INTELLIGENT SWITCHBOARD WITH 1 BRANCH PER POLE OR PLINTH

ORCAVE
401-551

Minimized version of the intelligent switchboard for places with small demands on the number of output branches. The terminals are doubled with a 1-phase input of up to 4kW. The pole version is equipped with overvoltage protection and is therefore suitable for locations where there is an overhead line. Status and parameters can be read remotely using the application, error states are proactively reported. It is possible to control the circuit breaker and individual phases remotely. Operator identification, alarm in case of unauthorized intervention.


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mechanical design

Design	self-supporting fully assembled chassis is placed in a suitable cabinet
Chassis dimensions	830 x 235 x 130 mm
Mounting	hanging on screws in the cabinet and connecting the input and output cables
Weight	8 kg
Degree of protection	IP54 (applies to Elplast model 3D cabinet on plinth)
Cabinet opening	three-point lever mechanism, secured by a special FAB type lock

Electrical part

Output branch	one with double terminals
Max current load	21A / phase, 60A / switchboard
Output protection	standard 3x20A char. B (can be changed by agreement)
Branch control	remotely, with the help of a motor, drops and drops all phases at once
Phase control	remotely, each separately via the AnyControl application
Status visualization	online diagram in AnyControl application, colors and graphics for branches and phases
Monitoring consumption	immediate power consumption even for a selected period, graph or overview in a table
Other parameters	it is also possible to monitor other electrical parameters, such as reactive power, phase shift, etc.

Operational Functions

Lighting	internal LED strip, reacts to movement
Door detection	unauthorized access sounds an alarm (local siren, remotely to dispatch)
Personal identification	RFID chip or via keyboard
Activity log	every command via the application is saved in the log
Status recording	any status change is saved in the log
Status monitoring	limits can be set for any status, the non-compliance or exceeding of which is reported to dispatch
System graphs	battery voltage and charging current, GPRS signal strength, internal temperature, cloud connection method and status
VO switching	central sensor for the whole city or according to local sunset/sunrise (can be set to shift 2 hours forward and backward by minutes)

Interfaces and States

Location	GPS, location visualized over the map, navigation for service
Communication with cloud	private GPRS or via Ethernet
Activity log	every command via the application is saved in the log
Status recording	any status change is saved in the log
Status monitoring	limits can be set for any status, the non-compliance or exceeding of which is reported to dispatch
Status (example)	battery and charging status, cloud connection status, power branch and phase settings (shows consumption - night and day, consumption is within set limits,...)
Interfaces for further use	Ethernet, 2x RS-232, RS-485, 4x O/C loops, 3x relay

Models

On the column	input and output cables from above, keyboard below
On plinth	cables from below, keyboard above
Modification	the switchboard can be retrofitted with a certified electricity meter to record the quality of the supplied energy, individual parameters are saved in the log

Design

The cabinet is supplied as a self-supporting chassis for easy installation in a suitable cabinet. Assembly is by 4 screws - the chassis is placed on the lower one and the upper two are fixed in position (assembly is very simple). The chassis is covered by a frontal protective panel, which is fixed with 4 screws. The operator has lighting in the form of an LED strip and a secure mounting socket. The backup battery is pushed forward in front of the cover, connected via an RJ-45 connector (data), so assembly/disassembly is very fast. If you are interested, it is delivered including the entire cabinet (on a plinth, on a column or under plaster). The cabinet can be prepared including distribution parts according to the requirements of the local distributor (supplied without main circuit breaker and clock). The cabinets are plastic, with IP54 protection, 3-point locking. To identify the authorized operator, the switchboard is equipped with an RFID reader or it is possible to preset a suitable personal code for the keyboard. The output branch is equipped with a pair of modules - NAcDrive and NMorse. NAcDrive provides remote motor control of circuit breakers (throw and trip), detects the presence of voltage, etc., while NMorse can measure all electrical parameters, control phases and communicate with control elements in public lighting poles.

Functions

The basic function of the switchboard is the distribution of electrical energy and the protection of power branches. The intelligent switchboard adds to the basic function the comfort of remote supervision and control, while the supervision is not only over the distribution, but also over the operating parameters of the equipment. An essential function is also the recording of all events in the log, which makes it possible to retrospectively analyze what was happening in the switchboard or on the network. It is therefore possible to find out who was doing what and at what time at the switchboard, when which phase or branch went out, what the consumption is, or the state of the support systems - batteries, communication, location, etc. The switchboard is equipped with a computer system, so its behavior can be adjusted using so-called scripts, which are available to the trained operator. A simple visualization of the status can be displayed in the AnyCity system, which is used not only for passporting of assets, but also as an operational system for handling requests/defects or monitoring the activities of technical staff. An exceptional functionality is the ability to communicate via the power line with the control elements, which are usually located at the base of the columns. Since this solution is universal, it is possible to control not only public lighting in this way. Instructions are transmitted either en masse as a broadcast or individually with addressing to a specific element. User junction for Orcave applications - www.anyplication.com/cz.