



"Where
Technology
Meets Insight."



SURFACE TEMPERATURE &
AMBIENT RELATIVE HUMIDITY TEMPERATURE
SENSOR FOR BUS DUCTS

AMP-WM2THC

www.amptronics.com

AMP-WM2THC

Wireless Bus Duct Temperature Sensor

Overview

Prevent Bus Duct Failures with Continuous Thermal Monitoring

Excessive temperature within a bus duct can be an early indication of electrical overloading, deteriorating connections, or increased contact resistance. If left undetected, prolonged overheating can degrade insulation and increase the risk of electrical faults, short circuits, equipment damage, and fire.

Bus duct joints are particularly critical because they carry substantial electrical loads and are exposed to mechanical and thermal stresses. Vibrations, seismic activity, and mechanical movement can cause slight displacement or loosening of joints. At the same time, repeated thermal expansion and contraction caused by variations in electrical load and ambient temperature can further affect joint integrity, potentially increasing contact resistance and generating localized hot spots.

Amptronics Bus Duct Temperature Monitoring Solution provides continuous, real-time monitoring of critical bus duct connections, enabling early detection of abnormal temperature rise and developing thermal issues. By providing timely temperature data, alarms, and alerts, the solution helps maintenance teams identify potential failures before they escalate—supporting predictive maintenance, reducing unplanned outages, improving electrical safety, and extending asset life.

Bus duct temperature sensors measure the temperature **every 60 seconds (default)**, Sense the temperature at 20sec, if temperature rise trigger attains it sends event data and transmit the data wirelessly to the receiver. It can communicate with the BBC969-485RC and BBC969-27C. Sensor data is encrypted using symmetric **AES-128 encryption**



Features



24/7 hotspot detection



Range - 50mts



Wireless Communication
AES-128 encryption



Battery-powered,
Lifespan - 10 yrs



Surface Temp -20°C to 150°C
Ambient Temp -20°C to 85°C
Humidity 0 to 95%,



Compact Magnetic Device

Benefits

Organizations - Drive Safer, More Reliable Electrical Operations



- Gain continuous visibility into the condition of critical electrical assets and connections.
- Reduce CAPEX and OPEX by minimizing dependence on periodic thermographic inspections.
- Enhance workplace safety by reducing the need for personnel to interact with energized or potentially hazardous equipment.
- Identify emerging thermal issues early to prevent costly failures, unplanned downtime, and asset damage.
- Maximize asset performance, reliability, and lifecycle ROI through continuous condition monitoring.

Engineers - Enable Predictive Maintenance with Actionable Insights

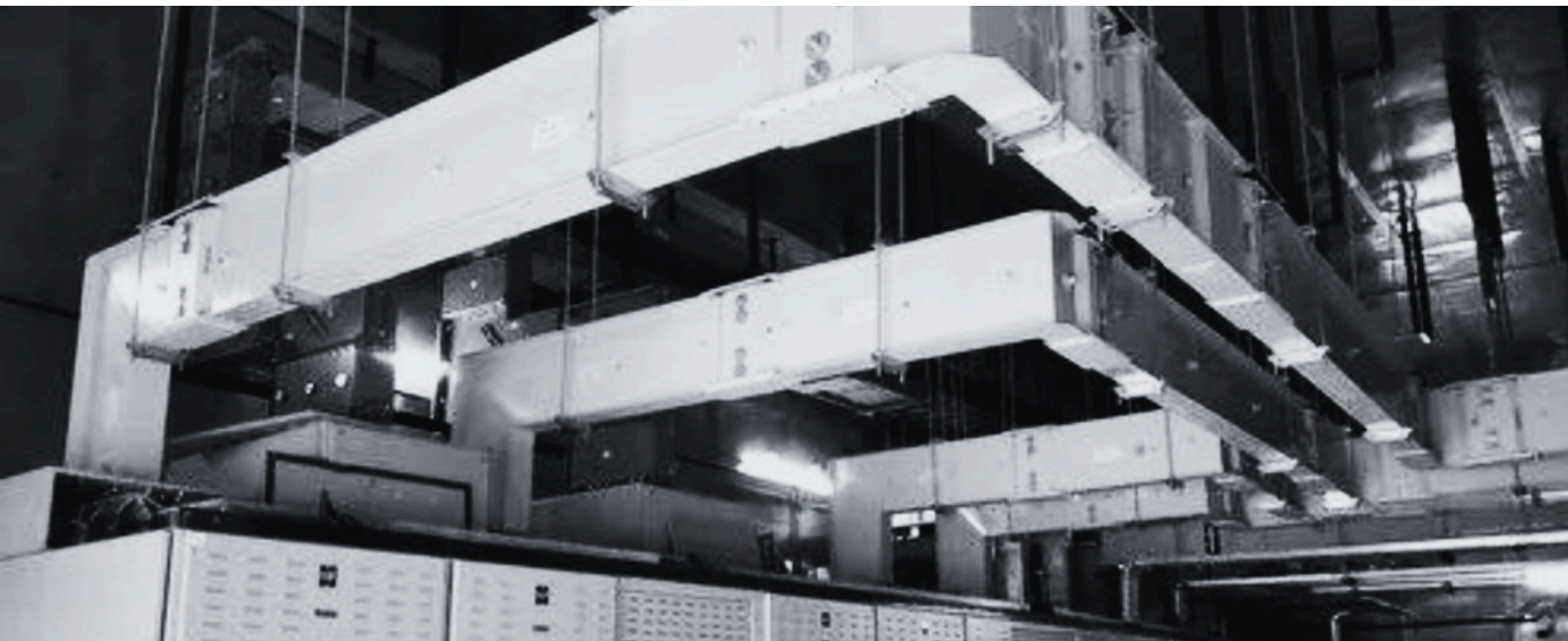


- Extend asset service life through condition-based and predictive maintenance strategies.
- Eliminate the need for manual temperature checks at inaccessible or difficult-to-reach connection points.
- Transition from reactive maintenance to proactive asset management with continuous thermal intelligence.
- Monitor critical connection temperatures accurately and identify abnormal conditions before they escalate.
- Use real-time temperature data to support informed maintenance decisions and reduce the risk of unexpected failures.

Operations - Monitor Critical Connections in Real Time



- Continuously monitor the temperature of critical electrical connections and assets.
- Detect abnormal temperature rise and compromised joints before they develop into critical failures.
- Reduce the risk and cost of unplanned outages through early detection of developing faults.
- Receive real-time alarms and alerts when temperature conditions exceed defined thresholds.
- Improve operational reliability with continuous visibility into the health of critical electrical infrastructure.



Technical Data

General

Description	Value
Model Number	AMP-WM2THC
Product Type	Sensor & RF Transmitter
Sensors	Digital Temperature Sensor (Internal Calibrated)
Mounting	High Temperature Withstand Magnetic Mount
Installation Location	Bus Ducts, Electrical Panels, Switchgear, MCC Panels, Control Panels
Enclosure	IP65 Enclosure (Material: PA66+GL, Withstand up to 200°C)
Battery	1200mAh ,3.6V

Communication

Description	Value
Wireless	Wireless Communication
Communication Range	50 Meter
Frequency	865-926MHz
Transmission Frequency	1 minute default (Configurable up to 5min through Receiver)
Antenna	Inbuilt
Supported Controllers / Gateway	BBC969-485RC, BBC969-27C, AMP-IoTG
Data encryption	AES-128 encryption

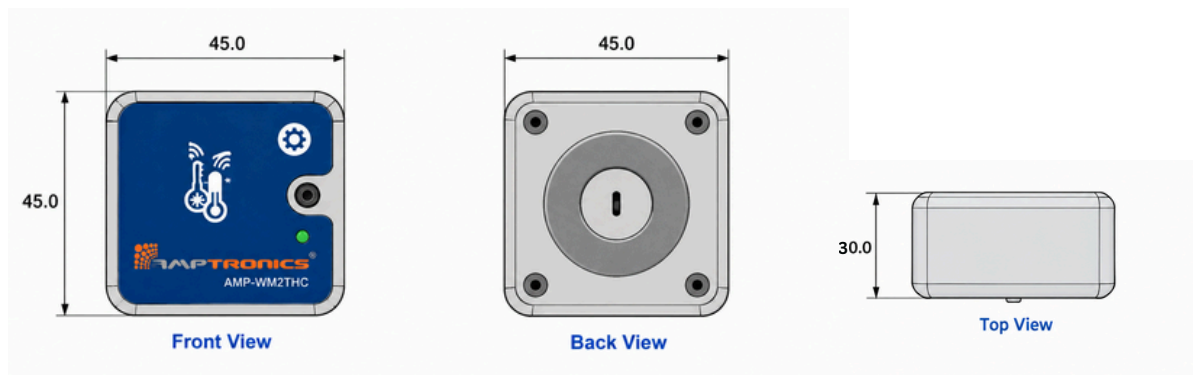
Measured values

Description	Value
Temperature Range - Surface	-20°C to 150°C
Temperature Accuracy	±0.5°C (0-85°C), ±0.75°C (above 85°C),
RHT Sensor Range - Ambient	Humidity: 0 to 95%, Temperature: -20°C to 85°C
RHT Accuracy	Humidity: ±2% (10-90%), ±3% (<10 >90%), Temperature: ±0.2°C (0-70°C), ±0.6°C (above 70°C),

Mechanical

Description	Value
Dimensions (L×W×H)	45x 45 x 30mm
Weight	50gms

Dimensions



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