



Gude's intelligent power strip 8316 for DC

Under control

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Without power, the best IT infrastructure is just a paperweight. To ensure its distribution and keep an eye on its consumption, suitable PDUs are needed. iX took a look at a current model from the German manufacturer Gude.

Of course, you can use simple multiple sockets in the server cabinet of the closet or even in the data center. But at the latest when a remote hands-on access becomes necessary in the remote data center in order to eliminate a blue screen of the server, or one wonders about the exploding electricity costs, one wishes for more professionalism and comfort. This includes - in addition to a correctly dimensioned UPS - a good PDU (Power Distribution Unit).

It has been a few years since iX presented PDUs of different formats and features in a large comparison test. A lot has happened since then. As an example of the current models, the editors had the Expert Power Control 8316 PDU from the German manufacturer Gude delivered to their premises, which is intended for vertical installation in server racks.

Optics and workmanship of the bar are impeccable. A solid metal casing houses the eight power connections, connections for sensors, network and serial console, plus the buttons for operation, a seven-segment display and the operating LEDs. A view into the interior is denied, as the entire housing is riveted. The brackets provided for rack mounting can be rotated in 90-degree increments to allow the strip to be mounted as desired or necessary. With a 16A input - a cable with C20 plug - and eight outputs, depending on the model in the C13 or Schuko variant, it is suitable as a small to medium distribution strip.

Like its predecessors, this model also has separate current measurement of input and all outputs. The integrated firmware not only measures the current that is currently flowing, but also provides detailed measured values for voltage, phase, active, reactive and apparent power, as well as two consumption counters, one of which is resettable.

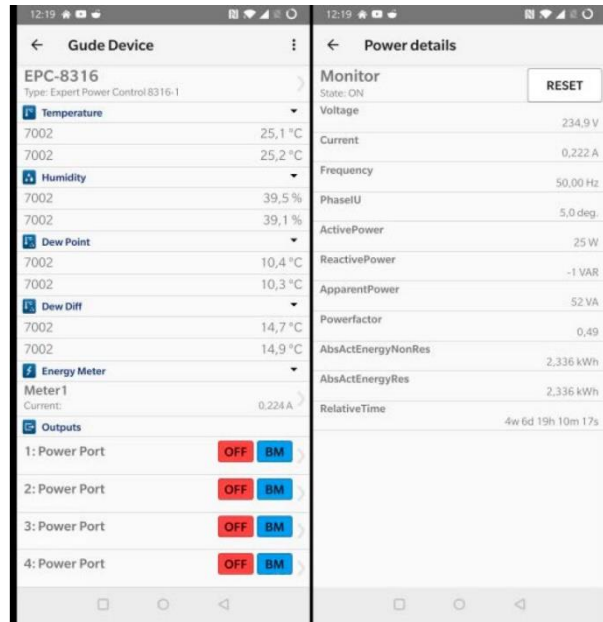
Gude has once again expanded the available ambient sensors. Combined sensors for temperature, temperature and humidity as well as temperature, humidity and air pressure are now available. Two inputs allow separate measurements to be taken at the bottom and top of the rack, for example, to check the efficiency of the cooling or the air flow.

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- Professional equipment in the data center also includes power supply and distribution.
- With the Expert Power Control 8316, Gude has a remotely controllable PDU in its portfolio that masters IPv6, HTTPS and TLS.
- Different management interfaces, time- and event-controlled automation as well as a restriction of remote access are also part of the good tone today.



Display, sensor, Ethernet and serial ports give access to the actual heart, the management of Gudes Expert Power Control 8316 (Fig. 1).

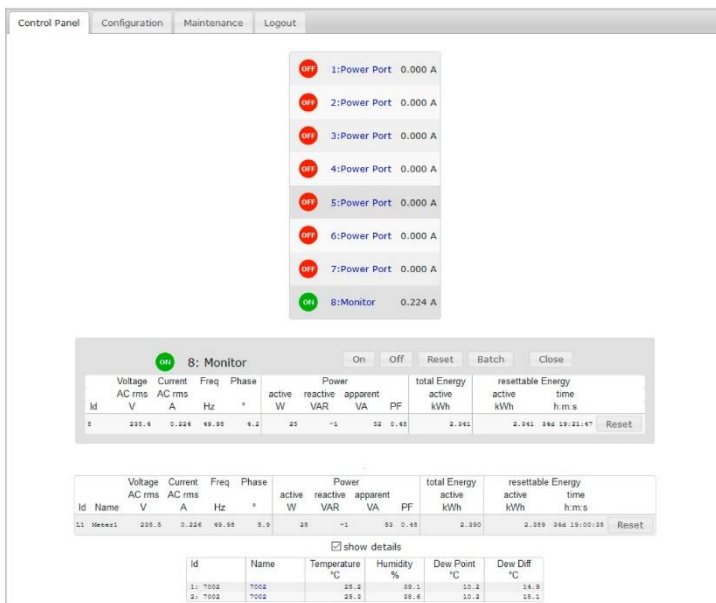


The Android app provides a quick overview and full control of the PDU even when on the move (Fig. 2).

Extended management

The manufacturer has improved the inner values in particular. All current models feature a new controller board that provides space for functions that were previously impossible to implement. First and foremost is IPv6 in the dual stack, which finally makes it possible to use it in pure v6 networks. Encrypted transmission with HTTPS is now also implemented, as is sending mail with TLS/SSL protection.

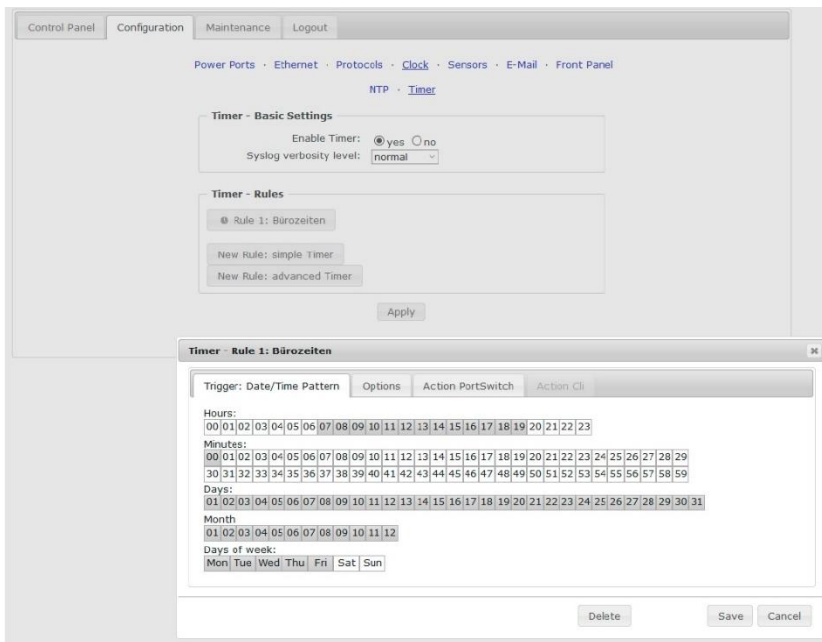
Gude offers different interfaces and protocols for managing the power strip. In addition to a Fast Ethernet port, the administrator can also access the nine-pin serial interface. A web interface, SNMP,



In a no-frills overview, the web GUI provides the working data of the PDU (Fig. 3).

Telnet and Modbus are available for operation, control and monitoring via the network; an app for Android and iOS devices rounds out the picture. The PDU can send notifications and warnings via e-mail, SNMP traps or syslog. The web interface is ideal for the initial configuration. It is kept minimalistic and functional, and can also be used well via slow connections. The functions are well structured and logically summarized, so that almost all settings can be made without reading the 81-page manual.

Besides many small changes in the configuration, Gude has implemented some new functions. The PDU 8316

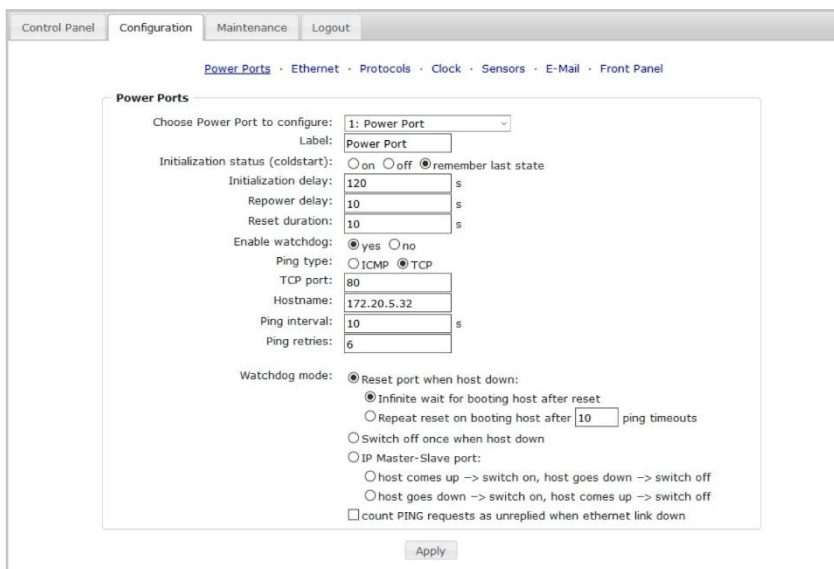


The time control in the web configuration is more complex (Fig. 4).

Event-driven automation

Other new functions are used to automate processes. A watchdog can be configured for each output port, which checks the function of a device via ICMP or TCP. If the device or service does not respond within the set time, the PDU can automatically switch the port off and on again to force a restart.

Control is also possible away from network services. Individual ports can be switched on or off depending on external sensor data or load conditions. If a port supplies a rack fan or an air conditioner, for example, these could be activated when a certain temperature is exceeded. On the other hand, an "unnecessary" load, for example a redundancy device, could be deactivated if the total current load at the PDU exceeds a threshold value.



Automation for SLA improvement is handled by the watchdog in the PDU (Fig. 5).

now masters NTP, which is the basis for the extensive timer functions. Like with cron, ports can be switched on and off at different times. In addition, any CLI commands can be sent time-controlled. The timer control also allows an adjustable "jitter" for the time of the action as well as a probability of execution. A total of 32 time-based rules can be stored.

In addition to the previously available access lists for restricting permitted management remote sites, Gude has also increased security in other places. SNMP is now implemented in version 3 for accesses and traps, furthermore the login via web interface or Telnet can be authenticated via Radius. Locally, only the two accounts Admin and User are still configurable.

As before, the performance measurement of the ports is very close to the actual consumption with a deviation of significantly less than one percent. Whether they are suitable and permissible as non-calibrated meters for billing customers, for example, must be checked in each individual case.

With the current PDU generation, Gude has once again significantly expanded the functions and adapted them to the requirements of data center use, especially in automation and security. The list price is 698 EUR net. (sun@ix.de)

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