

COMPACT

PROFESSIONAL SYSTEM DESIGN ACC. TO EN ISO 13849

SUPPRESSOR MODULES AND EMC FILTERS FOR MAXIMUM MACHINE SAFETY

When designing a machine or a system that has to meet the safety-related requirements of category 2 of EN ISO 13849, you have to respect CCF (EN ISO 13849-1, chapter 6.2.5). CCF stands for "Common Cause Failure" and describes errors with a common cause.

EMC problems, overloads or over currents are among the possible causes for these failures that can be prevented by taking appropriate measures. By implementing these measures when designing your system, you score points. To be allowed to sell or operate machines and systems, you must have at least 65 points (out of 100). If you can prove that your machines and systems are installed safely according to the measures regarding safety-related control systems and protective measures against disturbances and failures, **you'll get 40 points of the necessary 65 points.**

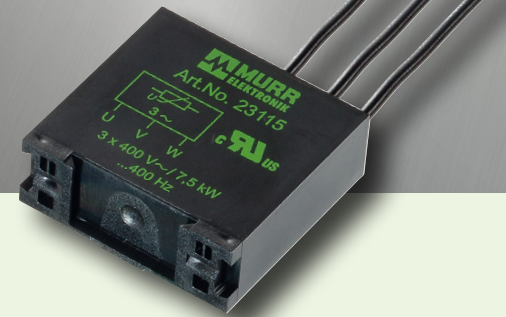
EXCEPT FROM EN ISO 13849

Measure	Points
Separation	15
Diversity	20
→ Design/application/experience – protection against over-voltage, over-loads, over-pressure, etc.	15
Design/application/experience – use of proven components	5
Assessment/analysis	5
Competency/training	5
→ Environment – protection from dirt and electromagnetic interference (EMC)	25
Other impacts	10
Total	100

40

Murrelektronik offers an extensive range of products that contribute to the functional safety of control systems in machines and installations.




By reducing over voltages, suppressing asymmetrical and symmetrical interferences caused by cables and shielding static, electrical fields, you make sure that your control systems work safely and faultlessly.





HIGHLIGHTS

- You have to have 65 points out of 100 to meet the safety-related requirements according to EN ISO 13849
- The CCF value of a system will increase by 40 points by implementing a stable control system. This will allow the machine or system to work safely and faultlessly
- You can achieve optimum protection by taking small steps and making small expenditures



SUPPRESSION MODULES FOR MOUNTING ON THE MOTOR

	Voltage	Motor Rating	Suppression	Mounting method	Art. No.
	3 x 575 V AC	5.5 kW	VDR	Connector with integr. motor suppression Cable length 5 m	236139
	3 x 575 V AC	5.5 kW	VDR	Connector with integr. motor suppression Cable length 10 m	236142
	3 x 400 V AC	7.5 KW	VDR	Inside the motor terminal box with foil	23115
	3 x 400 V AC	20 KW	VDR	Snaps onto DIN rail	23118
	3 x 575 V AC	4 KW	RC		23050
	3 x 400 V AC	4 KW	VDR	With screw fixing on motor terminal box Metric: M16 x 1.5; M6	23170
	3 x 400 V AC	7.5 KW	VDR		23171
	3 x 575 V AC	4 KW	VDR		23172
	3 x 575 V AC	7.5 KW	VDR		23173


SUPPRESSORS FOR SIEMENS CONTACTORS

	Voltage	Suppression	Suitable for	Art. No.
	24...240 V DC	Diode	3 RT 20.15/16/1/18 for size S00	2000-68500-110 0000
	24 V AC/DC	VDR+LED		2000-68500-741 0000
	110 V AC/DC	VDR+LED		2000-68500-730 0000
	110 V AC/DC	RC		2000-68500-730 0000
	230 V AC/DC	RC		2000-68500-232 0000
	24 V DC	Diode+LED	3 RT 20.25/26/27/28 for size S0	2000-68400-201 0000
	24 V AC/DC	VDR+LED		2000-68400-441 0000
	110 V AC/DC	VDR+LED		2000-68400-741 0000
	110 V AC/DC	RC		2000-68400-730 0000
	230 V AC/DC	RC		2000-68400-232 0000

EMC FILTERS

	Phases	Stages	Nominal Current	Mounting method	Art. No.
	1	1	10 A	Snaps on	10415
	1	1	20 A		10416
	1	2	2 A		10461
	1	2	6 A		10464
	1	2	10 A		10472
	3	1	10 A		10512
	3	1	20 A		10513
	3	1	72 A	Screw fixing	10575
	3	1	135 A		10578
	3	1	16 A		10532
	3	2	25 A		10553

GROUND STRAPS

	Cross Section	Length	Hole for	Art. No.
	16 mm ²	200 mm	M6	4000-71001-1620006
	35 mm ²	200 mm	M6	4000-71001-3520006
	50 mm ²	300 mm	M10	4000-71001-5030010
	95 mm ²	300 mm	M10	4000-71001-9530010