



# NST-2005

CE Approved:  
MD, EMC, LVD

## Category 4, EN 954-1

(Estimated category by 2-channel operation)

- Simple configuration via internal jumpers
- Easy installation and maintenance
- Transistor output for PLC monitoring
- 22,5 mm slim line relay for the highest safety category
- New house types
- Choice between fixed and detachable terminals
- New voltage versions
- Detailed status-/fault indication via LEDs

### Function:

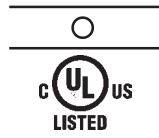
Small and powerful universal emergency stop relay, with a high number of functions, for the highest safety category. The relay is especially suitable for very dangerous machines, where a full doubling of the output contacts and monitoring of the emergency stop function is needed. Connection to a contact mat/list, a lightcurtain and door monitoring is possible.

Simple and fast configuration via internal jumpers. Is also available in a 48-240 VAC version.

### Technical facilities regarding safety requirements:

- Forced contacts
- Doubling of output contacts
- Internal / external redundancy (for two pole E-stop)
- Manual / automatic / monitored reset; choice is made via internal jumpers

### Approvals:



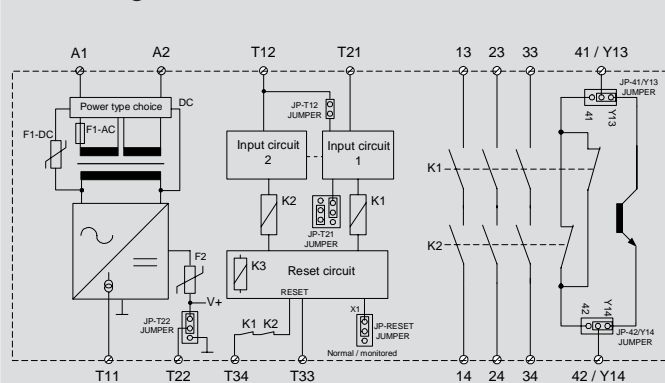
○ Awaiting approval

### User's advantages:

- Safety category 4 or lower cf. EN 954-1
- STOP category 0
- 3 NO contacts, 250 VAC / 6 A / 1380 VA
- 1 transistor output (Y13-Y14) or 1 NC contact 24VDC/2A; choice via internal jumpers
- 2-channel operation with / without short circuit protection
- 2-channel operation via a NO and a NC forced contact
- 2-channel door monitoring with two set NO/NC contacts
- 1-channel operation
- Easy configuration via internal jumpers
- Internal current limitation (60 mA) for use with for example a contact mat/list
- Power supply: 24 V AC/DC, 48 - 240 VAC ± 10%
- 22,5 mm housing with or without detachable terminals
- LED indication of supply + wire- /output status for K1, K2
- 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

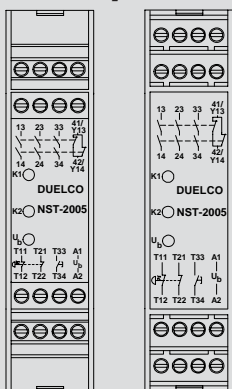


The default setting from the factory is monitored reset and 2-channel operation with short circuit protection. JP41+JP42 is configured for Y13+Y14.

### Order information

Article name	Article no.	
NST-2005D / 24 V AC/DC	42071245	* 48-240 V AC version can also be supplied with the following DC-voltage range: 55-300 V DC.
NST-2005F / 24 V AC/DC	42070245	
NST-2005D / 48-240 V AC	42073405	
NST-2005F / 48-240 V AC	42072405	

### Front layout:



NST-2005F NST-2005D

### Terminal description:

- A1(+):** Power supply (+)
- A2(-):** Power supply (-)
- T33:** Reset, output (+24V)
- T34:** Reset, input
- 13-14,** NO safety output
- 23-24,** NO safety output
- 33-34:** NO safety output
- 41-42:** NC signal output
- Y13-Y14:** Transistor output  
+ out current limited, 60 mA (E-stop)
- T11:** Input terminals (E-stop)
- T21-T22:** Input terminals (E-stop)

**Note:** D = detachable terminals  
F = fixed terminals

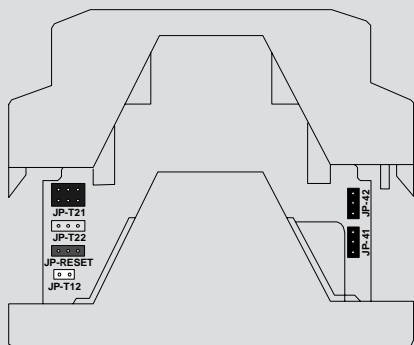
## Operation description and connection examples

The power supply is connected to the terminals A1(+) and A2(-). When not activated, the relay's NO contacts 13-14, 23-24, and 33-34 are open, the NC contact 41-42 is closed and the transistor output Y13-Y14 is non-conducting (OFF). If the emergency stop is deactivated, and the monitoring circuit detects that the relay function is correct, the relay can be started by activating a reset contact between the terminals T33 and T34. This switches on the NO contacts 13-14, 23-24 and 33-34 and the NC contact 41-42 will open or the transistor output Y13-Y14 is conductive/activated. The LEDs K1/K2 illuminates.

If the emergency stop is activated, the relays K1 and K2 will be deactivated. This opens the current path 13-14, 23-24, 33-34 and 41-42 closes / Y13-Y14 is non-conductive/deactivated again. After resetting of the emergency stop, the NST-2005 will be ready for activation again, provided that the monitoring circuit detects that the relay is functioning correctly.

**N.B.** The configuration of the emergency stop and reset is made via internal jumpers! (The default setting from the factory is monitored reset and 2-channel operation with short circuit protection. JP41+JP42 is configured for Y13+Y14.)

### 1 Jumper configuration



### JUMPER DESCRIPTION

NST-2005 is simple configured via internal jumpers:

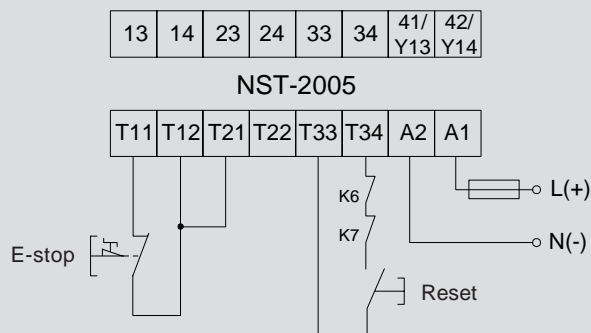
**JP-RESET:** Configures reset for manual, automatic or monitored reset.

**JP-T12:** Only used for connection of safety mats, together with JP-T21 and JP-T22.

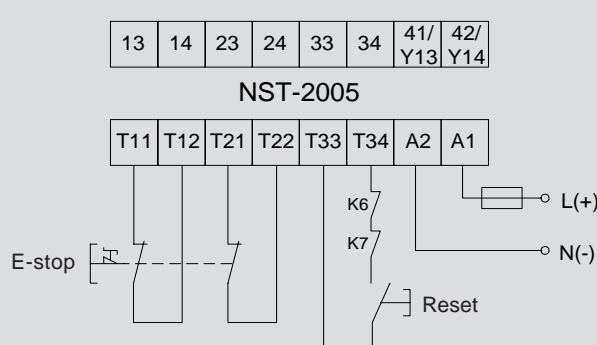
**JP-T21/JP-T22:** Configures the emergency stop for 1-channel, 2-channel without short circuit protection (light curtain) and 2-channel with short circuit monitoring or door monitoring.

**JP-41+JP-42:** Configures the signalling output to work as a NC contact 41-42 or transistor output Y13-Y14.

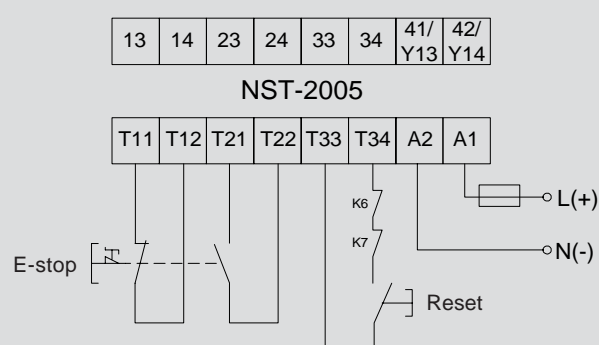
### 2 1-channel operation



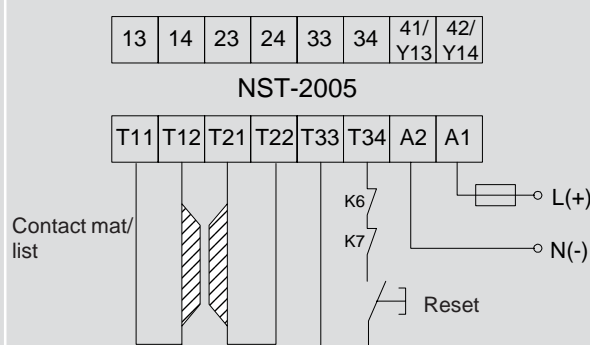
### 3 2-channel operation



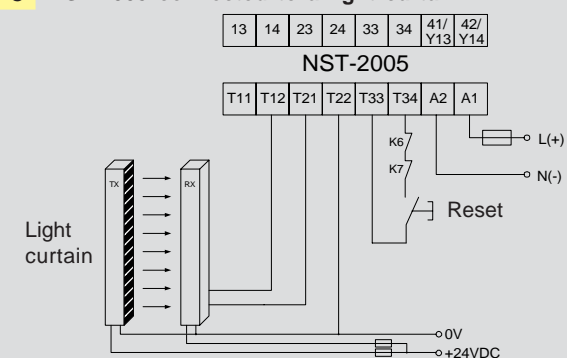
### 4 2-channel operation with NO/NC



### 5 NST-2005 connected to a contact mat/list



### 6 NST-2005 connected to a light curtain



### 7 NST-2005 connected to a PLC

