

EXPLOSION-PROOF SWITCH ASSEMBLY SN21

The flameproof circuit breaker set SN21 is determined for switching and protection of three-phase mining electrical equipment or for switching and protection of a mining supply network.

The flameproof circuit breaker set SN21 is constructed for use in the isolated supply network 3/PE AC 5500V 60Hz/IT (eventually 3/PE AC 6000V 50Hz/IT or 3/PE AC 6300V 50Hz/IT).

The product complies with the technical requirements for devices designed for use in potentially explosive atmospheres of mines according to Directive 94/9/EC.

The product is designed for use in environment with methane and coal dust explosion hazard category M2, and complies with technical requirements of devices from group I. The product also complies with technical requirements EN 60079-0, EN 60079-1, EN 60079-11 and EN 60 529.



Design

The flameproof circuit breaker set SN21 is executed in a welded flameproof enclosure. The flameproof enclosure composes of five separate areas: input isolator compartment, main compartment with quick-release door, output isolator compartment, instrumental compartment and auxiliary connecting compartment include intrinsically safe circuits. Incoming and outgoing power supply cables are connected by cable couplers and adapters (current max. 500Amps/per one cable adapter). It is a possible to make electrical and mechanical connection of the several flameproof circuit breaker sets SN21 in to the H.V. distribution board.

Main parts of power electrical circuits are incoming isolator with earth switch, the quick-release door mechanical and electrical interlock, circuit breaker and outgoing isolator with earth switch. The flameproof circuit breaker set SN21 has one auxiliary output.

Electric circuits of circuit breaker set insure the following:

- short circuit and overcurrent protection,
- phase failure and phase asymmetry protection,
- earth fault protection,
- earth fault lock-out protection,
- pilot circuit protection,
- remote intrinsically safe control,
- H.V. insulation test. H.V. insulation test is operated on an outgoing power cable only before power circuit breaker switch-on. The injection voltage is a nominal 4000VDC,
- indication of all operation and failure conditions and history saving. All items are displayed on 5.3" bw display,
- remote data transfer.

Technical data

➤ Type	SN21-P1
➤ Nominal voltage	3 AC 5500V 60Hz or 3 AC 6000V 50Hz or 3 AC 6300V 50Hz
➤ Total nominal current of circuit breaker	630 Amps.
➤ Symmetric nominal off-switching current of circuit breaker	31,5kA at 12kV
➤ Nominal on-switching current (peak) of circuit breaker	80kA at 12kV
➤ Maximum number of power inlets	2
➤ Maximum number of switched/protected power outlets	1
➤ Auxiliary output	1Amps./110VAC
➤ Flameproof equipment marking	Ex d [ia] I
➤ Type of protection against explosion	„d“, „ia“
➤ Protection degree provided by enclosures	IP54
➤ Total weight	1750kg

