

# Om7Sense: technical information

Om7Sense is a **state-of-the-art energy management system** for data centers (DC). It is distributed as **on-premise software** that is also available as ready-to-run appliance. The target audience is IT staff, Facility Managers and Management. Om7Sense offers a **HTML5 web-based UI without browser plugins** while also working correctly on **phones and tablets**. Getting insights into energy use and planning with Om7Sense is painless and seamless through our focus on **human-centric design and UX**.

## Realtime data and industry support

Om7Sense communicates with PDUs, UPS, sensor devices and cooling equipment to get energy and sensor readings (like current, temperature, energy, ..) and send control commands. It supports a wide array of **PDU, UPS, sensor** and **cooling products** from all industry-leading vendors.

The communication between Om7Sense and the device always utilizes the best available protocol from this list: **SNMP (v1/2c/3), HTTP(S), SSH, Web Sockets**. The goal is to read and send data in real-time. We also utilize encryption and secure protocols where possible.

The screenshot shows the 'Devices' tab in the Om7Sense interface. It features a search bar, navigation links (DC, Devices, Reports, Notifications), and filter options. The main content is a table of PDU devices with columns for Name, Category, Location, Vendor, and current. The table is sorted by Name in ascending order.

Name	Category	Location	Vendor	Current
real PX-3.3.10	PDU	My Location	Raritan Inc.	0.6 A
mfiopro	PDU	Lab Munich	Ubiquiti	0
apcFAB084	PDU	Lab MUC	Schneider Electric	0 A
my PX	PDU	MUC Row1	Raritan Inc.	14.52 A

## DC model

Using data center conventions users can **quickly model their IT and energy infrastructure** – rooms containing rows, rows containing racks (which in turn contain PDUs and more). On top of this the devices within the rack can be modelled.

All parts of this **DC hierarchy** can be used to create reports, a real-time analysis or be monitored through use of our smart rules. Keep one step ahead of problems through **alarm management** which shows exactly where in the infrastructure issues are occurring.

The screenshot displays the 'DC' tab in the Om7Sense interface, showing a hierarchical view of the data center model. It includes a search bar and navigation links. The main content is a tree view showing the hierarchy from DC to Room to Row to Rack. The 'Row A2' is selected and expanded, showing a table of racks within that row.

#	Name	Humidity	Temperature	Power Watts	Actual voltage	Power VA	Energy total	Actual current	Sensor	Reactive power
1	Rack 2	42.5%	24.0°C	6480.0W	228.6V	6958.0VA	459.2KWh	28.24A	-	-VA
2	Rack 1	42.5%	24.0°C	7061.0W	229.8V	7607.0VA	459.2KWh	30.79A	-	-VA

## Smart Rules

A common **precaution** against **overprovisioning** or **energy or thermal issues** is an early warning system through the use of **thresholds**. Om7Sense makes it easy to apply rules and thresholds to **whole sections of the DC, saving a lot of IT and facility manager time** and making it very easy to adapt rules to changes in the IT landscape. Om7Sense will collaborate with devices to monitor for violations of these thresholds and send out warnings or alerts.

The screenshot shows the 'Smart Rules' configuration page in the Om7Sense web interface. At the top, there are navigation tabs for 'DC', 'Devices', 'Reports', and 'Notifications' (with a '32' badge). A search bar is present with the placeholder 'Enter name to search'. Below the navigation, there are two main sections for rule configuration. The first section, 'I want to create a rule concerning', has buttons for 'actual devices' (selected) and 'DC items'. The second section, 'This rule should affect', has buttons for 'All devices', 'All devices of type' (with a dropdown menu showing 'PDU'), and 'One device'. Below these are two more sections for target selection. The first section, 'What type of port and which of it's data should the rule target?', has three options: 'Outlets' (selected) with 'Actual current' in a dropdown, 'Inlets' with 'Select value', and 'Sensors' with 'Select sensor type'. The second section, 'What type of port and which of it's data should the rule target?', has a text input field containing 'Overcurrent outlet' and a 'Create rule and set thresholds' button.

## Reporting

Om7Sense strives to offer **deep insights** into energy costs and business risks of the IT. To this end, reports on **energy** and **environmental** sensors, **firmware** and **inventory** reports and **PUE** reports are possible. For the highest possible uptime **permanent automated failover reports** are a valuable tool. Reports can be exported to MS Excel and also retrieved via API.

## Distributed deployment

For multi-DC or other **geographically distributed** scenarios like edge data centers Om7Sense offers **Linking**, which allows a local Om7Sense gateway to talk to local devices and then aggregate all data in one central Om7Sense instance, where all locations can be **centrally managed** in real-time.

## Security and standards

Om7Sense is built using **industry standards and best-practices**. The software stack used is Java EE built on the Eclipse Kura IoT platform. Other security features are the use of **HTTPS** with custom certificates, TLS / SSH and the use of an embedded or on-premise SQL database.

We look forward to hearing from you:

Om7Sense GmbH

Web: [www.om7sense.com](http://www.om7sense.com)

Email: [info@om7sense.com](mailto:info@om7sense.com)

Tel: [+49 871-2066707-0](tel:+49871-2066707-0)

**OM7SENSE**  
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