HR-8

CE Approved: MD, EMC, LVD

Category 4, EN 954-1
Type III C, EN 574

- Compact two hand control relay
- Safety category 4 acc. to EN 954-1 Type III C (EN 574)
- Short circuit protection via PTC-fuse

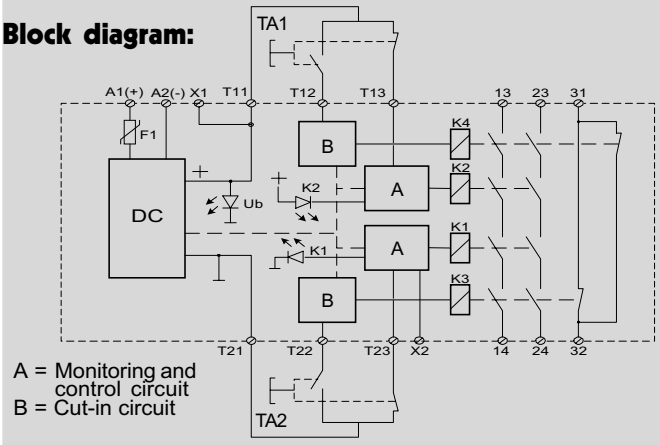
Function:
Two hand control relay for dangerous work processes such as punching or pressing.
Can be used by contact loads up to 6 A AC.

Technical facilities regarding safety requirements:
- Forced contacts
- Two-pole input terminals for activation contacts, monitored for short circuit by PTC-fuse
- 2 NO contacts
- 1 NC contact

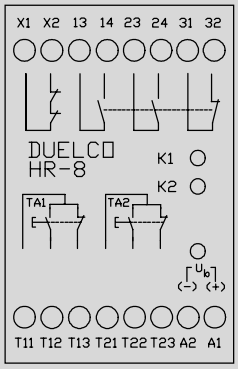
User's advantages:
- 2 NO safety outputs
- 1 NC signal output
- Contact load: AC 6 A / DC 3 A
- Monitoring of external contacts
- LED indication of output status for K1 / K2 and supply
- 45 mm housing for space-saving DIN rail mounting
- Design is based on the European Standard, EN 60204-1/EN 574
- Complies with MD, EMC, LVD (98/37/EC, 89/336/EEC and 93/68/EEC)

➔ **Technical specifications and physical dimensions, see page 44-45**

Block diagram:



Front layout:

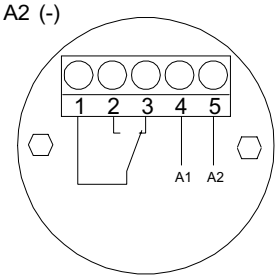


Terminal description, HR-8:

A1/A2:	Power supply (+) / Power supply (-)
T11:	TA1 button (common)
T12:	TA1 NO input
T13:	TA1 NC input
T21:	TA2 button (common)
T22:	TA2 NO input
T23:	TA2 NC input
X1:	+ output for external monitoring
X2:	+ input for external monitoring
13-14, 23-24:	NO safety output contacts
31-32:	NC signal output contact

Terminal description, Duelco hand sensor actuator TST-2:

1: Common connection
2: NO contact
3: NC contact
4: Power supply A1 (+)
5: Power supply A2 (-)



Order information

Article name	*Article no.*
HR-8, 24 V DC	42401248

Operation description and connection examples

Operating voltage must be connected to the terminals A1(+) and A2(-). With terminals X1 and X2 short-circuited, the monitoring and control circuit will be activated.
In this condition the output contacts 13-14 and 23-24 is open and 31-32 closed.

After operation of the two contact sets TA1 and TA2 (see "Requirements to the contacts" and page 35) - each consisting of one set of forced make and break contacts in channel 1 (T11, T12, T13) and channel 2 (T21, T22, T23), HR-8 activates. I.e. the current paths 13-14 and 23-24 are closed while 31-32 are open.

The LEDs K1 and K2 illuminates. The time period between operation of TA1 and TA2 is max. 500 ms. This period is a requirement of the present standards.

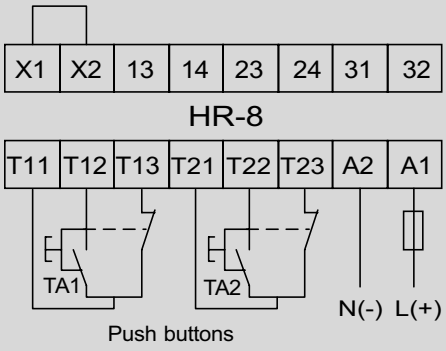
Contact sets TA1 and TA2 ensure that faults such as a welded contact or a short circuit in or between contact sets will be registered by the monitoring circuit. This makes restart impossible until the fault is rectified and the two hand relay HR-8 is back in its dwell position.

Requirements to the contacts:
The contacts for the inputs TA1 and TA2 can be of the capacitive type, like Duelco's TST-2 or of the mechanical type with one forced and one break contact function which are physically independent of each other (**see connecting examples**).

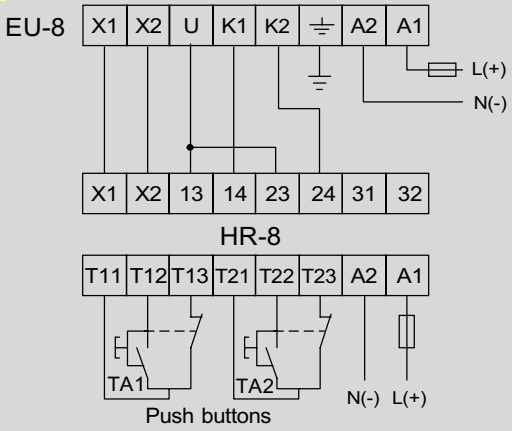
The forcing and the breaking contacts function must function parallel and must not be mutual forced.

NOTE!
Use of any such mutually forced switch can possibly - due to a welded contact - lead to a situation where the HR-8 will not receive a stop signal even though the actuator has been deactivated. The described occurrence is only possible, if the defective actuator is released first!

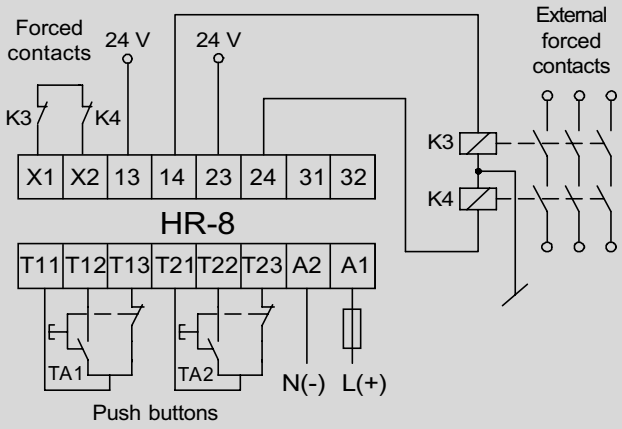
1 **General application**



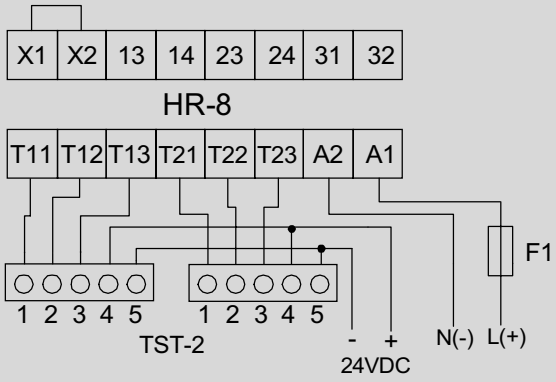
2 **Connection of extension contact block EU-8**



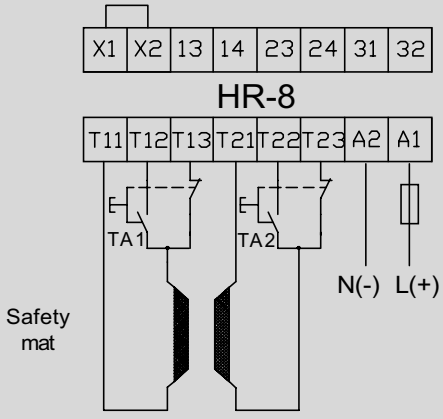
3 **Connection of external contacts**



4 **Connection of hand sensor actuator TST-2**



5 **Connection of safety mat**



6 **Connection of light-admitting curtain**