Light pipe for status indication

Light pipes in IEC device sockets for status indication in PDUs

More intelligence is the watchword for power supply. Terms such as "Smart Grid" and "Intelligent Power Grid" are on everyone's lips. This development will permeate our everyday life. Especially when there are solutions that make this intelligence efficient and easy to use.

SCHURTER offers a wide range of IEC appliance sockets for the installation of optical fibres. This allows the light from LEDs mounted on a printed circuit board on the back of the socket to reach the front of the unit. The light guides are always positioned precisely above the LEDs in injection-moulded guides.

Suitable positions for the openings are the four corners of the outlet. For type F, the two corners on the side of the earth conductor are used.

The direct integration of the light guide into the appliance socket has several advantages: The light indicator is located close to the socket. This means that the signal can be assigned quickly and unequivocally, even in large power cabinets with a large number of sockets and cables.

Using intelligence more efficiently

A typical application is the distribution strip for PDUs (Power Distribution Unit) in data centers. Some of them already have advertisements. However, these are usually located at the head end of the ledge. With the new SCHURTER appliance sockets, the available intelligence can be used more efficiently. The service technician on site can see directly which cans work and/or where a problem exists. For example, a failure can be signalled by a red LED and a critical power consumption pattern by a yellow LED. This makes it possible to carry out repairs and preventive interventions faster, easier and more cost-efficient.

Customized solutions

The range of SCHURTER IEC appliance sockets with optical fibres is wide. The standard versions are equipped with light guides with a diameter of 2 mm and a length of up to 50 mm. They are designed for front panel thicknesses between 0.8 - 3.0 mm. However, the name SCHURTER is synonymous with customer-specific solutions. Flexibility is high when it comes to the arrangement and size of the openings, the choice of light guide and its attachment to the box. Thanks to the extensive knowledge of standards and certifications of the SCHURTER development department, customer-specific adaptations and new developments including connection variants, mounting methods and optical feedback according to standard are possible. This enables the development of a safe, customer-specific device socket and PDU application.

In order to ensure an even better differentiation of individual cans, various can types are not only available in black, but also in grey and white colour coding. This allows for a classification into the three-phase system, and in the often darker power supply shafts of the data centers, they thus offer a clear plus in terms of safety and functionality.
Efficient assembly and additional safety
In addition to the strengths of the IEC appliance sockets with integrated optical fibre openings, the general advantages of the SCHURTER appliance sockets are mentioned. Various models have IDC (Insulation Displacement Connector) connections. With the rear protective cover, the three conductors can be pushed into the insulation displacement terminals at the same time, and the cover remains locked to the socket as a contact protection. This makes installation and wiring particularly efficient and cost-saving.
Up to now, IDC connections have only been represented in IEC device sockets of type F (10 A). However, SCHURTER is also expanding its IDC range for 2018 to include models of the type J (16 A).

Cord Retention
All appliance sockets with optical fibres also offer mechanical protection against unintentional disconnection from the mains. The in-house V-Lock as well as other common side-latch pull-out safety systems are suitable for this purpose. The device connection plug with one or more cams snaps into an opening in the device socket. The lock can be released by pressing the release button. These systems do not require expensive additional elements.

Conclusion
The ever more complex network structures in data centers require an increasingly complex but absolutely reliable power supply. Thousands of appliance sockets and kilometres of cables: keeping an overview here is essential for fail-safe operation. With its IEC appliance sockets with integrated guides for light guides, SCHURTER offers a unique, professional and smart solution for all power supply applications in complex environments.

Further information
- Landing Page PDU
- Microsite light pipe
- Microsite V-Lock
- Data sheet 6600-5
- Data sheet 6610-5
- Data sheet 4797-5
- White Paper Data Center
- White paper cord retention
- Application Note IEC outlets at elevated temperatures

About SCHURTER
SCHURTER continues to be a progressive innovator and manufacturer of electronic and electrical components worldwide. Our products ensure safe and clean supply of power, while making equipment easy to use. We offer a broad range of standard products including circuit protection, connectors, EMC products, switches and input systems, as well as electronic manufacturing services. Moreover, SCHURTER is ready to work with our customers to meet their application specific requirements, not covered in our standard range. You can rely on SCHURTER’s global network of companies and partners to guarantee a high level of local service and product delivery.