



duelco
SAFETY solutions

Emergency STOP relay

NST-2009

- 2 NO safety outputs + 1 NC signal output
- 2 NO delayed outputs (0 - 600 sec.)
- Status-/fault indication via LEDs
- Short circuit monitoring

What can the new Duelco emergency stop relay NST-2009 offer you?

- Simplicity
- Fast and easy installation via user friendly connection examples
- Cat. 4 safety level with 4 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.

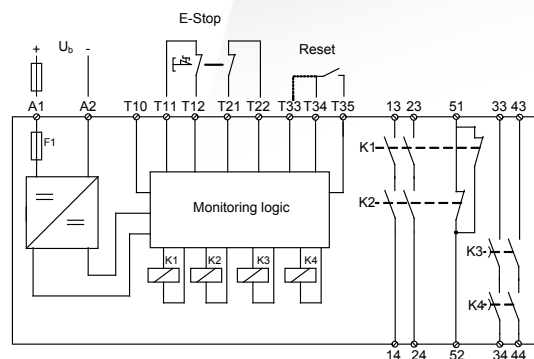
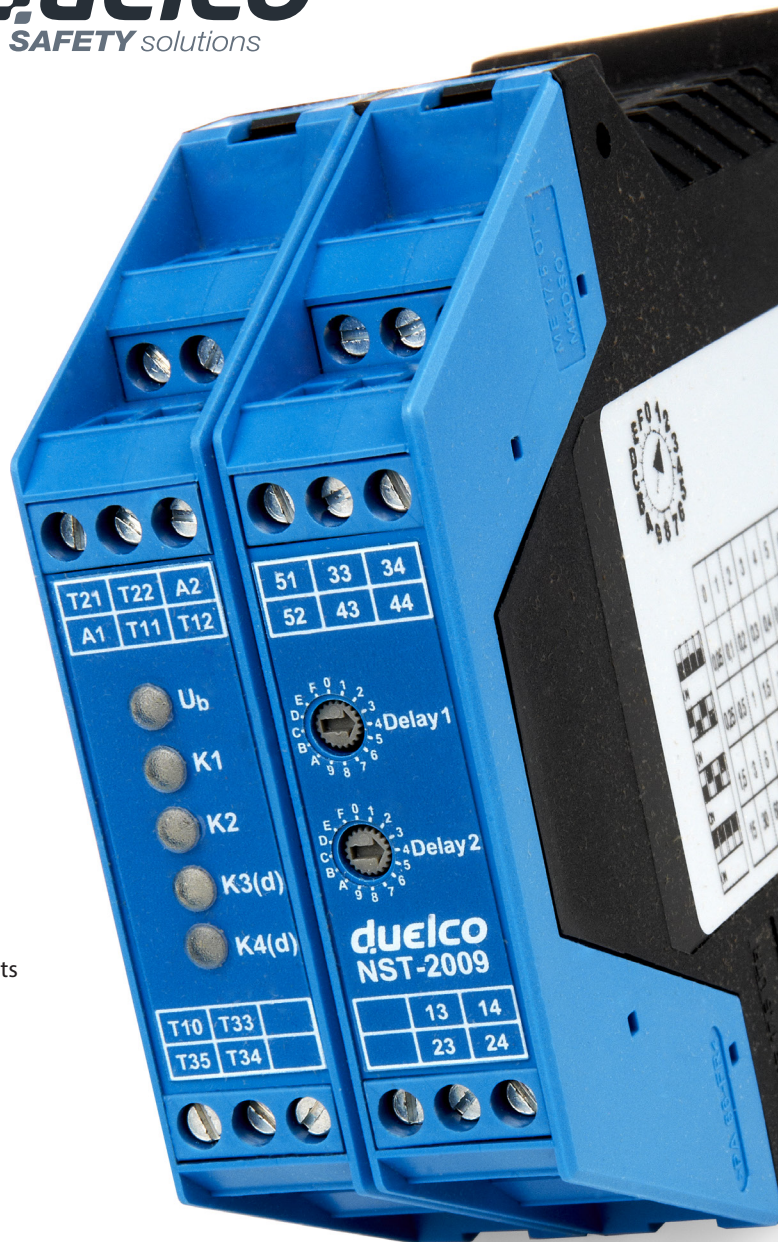
With the new design and a simple and safe layout, the Duelco NST-2009 is the right choice!

Technical facilities regarding safety requirements:

- Forced contacts
- Doubling of output contacts
- Internal / external redundancy (for two-pole E-stop)
- Manual, automatic and monitored reset

User's advantages:

- Performance level e
- STOP category 0
- 2-channel operation with short circuit protection
- 1-channel operation
- Voltage versions: 24V AC/DC
- No requirements concerning simultaneity between CH1 and CH2
- 35 mm housing
- LED indication of supply + output status of K1, K2, K3, K4
- Complies with MD, EMC, LVD (98/37/EC, 89/336/EEC & 93/68/EEC)



Operation description

The reset and emergency stop input terminals T33, T34, T35, T10, T11, T12, T21, T22 are to be wired according to the needs (see connection examples). After the supply voltage is applied to terminals A 1 and A2, the power LED illuminates. The contacts T11 and T21 provide 24 V DC and are monitored for short circuit. T11 and T21 are to be used according to the connection examples.

Monitored reset is achieved by using T33 and T34 as reset terminals.

Normal reset can be applied when wiring T34-T35.

Automatic reset is achieved by using T34 and T35 which must be bridged.

Assuming no internal faults are detected, the relay will reset.

LED's K1, K2, K3(t) and K4(t) will be illuminated.

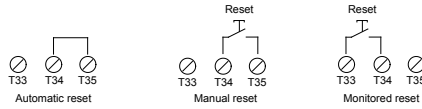
If emergency stop contacts opens, then the safety outputs 13-14 and 23-24 will also open immediately. The LED's K1

and K2 go off. After the delay time the safety outputs 33-34 and 43-44 are opened and the LED's K3(d) and K4(d) will be extinguished.

NST-2009 will reset again if the input contacts are closed (and the time delay has run out) contacts LED's K1, K2, K3(t) and K4(t) will illuminate again.

The time delay only can be changed when the power supply is off.

Reset types



Technical data NST-2009

Electrical data	
Supply voltage (NBI Common Power Supply)	24V AC/DC
Voltage range	0,80 ...1,1 U _B
Frequency (AC-type)	50 ... 60 Hz
Power consumption	200mA
Conductor data	
Max. cross section of conductor, Solid thread:	2 x 1,5 mm ²
Multiwire with ferrule:	2 x 1,5 mm ²
Cable type	60/75°C copper wire only
Max cable lengths (input circuit)	2 x 150m (1-channel); 4 x 150m (2-channel)
Contact data	
Contact-allocation	2 NO / 1 NC; 2 delayed NO
Contact type	Positive guided relay
Contact material	AgCuNi+0,2-0,4µmAu
Switching voltage	240V AC, 24V DC
Switching current	Sum of current of all contacts 16A AC/DC
Max. switching capability DIN EN 60947-5-1	5A / 24V / DC13; 3A / 230V / AC15
Max. switching capacity	1500 VA (ohms load)
Mechanical lifetime	10 ⁶ activations
Electrical lifetime	7x10 ⁵ 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
Short circuit protection	3,6A
Reactivation time after cut-out of the delayed contacts	< 0,95s
Cut-out time	< 30 ms
Start-up time	< 400ms
Start-up time after reset	< 3s
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	325 g
Storage temperature	In dry areas
Operating temperature	-25 - +55° C
Enclosure rating, Terminals, Housing	IP 20 (DIN VDE 0470); IP 40 (DIN VDE 0470)
Shock resistance, NO/NC contacts	10g
Certification	
Tested in acc. with PL / Category	EN ISO 13849-1, EN 62061 e / 4
MTTFd (years)	> 100 high
DC	99% high
CCF	achieved

Order information:

Description	Article no.
NST-2009D 24V AC/DC	42080021

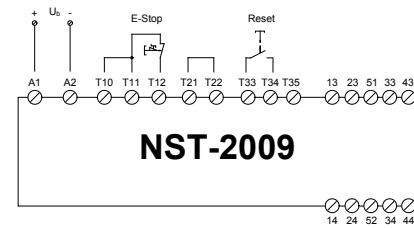
Duelco A/S - Aalborg
Systemvej 8
DK-9200 Aalborg SV

Duelco A/S - Sønderborg
Mommarkvej 5
DK-6400 Sønderborg

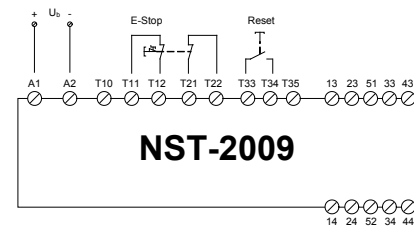
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Connection examples:

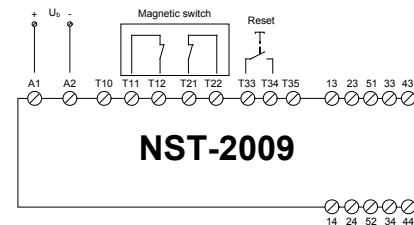
1-channel operation



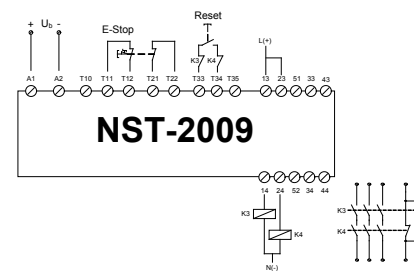
2-channel operation



2-channel operation with magnet switches



2-channel operation with external contactors



2-channel operation with OSSD

