



APPLICATION

- street lighting control;
- measurement and distribution of electricity and protection of lighting circuits of streets and traffic routes, public places, highways, industrial plants;
- for low-voltage networks of the following types: TN-S, TN-C, TN-C-S.

EQUIPMENT

Enclosure

Thermosetting plastic

The enclosure is made of SMC plastic with IP 44 or 54. In the II protection class, with flammability class from HB to V0, in RAL 7035 color, with the possibility of additional varnishing for temporary resistance to environmental effects and UV radiation.

Aluminum OU-1S

Housing made of aluminum sheet (joining by welding or riveting). Powder coated in any color. Dimensions adapted to the type, amount of equipment and individual customer needs. The housing has high resistance to degradation, environmental impact and UV radiation.

The housing is made in protection class I or II.

Protection class II of the enclosure is achieved by applying an additional insulating layer, permanently lined on the inner and outer surfaces of the enclosure. The thickness of the layer ensures the right degree of insulation. Ventilation allows constant air flow through the use of a ventilation labyrinth, while eliminating the penetration of dirt and the accumulation of water and moisture. Doors having internal hinges with anti-burglary catch and multi-point locking, basquil lock lockable with padlock or system cylinder.

Mounting components

- mounting profiles – steel, hole-punched, mounted to the housing structure;
- mounting plate – made of plastic or galvanized steel, mounted on vertical mounting profiles made of galvanized sheet metal under the current track insulators;
- cable holders with mounting bar;
- masking plates – made of plastic plates or metal sheets, mounted to the housing structure.

A. Power supply and measurement part

- pre-metering protection – fuse disconnectors, overcurrent circuit breakers up to 63A (1P, 3P) other protections selected according to the requirements of the Recipient;
- power terminal strip with cross-section up to 4/5 x 35mm² (TN-S, TN-C), screw or allen clamp;
- surge protection;
- metering board suitable for installation of single or three-phase active energy meters;
- space for modem, tariff timer;
- cover plates suitable for sealing;
- documentation pocket;
- V-type (VLM) or M-type (screw) cable clamps for power cable – 2x4x240mm², receiving cable – 4x120mm²;
- cable holders.

B. Control and drainage part

- box fuse disconnector – the main protection of the control and drainage part, allowing to obtain a visible break necessary for maintenance work;
- low-voltage current transformers – measurement of parameters (A, V, P, Q, S, cos), plugged into the terminals of the controller;
- astronomical timer / controller / twilight switch;
- signaling and control overcurrent protection – provides visualization of the presence of voltage on the power supply and the correctness of the control;
- mode switch (automatic, manual, cascade);
- 230 V service outlet, outlet overcurrent protection;
- surge protection;
- cabinet lighting – controlled by limit switches connected to the controller;
- cabinet heating – controlled by a thermostat with temperature setting;
- single/triple-pole contactor with current adapted to the load, installed on each drain circuit or group of drain circuits – switching on and off lighting circuits in different configurations;
- outlet circuits – fuse disconnectors up to 160A (D01, D02, 00) or overcurrent circuit breakers up to 63A (1P, 3P);
- drain clamps up to 5x120mm² for allen/screw key;
- cable holders.

The equipment of SON cabinets is selected according to the requirements of the lighting management units and at the request of the customer.

Wiring

- wiring of cabinets made by insulated flexible cables (LgY) with cross sections selected for current carrying capacity and type of apparatus;
- PEN bus with division into PE and N.

Accessories

- socket mount – to fit any type of power pole;
- thermoset foundation – matched to the dimensions of the thermoset housing;
- FM aluminum foundation – matching the dimensions of the housing, equipped with removable front and rear covers;
- FB concrete foundation – constructed of reinforced concrete slabs, bolted together with aluminum or thermo casing;
- cable pocket.





RATED PARAMETERS

Rated switching voltage:	230 V / 400 V
Rated insulation voltage:	500 V
Rated frequency:	50 Hz
Surge voltage withstanding:	2,5 kV
Rated continuous current of the main rails:	up to 910 A
Rated short-term withstand current:	20 kA (1 s.)
Rated peak withstand current:	40 kA
Short-circuit current of internal arc discharge:	16 kA
IP rating:	44 - 54
IK degree of mechanical resistance:	10
Protection class:	I/II
Dimensions of the supply/ receiving terminals:	240 mm ² / 16 mm ²
Network systems:	TN-S, TN-C, TN-C-S
Height/ Width/ Depth:	unlimited for aluminum enclosures in protection class II



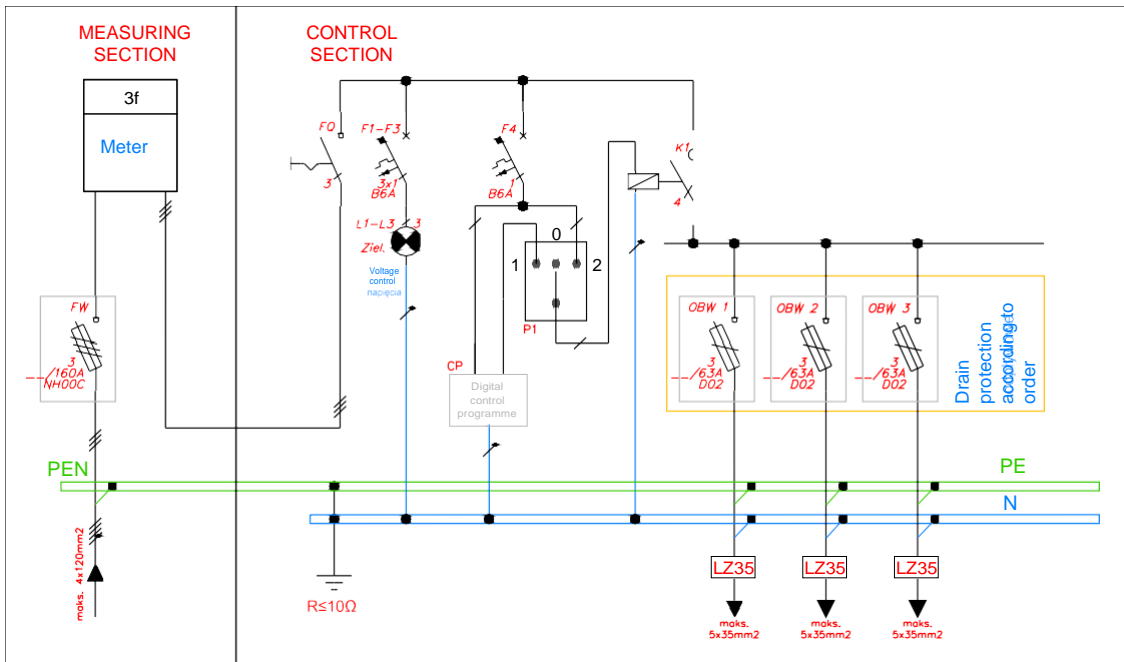
COMPLIANCE WITH STANDARDS

- **PN-EN 61439-1**
„Low-voltage switchgear and controlgear – Part 1: General provisions“;
- **PN-EN 61439-5**
„Low-voltage switchgear and controlgear - Part 5: Power distribution sets in public networks“;
- **PN-E-05163**
„Shielded low-voltage switchgear and controlgear. Guidelines for testing under arc discharge conditions resulting from an internal short circuit“;
- **PN-EN 50274**
„Low-voltage switchgear and controlgear – Protection against electric shock – Protection against unintentional direct contact of hazardous live parts“;
- **PN-EN 62208**
„Empty enclosures for low-voltage switchgear and controlgear. General requirements“;
- **PN-EN 60529**
„Degrees of protection provided by the enclosures (IP code)“;
- **PN-EN 62262**
„Degrees of protection against external mechanical impact provided by enclosures of electrical equipment (IK code) (IDT PN-EN 50102:2001)“;
- **PN-EN ISO 4628**
„Paints and varnishes – Evaluation of deterioration of coatings – Determination of the amount and extent of damage and the intensity of uniform changes in appearance – Part 6: Evaluation of the degree of chalking by the tape method“;
- **PN-EN ISO 2409**
„Paints and varnishes – Testing by the notch grid method“.



Sample diagram and view of the SON 3fx30 street lighting cabinet according to TAURON DYSTRYBUCJA S.A.

Switchgear diagram



View of the switchgear with the arrangement of devices

