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SV MR0

safety speed monitoring interface

short form

Stand-alone safety speed monitoring device

Controls zero, minimum or maximum speed

Safety speed monitoring interfaces. Safety level up to PL e - SIL 3.

SV MR0 - Safety speed monitoring relay for Overspeed and Zero speed control.

SV MR0 U - Safety speed monitoring relay for Underspeed control.

Both modules integrate:

Manual or Automatic restart selectable.

EDM feedback input for external contactors monitoring.

Enable inputs used, for instance, when monitoring the same axis, in different working phases, with more SV MR0 configured with different thresholds.

Faults signalled by LED "Fault" and a PNP system status output.

PNP status output indicating overspeed or underspeed thresholds crossing.

Both modules have 2 inputs for PNP proximities switches.



Safety levels

SIL 3 – SILCL 3 – PL e – Cat. 4

2006/42/EC: "Machine Directive".

2004/108/EC: "Electromagnetic Compatibility Directive".

2006/95/EC: "Low Voltage Directive".

EN ISO 13849-1:2008 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design".

EN 61508-1:2010 "Functional safety of electrical/electronic programmable electronic safety related systems - General requirements".

EN 61508-2:2010 "Functional safety of electrical/electronic/programmable electronic safety related systems - Requirements for electrical/electronic/programmable electronic safety-related systems".

EN 61508-3:2010 "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements".

EN 61508-4:2010 "Functional safety of electrical/electronic programmable electronic safety related systems - Definitions and abbreviations".

EN 62061:2005 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems".

P1 and P2 selectors allow to set numeric values from 01 to 99. P2 selector allows to set a multiplier to apply to the numeric value obtained with the first two. The multiplier can be set in "Hz" or in "rpm" (round per minute).

Note: Only when the proximities switches sensor show a single pulse per turn, the value in "rpm" corresponds to the value in "ipm" (pulse per minute).



Speed threshold configuring selectors

P1 selector tenths

P2 selector units

P3 selector multiplier

| Multipliers "Hz" (0.5 to 990 Hz) | Multipliers "rpm" (1 to 49,500 rpm) |
|-------------------------------------|----------------------------------------|
| 1 - x 0.5 | 1 - x 1 (min 10 rpm) |
| 2 - x 1 | 2 - x 10 |
| 3 - x 5 | 3 - x 50 |
| 4 - x 10 | 4 - x 100 |
| | 5 - x 500 |



Technical features

| Model | SV MR0 | SV MR0 U |
|--------------------------------------|--------------------------------------------|----------|
| Ordering code | 1100078 | 1100088 |
| Safety level | Up to PL e, Cat. 4, SIL 3, SILCL 3 | |
| Safety relay outputs | 2 NO - 6A 250 VAC | |
| Overspeed status output | PNP - 100 mA 24 VDC | |
| System status output | PNP - 100 mA 24 VDC | |
| Power supply | 24 VDC ± 20% | |
| Electrical connections | Removable terminal blocks, screw contacts | |
| Start/Restart | Automatic/Manual | |
| Maximum input frequency (Hz) | 2000 | |
| Selectable frequency threshold (Hz) | 0,5 ... 990 | |
| Selectable frequency threshold (rpm) | 10 ... 49500 equivalent to 0,17 ... 825 Hz | |
| Hysteresis | 5% | |
| External Device Monitoring | Yes | |
| Signalling | LED indicators for status and diagnostic | |
| Protection rating | IP20 for housing - IP2X for terminal block | |
| Operating temperature | -40 ... +55 °C | |
| Fastening | DIN rail according to EN 50022-35 standard | |
| Dimensions h x w x d (mm) | 99 x 22,5 x 114 | |



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