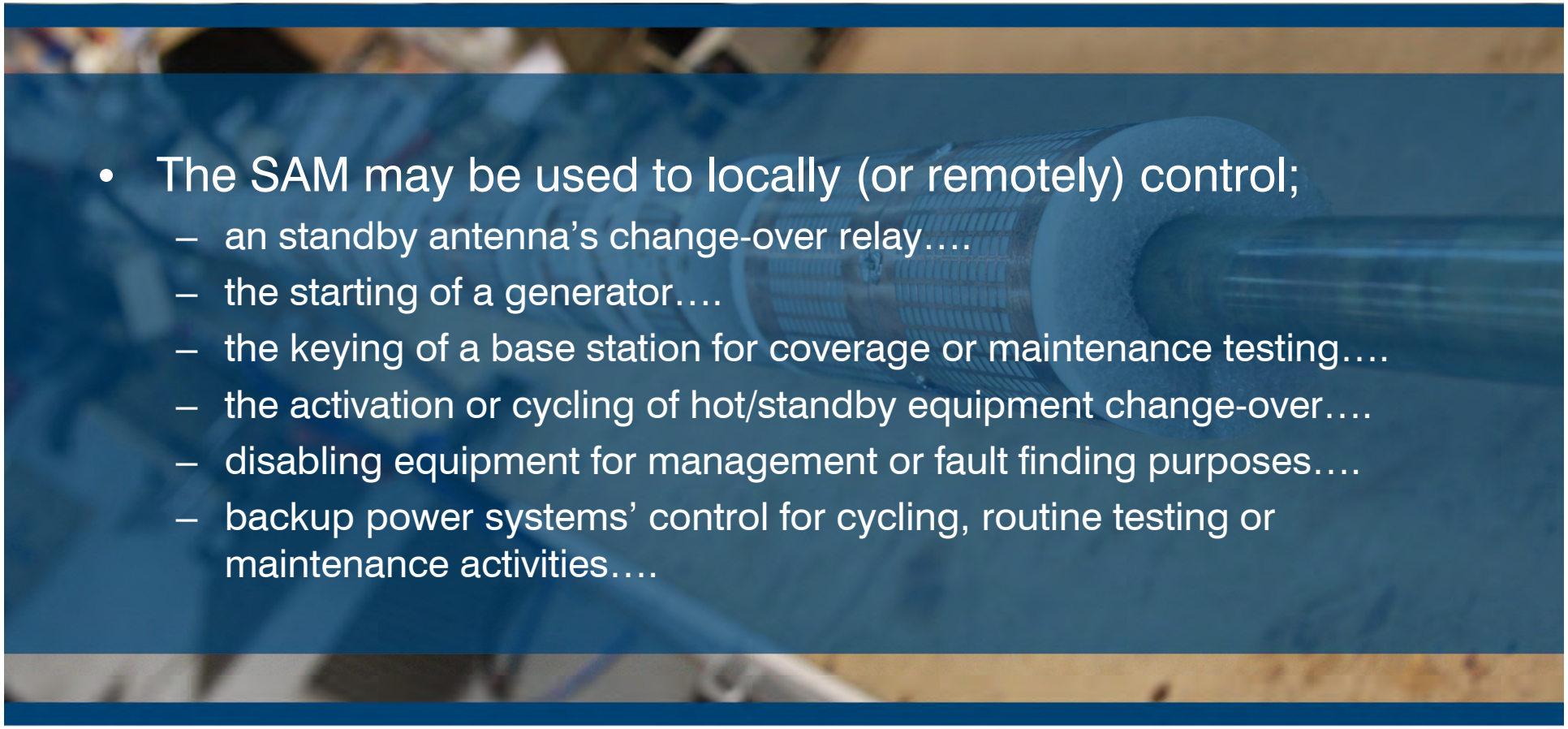
What can it do?



- The SAM may be used to locally (or remotely) control;
  - an standby antenna's change-over relay….
  - the starting of a generator….
  - the keying of a base station for coverage or maintenance testing….
  - the activation or cycling of hot/standby equipment change-over….
  - disabling equipment for management or fault finding purposes….
  - backup power systems' control for cycling, routine testing or maintenance activities….

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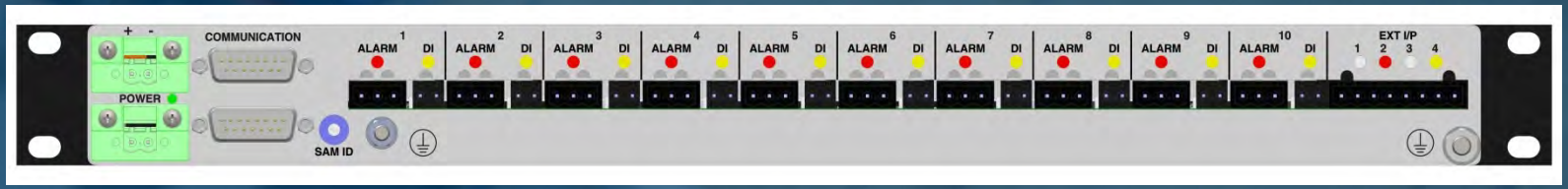
Installation

- The SAM uses common and readily available “Pheonix” style connectors for all of its Inputs and Outputs connections, making it easy to install…..



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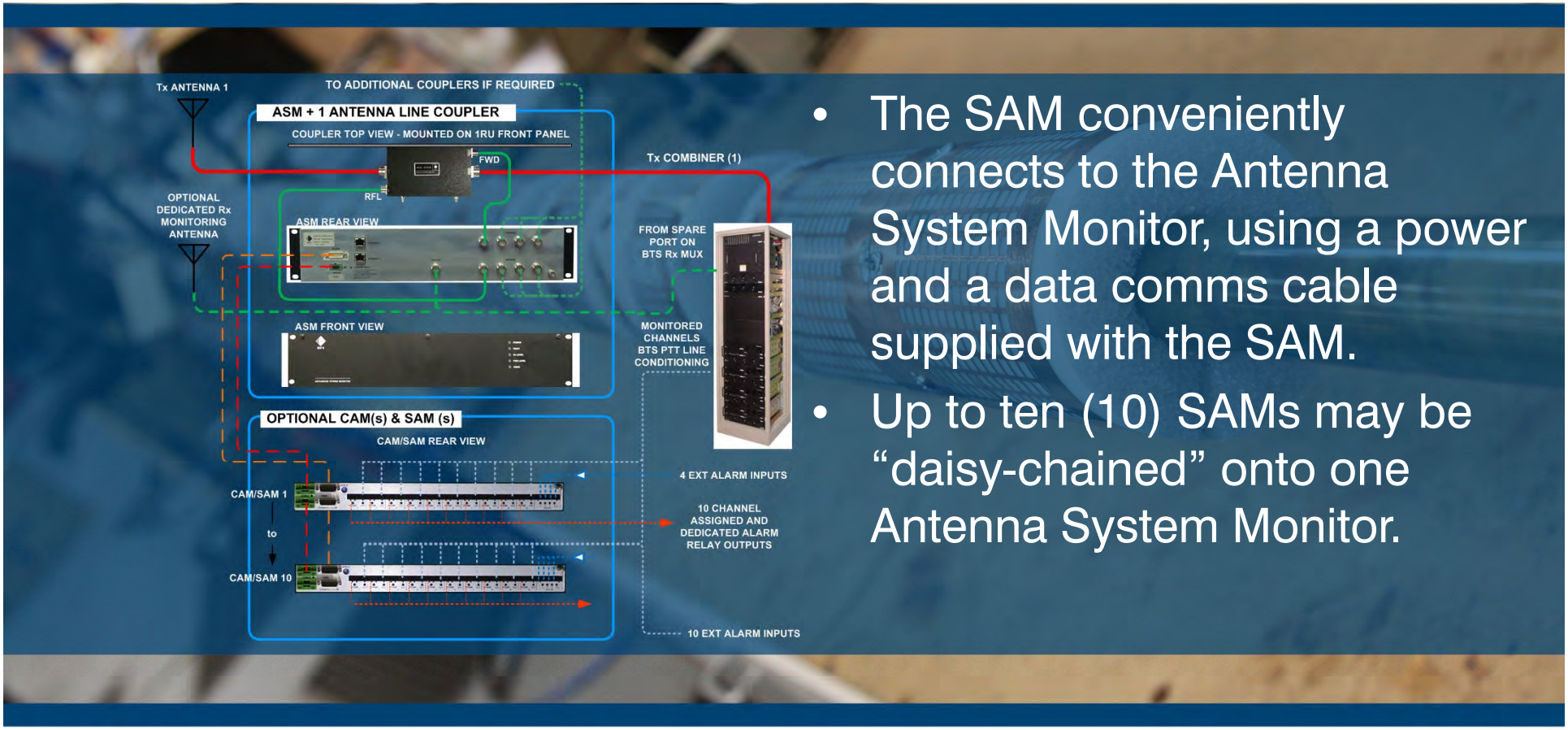
Installation



- The SAM conveniently connects to the Antenna System Monitor, using a power and a data comms cable supplied with the SAM.
- Up to ten (10) SAMs may be “daisy-chained” onto one Antenna System Monitor.

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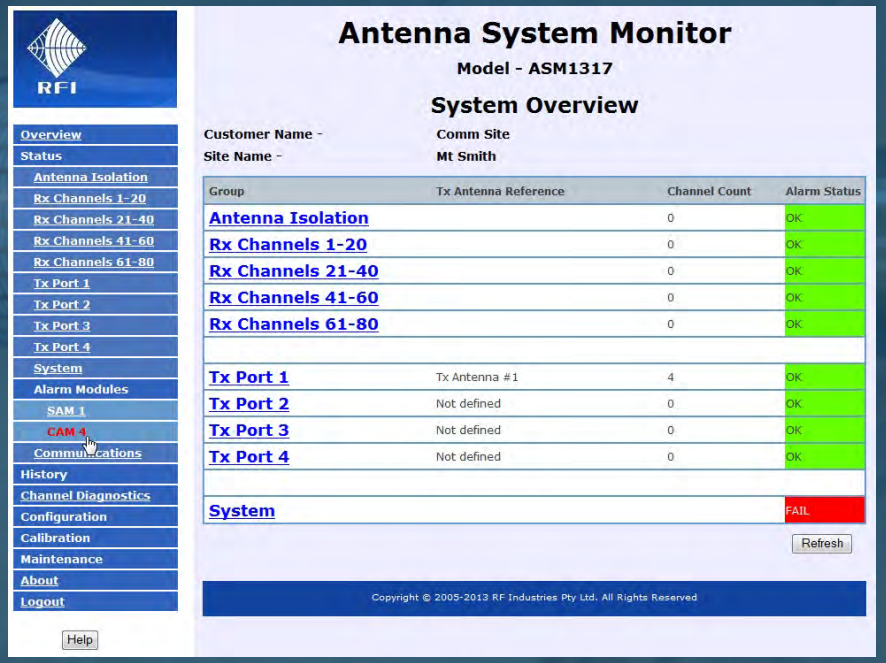
Configuration

SAMs appear automatically in the Antenna System Monitor (ASM) Graphical User Interface (GUI) menu structure when they are connected.
Each SAM has a unique ID number that is set from a rotary switch on the rear of each module.



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Connectivity

- To access and use the GUI, a web browser such as Internet Explorer, Mozilla, or Firefox is used. Connection to the ASM (and SAM) may be;
  - "locally" via a computer using an Ethernet cable
  - "locally" via a wireless router connected to the ASM and the computer's wireless modem (i.e. WiFi)
  - "remotely" via a customer's Local Area Network (LAN)
  - "remotely" via a site linking backbone (such as microwave links, fiber, or other link technologies)
  - "remotely" via a cellular modem if the ASM/SAM site is within coverage of a cellular network
  - "remotely" via a satellite link (ideal for *very* remote sites)

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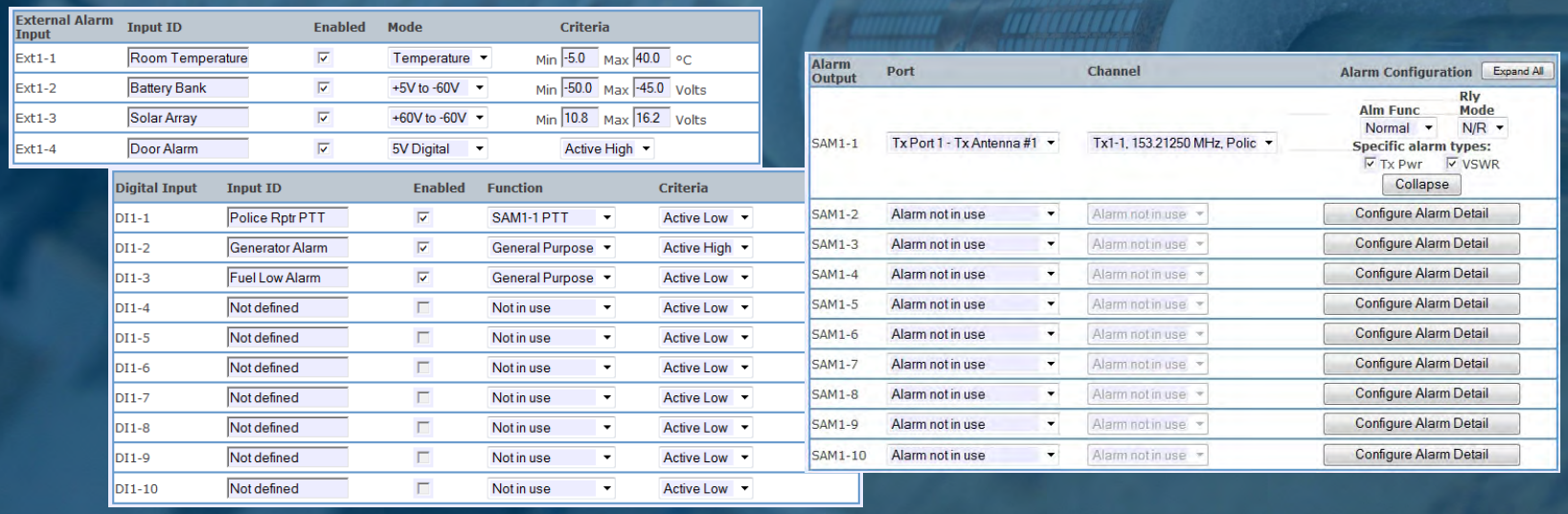
Configuration

- The ASM Graphic User Interface (GUI) allows each of the SAM's inputs and outputs to be configured independently.



External Alarm Input	Input ID	Enabled	Mode	Criteria
Ext1-1	Room Temperature	☑	Temperature	Min -5.0 Max 40.0 °C
Ext1-2	Battery Bank	☑	+5V to -60V	Min -50.0 Max -45.0 Volts
Ext1-3	Solar Array	☑	+60V to -60V	Min 10.8 Max 16.2 Volts
Ext1-4	Door Alarm	☑	5V Digital	Active High

Digital Input	Input ID	Enabled	Function	Criteria
DI1-1	Police Rptr PTT	☑	SAM1-1 PTT	Active Low
DI1-2	Generator Alarm	☑	General Purpose	Active High
DI1-3	Fuel Low Alarm	☑	General Purpose	Active Low
DI1-4	Not defined	☐	Not in use	Active Low
DI1-5	Not defined	☐	Not in use	Active Low
DI1-6	Not defined	☐	Not in use	Active Low
DI1-7	Not defined	☐	Not in use	Active Low
DI1-8	Not defined	☐	Not in use	Active Low
DI1-9	Not defined	☐	Not in use	Active Low
DI1-10	Not defined	☐	Not in use	Active Low

Alarm Output	Port	Channel	Alarm Configuration (Expand All)
SAM1-1	Tx Port 1 - Tx Antenna #1	Tx1-1, 153.21250 MHz, Polic	Alm Func: Normal; Rly Mode: N/R; Specific alarm types: ☑ Tx Pwr ☑ VSWR; Collapse
SAM1-2	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-3	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-4	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-5	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-6	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-7	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-8	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-9	Alarm not in use	Alarm not in use	Configure Alarm Detail
SAM1-10	Alarm not in use	Alarm not in use	Configure Alarm Detail

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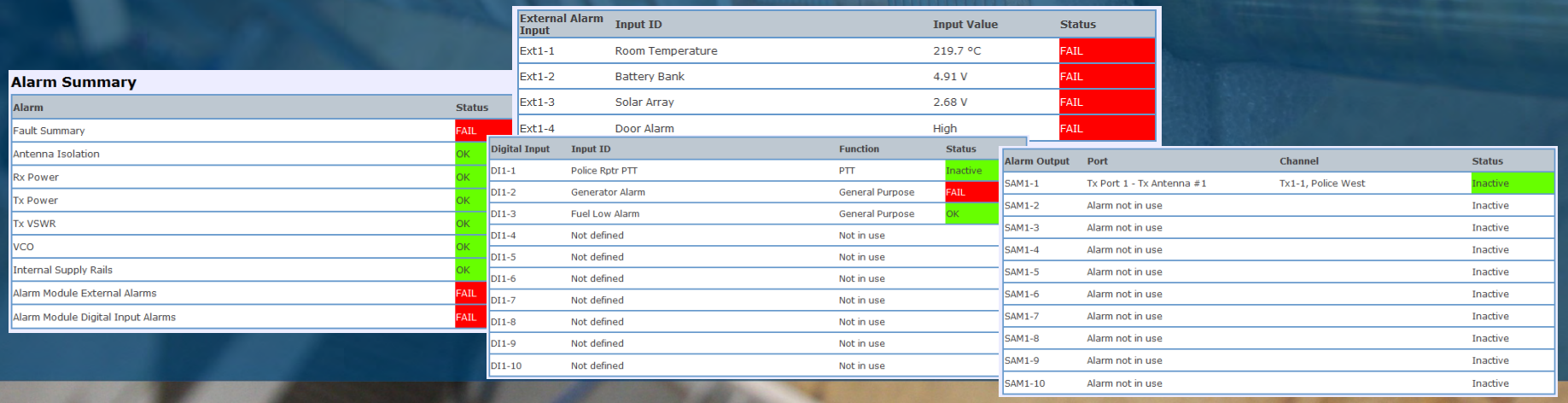
Monitoring

- The SAM Inputs and Outputs, and associated alarms, are presented in the ASM GUI, and are also available as relay outputs, SNMP Alarm Traps, and SMTP (Email) messages.



Alarm Summary

Alarm	Status
Fault Summary	FAIL
Antenna Isolation	OK
Rx Power	OK
Tx Power	OK
Tx VSWR	OK
VCO	OK
Internal Supply Rails	OK
Alarm Module External Alarms	FAIL
Alarm Module Digital Input Alarms	FAIL

External Alarm Input	Input ID	Input Value	Status
Ext1-1	Room Temperature	219.7 °C	FAIL
Ext1-2	Battery Bank	4.91 V	FAIL
Ext1-3	Solar Array	2.68 V	FAIL
Ext1-4	Door Alarm	High	FAIL

Digital Input	Input ID	Function	Status
DI1-1	Police Rptr PTT	PTT	Inactive
DI1-2	Generator Alarm	General Purpose	FAIL
DI1-3	Fuel Low Alarm	General Purpose	OK
DI1-4	Not defined	Not in use	
DI1-5	Not defined	Not in use	
DI1-6	Not defined	Not in use	
DI1-7	Not defined	Not in use	
DI1-8	Not defined	Not in use	
DI1-9	Not defined	Not in use	
DI1-10	Not defined	Not in use	

Alarm Output	Port	Channel	Status
SAM1-1	Tx Port 1 - Tx Antenna #1	Tx1-1, Police West	Inactive
SAM1-2	Alarm not in use		Inactive
SAM1-3	Alarm not in use		Inactive
SAM1-4	Alarm not in use		Inactive
SAM1-5	Alarm not in use		Inactive
SAM1-6	Alarm not in use		Inactive
SAM1-7	Alarm not in use		Inactive
SAM1-8	Alarm not in use		Inactive
SAM1-9	Alarm not in use		Inactive
SAM1-10	Alarm not in use		Inactive

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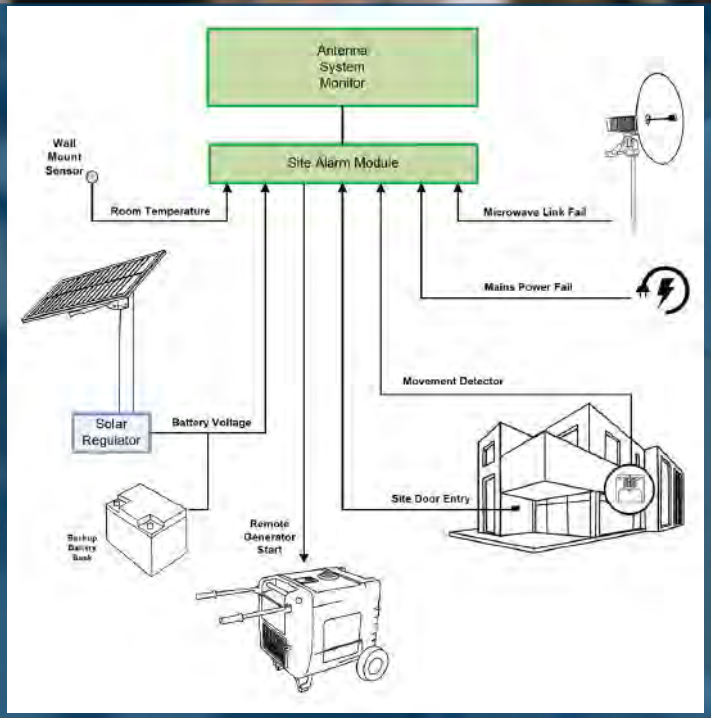
Summary



The Site Alarm Monitor (SAM) enhances the capabilities of the Antenna System Monitor (ASM), and provides a convenient way to monitor and/or control equipment on a communications site.

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More Information

- Antenna System Monitor Product Brief

  http://www.rfiwireless.com.au/multicoupling-monitoring/monitoring/antenna-system-monitor-asm1317.html
- Antenna System Manual PDFs and Downloads

  http://www.rfiwireless.com.au/multicoupling-monitoring/monitoring/antenna-system-monitor-asm1317.html
- Site Alarm Module Product Brief

  http://www.rfiwireless.com.au/multicoupling-monitoring/monitoring/site-alarm-module.html
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