



**duelco**  
SAFETY solutions

# Emergency STOP relay

## NST-2007

- Reliable and a high safety level
- Status-/fault indication via LEDs
- 3 NO safety outputs
- 1 NC status output
- Short circuit monitoring

What can the new Duelco emergency stop relay NST-2007 offer you?

- Simplicity - Fast and easy installation via user friendly connection examples.
- Cat. 4 safety level with 3 NO duplicated output contacts.
- Status-/fault indication. LEDs for indication of the status of the internal relays, the outputs and the supply. The LED signalling can reduce trouble shooting time.

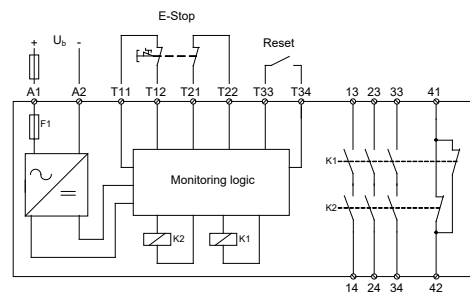
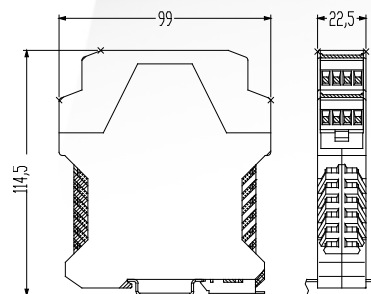
With the new design and a simple and safe layout, the Duelco NST-2007 is the right choice!

Technical facilities regarding safety requirements:

- Forced contacts
- Doubling of output contacts
- Internal / external redundancy (for two-pole E-stop)
- NST-2007F: Manual and automatic reset

User's advantages:

- Performance level e
- STOP category 0
- 3 NO contacts, AC1: 230 V AC / 6A ; DC1: 24V / 6A
- 2-channel operation with short circuit protection
- 1-channel operation
- Voltage versions: 230VAC
- No requirements concerning simultaneity between CH1 and CH2
- 22,5 mm slimline housing
- LED indication of supply + output status of K1, K2
- Complies with MD, EMC, LVD (98/37/EC, 89/336/EEC & 93/68/EEC)



## Operation description

The power supply is connected to the terminals A1(+) and A2(-) and the power supply LED Ub will illuminate green. When not activated, the relay's NO contacts 13-14, 23-24, and 33-34 are open, the NC contact 41-42 is closed. If the emergency stop is deactivated, and the monitoring circuit

detects that the relay function is correct, the relay can be reset by closing a contact between the terminals T33 and T34. This closes the NO contacts 13-14, 23-24, 33-34 and the NC contact 41-42 will open. The LEDs K1/K2 illuminate. 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.

After deactivation of the emergency stop the NST-2007 will be ready for reactivation provided that the monitoring circuit detects that the relay is functioning correctly. A short circuit between the two emergency stop switches will deactivate the NST-2007 via the internal PTC-fuse (i.e. the emergency stop relay can be reset again when the short circuit/error is corrected!).

## Status table

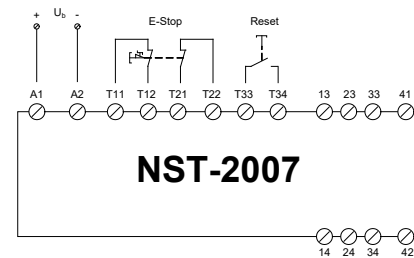
LED Ub	LED K1	LED K2	Interpretation / Possible Fault (depends on which connection example is being used)
OFF	OFF	OFF	Supply not connected or missing / bad connection
ON	ON	ON	Relay K1 and K2 activated / emergency stop OK
ON	OFF	OFF	Relay K1 and K2 are deactivated; error between the two emergency stop inputs
ON	ON	OFF	K1 activated and K2 deactivated; error in emergency stop at T21; T22, K1 may be welded / defect
ON	OFF	ON	K1 deactivated and K2 activated; error in emergency stop at T11, T12, K2 may be welded / defect

## Technical data NST-2007

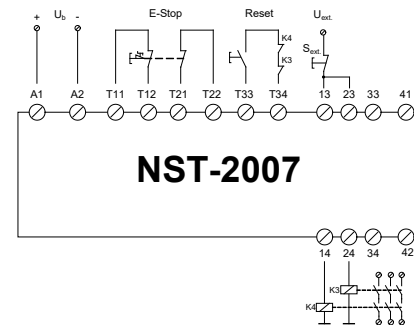
Electrical data	
Supply voltage (NB! Common Power Supply)	230V AC
Voltage range	0,90 ... 1,1 U <sub>B</sub>
Frequency (AC-type)	50 ... 60 Hz
Power consumption	~ 230V: ca. 3,7 VA, 24V DC: 3 W, 24V AC: 5 VA
Conductor data	
Max. cross section of conductor, Solid thread:	2 x 1,5 mm <sup>2</sup>
Multewire with ferrule:	2 x 1,5 mm <sup>2</sup>
Cable type	60/75°C copper wire only
Max cable lengths (input circuit)	2 x 100m (1-channel); 4 x 100m (2-channel)
Capacity	150 nF/km
Temperature	+25° C
Contact data	
Contact-allocation	3 NO / 1 NC
Contact type	Positive guided relay
Contact material	AgSnO <sub>2</sub> or comparable material
Switching voltage	240V AC, 24V DC
Switching current	5 A
Max. switching capability DIN EN 60947-5-1	AC 15 230V / 5 A; DC 13 24V / 5 A
Max. switching capacity	1200 VA (ohms load)
Mechanical lifetime	10 <sup>7</sup> activations
Electrical lifetime	10 <sup>6</sup> activations (DC 24V/2A)
Creeping distance and clearance DIN VDE 0160	Pollution grade 2: Over voltage category 3 / 250 V Basis isolation: Over voltage category 3 / 250 V
Reactivation time by emergency stop	0,5 s
Cut-out time by emergency stop, K1	< 30 ms, 24V AC: < 50ms
Mechanical data + various	
Housing material	Polyamid PA 6.6
Dimensions (WxHxD)	22,5 x 114,5 x 99 mm
Mounting	Click-fastening for DIN-Rail
Humidity	Alternating climate, 95% 0-50°C
Max tightening torque	0,4 Nm
Weight	165 g
Storage temperature	In dry areas
Operating temperature	-25 - +50° C
Enclosure rating, Terminals, Housing	IP 20 (DIN VDE 0470); IP 40 (DIN VDE 0470)
Shock resistance, NO/NC contacts	8g / 2g
Certification	
Tested in acc. with PL / Category	EN ISO 13849-1 e / 4

## Connection examples:

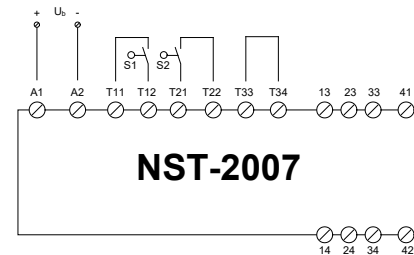
2-channel operation (with opposite between channels)



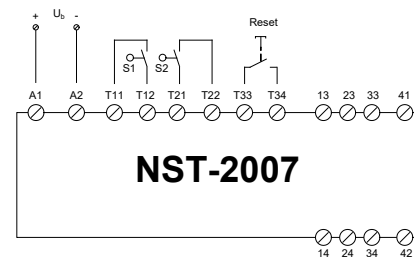
2-channel operation with external contacts, contact monitoring and short circuit protection



2-channel protection door monitoring with automatic activation and with opposite polarity between channels (Only NST-2007).



2-channel door monitoring with short circuit protection.



## Order information:

Description	Article no.
NST-2007F 230VAC	42080003

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