

PLUG AND PLAY POWER AND ENVIRONMENTAL MONITORING

Start monitoring from the moment you plug in!

MONITORING AND ANALYSIS MADE EASY: The EMX energy portal makes it easy to access detailed power and environmental information. Using any web browser, you can quickly see your top level or detailed power and environmental data, available power infrastructure, examine usage trends across time and more. EMX also simplifies energy cost allocation and reporting with an array of standard and customizable reports.

CLOSELY INTEGRATED HARDWARE AND SOFTWARE: Packet Power provides a true end to end “plug and play” experience with a self configuring wireless network that effortlessly integrates with the EMX monitoring system. From the moment you energize monitors the EMX portal will automatically recognize new devices and make the data available in a user friendly format.

THE SMART ALTERNATIVE : EMX can be online and commissioned in fraction of the time and cost of conventional BMS and DCIMs while still delivering the critical information you need to operate and optimize your data center. EMX can run as a cloud application or locally as well as operate simultaneously with conventional building management systems. See why so many enterprise customers choose EMX.

A few of the ways EMX can help you:

- Optimize available power per circuit without the risk of tripping circuits
- Identify and resolve hot spots and safely raising ambient temperatures
- Track exceptions to ASHRAE standards or SLA criteria
- Optimize air flow by zone
- Calculate and visualize heat differentials within racks, across rows and in hot or cold containment systems.
- Spot “stranded power”
- Easily allocate energy costs by end user, project, budget owner, technology platform, etc.
- Track peak temperature, power, VA or A by user
- Automate reporting and time consuming manual measurements
- Ensure compliance with customer contracts using easy to run reports
- Maintain uptime by setting policies that ensure safe operating parameters

FEATURES

- ▶ Real-time power and environmental information from facility wide to device resolution
- ▶ Ready to run - no costly commissioning and integration expenses
- ▶ Supports thousands of monitoring points across multiple facilities
- ▶ Multi-company support; separate access to information for different parts of your company or customer sets
- ▶ Use as-is or customize reports, dashboards, languages and alerts
- ▶ Accessible from any web browser
- ▶ Cloud based or locally installed
- ▶ Monitor third party devices with Modbus or SNMP outputs
- ▶ Proven globally in enterprise and co-location environments

FUNCTIONS

- ▶ Set policies and receive alerts via email or SMS; manage alerts at the room, cabinet, circuit or device level
- ▶ Detailed reporting capabilities; track energy usage, costing and CO₂ emissions and more
- ▶ Create custom dashboards viewable as web pages
- ▶ 3D thermal maps and detailed thermal image down to the intra-rack level
- ▶ Dynamic charting and trending functions of real time and historical data
- ▶ Export data in universal formats
- ▶ Create realistic facility layouts to simplify views
- ▶ Can function simultaneously to DCIM / BCMs systems

AVAILABLE FEATURES

Most recent readings

Power cables

Monitoring node	[A] % max by phase	[A] by phase	[W] % max by phase	[W] by phase	[W] total all phases	[V] by phase	Power Factor by phase	[°C]
E2402-0000-0000-0000	45%	13.39	39%	1476.1	1476.1	110.2	1.00	25.0
C2802-0000-0000-0002	44%	13.24	39%	1465.4	1465.4	110.7	1.00	24.9
D3002-0000-0000-0010	44%	13.22	39%	1448.2	1448.2	109.5	1.00	24.1
F9002-0000-0000-000F	42%	12.73	38%	1434.9	1434.9	112.7	1.00	28.3
47002-0000-0000-0039	43%	12.85	38%	1431.4	1431.4	111.4	1.00	25.9
21002-0000-0000-003A	44%	13.28	38%	1430.5	1430.5	107.7	1.00	22.9
75002-0000-0000-0004	42%	12.62	38%	1428.9	1428.9	113.2	1.00	28.2
40002-0000-0000-0000	44%	13.22	38%	1420.1	1420.1	107.4	1.00	22.4
D4002-0000-0000-000G	42%	12.54	38%	1414.9	1414.9	112.9	1.00	27.5
22002-0000-0000-002A	43%	12.89	38%	1414.8	1414.8	109.7	1.00	24.9
E3002-0000-0000-0054	44%	13.05	38%	1409.6	1409.6	109	1.00	23.3
B2002-0000-0000-004F	43%	12.93	38%	1407.1	1407.1	108.8	1.00	24.7
86002-0000-0000-0003	42%	12.62	37%	1401.4	1401.4	111	1.00	25.0
Cust2 DCA-80A	42%	12.71	37%	1400.2	1400.2	110.1	1.00	24.3

Wireless network

Active node summary

Activity period	Nodes
Past 1 hour	122
Past 24 hours	0
Inactive	0



Message Availability

Message Channel	Available
Packet Power Email	4,997
Packet Power SMS	936

Energy Cost and Use By Device

Monitoring node	OK?	Energy used last 24h by phase [kWh]	Energy used last 24h total [kWh]	Energy cost last 24h [\$]	Energy used last 30d [kWh]	Energy used last 30d total [kWh]	Energy cost last 30d [\$]
SERVER AX1	OK	2.7	2.7	0.27	79.4	79.4	7.94
SERVER A3	OK	14.1	14.1	1.41	400.4	400.4	40.04
0A002-0000-0000-3A27	OK				1023.9	1023.9	102.39
0B002-0000-0000-39F4	OK	48.2	48.2	4.82	1498.9	1498.9	149.89
0F0000000000002263	OK		34.5	3.45	A: 403.9 B: 297.9 C: 335.2	1037.2	103.72
10002-0000-0000-3013	OK	20	20.0	2.00	602.2	602.2	60.22
1400000000000449C	OK	A: 10.9 B: 10.9 C: 8.6	30.4	3.04	A: 308.8 B: 323.9 C: 244.9	877.6	87.76
15002-0000-0000-2134	OK	6.9	6.9	0.69	224.2	224.2	22.42
17002-0000-0000-2094	OK	24.1	24.1	2.41	719.2	719.2	71.92
17000000000003027	OK				A: 187.1 B: 293.7 C: 108.8	589.5	58.95
18002-0000-0000-3544	OK	11.5	11.5	1.15	377.8	377.8	37.78

Easy to see system wide overviews: View real time readings of all devices being monitored by type, location, or grouping along with system status from a central dashboard. Nodes can be sorted by power usage, temperature or any parameter.

Simplify your reporting: Create energy usage and environmental reports by user, location or device along using the many standard reports or create a custom report to suit your requirements. Report information can also be exported into universal formats.

Your policies

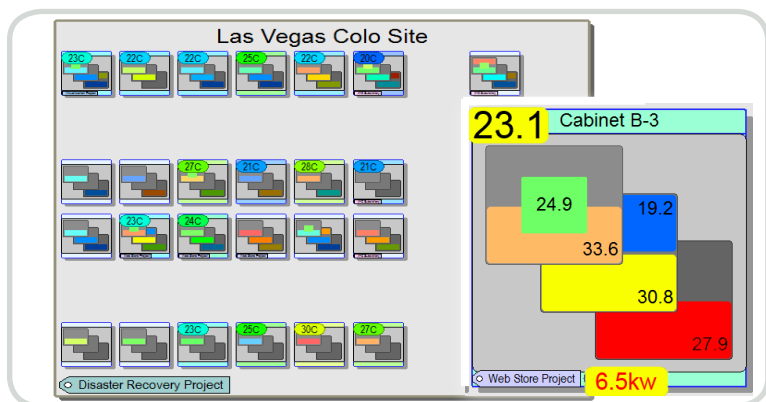
Layout	Policy name	Policy description	Desired condition	Timeout [s]	Level	Email
Demo Corporation	A/B Cabinet Test		Cabinet current A1/B1 shall be < 20.0% of its rating	300	4	no
Demo Corporation	Inflow Temperature Lower Limit	Identifies instances where temperatures fall below the ASHRAE recommended minimum.	Inlet temperature shall be >= 18.0	3600	3	no
Demo Corporation	Inflow Temperature Upper Limit	Identifies inflow temperatures in excess of ASHRAE maximum temperature guideline.	Inlet temperature shall be <= 27.0	900	2	no
Demo Corporation	Maximum Circuit Load	Indicates when a reading exceeds the maximum load allowed on a circuit for it to remain within the code guidelines.	PDU current shall be <= 80.0% of its rating	300	4	no
Demo Corporation	Maximum Circuit Load - Redundant Power	Indicates when the maximum load in Amps exceeds the level at which the full load could be supported on that circuit and still remain within code guidelines.	PDU current shall be <= 40.0% of its rating	3600	2	no
Demo Corporation	Maximum RH	Indicates a Relative Humidity reading in excess of ASHRAE recommended maximum.	Humidity shall be <= 60.0	300	2	no
Demo Corporation	Total Cabinet Current	Keep the sum of the current of all circuits in a cabinet below 80% of their total capacity.	Cabinet current shall be < 80.0% of its rating	3600	1	no

Policy violations

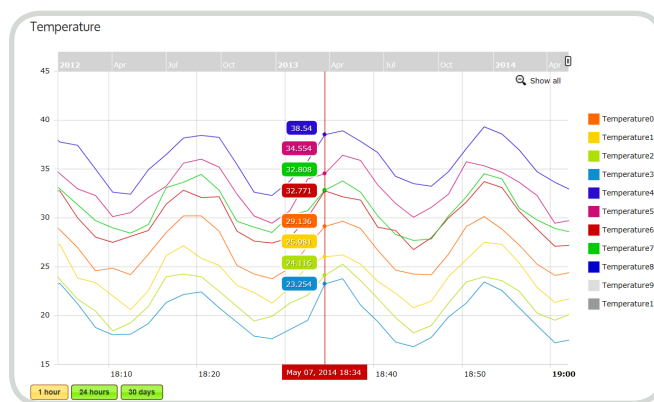
Policy name	Room	Cabinet	Violating node	Violating channel	Violating value	Policy limit value	Margin vs. limit	Most recent violation	Level
A/B Cabinet Test	Minneapolis	Cab. D-6		CurrentA	20.4	6.0	14.4	2014-05-07 18:30:37	4

Set Policies to ensure your operating parameters: Define your policy parameters to keep your operating environment in check; any violations are logged and also can trigger email or text alerts. Set alerts for the room, cabinet, circuit or device level.

Create custom dashboard web pages: Any information can be assigned to a custom dashboard which will have a unique URL and can be viewed as a web page for "at a glance" status checks.



Active Facility Maps: Create accurate facility maps easily using drag and drop tools and simplify access to information graphically. Options include 3D heat maps for cabinets and detailed cabinet level power utilization.



Charting and Trending: Any parameter can be presented graphically to show historical or real time data and assist in data analysis. Data can also be exported in universal formats.

* Local installation of EMX requires Windows™ 7 or 8 OS with 4 GB RAM and 250 GB recommended disk space.

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