



NST-8

CE Approved: MD, EMC, LVD

Category 4, EN 954-1

(Estimated category by 2-channel operation)

- 1 or 2 channel operation
- 3 safety outputs
- 1 signal output
- Safety category 4
- PTC-fuse against short circuit of wires

Function:

Emergency stop relay which can be used with advantage for special dangerous machines, where full doubling and monitoring of the emergency stop function is necessary. Can be used in most applications for monitoring of the emergency stop or sliding lids.

Technical facilities regarding safety requirements:

- Forced contacts
- Doubling of output contacts
- Internal / external redundancy (for two pole E-stop)
- Short circuit monitoring

Approvals:



● Approved

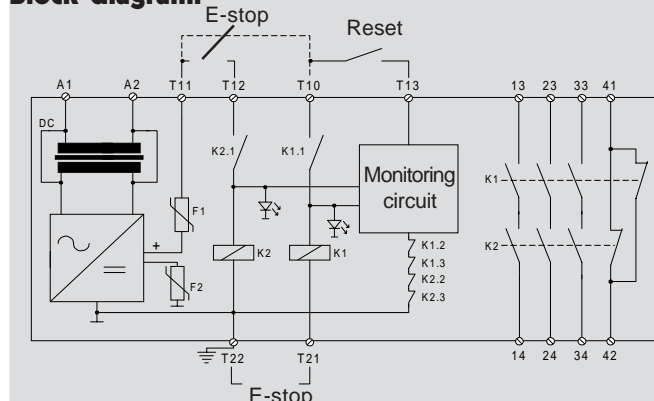
UL-Rating: Pilot Duty, B300; R300

User's advantages:

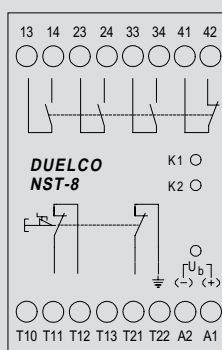
- 3 NO safety outputs
- 1 NC signal output
- Contact load: AC 6 A / DC 6 A
- 2-channel operation with/without short circuit protection
- 1-channel operation
- Manual / automatic reset
- Protection against short circuit of cables by PTC-fuse
- Short circuit protected transformer in the 230 VAC version
- Supply voltage: 5 voltage versions
- LED indication of supply and output status for K1, K2
- 45 mm housing for space saving DIN rail mounting
- Design is based on the European Standard, EN 60204-1
- Complies with MD, EMC, LVD (98/37/EC, 92/31/EEC and 73/23/EEC)

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

Block diagram:



Front layout:



Terminal description:

- A1:** Power supply (+)
- A2:** Power supply (-)
- T10:** Maintenance voltage K1 (E-stop)
- T11:** + out to reset (E-stop)
- T12:** Maintenance voltage K2 (E-stop)
- T13:** Reset input
- T21:** Earth K1 (E-stop)
- T22:** Earth K2 (E-stop)
- 13-14:** NO safety output
- 23-24:** NO safety output
- 33-34:** NO safety output
- 41-42:** NC signal output

Order information

Article name	Article no.
NST-8, 24 V DC	42031248
NST-8, 24 V AC	42030248
NST-8, 24 V AC/DC	42032248
NST-8, 115 V AC	42031158
NST-8, 230 V AC	42032308
NST-8CL, 24 V AC/DC	42032348

Note: On the NST-8CL, the terminal T11 is current limited to max. 300 mA.

Status table, LEDs

LED K1	LED K2	Interpretation
ON	ON	K1 and K2 activated / E-stop OK
OFF	OFF	Relay K1 and K2 is deactivated
ON	OFF	K1 activated and K2 deactivated; error in E-stop on T21, T22 *
OFF	ON	K1 deactivated and K2 activated; error in E-stop on T11, T12 *

* Fault indication, from activated state

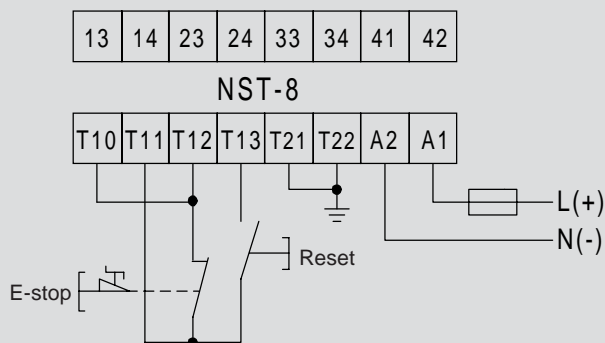
Operation description and connection examples

The power supply is connected to the terminals A1(+) and A2(-). When not activated, the relay's NO safety contacts 13-14, 23-24 and 33-34 are open and the NC signal contact 41-42 is closed. If the emergency stop is deactivated and the monitoring circuit finds the relay functioning correctly, the relay may be started by activating a reset contact between terminals T10 and T13. This will activate the NO safety contacts 13-14, 23-24 and 33-34, the NC signal contact 41-42 opens and the LED's K1 and K2 illuminates. If the emergency stop button is activated, the relays K1 and K2 will deactivate. The NO safety contacts 13-14, 23-24 and 33-34 open

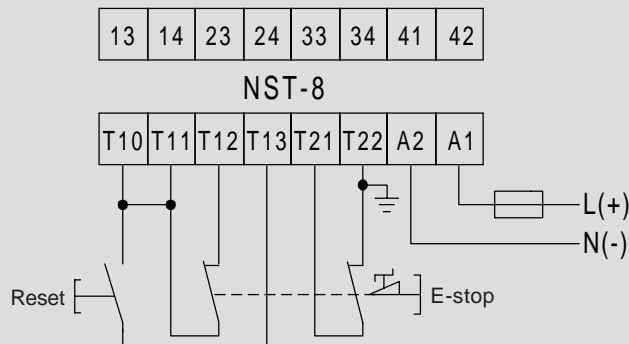
and the NC signal contact 41-42 closes. After resetting of the emergency stop, NST-8 will be ready for activation again, provided that the monitoring circuit detects that the relay is functioning correctly. The reset between the terminals T10 (T11) and T13 is monitored. Therefore an automatic reactivation of the relay is impossible (only 1/2-channel operation). A short-circuited or defective reset contact will therefore not be able to activate the relay, before the error is rectified.

Note 1 (Three position devices):
 Activation: Channel A-B, C-D + F-G or
 activation: Channel A-B, C-D + external contact H-J

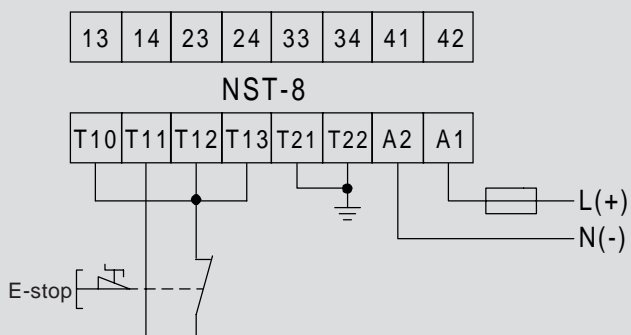
1 1-channel operation



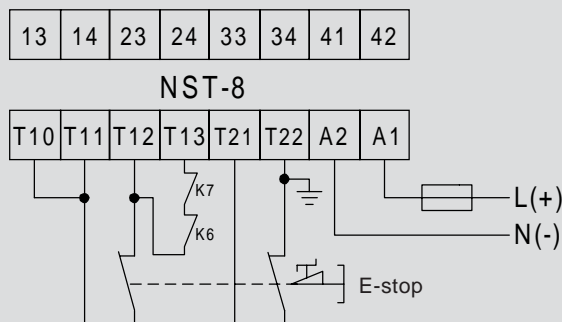
2 2-channel operation



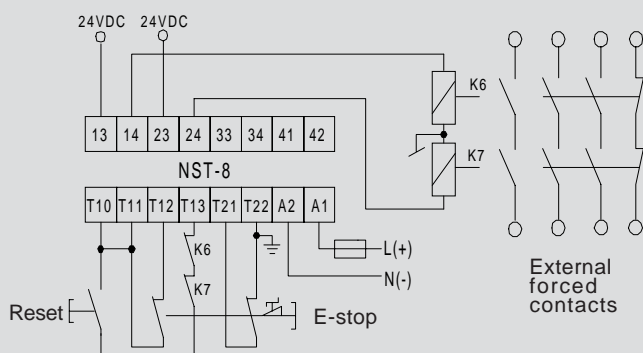
3 1-channel operation with automatic reset



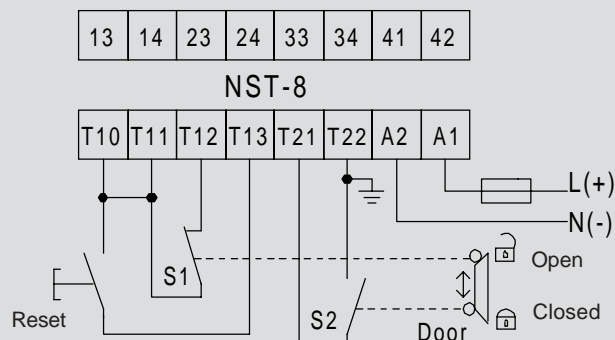
4 2-channel operation with automatic reset



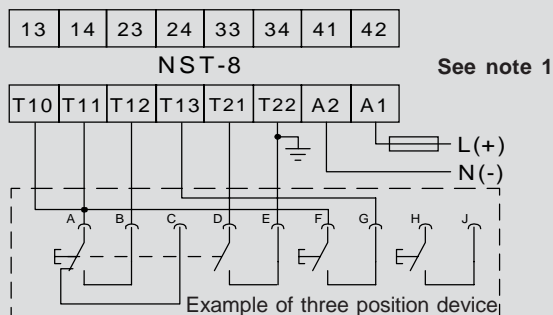
5 Connection of external relays



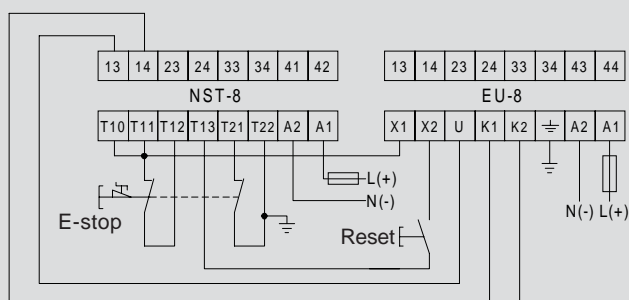
6 2-channel door monitoring



7 Connection of three position device



8 Connection of EU-8 extension contact block (1-channel)



Note: All examples stated are supplied with 230 VAC and earth. Connection to 24 V AC/DC does NOT require earth connection.