HOT SPOT MONITOR 600

Continuous Thermal Monitoring for Low-Voltage Applications

Why It Matters

Low-voltage equipment, including switchgear, switchboards, MCCs, and transformers, is at the heart of every facility. Failures in these assets lead to costly downtime, unsafe conditions, and compliance risks. Traditional inspections and IR thermography only provide snapshots, leaving blind spots between inspection cycles.

The **GraceSense™ Hot Spot Monitor 600** (HSM 600) provides continuous thermal monitoring (CTM) for systems up to 600V, offering 24/7 visibility, early failure detection, and alignment with NFPA 70B condition-based maintenance requirements. By continuously monitoring the temperature rise over ambient (ΔT) and alarming in real-time, the HSM 600 enables facilities to safely extend IR inspection intervals, achieving both compliance and reliability.
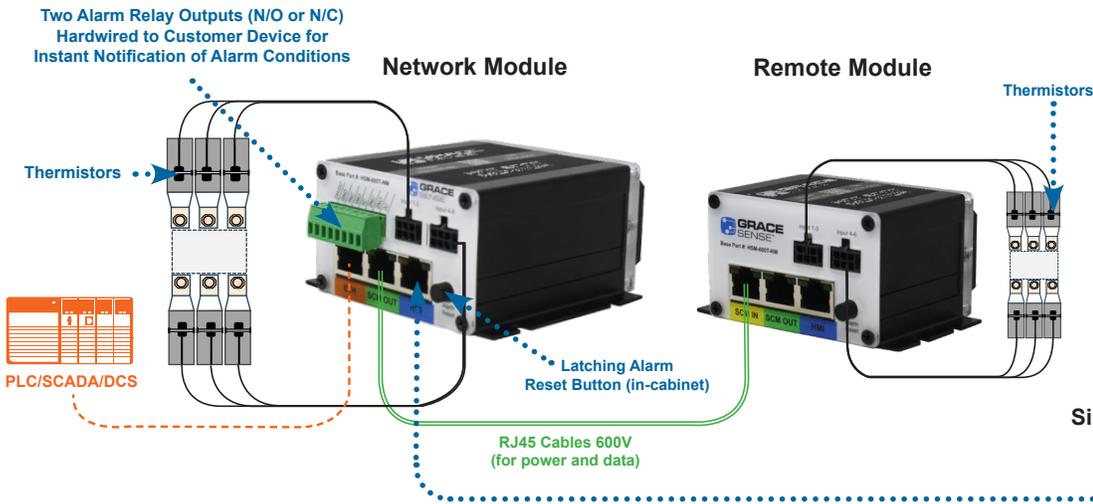
Why It's Better

The HSM 600 is purpose-built for low-voltage applications — with broader industry use, more flexibility, and smarter alarming.

Universal Applications: Protects LV drives, power distribution units (PDU's), remote power panel (RPP's), switchgear, switchboards, MCCs, transformers, conductor cables, and bus bars across all industries.

Scalable Architecture: The network module uses a single cable to power and communicate with up to 12 remote modules (6 sensors each) for 78 monitored points, eliminating the need for additional power supplies or other networking devices.

Rise Over Ambient Accuracy: Direct sensor ambient input, external to electrical equipment, delivers a more precise ΔT calculation, aligning with IEEE, UL, CSA, IEC, and NFPA 70B standards.

Dew Point Alarming: Built-in calculation with configurable thresholds warns of condensation risks before damage occurs.

Smart Alarming: Latching alarms require reset (local, web utility, or PLC), ensuring operators never miss a critical thermal event.

Compact Installation: The small, low-profile modules mount easily within most low-voltage compartments and offer flexible installation options, including surface or DIN rail mounting.

UL 600V Rating: The entire system including the temperature sensors are cUL listed for operation up to 600V.

Integration Ready: Seamless PLC/SCADA integration via Modbus TCP/IP or EtherNet/IP™ (including a Rockwell Automation Studio 5000 add-on profile) plus a built-in web utility interface for easy configuration.
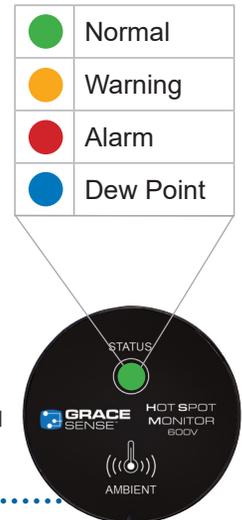
How It Works

- **Direct Monitoring:** Thermistor-based sensors (rated up to 600V) are mounted near critical components to continuously monitor potential failure points (PFPs).

- **ΔT Trending:** Measured values are compared against ambient for early fault detection in compliance with NFPA 70B.

- **Phase Differential Monitoring:** Notification when temperatures differ significantly between monitored phases.

- **Flexible Reset Options:** Manual button, browser-based web utility, or PLC reset capability.

- **User-Friendly Configuration:** No apps required. Browser-based web utility eliminates the need for proprietary software.

HSM 600 Network Module Supports Up To 12 Remote Modules

Visual Alarming

Two Alarm Relay Outputs (N/O or N/C) Hardwired to Customer Device for Instant Notification of Alarm Conditions

Network Module

Remote Module

Thermistors

Thermistors

PLC/SCADA/DCS

Latching Alarm Reset Button (in-cabinet)

RJ45 Cables 600V (for power and data)

Simple HMI

🟢	Normal
🟠	Warning
🔴	Alarm
🔵	Dew Point

Technical Snapshot

PRODUCT DETAILS	SPECIFICATIONS
Voltage Rating	Up to 600VAC and 800VDC *(pending)*
Sensor Capacity	6 sensors per module × 1 network plus 12 remote modules = 78 points
Measurement	Conductor/bus temperature vs external ambient (ΔT monitoring)
Integration	Modbus TCP/IP, EtherNet/IP™, PLC/SCADA tags, CMMS connectivity *Rockwell Studio 5000® Add On Profile (AOP) available.*
Alarming	Configurable thresholds, latching alarms, SMS/email notification options
User Interface	Browser-based configuration + LED HMI
Mounting	Direct to bus bar lug or conductor cable
Footprint	Compact, low-profile modules; 30mm knockout for HMI