

COMPACT



MVK METAL SAFETY

OPTIMUM PROTECTION FOR MAN AND MACHINE

The fully potted I/O modules are suitable for applications in harsh industrial environments, thanks to IP67 protection and a high resistance to media and vibrations. Moreover, they feature comprehensive diagnostic options. Errors such as overload, sensor short circuit or wire breaks are monitored for each individual channel, signaled by an LED at the affected port and reported to the control.

MVK Metal Safety uses PROFI-safe – a safety-related expansion of PROFINET to transfer safety-related data. This standard protocol for industrial applications allows you to use preexisting communication technologies which saves on both wiring and installation time. Another benefit is that standard PROFINET modules can be integrated into the individual lines.

The variants with the article number *****10 are modules with an **extended temperature range** that are suitable **down to -30 °C**. These variants can be used for applications such as cold stores.

TWO BASIC VERSIONS AND EXTENSIVE FUNCTIONALITIES

MVK Metal Safety is available as an input-only module and as a hybrid module with input and output. Each input port has the option to be used to transfer one or two signals. Depending on the application, SIL3 certification can be reached.

Test pulses for cross-circuit detection

Each input has a separate clock signal (parameterizable). Easily detect cross circuits caused by pinched cables or ground faults and respond immediately.

Single-/two-channel inputs

Each input port features two inputs. For two-channel applications, these inputs can be configured as equivalent or antivalent.

Cable break recognition

For the safe outputs, cable break recognition is possible as an option. The required minimum current amounts to 50 mA.

Overload monitoring of the outputs

If the maximum current is exceeded, the output is switched into a safe state. This is signaled by a red LED at the port and additionally reported via the diagnostic function.

Adjustable discrepancy time

In two-channel applications, time delays that are caused, for example, by two different sensors, can be compensated by adjustable discrepancy time.

Channel- or module-granular passivation

Depending on the application, either only the affected channel or the entire module can be set to a safe state in the event of an error.

ORDERING DATA

Input/output module Safety inputs/outputs up to Cat. 4/PLe (EN ISO 13849-1) up to SILCL 3 (IEC 62061) Protection IP67 Approvals  		MVK-MPNIO Safety   		MVK-MPNIO Safety   	
Description		Art. no.			
F DI16		55556		55562	
F DI16 (extended temperature range)		5555610		5556210	
F DI8/4 F DO4		55557		55563	
F DI8/4 F DO4 (extended temperature range)		5555710		5556310	
Fieldbus					
Connection		M12, D-coded		Push Pull RJ45 data connector	
Transfer protocol		PROFINET IO			
Addressing		DCP, safety addressing via rotary switch			
Supply voltage					
Connection		7/8", 5-pole, max. 9 A		Power connector, Push Pull, max. 12 A	
Operating voltage		24 V DC (EN 61131-2)			
IO ports					
Connection		M12, A-coded, 5-pole			
Safety inputs (DI)		24 V DC (EN 61131-2), max. 200 mA (PIN 1+5), short-circuit and overload protected, or max. 700 mA for just one PIN			
Safety outputs (DO)		–		24 V DC (EN 61131-2), max. 2 A	
–		24 V DC (EN 61131-2), max. 2 A		–	
–		–		24 V DC (EN 61131-2), max. 2 A	
General data					
Temperature range		Standard: -20 °C... 55 °C; Extended: -30 °C... 55 °C			
Dimensions (H x W x D)		225 x 63 x 42 mm		225 x 63 x 42,7 mm	