

Safety Relay

HD2000 Series

Data Sheet



Overview

The safety relay is the main component of the safety control loop. It accepts the safety control signal input, outputs the relay switch signal, and connects to the control loop of the equipment.

It receives wide voltage range (16V~35VDC) to control switch signals and achieves a safe and reliable isolation circuit through triple redundancy technology, automatic protection technology, contact melting protection and so on. It supports single-loop or double-loop operation and it is compatible with guide rail mounting and bottom plate mounting methods, comparing with similar products, our safety relays is lighter and thinner. Moreover, it meets IEC61508 standard and safety integrity level reaches SIL3 (international authorized institution certification)

Feature

- Support control power supply of wide voltage range from 16V to 35VDC non-polar input
- Triple redundancy protection
- Relay output switch channel limited capacity protection design
- Suitable for guide rail mounting or Bottom plate mounting
- Support upper port and base plate input control power
- Thin and light
- PLUG&PLAY terminals

Functional safety

This model has been assessed for use in a SIL 3 safety function according to IEC 61508 by BUREAU VERITAS. Contact us to find the safety manual for reference if needed.

HD2001/HD2001M

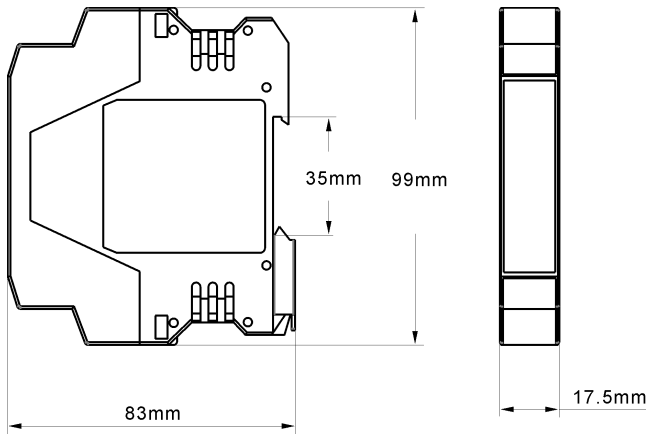
$\lambda_D = 27.275$, $\lambda_{DD} = 23.000$, $\lambda_{DU} = 4.275$
 $\lambda_S = 208.547$, DC=84.3%, SFF=98.2%
 PFD=3.80x10⁻⁵, PFH=4.27x10⁻⁹, (HFT= 0)

HD2002

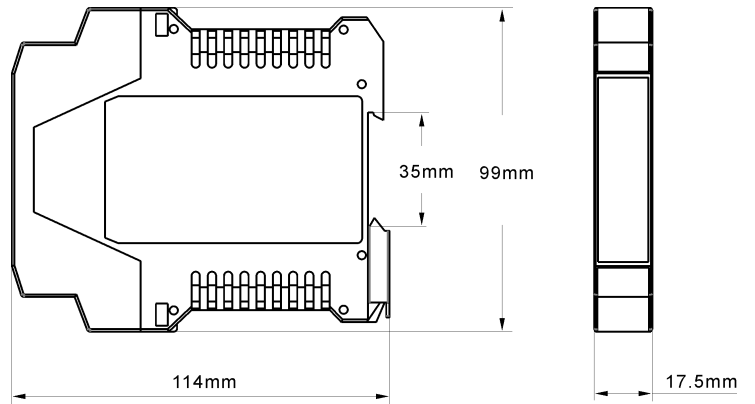
$\lambda_D = 54.550$, $\lambda_{DD} = 46.000$, $\lambda_{DU} = 8.550$
 $\lambda_S = 417.095$, DC=84.3%, SFF=98.2%
 PFD=7.61x10⁻⁵, PFH=8.55x10⁻⁹, (HFT= 0)

Overall Dimensions

Model	Size	Note
HD2001M	17.5mm×83mm×99mm	Ultra-small single channel
HD2001	17.5mm×114mm×99mm	Single channel
HD2002	17.5mm×114mm×99mm	Dual channel



HD2001M structure diagram



HD2001&HD2002 structure diagram

Specification

Items	Unit	Parameter
Switch channel number	/	1 or 2
Voltage of power supply	V	24VDC
Voltage range	V	(16~35)VDC non-polar
Means of power supply	/	Upper port or base input
LED	/	Green for power on indication
Current loss	mA	≤60mA (per channel)
Contact point material	/	AgSnO ₂ , Au
Maximum switch current/voltage	A	3A/230VAC, 3A/30VDC
Internal fuse	/	3A, slow-break
Pick-up time	ms	≤25ms
Release time	ms	≤10ms
Filtering time	ms	≥2ms
Rated insulation voltage	V	250VAC
Rated impulse voltage	V	6000V(1.2/50us)

Items	Unit	Parameter
Clearance and Creepage distance	mm	EN60947-1(GB/T14048-1)
Electromagnetic compatibility	/	EN61000(GB/T17799)
Overvoltage level	/	III
Pollution degree	/	2
Mechanical endurance	/	More than 10 ⁷
Working temperature	°C	-20°C~ 60°C
Storage temperature	°C	-40°C~ 85°C
Relative humidity	%RH	10% ~ 90%RH
Security certificate	/	SIL3 (HFT=0)

Mounting & Wiring

HD2000 series safety relays support DIN35mm guide rail mounting or Bottom plate mounting. Wiring is as follow:

Model	Wiring
<p>HD2001 HD2001M</p>	
<p>HD2002</p>	

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