



## Switchgears ZZ-3/S3, ZZ-3/S2

### HOMOLOGATION SIGN:

GE-26/13  
GE-27/13  
GE-28/13  
GE-29/13



Switchgears type ZZ-3/S3, ZZ-3/S2, ZZ-3/S3/P, ZZ-3/S2/P is a device for use in underground mining in excavations with no explosion hazard or in conditions with no methane explosion hazard and designated as class A coal dust explosion hazard or on the ground.

Switchgears type ZZ-3/S3, ZZ-3/S2, ZZ-3/S3/P, ZZ-3/S2/P is intended for connecting and switching receivers in the mine 3-phase power grid with an insulated transformer star point or earthed through a resistor for rated voltages 3,3kV; 6kV; 10kV; 12kV. The set is equipped with electric energy protection against short-circuiting, overloads, lowering of insulation resistance and overvoltage.

### TECHNICAL DATA:

rated voltage	3,3kV; 6kV; 10kV; 12kV
rated current of the contactor field	315A; 315A; 200A; 200A
rated current	630A
no of phases	3
no of outlets	(4 or 6) singular fields have two outlets
set dimensions ZZ-3/S3; ZZ-3/S3/P	1740x1310x3500mm
set dimensions ZZ-3/S2; ZZ-3/S2/P	1740x1310x2800mm
set weight ZZ-3/S3; ZZ-3/S3/P	2500kg
set weight ZZ-3/S2; ZZ-3/S2/P	1900kg

ZZ3-/S3 (S2) – sets are equipped with controller fields  
ZZ3-/S3/P (S2/P) – sets are equipped with fields without a controller

## CONSTRUCTION

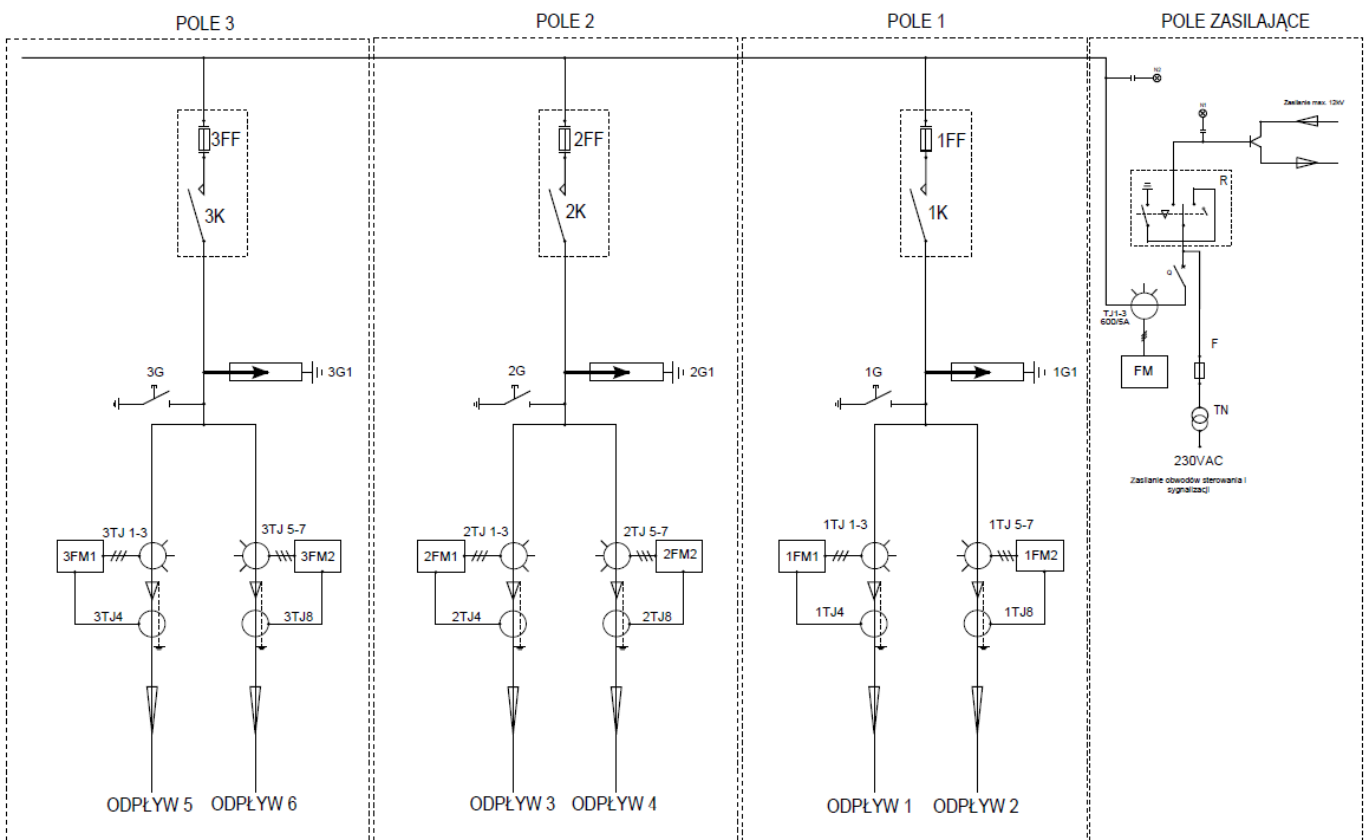
The housing is of a modular type and comprises of the following parts:

- Supply field chamber
- Breaker field chamber (3 fields with two outlets or 2 fields with two outlets)
- Control cabinets

## OPERATION

Switching on and off and earthing of R switch is carried out with a single lever drive inserted into disconnecter or earthing switch sockets. Control of the breaker in the power supply can be operate in four modes (SYSTEM, TEST, LOCAL, REMOTE) for a set of ZZ-3/S3, ZZ-3/S2. For sets ZZ-3/S3/P, ZZ-3/S2/P three breaker control modes are provided (TEST, LOCAL, REMOTE).

Switching the breaker on is only possible in the absence of tripping units protection. Control of contactors in the contactors fields can be operate in four modes (SYSTEM, TEST, LOCAL, REMOTE), the modes are operational both in ZZ-3/S3, ZZ-3/S2 and ZZ-3/S3/P, ZZ-3/S2/P versions.



### Legend:

Pole 1,2,3 – contactor field 1,2,3

Pole zasilające – supply field

Odplyw 1-6 – Outlets 1-6

1K-3K – contactors

Q – circuit breaker

R – earthing

1G1-3G1 – overvoltage protections

1FM-3FM - short-circuiting, overloads, lowering of insulation resistance protections

Orders should be made in writing or by fax to the address:

 **Instal-Service PL**

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