Webinar Q&As

CONTINUOUS THERMAL MONITORING WEBINAR

Optimizing Thermal Monitoring with Hard Wired or Wireless Sensors:
Proactive Maintenance Approach

Exertherm Thermal Sensors

Q1. How is the IR generated without the power? What happens if there is a black-out, how does your sensor stay "awake"? Without power / battery, how does the sensor work?

The infra-red radiation generated from the target body excites the thermopile device in the sensor head. i.e a voltage output/signal generated is directly propotional to the heat flux flowing through the thermopile.

Q2. Do Delta-T sensors also provide ambient temperature information or is additional sensors needed that measures ambient temperature?

The Exertherm Delta-T sensors provide the Delta-T temperature directly without requiring any additional sensors to measure ambient temperature.

Q3. Can you please let me know if there is any way we could capture data and store with CTM for analysis?

The datacards provide real-time temperature data over Modbus RS485 which can then be integrated into client's front-end i.e SCADA / BMS / DCS etc where you can perform further logging, trending and analytics.

Q4. What is the high-level description of the application of the Exertherm system?

We offer continuous thermal monitoring solutions for numerous industries which delivers increased safety, efficiency, reliability, and longevity. Our technology helps prevent outages, improve performance, informs predictive maintenance and identify potentially disastrous failures before they occur. Find out more on https://www.exertherm.com/

Q5. Does loadmap use the same sensors as the wired ones, or are there different sensors needed?

Exertherm non-contact hardwired IR sensor can be used with our Load Map software.

Q6. How many hard wired sensors can be connected in one loop?

The Exertherm Modbus datacard can accept up to a maximum of 8 sensors.

Protocols and Standards

Q7. What if a client asks for another protocol / standard like DNP3 or 61850, instead of modbus?

Exertherm uses industry standard - Modbus RS485 protocol, if other protocols are required to support integration into front-ends, then simple ready available off the shelf converters can be used.

Q8. What IEEE standard is being changed to include CTM?

P2969 / D6.9, Oct 2024 - IEEE Draft Guide for Continuous Thermal Monitoring of Switchgear and Motor Control Centers up to 52 kV.

Q9. What efforts are taking place or should be taking place to modify standards such as the NFPA 70B or even maintenance / test standards when the use of active monitoring is being used? Would those standards be able to recognize the use of technology to allow for extended maintenance conditions that are approved by AHJs? This is one of the ways that I can see an ROI for spending $ to install the technology.

This is currently under process to include for continuous thermal monitoring. Only a matter of time so we advise to be on the lookout for this.

Specification and Fit

Q11. Will it support for IEC communication?

Yes, suitable converters can be used.

Q12. What will be the specification required to specify the converter from MODBUS to IEC?

Yes, suitable converters can be used for Modbus RS485 to IEC 61850 and one which works well with Client's / OEMs front-end system.

Q13. Does wireless sensors capture all the data when used? When the battery dies down in wireless, what happens next?

The battery life is dependant on how many times are you polling data and when it runs out of battery then it no longer captures the data. You will need to replace the battery or the sensor itself for some technologies.

Q10. Are there any products suitable for indoor or outdoor Gas Turbines which whose casing insulations are too old and the customers are not able to change the insulation due to their limited budgets but the operation team still has to monitor casing temperatures?

This is something we can definitely look into and we are sure can comment more on the best fit solution if we can have more specific details.

Q14. For rail network, customer needs to check and record temp in betweeen rails in desert where temp shoots up. Can these sensors withstand vibration?

Yes, the Exertherm sensors are very robust and durable and can be used for this type of application.

Installation

Q15. How do I acquire commissioning and installation of sensors guidelines?

Please get in touch with us by sending any details you may have on **support@exertherm.com**

Q16. Are these sensors being suitable for outdoor switchgear application?

Some more clarity and details are required regarding the outdoor application to determine its suitability.

Q17. Have you seen any arc flash or issues during installation due to the wires that are being ran inside of the HV / MV systems? Has there been any testing on what would happen if the sensor wires was to fall and short out MV / HV? For LV applications (600v or less) what would be the minimum wire size that the sensor can be connected to?

If sensor cables are to be routed through switchgear, they must be kept away from all busbars and in accordance with good electrical practice and regulations for installation of communication cables within electrical panels. The Sensor or the Sensor cable should never be attached to a busbar, even as a temporary measure.

Sensor & Communication cables should never be installed in containment containing any power cables, they should be run in compartments designed for signal and communication cables. They should never be installed parallel with any high voltage or power cables / busbars. If they must cross any power cables / busbars, then this should be at right angles and with a suitable clearance to comply with all appropriate standards.

EXERTHERM
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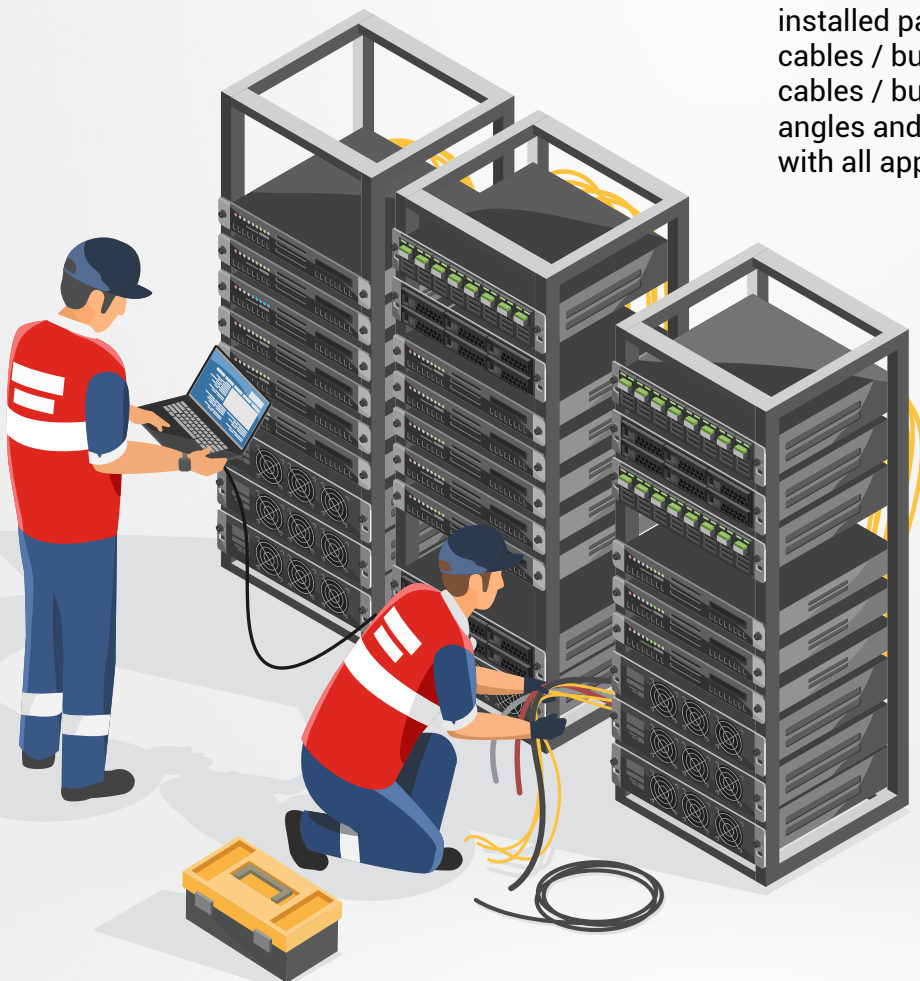
Resources

Q18. Is there a possibility for this powerpoint presentation to be shared with participants?

We'll share the recording with you in a follow-up email.

Q19. Where can I find all your literature?

You can download our literature from our website: **https://www.exertherm.com/downloads**

WATCH OUR WEBINAR:

Additional resources:

Future-Proof Electrical Assets With Continuous Thermal Monitoring

[Download]

Revolutionizing Mission Critical Electrical Assets with Exertherm's Thermal Sensors

[Learn More]

CONTINUOUS THERMAL MONITORING
For Critical Electrical Assets

EXERTHERM by **EATON**

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Peace Of Mind