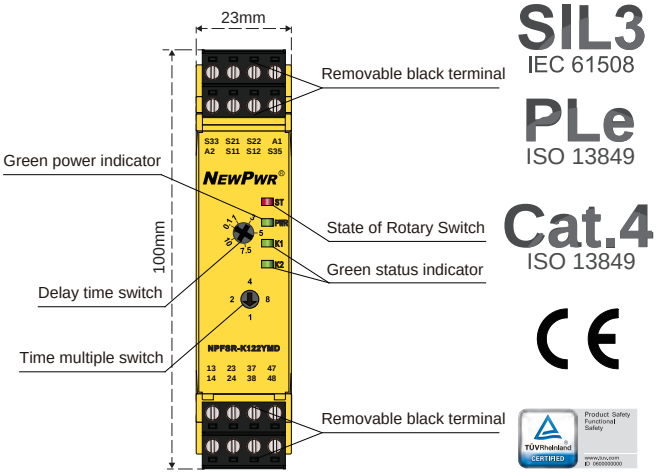
NPFSR-K122YMD

Input: E-STOP, Safety gate
Output: 2NO, non-delay + 2NO, d-delay

The inputs of K series E-STOP, safety gate input safety relays are normally closed contact signals, which are used for emergency braking or the protection of people entering dangerous areas, and widely used in machining and other industries.

- 1oo2 architecture
- With detection of shorts across contacts
- With monitored manual reset function
- The safety function remains effective in the case of a component failure
- The correct opening and closing of the safety function relays is tested automatically in each on-off cycle

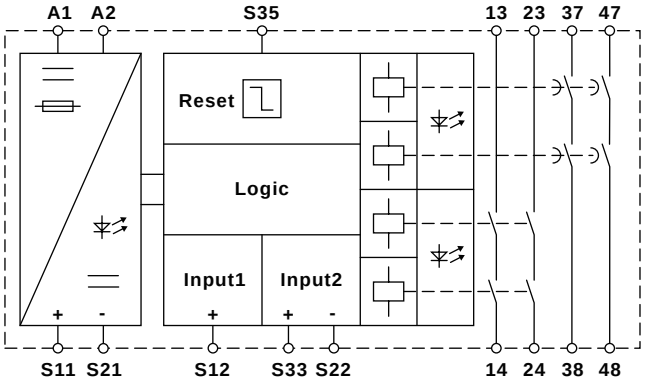


SIL3 IEC 61508
PLe ISO 13849
Cat.4 ISO 13849

Parameters

Voltage range	24V DC
Voltage tolerance	0.85 ~ 1.1
Power dissipation	≤ 3.8W/24V DC
Current consumption	≤ 50mA/24V DC
Cable resistance	≤ 15Ω
Input devices	E-STOP button, Safety gate
Signal type	2 NO, non-delay + 2 NO, d-delay
Contact type	Forced guided
Contact material	$AgSnO_2$
Contact loading	AC-15: 3A/230V, DC-13: 3A/24V
Contact fuse protection	10A gL/gG(NO)
Delay time T_{set}	0.1~80s, default 10s
Delay time accuracy	±15%
Switch-on	≤ 150ms
Release	E-stop: ≤ 30ms; Power failure: ≤ 100ms
Recovery time	E-stop: ≤ 30ms, Power failure: ≤ 100ms
Supply short interruption	20ms
EMC	According to IEC/EN 60947, IEC 61326-3-1, IEC/EN 61000-6-2, IEC/EN 61000-6-4
Rated insulation voltage	250V AC
Rated impulse voltage	6000V(1.2/50us)
Dielectric strength	1500V AC, 1 min
Clearance and creepage	According to IEC 60947-1
Vibration	10Hz ~ 55Hz, 0.35mm
Overvoltage category	III
Pollution degree	2
Protection type	IP20
Ambient temperature	-20°C ~ +60°C
Storage temperature	-40°C ~ +80°C
Operating altitude	≤2000m
Mechanical life	10×10^6 cycles

Functional Block Diagram



Safety Values

Performance level	PLe, according to ISO 13849[1)] PLd, according to ISO 13849[2)]
Category	Cat.4, according to ISO 13849[1)] Cat.3, according to ISO 13849[2)]
PTI (T_M)	20 years, according to ISO 13849
DC_{avg}	99%, according to ISO 13849[1)] 90%, according to ISO 13849[2)]
$MTTF_D$	164 years, according to ISO 13849[1)] 161 years, according to ISO 13849[2)]
CCF	68, according to ISO 13849
SIL	SIL3, according to IEC 61508
SIL CL	SIL CL3, according to IEC 62061
HFT	1, according to IEC 62061
SFF	≥ 99%, according to IEC 62061
PFD_{avg}/PTI = 20 years	1.53×10^{-5}, according to IEC 62061[1)] 1.59×10^{-5}, according to IEC 62061[2)]
PFH	1.77×10^{-10} 1/h, according to IEC 62061[1)] 1.85×10^{-10} 1/h, according to IEC 62061[2)]
Stop Category	0, according to IEC 60204[1)] 1, according to 60204[2)]

NOTE: [1)]For non-delay contacts: 13/14 , 23/24

[2)]For de-delay contacts: 37/38 , 47/48