



MWM ELEKTRO



RA1-Ex SHAFT GATES SAFETY LOCK

Designed to mechanically block the shaft gates and prevent unauthorized entry into the shaft.

PRINCIPLES OF OPERATION/MAIN CHARACTERISTICS

The RA1-Ex shaft gates safety lock works by itself and in such a way that when the shaft gates are moved to its extreme position, the lock catch snaps shut, thus preventing unauthorized opening of the gates. To unblock the shaft gates in a maintenance-free manner, it is necessary to send the respective command signal from the superior, off-shaft equipment control system to the RA1-Ex device. The RA1-Ex shaft gates safety lock is constructed so that it can be released either from the shaft vessel compartment (by manual lifting of its latch) or from the shaft station side (by means of an emergency opening button

– secured with a sealed split pin, thus enabling to open the shaft gates in case of emergency.

The RA1-Ex device is equipped with sensor that controls the latch position, which allows for better integration of the device with any automation and control or recording systems while operating.

The RA1-Ex shaft gates safety lock is made of high quality corrosion-resistant materials, so it can be applied in an environment with high humidity and in the presence of chemically aggressive substances, which often occurs in underground mining plants.

NOTE:

The RA1-Ex shaft gates safety lock is designed for application in mining underground excavations classified as „a”, „b” or „c” degree of methane explosion hazard and to 'A' or 'B' class of coal dust explosion hazard.

TECHNICAL CHARACTERISTICS

	DC version	AC version
Rated supply voltage	24 V _{DC}	24 V _{AC}
Rated current	1,5 A _{DC}	1,2 A _{AC}
Rated power	36 W _{DC}	30 W _{AC}
Signal from the sensor	Current in NAMUR standards	
The intrinsically safe inductive proximity sensor	PCIN4 (I M1 Ex ia I Ma) of SELS sp. z o.o. production	
Flameproof casing	OS152/15/0/B of BOHAMET S.A. production	
Cable exit	2 × ZW15M input unit (with inductive sensor) 1 × ZW15M input unit (without inductive sensor)	
Explosion protection marking	Make without inductive proximity sensor: Ex I M2 Ex db I Mb	Make with inductive proximity sensor: Ex I M2 Ex db I Mb
The ambient temperature	+5°C ÷ +35°C [ia Ma]	
Relative humidity	up to 95%	
Type of mount	6 × M12	
Overall dimensions	291 mm × 304 mm × 523 mm	
Weight of the set	33 kg	

The RA1-Ex shaft gates safety lock is provided with the UE type Examination Certificate number KOMAG 21ATEX0147X

DESIGNATION

The shaft gates safety lock is marked with the symbol:

RA1-Ex

Designation for ordering:

Make option	Without the inductive proximity sensor	With the inductive proximity sensor
Right hand make	RA1P-Ex/_	RA1P-Ex[ia]/_
Left hand make	RA1L-Ex/_	RA1L-Ex[ia]/_
DC power supply option	RA1_-Ex/24VDC	RA1_-Ex[ia]/24VDC
AC power supply option	RA1_-Ex/24VAC	RA1_-Ex[ia]/24VAC

EXAMPLES:

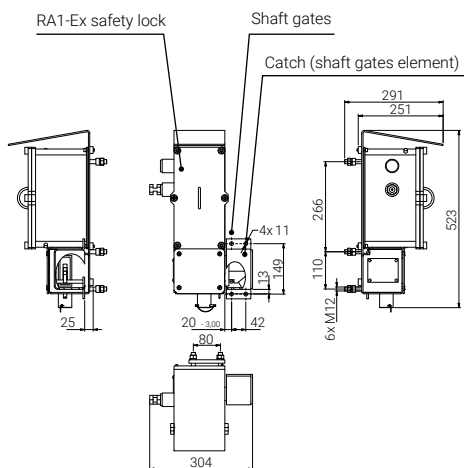
RA1L-Ex/24V_{DC}

left hand make of RA1-Ex shaft gates safety lock, powered from 24 V DC source without the lock position sensor.

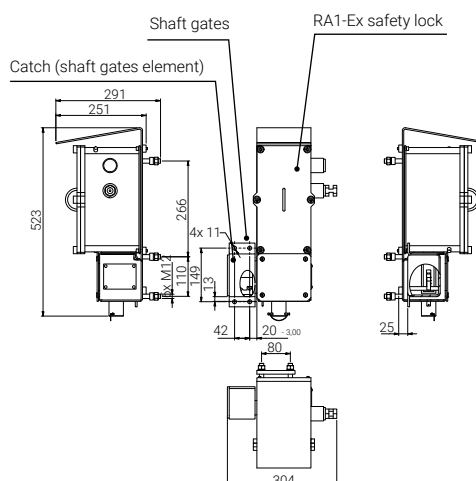
RA1P-Ex [ia]/24V_{AC}

right hand make of RA1-Ex shaft gates safety lock, powered from 24V AC with the lock position sensor.

TECHNICAL DRAWINGS



LEFT HAND MAKE



RIGHT HAND MAKE