



Switchgear type SF-3/D for rated voltage 500V



Switchgear SF-3/D (with passive high current harmonic filters and Danfoss frequency converter) is an electrical device designed for use in underground mining, with no explosion hazard present and on the ground, with no explosion hazard present.

Switchgear SF-3/D (with passive high current harmonic filters and frequency converter) is used for connecting and switching receiver to the mine 3-phase power grid with isolated star point of the transformer (IT system) for 500V rated voltage

The receiver is connected to the switchgear via a terminal by cable gland. Switchgear SF-3/D is equipped with a power protections against short-circuits, overloads, lowering of earth resistance and continuity of the earthing.

DANE TECHNICZNE:

ingress protection	IP54
rated power supply voltage	500V, 50 Hz
rated power	(132, 160) kW
fluctuations of grid supply rated voltage	(525-690) V
output frequency	(0÷590) Hz
control circuit voltage	24V, 50 Hz
number of 500 V outlets	1
dimensions (height x width x depth)/weight - (without a protective cage)	1900 x 1700 x 700mm/700kg
- (in a protective cage)	1900 x 1800 x 800mm/800kg

CONSTRUCTION

The switchgear housing is made of sheet steel. The unit is placed on a steel support base enabling the switchgear to be placed directly on the ground.

DESCRIPTION OF OPERATION

Switchgear can be operated in two modes: LOCAL, SYSTEM. Control mode selection is carried out on control panel of frequency converter, which is situated on the face of the switchgear. In LOCAL mode, turning on the 500V outlet is possible, when disconnecter Q is switched and protections are not tripped. In SYSTEM mode, the outlet is turned on from external control system via RS 485 (MODBUS communications protocol). Messages of the status of the frequency converter can be read on the panel, built on the face wall of the switchgear. On the panel can be displayed various operating parameters: speed of engine, voltage of conductor rail DC, frequency, output voltage, current, temperature of radiator, moment, operating time, power, energy, presetting.

AIR CONDITIONING

The switchgear is equipped with air conditioning unit KL, ensuring the internal temperature not to exceed 50°C, which ensures optimum operating temperature for the frequency converter 1AU. The internal and external circuit of the air conditioner are totally separated providing the switchgear protection degree of IP 54.

Legend:

- Q – fuse disconnecter
- 1AU – frequency converter
- 1K – contactor
- FT - passive high current harmonic filtre



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

 **Instal-Service PL**

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