



# KR Ex protection relays



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# **KR 5/Ex $\text{Ex}$ I (M1) / II (1) GD [Ex ia Ma] I / [Ex ia Ga] IIC / [Ex ia Da] IIIC protection relay**

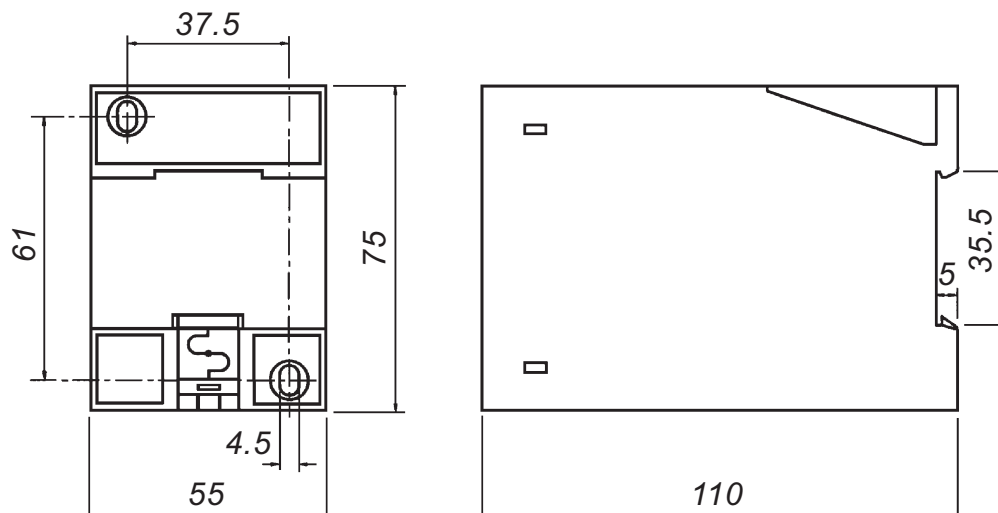
for signalling a limit level (1 sensor)  
or  
for two-point control (2 sensors)




The **KR 5/Ex  $\text{Ex}$  I (M1) / II (1) GD [Ex ia Ma] I / [Ex ia Ga] IIC / [Ex ia Da] IIIC** protection relay is designed to transmit control commands from an intrinsically safe control circuit to a non-intrinsically safe active current circuit (controlled circuit). **It must be installed outside potentially explosive areas in compliance with the relevant standards and regulations.**

Ex ia approved sensors, such as floating switches or immersion probes (e.g. our types SI/SSP/NL/1/K/PVC Variante 0  $\text{Ex}$  I M2 / II 2 G Ex ia I Mb / Ex ia IIB T6 Gb or TSR/ED/E8/Variante 0/Ex-0G  $\text{Ex}$  II 2/1 G Ex ia IIC T6 Ga/Gb) or a NAMUR sensor (e.g. inductive or capacitive Ex ia sensor) may be used in the intrinsically safe control circuit acc. to the relevant standards and instructions.

Protection relay for U-bar mounting or surface mounting,  
with connection terminals on top of housing and  
with 2 built-in LEDs for signalling the respective  
switching status.

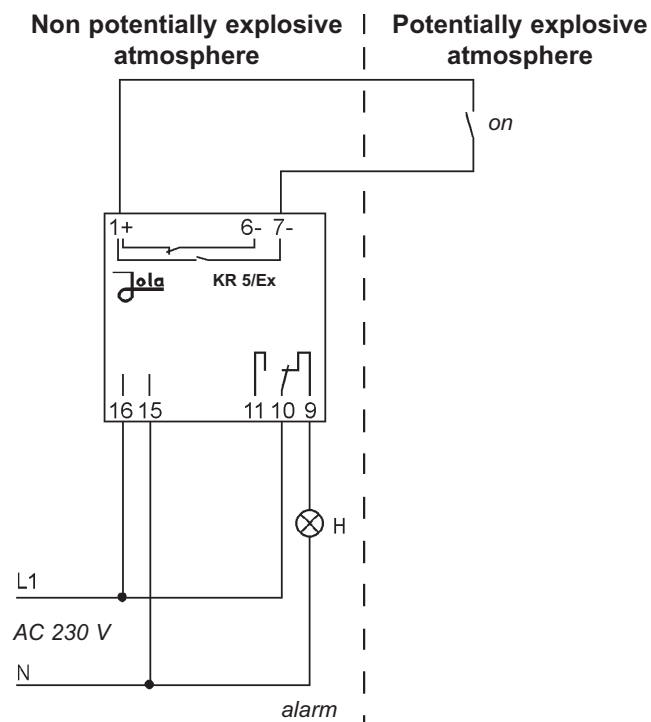
**These units are designed for switch cabinet mounting or installation in a suitable protective housing outside potentially explosive atmospheres and may therefore only be mounted / installed in these locations. It is suitable for use in clean environments only.**



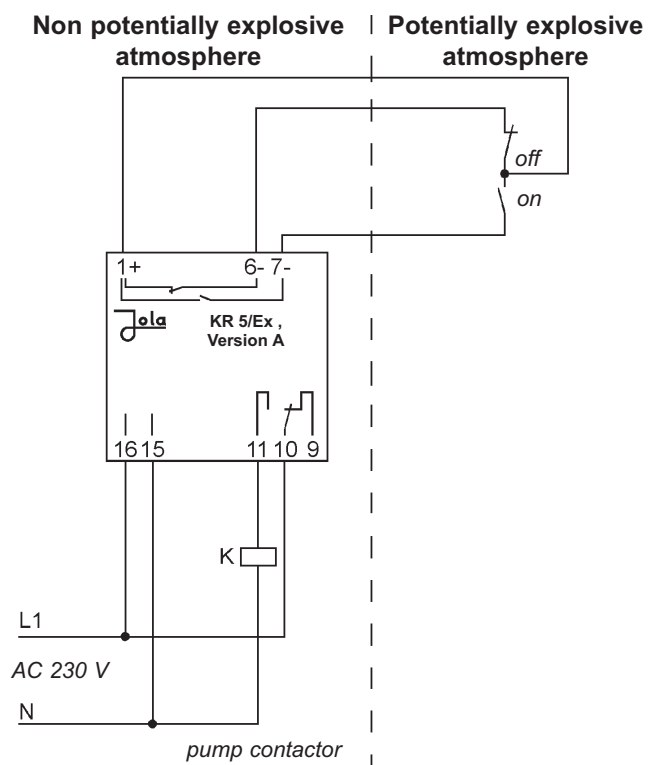
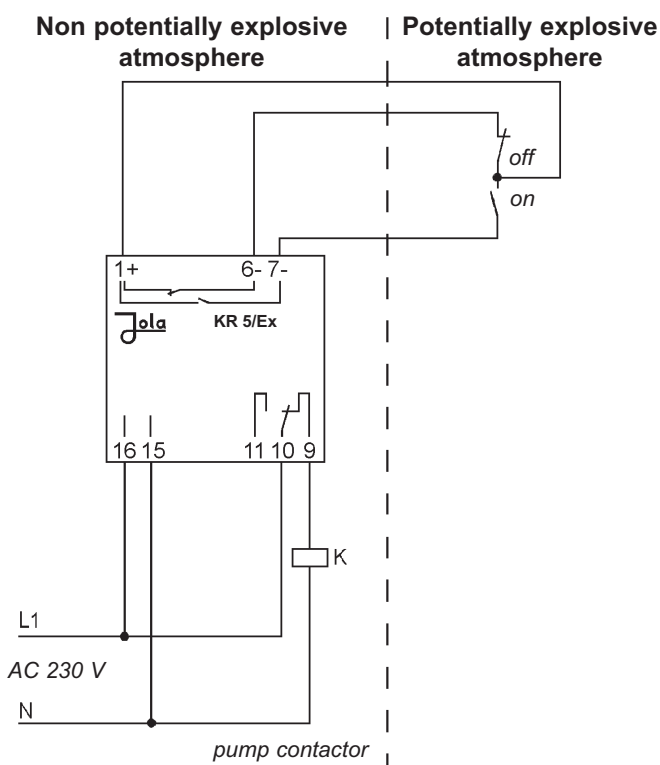
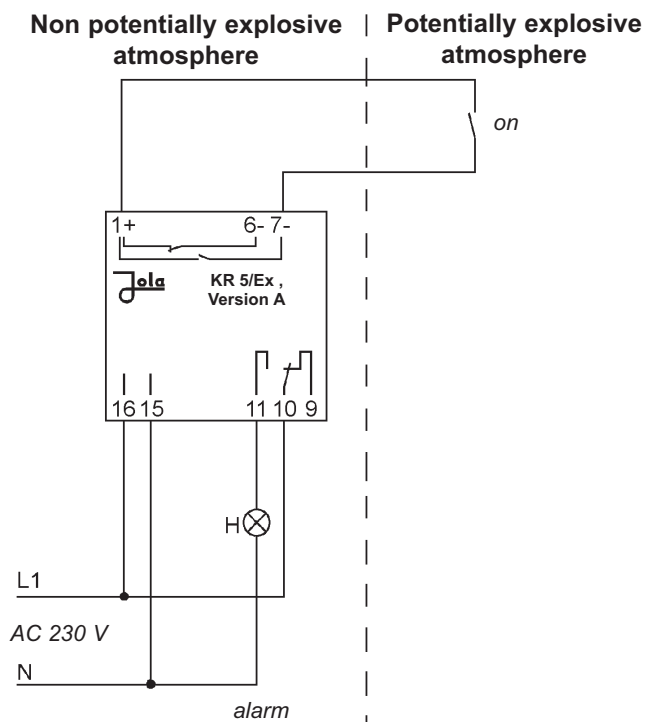
Technical data	KR 5/Ex  I (M1) / II (1) GD [Ex ia Ma] I / [Ex ia Ga] IIC / [Ex ia Da] IIIC	KR 5/Ex  I (M1) / II (1) GD [Ex ia Ma] I / [Ex ia Ga] IIC / [Ex ia Da] IIIC, Version A
Alternative supply voltages (terminals 15 and 16)	AC 230 V (delivered if no other supply voltage is specified in the order) or AC 240 V or AC 115 V or AC 110 V or AC 24 V	
Power input	approx. 3 VA	
Control circuit (terminals 1, 6, 7)	3 terminals (under safety extra low voltage SELV), acting on 1 output relay with self-hold	
Sensor connection	according to EN 50 227, NAMUR	
No-load voltage	DC 8.4 V (safety extra low voltage SELV)	
Short-circuit current	< 10 mA	
Response sensitivity	1.5 mA  1.8 mA	
Controlled circuit (terminals 9, 10, 11)	1 single-pole potential-free changeover contact with self-hold	
Principle	quiescent current principle   working current principle	
Switching status indicators	1 green LED lights when the output relay is energised 1 red LED lights when the output relay is not energised	
Switching voltage	max. AC 250 V	
Switching current	max. AC 4 A	
Switching capacity	max. 100 VA	
Housing	insulating material, 75 x 55 x 110 mm	
Connection	terminals on top of housing	
Protection class	IP20	
Mounting	clip attachment for U-bar to DIN 46 277 and EN 50 022 or fastening via two boreholes	
Mounting orientation	any	
Temperature range	– 20°C to + 60°C	
Max. cable length between protection relay and sensor	to be clarified by the customer in consultation with the competent technical monitoring organisation for the application in question	
EG type examination certificate	INERIS 03ATEX0150	
EMC	for interference emission in accordance with the appliance- specific requirements for households, business and commerce as well as small companies, and for interference immunity in accordance with the appliance-specific requirements for industrial companies	

## Connection diagrams

### KR 5/Ex



### KR 5/Ex , Version A



## Output contact shown in no-current condition

The units described in this documentation may only be installed, connected and started up by suitably qualified personnel!

Subject to deviations from the diagrams and technical data.

The details in this brochure are product specification descriptions and do not constitute assured properties in the legal sense.