

GraceSense™ Hot Spot Monitor FAQs

Q: What is the temperature measurement range?

A: -20°C to +120°C (-4°F to +248°F). A high temperature probe is available for -20°C to +160°C (-4°F to +320°F) (Part No. G-HSM-FB-HT).

Q: Is there a voltage limitation on which this can be used?

A: Yes, 38kV systems with an 8" gap and tested to 80kV withstand.

Q: How long are the fiber leads?

A: 10M standard in kit. There is also a 15m option available (Part No. PN G-HSM-FB3-L015).

Q: Can the probe be removed from the fiber cable and reattached?

A: No, do not remove, crimp or cut the probe end (metal tip end) of the fiber cable.

Q: Are the temperature probe connectors available as separate components so we can make our own cables?

A: No.

Q: Can the fibers be spliced?

A: No.

Q: Can I install the HSM module on the plant floor or outdoors?

A: No, it is recommended the device be protected from all environments and typically enclosed in low voltage/control compartments.

Q: Can the fiber be routed outdoors?

A: The fiber has no UV ratings. Fiber must be protected using a conduit when routed outdoors.

Q: Does the module ever need calibration?

A: No field calibration needed; the device is factory calibrated.

Q: What is the warranty on the module?

A: The module carries a 5 year warranty.

Q: What can I use to protect the fiber from rubbing against a metal edges?

A: Use Flexo Pet 1/2" (PT# .50YL)

Q: Is there a high-temperature alarm?

A: Yes, there is a configurable temperature alarm both visual and audio on the unit. Optional configuration is available to adapt to existing facility systems.

Q: Is there a way to connect an external high-temperature alarm or warning light?

A: Yes. The unit comes with a 2 Amps Normally Open (NO) output relay contact that can be connected to an alarm or warning light.

Terminals 6-10				
Terminal Number	Name	Function	Wire Gauge	Wire Type
6	V-	Input Voltage Negative	22	Unshielded (<3 m/ 10 ft)
7	V+	Input Voltage Positive		
8	PE	Chassis Grounding		
9	COM	Relay: Common Terminal		Shielded (<3 m/ 10 ft)
10	NO	Relay: Normally Open Terminal		

Q: Can this unit send an alert to a cell phone?

A: Not by itself. However, when integrated with 3rd party software and hardware that supports Modbus RTU or Ethernet IP.

Q: Does this replace thermography programs already in place?

A: It could. HSM can be used in conjunction with thermography programs and is ideal for monitoring temperatures of critical connections that are hidden to IR windows and cameras.

Q: What HMIs will this interface with?

A: Any that support Modbus RTU, RS485 or Modbus TCP/IP protocol.

Q: What PLCs (controllers) will this interface with?

A: Any that support, Ethernet I/P, Modbus RTU, RS485 or Modbus TCP/IP protocol.

Q: Will this interface with a PC?

A: Yes, via the GraceSense™ Web utility interface. See Quick Start guide

Q: How does HSM enhance NFPA 70E Safety programs?

A: HSMs remote/thru-door monitoring capability aids facility managers to predict the equipment condition without exposing their personnel to high risk incident energies inside the electrical equipment.

Q: Where can the HSM be used?

A: HSM can be used in low/medium/high voltage systems where standard measurement methods such as RTDs, thermocouples and IR scans are not suitable.

Q: Does the unit have onboard data storage?

A: Yes, 16MB. It will store approximately 8 months of data if log rate interval is every minute, approximately 216 years of data if log rate is 6 hours.

Onboard Data Acquisition Timespans	
Log Rate Interval	Memory Timespan
1 min	8 months
5 min	3 years
15 min	9 years
30 min	18 years
1 hour	36 years
2 hours	72 years
6 hours	216 years

Q: How big is the module?

A: 3" W x 6" H x 2" D

Q: How is the module mounted in the cabinet?

A: The HSM can be mounted onto the standard 35mm din rail.

Q: I have a red status LED at one of the fiber connections, the rest are green.

A: The red LED light indicates a poor connection. Disconnect and re-insert the fiber. If the LED doesn't turn green in about 30-45 seconds, disconnect the fiber and use the fiber trimming tool to snip off a bit of the fiber. Re-insert the fiber and you should see the green LED in about 30-45 seconds. If the LED is still red, check bend radius along the fiber routing and try inserting a fiber from another connection. If after about 30-45 seconds the LED turns green it indicates you have a bad fiber. Contact factory for further assistance..

Q: How do I power the module?

A: 24VDC - Power, 3 Watts (max).

Terminals 1-5				
Terminal Number	Name	Function	Wire Gauge	Wire Type
1	V-	Input Voltage Negative	22	Unshielded (<3m)
2	V+	Input Voltage Positive		Shielded (>3m)
3	Rx-	Inverting 2-wire, RS-485		Shielded twisted pair
4	Tx+	Non-Inverting 2-wire, RS-485		
5	Shd	Shielding of communication pair		

Q: What are the Indicator LEDs telling me?

A:

HSM Indicator LEDs			
	HSM Indicator LED	Color	Meaning
NETWORK	10/100	ORANGE	100 Mbit Mode
		OFF	10 Mbit Mode
	LINK	FLASHING GREEN	Ethernet Traffic
		GREEN	Connection Established
		OFF	No Connection Established
STATUS	COM	FLASHING GREEN	MODBUS/EIP Communication
		FLASHING RED	Alarm Triggered
	SYS	FLASHING GREEN	Normal Operation
		RED	Write to Flash
		FLASHING ORANGE	Bootload Mode