

A POWERFUL SOURCE FOR SMART TYPE MIRACLE LAMPS

ORCAVE

313-112

The waterproof aluminum box hides a 48V safe voltage source with an output power of up to 300W. In addition to powering and controlling Miracle Smart luminaires, with which it communicates using the LIN protocol, it offers a wide range of output voltages for other appliances, as well as a number of input-output ports for selected SMART applications.



mechanical design

Design	painting aluminum box, input cable through grommet, output to 12-pin connector
Dimensions	160 x 100 x 65 mm
Material	aluminum
Mount	facet
Degree of protection	IP66
Input	cable 4 cores, each terminated with a tube
Output	12 pin waterproof connector
Weight	0.9 kg

Main Power and Communications

Output	48V DC / 300W
Switchboard	PS PLC (Phase Shift Power Line Communication), after dedicated (usually gray) phase
Smart lamp	LIN

Secondary power supply and communication

Output I.	12V DC / 3W with consumption measurement, e.g. for relay switching
Output II.	48V DC / 24W
Detection	4x type O/C
Communication I.	RS-485
Communication II.	LIN

Design

The entrance to the simple aluminum cabinet is realized through a grommet. The input cable is 4-core, while the phase, ground and protective conductor are supplemented by a programming (grey) cable, which is connected to the reserved phase on the terminal block (the entire diagram is adapted to this). The output is a 12-pin connector, which is followed by a transition to the selected connectors. Miracle Smart luminaires, which are powered by a safe voltage of 48V, use CAT-6 data cables with an RJ-45 connector for power and communication. The same connector on the color-coded cable is intended for accompanying smart applications (2 CAT cables come out of the adapter - one for the lamp, the other for sensors, etc.). The cabinet itself is made of aluminium, lacquered, resistant to water, shocks and impacts. It is not intended for the bases of narrow orchard posts. Its performance predetermines it for powerful lights that are usually installed on stronger road poles.

Functions

The advantage of this concept is the termination of the dangerous 230V AC supply voltage at the base of the column. At the output of the source, there is only a safe voltage that anyone can work with. That is, even to install lights or other appliances. In conjunction with the Distribution Box type terminal block, which offers a whole range of terminals for other devices (public address, cameras), the technician has at his disposal a very comprehensive solution for literally every situation. Another great advantage follows from the concept - the source is able to supply other appliances in the vicinity with safe voltage, without the need to build additional secure interfaces. Public lighting poles then become the only central place for powering and controlling appliances in the area. Wireless lighting control cannot offer such functionality. The source can be terminated with various endings / transitions. Depending on which one is used, the function that the resource will then offer also depends on it. The basic function is the ability to power and regulate the Miracle lamp of the SMART category. The adapter can be a waterproof connector for a CYKY 3x2.5mm² cable or for a CAT6 cable. This option is preferred by the manufacturer because it simplifies installation and minimizes the possibility of incorrect wiring. At the same time, it offers an additional output cable for extended functionality. This output can be led outside the column (for example with a protector, there is only safe voltage in it) to a basket, a bench, an advertising panel, and other required functions can be provided there.