HF3701 SAFETY RELAY MODULE

CE

File No.: N8130453286010



Typical application: Emergency stop button, Safety door

Features

- Redundant design of circuit, safety function can still work against some single component fault
- With self-check function. The switching status of interior relay will be checked automatically during each start-stop cycle
- Automatic or manual reset of contacts without time delay
- Meet the requirements of EN 60947-5-1 and EN 60204-1, with safety grade up to PLe of ISO13849-1
- Pluggable connectors
- LED indicator: Working status of interior relay and power supply
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (113.5 x 99.0 x 22.5) mm

FUNCTIONS

1. Detecting under dual-channel input:
   1) short-circuit between contacts
   2) short-circuit of input circuit
   3) short-circuit between input circuit
2. Under dual-channel input, the next operation can be performed only when the switches of both channels are off one times.
3. Automatic reset: module works once the input circuit on.
4. Manual reset: input circuit on can not start the module till the reset button on.

CHARACTERISTICS

Nominal voltage	24VAC / VDC
Voltage tolerance	-15% to 10%
Frequency range	50Hz to 60Hz
Ambient temperature	-20°C to 55°C
Power consumption (at nomi. volt.)	2 pole: 3.5VA / 1.7W max. 4 pole: 5.1VA / 2.4W max.
Contact rating (Res. load)	6A 250VAC / 30VDC
Min. applicable load	10mA 17VDC
Rated impulse withstand voltage	4kV
Rated insulation voltage	250VAC
Vibration resistance	10Hz to 55Hz 1.5mm DA
Pollution level	level 2

Operate time (at nomi. volt.)	45ms max.(dual-channel)
Release time (at nomi. volt.)	20ms max.(dual-channel)
Mounting	DIN rail (35mm)
Conductor cross section	0.2mm^2 to 2.5mm^2 (24AWG to 14AWG)
Wire strip length	7mm
Terminal torque	0.4N · m
IP grade	cover IP40, terminal IP20
Electrical endurance	1 x 10^5OPS (6A 250VAC 5s on 5s off)
Mechanical endurance	1 x 10^7OPS (Switching frequency:7200 OPS./hour)
Unit weight	Approx.160g
External contact fuse protection	RT14-6(I_k=1kA, EN 60947-5-1)

Notes: 1) This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

ORDERING INFORMATION

	HF3701/	24	-2H	(XXX)
Type				
Coil voltage	24 VAC/VDC			
Contact arrangement	**2H:** 2 Form A	**1H1D:** 1 Form A + 1 Form B		
	4H: 4 Form A	**3H1D:** 3 Form A + 1 Form B		
Special code[1)]	**XXX:** Customer special requirement		**Nil:** Standard	

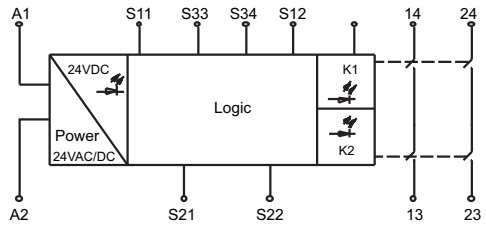
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

STRUCTURE DIAGRAM, WIRING DIAGRAM

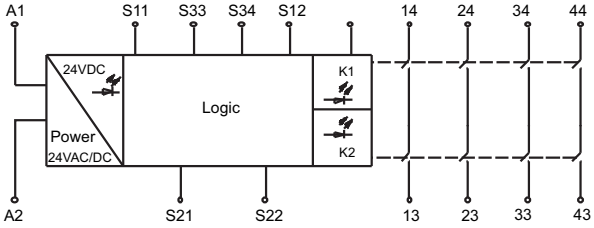
Unit: mm

Structure Diagram

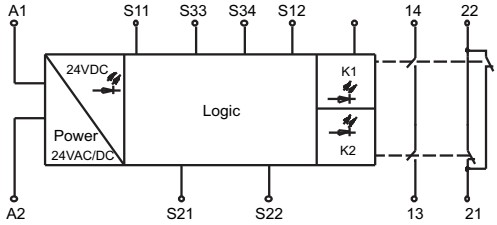
2 Form A



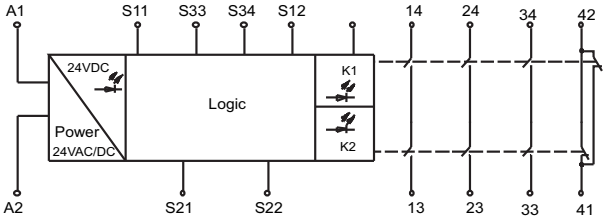
4 Form A



1 Form A +1Form B

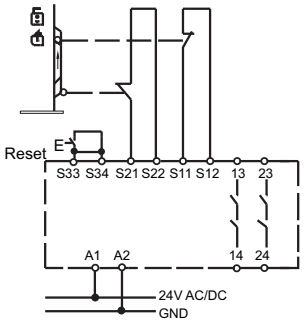


3 Form A +1Form B



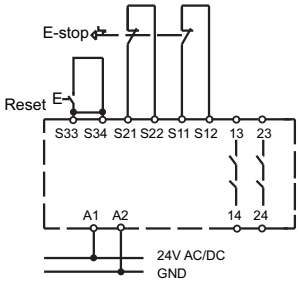
Typical Wiring Diagram (e.g. 2 Form A)

Typical application 1



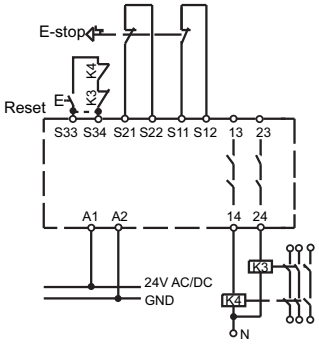
Safety door Monitor, dual-channel signal input, manual reset, highest safety grade PLe/ISO 13849-1

Typical application 2



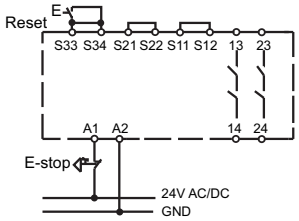
Emergency stop button monitor, dual-channel signal input, manual reset, highest safety grade PLe/ISO 13849-1

Typical application 3



Emergency stop button monitor, dual-channel signal input, with feedback manual reset, highest safety grade PLe/ISO 13849-1

Typical application 4



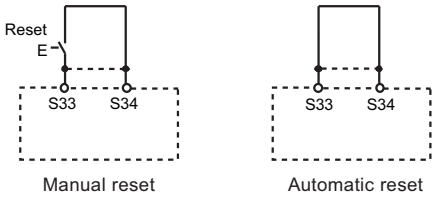
Single-channel signal input, manual reset, highest safety grade PLd/ISO 13849-1

Notes: 1) The above safety grade is determined based on our company's wiring diagram, there may be some difference in real application.
2) The safety grade is determined by the whole safety control system. Please check carefully before application.

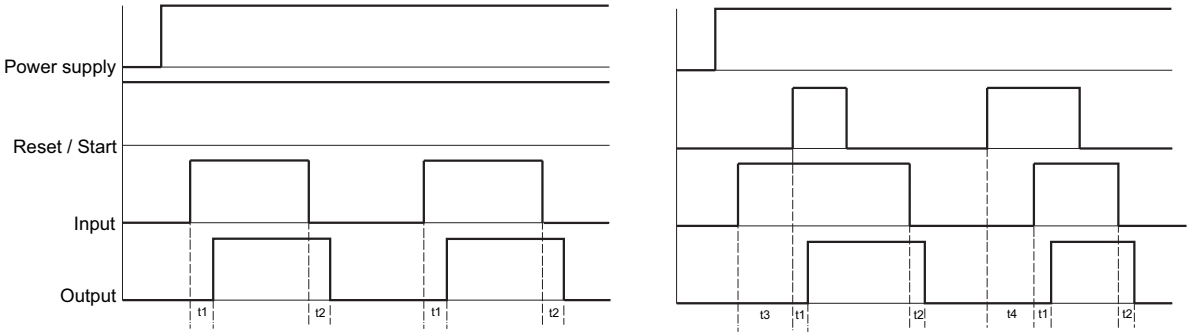
SEQUENCE DIAGRAM, TERMINAL

Unit: mm

Reset Circuit



Sequence Diagram(e.g. 2 Form A)



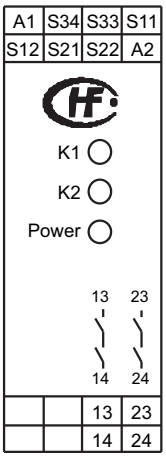
Power supply: A1-A2
Reset / Start: S33-S34
Input: S11-S12, S21-S22

Output:13-14, 23-24
t1: relay switches delay time
t2: relay releases delay time

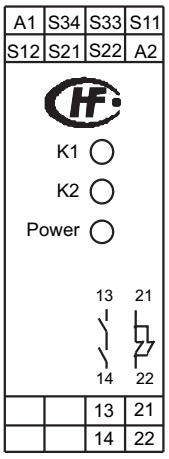
t3 / t4: Latency time

Terminal

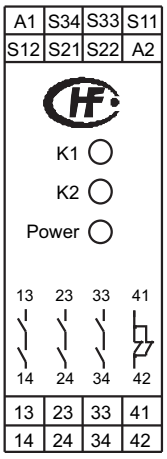
2 Form A



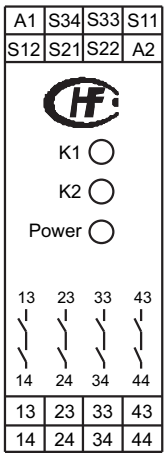
1 Form A +1Form B



3 Form A +1Form B



4 Form A

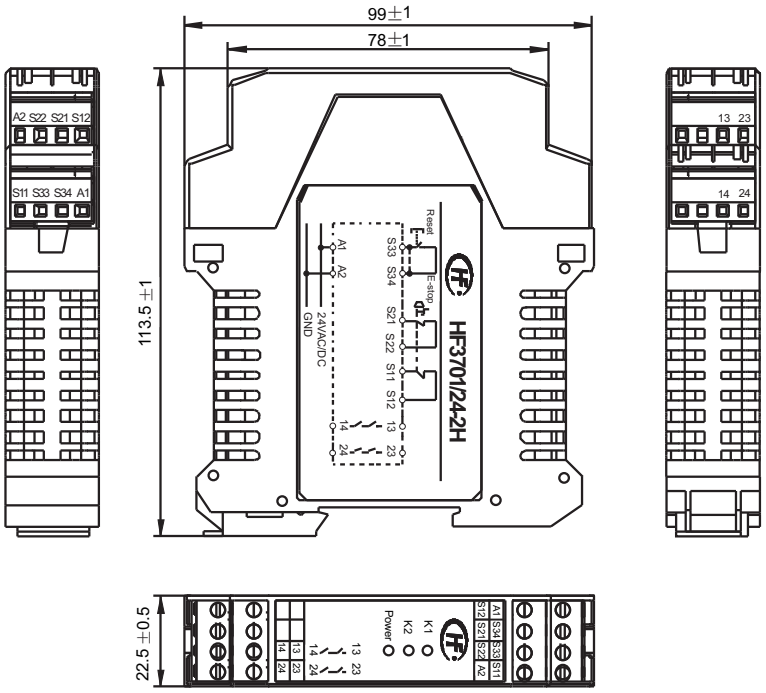


Notes: 1) The markings above are same as that of typical wiring diagram(details as per real products).

OUTLINE DIMENSIONS

Unit: mm

Outline Dimensions(e.g. HF3701/24-2H)



Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

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