

# Two hand safety Modules ND12D

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- Safety Category III C according to EN 574
- Safety Category 4 according to EN 954-1
- 2 NO safety outputs
- 1 PNP auxiliary output
- 1 NC relay auxiliary output
- Dual channel input
- Max delay between input 500 ms
- Automatic RESET
- Self monitoring
- Failure diagnosis by LEDs
- Approvals: TÜV NORD, UL

## Product Description

Two hand Safety module according to EN 60204-1, EN 292-1 /-2, EN 574 and EN 954-1, safety category IIC according to EN 574.

These safety modules are suited to be used in applications at the highest risk level as presses and punches.

## Ordering Key

**ND12 D 230**

Housing \_\_\_\_\_  
 Application \_\_\_\_\_  
 Controlled Devices \_\_\_\_\_  
 Safety Outputs \_\_\_\_\_  
 Safety Category \_\_\_\_\_  
 Power Supply \_\_\_\_\_

## Type Selection

Power supply	References
24 VAC/VDC	ND12D
110 VAC	ND12D110CG
230 VAC	ND12D230CG

## Electrical Specifications

<b>Power supply</b>	<b>ND12D</b>	24 VAC -15/+10% 50-60 Hz 24 VDC -15/+10%	<b>Auxiliary output</b> Resistive loads AC1 5 A @ 230 VAC Small inductive loads AC15 1.5 A @ 230 VAC
	<b>ND12D110CG</b>	110 VAC -15/+10% 50-60 Hz	
	<b>ND12D230CG</b>	230 VAC -15/+10% 50-60 Hz	
<b>Power consumption</b>	4 VA /4 W		<b>Contact fuse protection</b> 6 A fast or 4 A delayed
<b>Safety outputs</b>	2 NO		
<b>Auxiliary outputs</b>	1 NC Relay 1 PNP		<b>Insulation voltage</b> Pollution degree: 2 Overvoltage Cat.: 3/250 V <b>24 VAC/DC xxx AC</b> Supply to input none 4 kV 1.2/50µs Supply to output 4 kV 1.2/50µs 4 kV 1.2/50µs Input to output 4 kV 1.2/50µs 4 kV 1.2/50µs
<b>Contact ratings</b> Safety output	Resistive loads AC1	8 A @ 230 VAC	
	Small inductive loads AC15	3 A @ 230 VAC	
	DC13	4 A @ 24 VDC	

## Time Specifications

<b>Delay on energisation</b>	< 150 ms
<b>Delay on de-energisation</b>	< 30 ms
<b>Recovery time</b>	≥ 30 ms
<b>Channel simultaneity</b>	< 500 ms

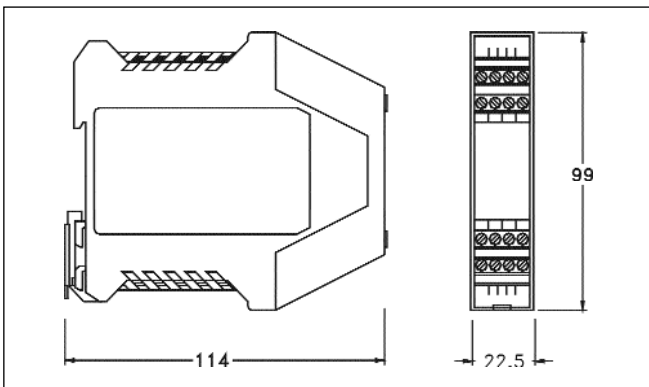
## Environmental Specifications

<b>Operating temperature</b>	-25°C ... + 55°C
<b>Storage temperature</b>	-25°C ... + 65°C

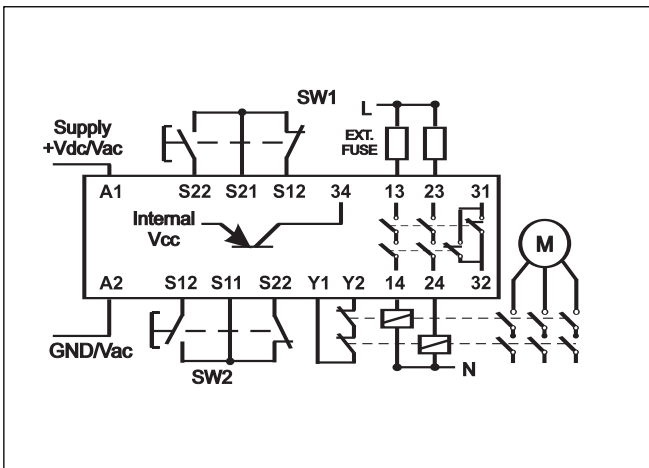
## Mechanical Specifications

<b>Protection degree terminals</b>	IP 20	<b>Max cross section of external conductors</b>	2.5 mm <sup>2</sup> flexible wire 2.5 mm <sup>2</sup> rigid wire
<b>Protection degree housing</b>	IP 40		
<b>Housing material</b>	Polyamid PA6.6	<b>Dimensions</b>	22.5 x 99 x 114 mm
<b>Housing type</b>	22.5 housing models		
<b>Mounting</b>	DIN rail	<b>Weight</b>	<b>ND12D</b> 170 g <b>ND12D110CG, ND12D230CG</b> 240 g

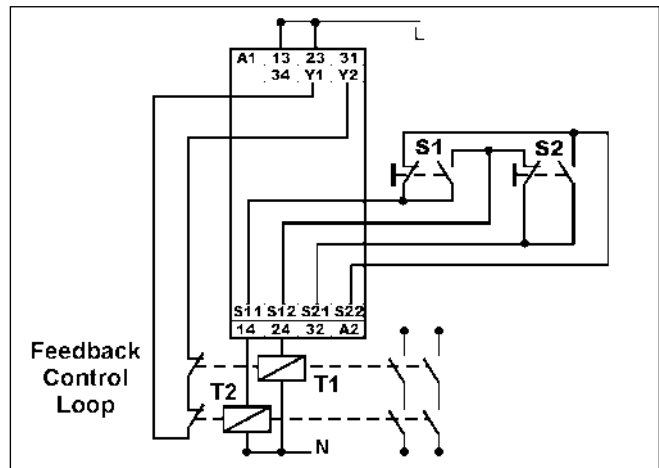
## Dimensions



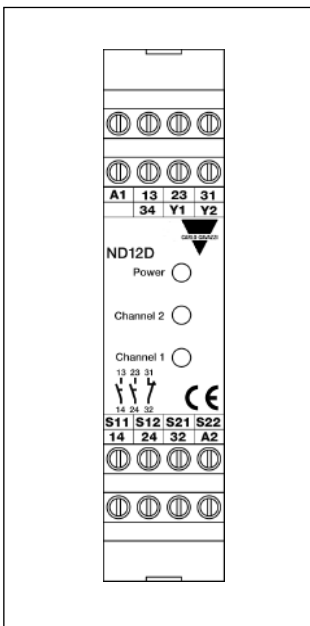
## Wiring Diagrams



## Application



## Connection Sample



## Connections

Terminal Function	Connection
A1	+24 VDC or AC supply
A2	GND or AC supply
S11-S12-S22	First input button (S1)
S21-S12-S22	Second input button (S2)
Y1-Y2	Feedback control loop
34	PNP aux output (collector of a PNP transistor with emitter connected internally to Vcc)
13-14	First safety output (NO)
23-24	Second safety output (NO)
31-32	Relay auxiliary output (NC)