




EMERGENCY STOP

 Suitable for monitoring emergency stop buttons. Configurable for both 1 and 2 channel. With short circuit protection in 2 channel.


DOOR MONITORING

 Suitable for door monitoring. Configurable for 2NC or NC + NO.


LIGHT CURTAIN

 Suitable for monitoring light curtains. Configurable for both type 2 and type 4.


SAFETY MAT / SAFETY EDGE

 Suitable for monitoring safety mats and safety edges. As long as the switch is held down by the operator, the machine cannot start. When released, the signal to the safety module is cut off.


NON-CONTACT SWITCHES






















 Suitable for monitoring non-contact switches for doors and gates. When the door opens or is removed, the magnetic contact is activated, which provides a stop signal via the Duelco safety-module.

TWO HAND CONTROL

 Two hand control module suitable for controlling push buttons. Two hand operations forces the operator to activate the machine with both hands.

FIELD BUS

 Expansion units for the most common industrial fieldbus systems.

	MAIN UNIT			INPUT EXPANSION			OUTPUT EXPANSION			RELAY OUTPUTS			FIELD BUS					BUS TRANSFER
	DSC-M1	DSC-M1802	DSC-M18	DSC-M116	DSC-M112T8	DSC-MOR4(S8)	DSC-MO2 / -MO4	DSC-MR2 / -MR4	DSC-MV	DSC-MBP	DSC-MBD	DSC-MBC	DSC-MBEC	DSC-MBEI	DSC-MBEP	DSC-MBU	DSC-MCT2	
APPLICATIONS																		
	•	•	•	•	•													
	•	•	•	•	•													
	•	•	•	•	•													
	•	•	•	•	•													
	•	•	•	•	•													
	•	•	•	•	•													
																	•	
	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	
										Profibus	Devicenet	CANopen	EtherCAT	Ethernet IP	PROFINET	Universal Serial Bus		
DIMENSIONS																		
Width (mm)	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	
SUPPLY VOLTAGE																		
24V DC	•	•	•	•	•		•	•			•	•	•	•	•	•	•	
RESET TYPES AND TEST																		
Automatic/manual	•	•	•	•	•													
Monitored	•	•	•	•	•													
Manual monitored	•	•	•	•	•													
NUMBER OF OUTPUTS / INPUTS																		
	8	8	8	16	12													
																		
								4			2 (MR2) / 4 (MR4)							
											1 (MR2) / 2 (MR4)							
	2	2									2 (MO2) / 4 (MO4)							
	2	2					8 (MORS8)				2 (MO2) / 4 (MO4)							
	2	2									2 (MO2) / 4 (MO4)							
	4	4	4	4	8													
											(MV1T-MV2T)							
											(MV1H-MV2H)							
											(MV1S-MV2S)							
											(MV0)							
LOAD																		
Max. load, output	400mA	400mA					400mA	6A 250VAC										
ORDER INFORMATION																		
	1103400	1103410	1103420	1103421	1103422	1103442 (MOR4) 1103443 (MOR4S8)	1103430 (MO2) / 1103431 (MO4)	1103440 (MR2) / 1103441 (MR4)	1103470 (MV1T), 1103471 (MV1H), 1103472 (MV1S), 1103473 (MV2T), 1103474 (MV2H), 1103476 (MV2S), 1103477 (MV0)	1103450	1103451	1103452	1103453	1103454	1103455	1103456	1103457	



duelco
SAFETY solutions

DuelcoSC

safety controller



The standard in safety technology

IT PAYS TO USE SAFETY TECHNOLOGY

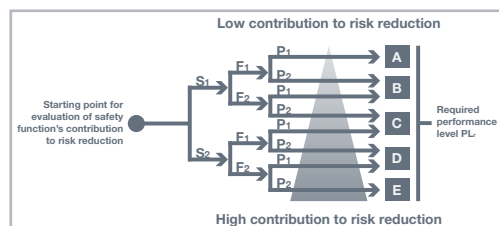
The protection of man and machine through the targeted control of hazardous movements, cost savings thanks to fewer accidents, reduced downtimes and fewer production losses – these are some of the real benefits that you can enjoy when you use Duelco safety components.

SAFETY COMPONENTS FROM DUELCO

Our safety components comply with international standards and regulations. Our safety relays mostly have been approved by BG, TÜV or another notified body and offers users considerable benefits. Long service life and high availability ensure it is cost-effective to use.

EN ISO 13849-1

As the successor standard to EN 954-1, EN ISO 13849-1 is based on the familiar categories. Equally, it examines complete safety functions, including all the components involved in their design. EN ISO 13849-1 goes beyond the qualitative approach of EN 954-1 to include a quantitative assessment of the safety functions. A performance level (PL) is used for this, building upon the categories.



Risk analysis in accordance with EN 13849-1

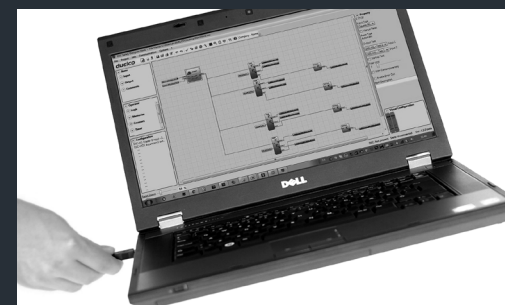
SAFETY ASSESSMENT IN ACCORDANCE WITH EN/IEC 62061

According to the standard EN/IEC 62061, safety requirements in control technology can be divided into safety integrity levels. SIL 3 represents the highest risk reduction and protection level, where the safety function must always be maintained. The risk is estimated through consideration of the severity of injury (Se), the frequency and duration of exposure to the hazard (Fr), probability of occurrence of a hazardous event (Pr) and the possibility of avoiding or limiting the harm (Av).

Consequences	Class CL = Fr + Pr + Av					
	SE	3-4	5-7	8-10	11-13	14-15
Death, losing an eye or arm	4	SIL 2	SIL 2	SIL 2	SIL 3	SIL 3
Permanent, losing fingers	3		OM	SIL 1	SIL 2	SIL 3
Reversible, medical attention	2			OM	SIL 1	SIL 2
Reversible, first aid	1				OM	SIL 1

Risk assessment and definition of the required safety integrity level (SIL)

DuelcoSC is modular and programmable



SYSTEM FEATURES

Configurable over USB from any pc with "Duelco safety designer" software installed.

- Up to 128 digital inputs
- Up to 16 OSSD output pairs
- Up to 14 expansion modules (max 4 of each type)
- External monitoring with the most common fieldbus systems

DUELCO SAFETY DESIGNER (DSD)

- Easy drag and drop configuration of all safety functions.
- Functional validation of design with safety information.
- Password management.

DSC is certified for SIL3 – SILCL3 – Ple – CAT. 4

DSC offers numerous advantages compared to traditional safety relays.

- Reduced number of components
- Easy electrical installation
- Configuration with logical operations and simple drag and drop software



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