



## OSK-01 control cabinet

 Certificate **ATFX**



### Application:

The OSK-01 control cabinet is a means for simple automation and replacement of a complex relay circuit. It is also used for controlling power equipment. It is intended for various mining equipment.

### Description:

Electrical and electronic devices and converters are placed in an intrinsically safe solid enclosure. The terminal areas are designed as Ex d, Ex ia solid enclosures.

Terminal compartments Ex d and Ex ia are connected to the instrumentation compartment by eight PD-D36 bushings. There are 5 sight glasses in the lid of the instrumentation compartment, below them are intrinsically safe LED converters (a motor speed monitor for the OSK-01-01) and counter for operating hours. The converters indicate the signals of the sensors attached to them (closed, open). The instrumentation compartment contains the alternator regulator, smoothing capacitors, fuse base, operating-hours counter, two channel-separated safety relays for intrinsic separation (or motor speed monitor).

### OSK-01 version

Supply voltage from the alternator is secured and smoothed at the input. When starting the motor, the alternator provides power for operating the converters to/from intrinsically safe alarms via the STOP button. If the sensors for temperature, hydraulic oil level, water level in the flue gas cooling unit and motor oil pressure are activated, the motor fuel supply valve is closed. After reaching a certain hydraulic oil pressure, the sensor for drive pulley pressure is switched and released. Opening the STOP button closes the fuel input and activates braking, switching off lights and turning off the engine. The horn is activated by a button. The horn will also sound for a drop in water level in the exhaust housing. If the self-actuating alternator is in operation, the time of operation is counted in hours on the counter. The safety circuit is formed by a temperature sensor, motor oil pressure sensor, drive pulley pressure sensor, hydraulic oil level sensor and flue gas cooling unit level sensor. A loss of signal from these sensors causes the motor and the whole equipment to shut down. When the motor shuts off, the status of the sensors is indicated on the respective LED and channel of the intrinsically safe converter.

### Specifications:

Design	I M2 Ex d [ia] I
Rated supply voltage	24VDC
Cross-section of connector wire (max)	2.5 mm <sup>2</sup>
Temperature range	0 to 40°C
Relative humidity (max.)	95% w/o condensation
Case	IP54
Dimensions	360 x 631 x 175 mm
Weight	50 kg

### OSK-01-01 version

The supply voltage from the alternator is secured and smoothed at the input. When the motor starts, the alternator supplies, through the STOP button, power for the operation of the converters for intrinsically safe signals, operating-hours counter and the intrinsically safe source. If the sensors for temperature (motor, hydraulic oil, exhaust gas, compressed air hydraulic oil), motor oil pressure, water level in the flue gas cooling unit, water level in the exhaust housing and the methane detector are activated, the motor fuel supply valve is closed. Opening the STOP button stops the motor fuel supply and shut downs the motor. The equipment is equipped with an intrinsically safe horn to signal the lack of water in the exhaust housing, etc. If the self-actuating alternator is in operation, the time of operation is counted in hours on the counter. The safety circuit is formed by a temperature sensor (motor, hydraulic oil, exhaust gas, compressed air hydraulic oil), motor oil pressure, water level in the flue gas cooling unit (motor, exhaust gases), methane gauge and motor overspeed monitor. A loss of signal from these sensors causes the whole system to shut down. The status of the sensors is indicated below the sight glasses when a system shutdown leads to a motor shutdown.

### What the LED channels of intrinsically safe converters mean according to version:

Converter	OSK-01	OSK-01-01
K1.1 K1.2	motor oil temperature exhaust gas temperature	motor temperature motor oil temperature
K2.1 K2.2	hydraulic oil level motor temperature	exhaust gas temperature hydraulic oil temperature
K3.1 K3.2	hydraulic oil temperature motor water level	compressed air temperature motor oil pressure
K4.1 K4.2	horn button pressure of pulley pressure	motor water level exhaust water level
K5.1 K5.2	motor oil pressure exhaust water level	methane gauge reserve
K6.1 K6.2	- -	motor turns unused

**The catalogue has only those selected important parameters for your final decision. For project designs always ask for the user's guide for this product and any engineering consultation about possible uses.**