

# RWTz - Indoor Transformer Switchgears for MV/LV Stations with external service



## APPLICATION

- for indoor and container MV/LV transformer stations;
- for industrial and construction facilities;
- power supply, distribution and measurement of electrical energy as well as protection of electrical equipment against the effects of short circuits and overloads on the low voltage side.

## EQUIPMENT

### Case

- small-sized, light, modular, ensuring adequate rigidity of the structure; made of galvanized or aluminum steel profiles connected by cast fasteners;
- high mechanical strength and a degree of protection that prevents the ingress of contaminants and mechanical damage;
- fully covered, covers made of anti-corrosion coated steel sheet, powder coated in any color, made in a fixed or tilting version enabling inspections and examinations with a thermal imaging camera;
- internal space with separate parts: function modules, current paths;
- allows you to change the power supply side yourself, by moving the switchgear power supply module or swapping it with the measuring module;
- connecting individual modules by means of screw connections (without riveting or welding) allows for quick disassembly of the modules, bringing the switchgear in the modules to the place of foundation in the room (lack of space) and their reassembly;
- mounted on an additional frame, adjusted to the dimensions of the cable duct;

- The dimensions of the switchgear are free, adapted to individual Client's needs;
- the ability to combine several modules;
- handles for crane or overhead crane transport;
- Marking of the switchgear with durable engraved plastic plates, enabling the identification of all relevant components.

### Current paths

- current paths of the supply and outlet module made of screw-connected copper flat bars with a cross-section selected for the current load, equipped with pressed-in rivet nuts enabling the assembly of live strip equipment.
- terminal terminal of portable earthing rods;

### Configuration

#### MZ - Power Supply Module

- power supply of the module made as rail or cable by means of clamps on the current path rails;
- power rail bridge fully enclosed;
- switch-disconnector or fuse switch or circuit breaker up to 2500 A;
- grounding brackets for connecting earthing devices;
- optionally, the module can be equipped with PK/EQ.

#### MO - drain module

- disconnectors or Base fuses (letter or box);
- optionally, the module is equipped with additional elements, e.g. a chiller disconnector;
- back-up circuits shielded;
- Cable Clips
- depending on the needs with KPW burn-through control, without burn-out control of the inserts

**MP** - measuring-balancing module in accordance with distributor guidelines and

energy suppliers;

**SON** - lighting module, a system for controlling street lighting in the vicinity of the station.

**OPW** - auxiliary circuits, station lighting

**PK/EQ** - control measurement, electricity quality analysis, measuring transformers, network parameter meter (analogous or digital), electricity quality parameter analyzer, communication.

**BK** - transformer idle compensation capacitor/capacitor bank.

#### Additional

The RWT switchgear is additionally equipped with OPW self-needs circuits, which include:

- station lighting (16 [A]/ D01)
- socket 230 [V] (16 [A]/D01)
- additional circuit protections required by the customer

The switchgear can also be equipped with with an additional BK module – a bank of capacitors for reactive power compensation.

## RATINGS

Nominal breaking voltage:	230/400 V
Insulation Rated Voltage:	500/690 V
Rated frequency:	50 Hz
Withstand surge voltage:	6/8/8 kV
Rated continuous current of main rails:	1250/1600/2500 A
Rated continuous current of drain rails;	25/25/40 kA
Rated short-time withstand current:	25/25/40 kA
Rated peak withstand current:	52.5/52.5/84 kA
Internal Arc Fault Current:	20 kA
IP Rating:	4X/2X
Degree of mechanical resistance IK:	10
Protection class:	And
Network Layouts:	TN-S, TN-C, TN-C-S, TT, IT
Height/Width/Depth:	Unlimited



## STANDARDS COMPLIANCE

- **PN-EN 61439-1**  
'Low-voltage switchgear and controlgear assemblies - Part 1: General provisions';
- **PN-EN 61439-2**  
'Low-voltage switchgear and controlgear assemblies - Part 2: Switchgear and controlgear assemblies for electrical power distribution';
- **PN-E-05163**  
'Low-voltage switchgear and controlgear assemblies covered. Guidelines for testing under conditions of arc discharge resulting from an internal short circuit';
- **PN-EN 50274**  
'Low-voltage switchgear and controlgear assemblies - Protection against electric shock - Protection against unintentional direct contact with hazardous live parts';
- **PN-EN 62208**  
'Empty enclosures for low-voltage switchgears and controlrooms. General requirements';
- **PN-EN 60529**  
'Enclosure Ratings (IP Code)';
- **PN-EN ISO 4628**  
'Paints and varnishes - Assessment of the deterioration of coatings - Determination of the amount and extent of damage and the intensity of uniform changes in appearance - Part 6: Assessment of the degree of chalking by the tape method';
- **PN-EN ISO 2409**  
'Paints and varnishes - Examination by means of a grid of';
- **PN-EN 62262**  
'Degrees of protection against external mechanical impacts provided by enclosures of electrical equipment (IK code) (IDT PN-EN 50102:2001)''.