

### Characteristics

- Stop category 0
- Safety category 4
- 2 Safety contacts
- Crossfault monitoring
- Monitored or automatic reset
- Tested for light curtain applications

DIN EN 60204 Section 1 / VDE 0113 Section 1 (11/98) prescribes that power circuits with a safety function must be specified as per Section 9.4.

In such safety circuits auxiliary contactors must intervene to guarantee redundancy so that, despite the occurrence of a fault in one of the auxiliary contactors, the safety circuit remains operative.

In every on- off cycle of the machine, the auxiliary contactors must be checked automatically at least once to ensure correct opening and closure of the contacts.

Emergency-stop relay **F126** fulfils this requirement – EN954-1 - to the highest safety grade 4.

The **F126** is available for single or dual channel operation with or without crossfault monitoring

### Mode of Operation

The dual channel operation shown in wiring examples 1 and 2 includes cross-fault monitoring between both E-stop circuits.



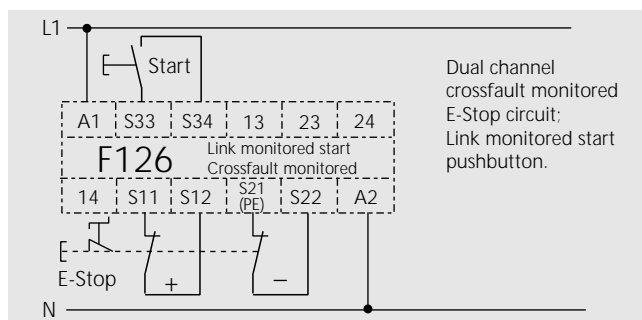
That means in case of shorts between the two E-stop channels the **F126** will de-energise the outputs. This is achieved by an electronic protection circuit in the safety relay.

After elimination of the malfunction, the **F126** is ready for operation again. The versions with monitored start check the start circuit (S33/S34) and will only activate the **F126** if there is a leading edge in this circuit.

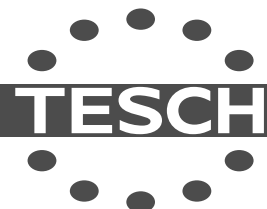
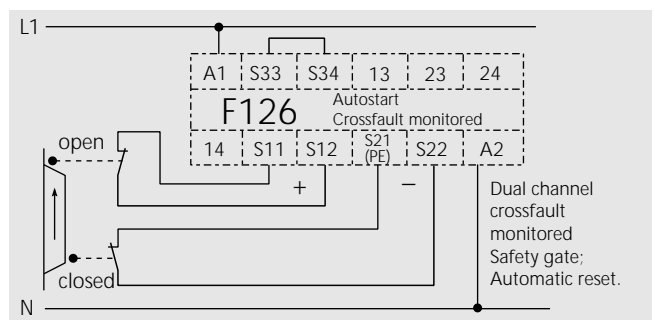
Versions with autostart function will be activated automatically by the supply voltage if the E-stop circuits and the feedback loop (S33/S34) are closed. If the inputs S12 and S22 are activated with external 24V<sub>DC</sub>, the negative pole has to be connected to S21 (Light curtain application).

To control N/C contacts from external contactors the feedback loop should be connected in series between S33 and S34.

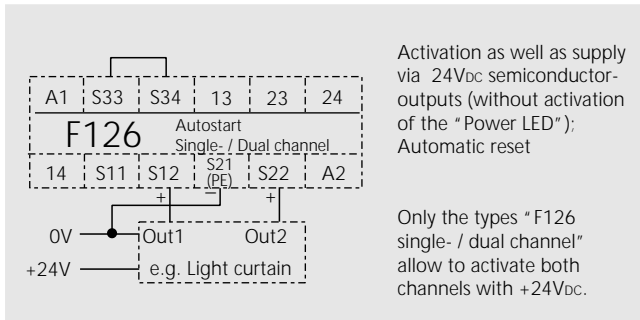
### Wiring Example 1



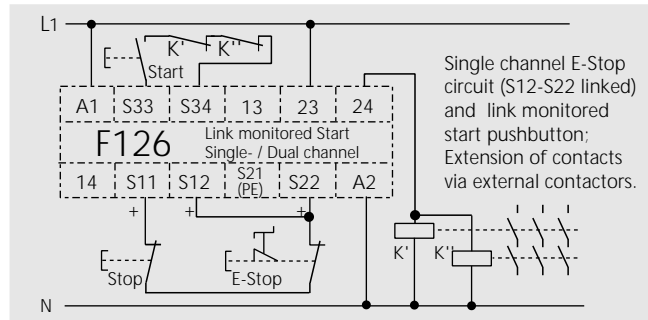
### Wiring Example 2



## Wiring Example 3



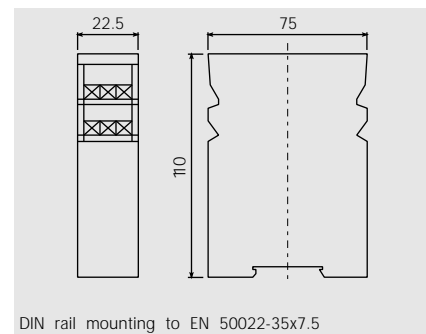
## Wiring Example 4



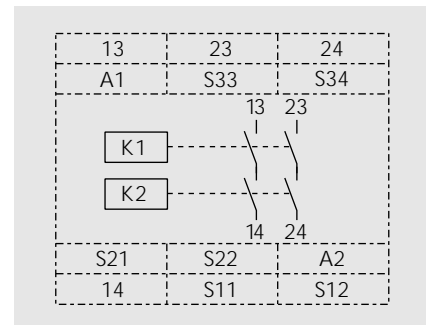
## Technical Data

Rated voltage	230 / 115V <sub>AC</sub> ; 24V <sub>AC/DC</sub>
Voltage range	0.8 to 1.1 x rated voltage
Power consumption	approx. 4W
Rated insulation voltage	250V
Creep distance and gaps	Overvoltage category III Pollution level 2 to DIN VDE 0110-1 (11/98)
Test voltage	2.5 kV
Ambient temperature	- 5°C to +55°C
Mode of protection	Terminals IP 20, IP 40 casing to DIN VDE 0470- 1 ( 11/92)
Switching capacity	250V <sub>AC</sub> ; 1200VA / 24V <sub>DC</sub> ; 144W, preferably with spark arrest
Thermic current I <sub>th</sub>	max. 6 A in one current path
Utilisation categorie	AC-15 250V 5A; DC-13 24V 3 A
Response time	Via reset button : <60ms; Autostart: <300ms
Release time at rated voltage	Via E-stop button: <15ms; loss of supply: <140ms
Recovery time	>0.1s after E-stop or light curtain operation >1s after loss of supply
Output contacts	2 N/O (safety contacts)
Mechanical lifetime	10 <sup>7</sup> switching cycles
Switch material	AgSnO <sub>2</sub> 0.5µ Au
Terminals	Terminal box with wire protection
Line cross section	Rigid 4 mm <sup>2</sup> , flexible 2.5 mm <sup>2</sup> Connecting lead to be stripped up to max. 4mm
Control circuit	ca. 24V <sub>DC</sub>
Contact protection	Screwed-type fuse: max 6A slow blow Auto circuit breaker: max C10A
Weight	215g, Type 24V <sub>AC/DC</sub> 160g

## Dimensional Diagram



## Circuit Diagram



## Models and Ordering Data

Contacts	2 Safety contacts			
	Autostart, Crossfault monitored	Autostart, Single-/ Dual channel	Link monitored start, Crossfault mon.	Link mon. start, Single-/Dual channel
Type F 126	<b>Order-No.</b>			
230 V <sub>AC</sub>	074 00045	074 00048	074 00051	074 00054
115 V <sub>AC</sub>	074 00046	074 00049	074 00052	074 00055
24 V <sub>AC / DC</sub>	074 00047	074 00050	074 00053	074 00056

Please select suitable type according to the application shown in the wiring examples.



# TESCH