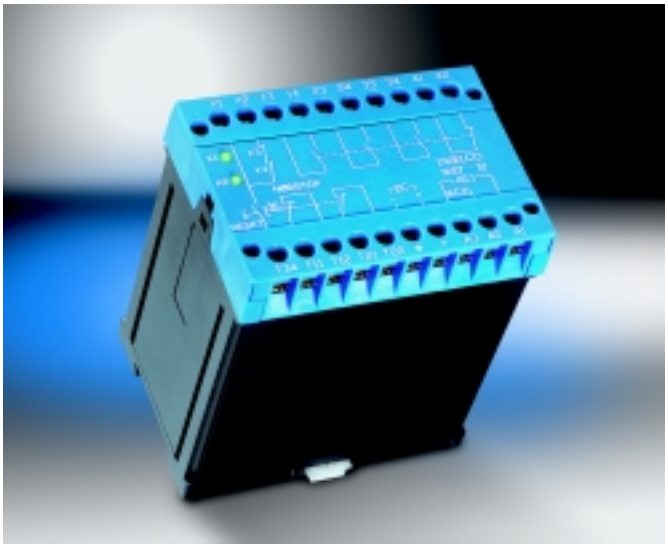


NST-12

CE Approved: MD, EMC, LVD

Category 4, EN 954-1

(Estimated category by 2-channel operation)

- 10 A contact load
- 1 or 2 channel operation
- Multi voltage
- 3 NO safety outputs
- 1 NC signal contact
- PTC-fuse against short circuit of wires
- Detachable terminals

Function:

The big brother of NST-8 is especially suitable for very dangerous machines and where a high contact load is necessary. NST-12 has multi voltage which results in high flexibility.

Technical facilities regarding safety requirements:

- Forced contacts
- Doubling of output contacts
- Internal / external redundancy
- Monitored reset
- Short circuit monitored

Approvals:

●	●	●	●	●
c UL us LISTED	AT	Certified by SP SWEDEN	BG	SUVA CNA INSAI

● Approved

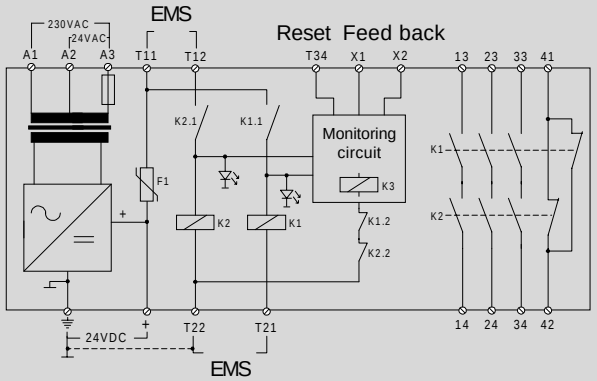
UL-Rating: Pilot Duty, B300

User's advantages:

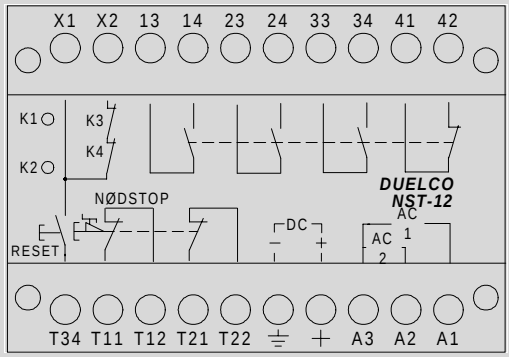
- 3 NO safety outputs
- 1 NC signal output
- Contact load: AC 10 A / DC 5 A
- 1- and 2 channel operation with / without short circuit protection
- Manual / automatic / monitored reset
- Short circuit safe trafo
- Protection against short circuit of cables via PTC-fuse
- Multi voltage => reduced stock
- Detachable terminals
- LED indication
- DIN rail mounting
- Design is based on the European Standard, EN 60204-1
- Complies with MD, EMC, LVD (98/37/EEC, 89/336 og 93/68)

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

Block diagram



Frontlayout



Status table, LEDs

LED K1	LED K2	Interpretation
ON	ON	K1 and K2 activated / EMS OK
OFF	OFF	Relay K1 and K2 are deactivated
ON	OFF	K1 activated and K2 deactivated; error on EMS by T21, T22 *
OFF	ON	K1 deactivated and K2 activated; error on EMS by T11, T12 *

* Error indication from activated state

Terminal description:

A3: Common power supply (AC)
A2/A1: 24/48 VAC input / 230/120 VAC input
+ : AC supply: 24 V output; DC supply: 24 V input
⏚: Earth
T11: + out (EMS)
T12: Voltage K2
T21: Earth K1
T22: Earth (EMS)
T34: + voltage input for reset
X1/X2: Monitored reset / Reset input
13-14, NO safety output contact
23-24, NO safety output contact
33-34: NO safety output contact
41-42: NC signal output contact

Order information

Article name	*Article no.*
NST-12, 24/230 V AC / 24 V DC	42022012
NST-12, 48/120 V AC / 24 V DC	42012012

Operation description and connection examples

Power supply (AC-voltage) is connected to terminals A1-A3 or A2-A3. If a DC voltage wants to be used, the power supply is connected to positive (+) and earth (⏚) (see figure 7).

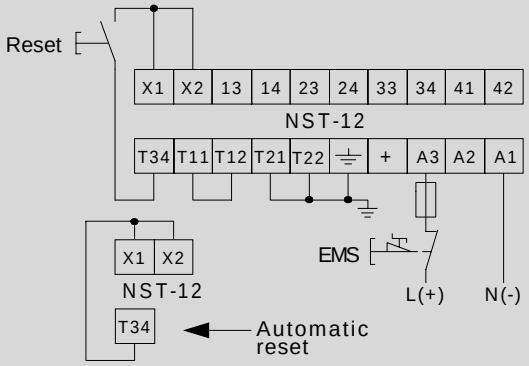
Assuming the emergency stop is deactivated and no internal faults are detected, the relay is activated by activating the reset button, which is connected to terminal X1 and T34. In this way the feedback terminals X1-X2 and the reset terminals are connected. If the emergency stop is now activated, relays K1 and K2 will open and circuits 13-14, 23-24 and 33-34 will break, while circuit 41-42 will close. Furthermore the LEDs K1 and K2 will illuminate.

If the emergency stop is now activated, relays K1 and K2 will open and circuits 13-14, 23-24 and 33-34 will break, while circuit 41-42 will close. If X1-X2 and X1-T34 are permanently connected (automatic reset), circuits 13- 14, 23-24 and 33-34 will close and circuit 41-42 will break when the emergency stop is released.

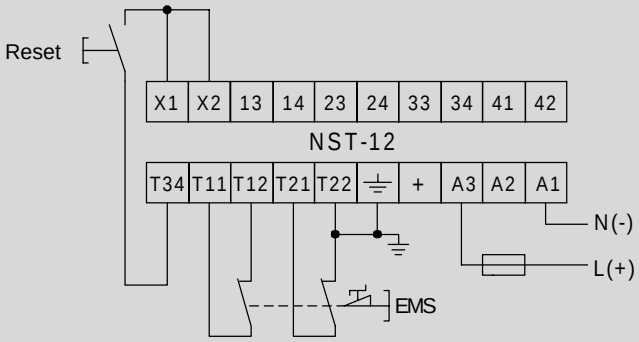
To achieve a monitoring of the reset button, a forced NO contact must be placed between X1-X2. The NO contact must be connected between T34 and X1.

(Note that the reset button must be constructed using forced relays).

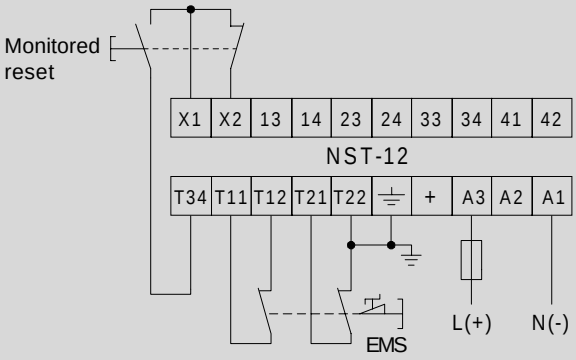
1 1-channel operation



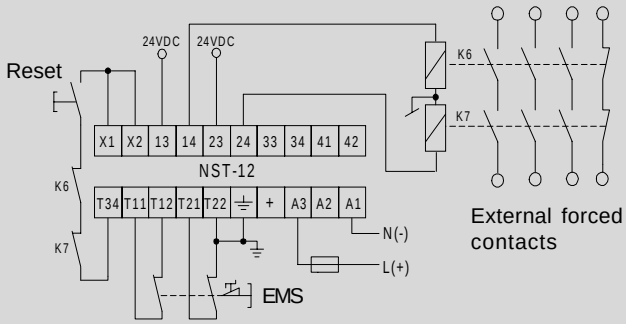
2 2-channel operation



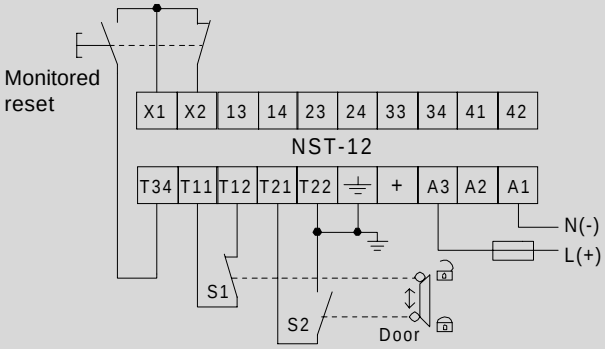
3 2-channel operation with monitored reset



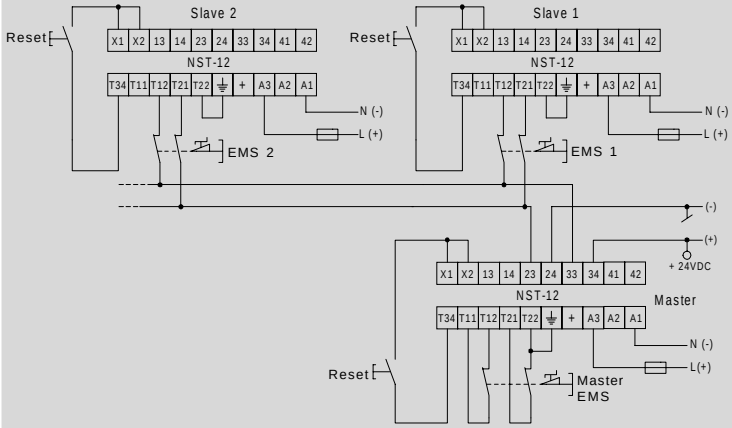
4 Connection of external relays



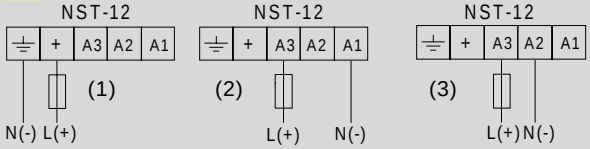
5 2-channel door monitoring



6 Master / slave application



7 Connection of supply voltages



Description for connection of supply voltages

(1): 24 VDC supply
(2): 230 VAC supply (120 VAC)
(3): 24 VAC supply (48 VAC)
Voltages in brackets are refering to NST-12 48/120 VAC

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