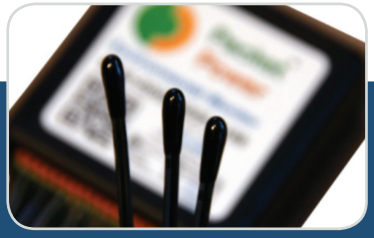
Packet Power®

WIRELESS ENVIRONMENTAL MONITOR



Temperature

Humidity

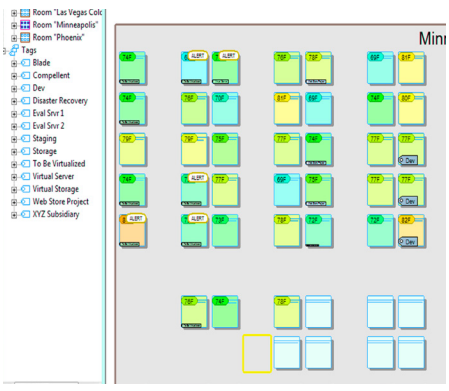
Differntial Pressure

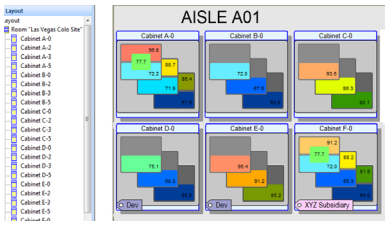
Packet Powers' **compact wireless Environmental Monitor** makes it easy and affordable to monitor all environmental conditions in your facility. Each unit can gather temperature readings from up to six temperature probe cables; probes can be concentrated to provide multiple data points per rack or spread across as many as six racks to minimize monitoring costs. Additional sensor options include humidity, differential pressure (to monitor air flow) or dry contact status.

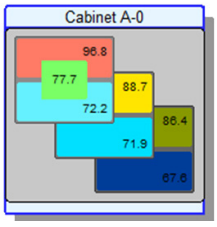
Advantages of Packet Power's wireless self configuring network: Packet Power's self configuring wireless technology means that you can locate sensor modules in the most convenient location, independent of network connections. Installation of even a large deployment is made easy with each node self configuring with the Gateway module. The robust mesh network means that the wireless network is as reliable as a wired network.

Make informed decisions about your facility and optimize: Viewing and analyzing environmental data is simplified with real time facility wide thermal maps made possible by the EMX Energy Management console (available as a cloud service or locally installed). EMX also provides complete energy and environmental analysis, easy access to real-time data and historical reports and alarm notifications. Best of all the EMX system is self configuring avoiding the major cost and inconvenience of commissioning similar DCIM or BMS systems.

The EMX console offers easy access to energy analysis, real-time data and historical reports ; user defined alerts via email or SMS and detailed, easily customized reports







3D thermal mapping from a facility scale to intra-rack temperatures

FEATURES

- Captures up to eight sensor readings per monitor
- Leverages the Packet Power's wireless network for easy deployment
- Enables real-time facility heat maps; easy mapping of temperature readings to facility layout diagrams
- High precision measurement (±1° C, ±2% RH, 3% pressure)
- The only inherently safe wireless network –securely separated from wired Gateway
- Scalable to thousands of monitoring points per facility
- Local LCD display
- Instantly connects with EMX Energy monitoring solution (cloud based or local application)
- Easy integration with third party BMS and DCIM systems (ModBus TCP/IP or SNMP output)

MEASUREMENT

Temperature	±1° C at 0.1° C resolution with readings in °C or °F.
Relative Humidity	From 0 to 100% RH at ±2 % RH at 0.1% resolution
Dry Contact	0.5 sec state switch time. open>500K ohm, closed<2.5K ohm
Differential Pressure	±500 Pa (±2"H_20), 0.2Pa or ±3% accuracy full span

COMMUNICATIONS

Operating Frequency	860 to 920MHz and 2.4 GHz (frequencies specific to region)
Wireless Network Protocol	Frequency hopping self-configuring load-balancing mesh
Data output (Gateway)	SNMP and Modbus TCP/IP protocols (one IP address needed per Gateway); optional EMX cloud or local energy management system
Firmware updates	Wireless
Typical transmission range	10 to 50 meters indoors (extended by relaying through any other Packet Power wireless device)
Antenna	Fully enclosed, fixed configuration
Monitoring Unit to Gateway Radio	Up to 300 monitoring units per gateway (unlimited Gateways per site)
Multi-site support	Yes
Encryption	128-bit (user selectable)
System Status	Local LCD display (includes measurement readings)

OPERATING ENVIRONMENT AND MECHANICAL AND POWER SUPPLY

Operating Temperature	Monitoring Unit: 0 to +40° C (+32 to +104 °F) Temperature probes: -40 to +85 °C (-40 to +185 °F)
Operating Humidity	10% to 90% non-condensing
Water and dust resistance	NEMA 1 / IP20 (indoor use)
Module size and weight	65 mm (2.6") x 65 mm (2.6") x 28 cm (1.1"), 90 g (3 oz)
External AC Power Supply	100- 240 VAC input voltage, 50-60Hz / 5 VDC output ; EN60950 UL60950 IEC60950; includes NEMA 5-15, CEE-7 Schuko, AS/NZS 3112 2000, BS 1363A, C14, BS 546A plugs ; 0.5 W power consumption

MONITORING MODULES

Model	Differential Pressure*	Relative Humidity	Measurement Points*
E300-A000	No	No	6 temperature or dry contact points
E30H-A000	No	Yes	6 temperature or dry contact points and 1 humidity sensor
E30P-A000	Yes	No	6 external temperature or dry contact points and one differential pressure sensor with 8 feet (2.4m) of flexible tubing

*Note: All modules include an a internal temperature sensor for reference use.

TEMPERATURE PROBE ASSEMBLIES (SEE APPLICATION NOTE FDR INSTALLATION DETAILS)

Model	Probes per Rack	Racks (Quantity)	Probe Lengths (meters)
TP03-01X6	1	6	1x 3m, 4x 4m, 1x 5m
TP03-02X3	2	3	1x 2m, 3x 3m, 2 x 4m
TP03-03X2	3	2	1x 1m, 2x 2m, 2x 3m, 1x 4m
TP03-06x1	6	1	2x 1m, 2x 2m, 2x 3m

INDIVIDUAL TEMPERATURE PROBES

Model	Length (meters)
TPP3-001M	1 m temp probe
TPP3-002M	2 m temp probe
TPP3-003M	3 m temp probe

PROBE EXTENDERS (CUSTOM LENGTHS AVAILABLE)

Model	Length (meters)
TPP3-X02M	2 m extension cable
TPP3-X04M	4 m extension cable
TPP3-X09M	9 m extension cable

Note: Probe extenders only include extension cable and no probe.

Packet Power, 2716 Summer St. NE, Minneapolis, MN, 55413 USA
Tel: 877-560-8770 - **Fax:** 866-324-2511
www.packetpower.com

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