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Field Report

Gude Expert Power Control 1121/1141

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I've Got The Power!

Green IT and Green AV are largely dependent on it being clear what individual components consume in order to identify potential savings. And that components can be switched off that cannot actually do this by themselves. With its two latest networked power distribution units, Gude offers these options – now also for smaller installations.

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In the Gude family of intelligent power distribution units, the Expert Power Control 1121 dual switching and metering power distribution unit (PDU) and the four-port version 1141 are the latest additions in 2024. With a very compact form factor, they are, according to the manufacturer, the flattest solutions on the market that can be integrated unobtrusively, especially in smaller installations. This means they can be hidden in furniture or behind displays to save space. Thanks to the open API, the power distributors can be operated in almost all stan-

dard IP environments and with most monitoring and management systems. Professional System had the opportunity to take a closer look at the two devices in a practical test.

Fast problem solver for hangers

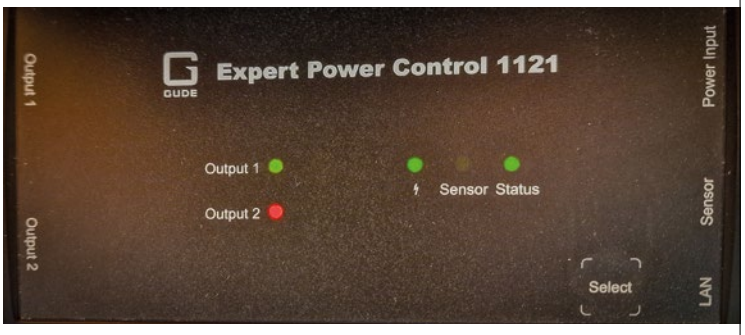
„Have you ever tried switching it off and on again?" is often the first question a technician asks after you ask for help with a problem. As banal as this tip sounds, it is usually very effective. This measure often leads to a system or device being reset to its desired initial state or freed from a frozen state. But what if a device or system does not have an obvious switch or it is not easily accessible? In this case, it would of course be very practical if a switching operation could be triggered remotely.

Size comparison
The „switchable IP socket outlets" can be integrated unobtrusively, especially in smaller installations.

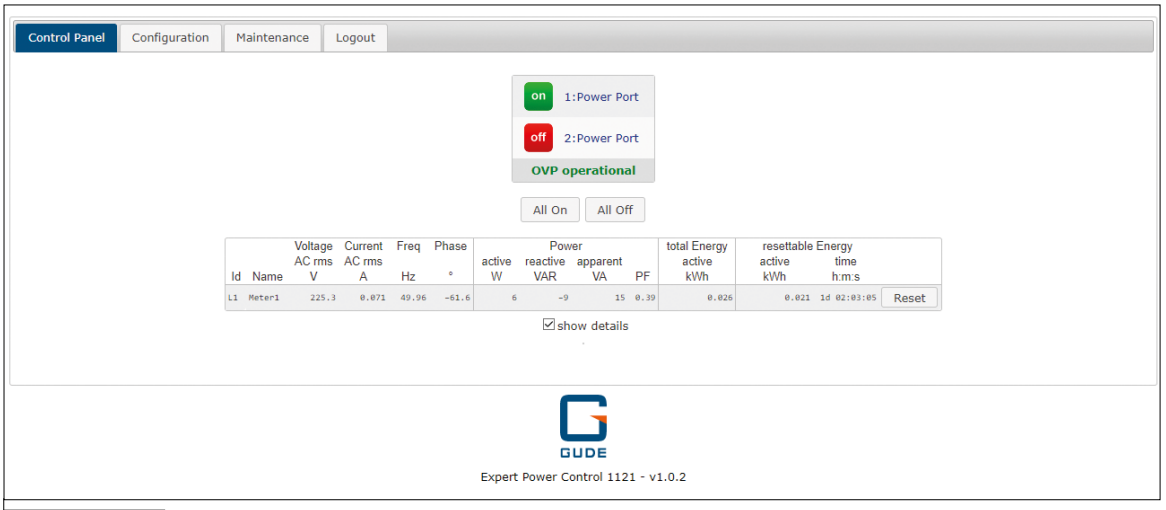
Thanks to its network connection, web interface and integration into various management and security environments, the Expert Power Control series from Gude is designed for precisely this situation. What's more, it even offers a so-called watchdog, which monitors the connected device with a PING (addressing a network device with a request for a response) and, in the event of no response or a response, automatically performs an off/on switching process in order to force a restart. This process is known as the self-healing function and ensures, among other things, less downtime for the supplied devices. If automatic monitoring is not possible, the restart can also be triggered manually from a distance. Switching operations for individual outlets or all together (EPC-1141 only) can also be carried out via the smart power distributor itself using buttons on the housing.

The big picture

Accessing an intelligent power distributor via a web interface is super practical. But it gets really exciting when you can monitor and automate all distributors in a larger installation in one management environment. Here, you don't just view all the parameters of all the distributors together from a central location and trigger switching operations in a clearly organised manner. No, some systems are even able to make predictions about the possible failure of connected components by analysing the collected data. This allows problems to be avoided in advance before a user is restricted and has to ask for help. Outputs can also be switched off via set threshold values if the load is too high in order to protect against overload. In order to buffer voltage peaks of the connected components during the switch-on →



Status
On the top of the smart power distributor Gude Expert Power Control 1121 and the front of the 1141, information on the operating and switching status can be found quickly using two-colour LEDs. For the outputs, red means that they are switched off and green that they are switched on. The outputs can also be switched manually using the Select button.



Control Panel

The Gude EPC 1121 and 1141 PDUs can be managed and set up via a web interface. The Control Panel shows the device status, the switching states and the measurement of current, voltage, power and other parameters. The intelligent power distributors can be configured very precisely and can therefore be used in many conceivable scenarios.

process, the switching status after a power failure and a switch-on delay for the individual load outputs can be defined.

In addition to an open API that providers of such solutions can use to integrate the smart PDUs into their systems, Gude offers many protocols such as HTTP/HTTPS, JSON, SNMP, TCP, Telnet, SSH and MQTT, which are already standard in network communication. Of course, all of this can also be encrypted via SSL (TLS) and SSH.

But even if the small power distributors are not used in large numbers in huge rollouts, they offer numerous possibilities for upgrading projects with individual devices. Event and schedule-controlled switching processes can be stored via the web interface or switched via the open API using IP commands with smaller controllers, such as those often found in video switchers and BYOD systems, or via RS232 (with the EPC-1141). Drivers for controlling the smart power distributors are already available for systems from AMX, Atlona, Barco, Control4, Crestron, Extron, QSYS, Savant and Utelogy.

The web interface also offers the option of defining status messages and alarm messages, which can then be sent by e-mail, SNMP traps or to the console.

The Power!

In addition to the option of switching the connected components at the IEC C13 load outputs (female IEC plug), which are each designed for a maximum of 10 A, a highlight is the precise measurement of current, voltage, mains frequency, phase angle, power factor and energy as well as apparent power and reactive power. Power consumption is measured by two energy meters, one of which counts permanently and the other can be reset.

There is also an integrated overvoltage protection (type 3), which protects the power distributor as well as connected devices, and the option of connecting external sensors for monitoring temperature and humidity as a plug & play module via an RJ-45 connector in order to implement additional protective measures for an installation, for example against overheating or increased humidity. If defined limit values are exceeded or not reached, messages can be sent by e-mail or console and automatic switching processes can also be triggered.

Firmware updates can be installed on these Gude PDUs during operation, as neither the device itself nor individual outputs need to be restarted.

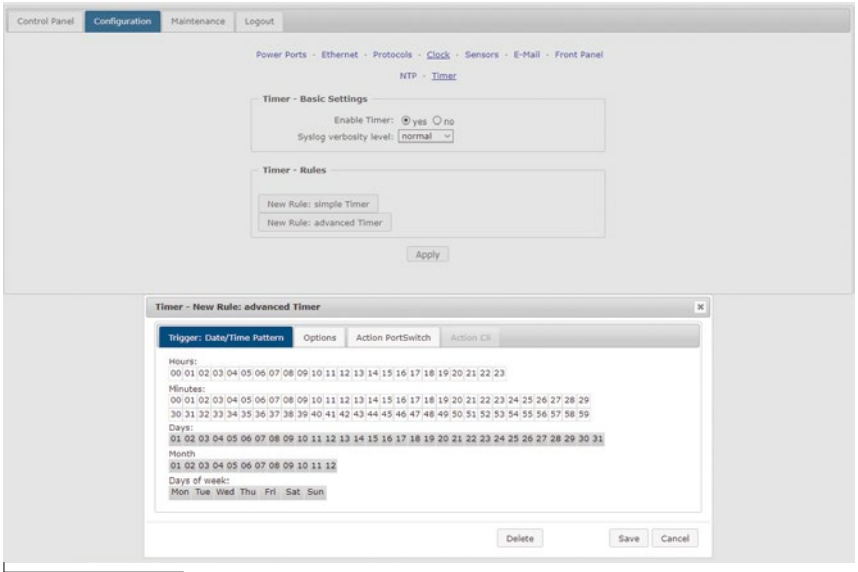
Multi-coloured LEDs on the housing provide a quick overview of which ports on the smart power distributor are switched on (green) or off (red), whether the device status is OK and, in the case of a connected external sensor, whether it has exceeded or fallen below its threshold value or is within the desired range.

It is also important to know that the operating temperature should be between 0 and 50 °C. Use in unheated digital signage steles, for example, which are operated outdoors even at sub-zero temperatures, is therefore not recommended. Gude also mentions solar installations or test laboratories as possible use cases. Here, too, an operating temperature of less than 0 °C should also be ruled out.

Conclusion

With the intelligent power distributors EPC 1121 and EPC 1141, Gude is expanding its Expert Power Control

series with two devices for smaller installations where two or four switchable load outputs are completely sufficient. The compact housings make them very easy to operate and conceal in the smallest of spaces. Of course, the small dimensions of the housing will also have led to the decision in favour of IEC C13 IEC connectors on the output side. However, this means that you have to plan for integration. Unfortunately, this is not Plug & Play, so appropriate adapters to Schuko or a qualified electrician is required to connect devices. As the slipping out of IEC cables often causes avoidable errors in installations, Gude offers IEC lock clips as accessories.



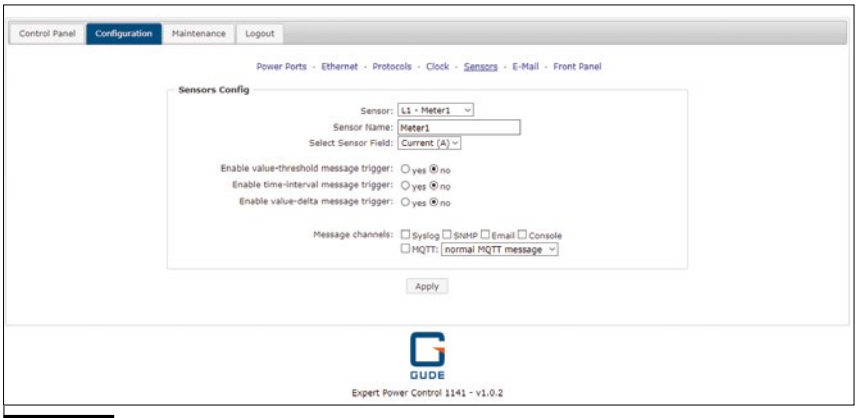
Extended timer

It doesn't always have to be the big cloud and IT management solution, into which the Gude power distribution units can also be integrated; but simple time-controlled settings can also be made for each device in the web interface, especially for small installations. Drivers for integrating the smart PDUs are already available for many well-known AV control systems, e.g. from Crestron, AMX, Atlona, Extron or Q-SYS.

The detailed measurement function, which according to the manufacturer should have an accuracy of over 99 %, is a highlight of the two smart power distributors. However, the measurement only monitors the input; a simple measurement of voltage and current and thus the power per output would also be exciting. This would result in even more effective use of the PDUs and also more effective protection of the connected components. However, it is understandable that not every detail can be taken into account in such a compact device for small installations. According to the manufacturer, many customers were asked about this in advance, but understandably an attractive price was more important to them.

At this point, we must also emphasise the very detailed and well-explanatory operating manual, which goes into every little detail and gives lots of tips for optimum configuration. In addition to the high quality of the components such as high-inrush relays and the type 3 surge protection as well as the workmanship of the smart PDUs, this is certainly another advantage of Made in Germany!

The intelligent power distributors from Gude are available in DACH via the manufacturer and its sales partner network. The net list prices for the EPC 1121 are €229 and €279 for the EPC 1141.. •



Sensors

The Gude Expert Power Control series has internal sensors that measure the current and monitor the switching processes, but can also be expanded to include external temperature and humidity sensors in order to carry out switching processes based on threshold values. This is very practical in some environments to protect connected devices from unfavourable environmental conditions.