

# Two hand safety Modules ND12D

CARLO GAVAZZI



- Safety Category 4, Performance Level e according to EN13849-1
- 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 (safety category IIIC), EN 954-1 (safety category 4), EN 13849-1 (safety category 4, Performance Level e). 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>		
	<b>ND12D110CG</b>	110 VAC -15/+10% 50-60 Hz	Resistive loads	AC1	5 A @ 230 VAC
	<b>ND12D230CG</b>	230 VAC -15/+10% 50-60 Hz	Small inductive loads	AC15	1.5 A @ 230 VAC
<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>Insulation voltage</b>		Pollution degree: 2 Overvoltage Cat.: 3/250 V
<b>Auxiliary outputs</b>		1 NC Relay 1 PNP	Supply to input		none 4 kV 1.2/50µs
<b>Contact ratings</b>			Supply to output		4 kV 1.2/50µs 4 kV 1.2/50µs
Safety output			Input to output		4 kV 1.2/50µs 4 kV 1.2/50µs
Resistive loads	AC1	8 A @ 230 VAC			
Small inductive loads	AC15	3 A @ 230 VAC			
	DC13	4 A @ 24 VDC			

## Time Specifications

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

## Environmental Specifications

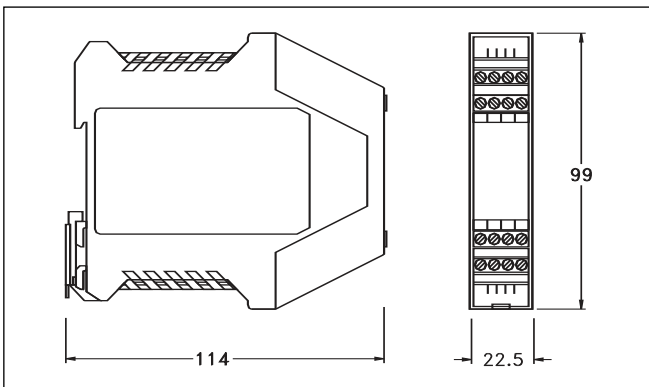
Operating temperature	-25°C ... + 55°C
Storage temperature	-25°C ... + 65°C

## Mechanical Specifications

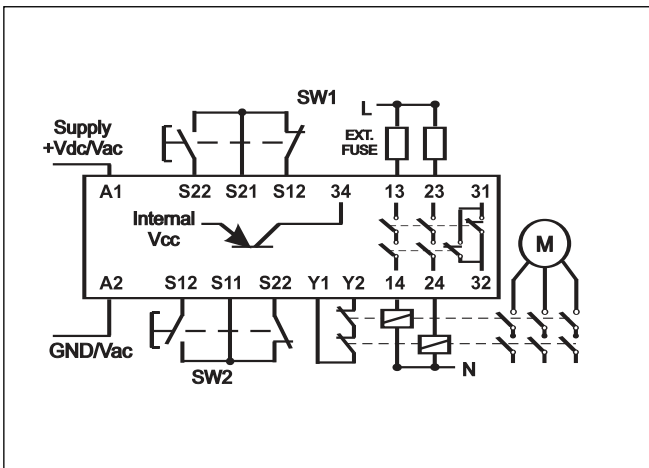
Protection degree terminals	IP 20	Max cross section of external conductors	2.5 mm <sup>2</sup> flexible wire 2.5 mm <sup>2</sup> rigid wire
Protection degree housing	IP 40	Dimensions	22.5 x 99 x 114 mm
Housing material	Polyamid PA6.6	Weight	ND12D 170 g ND12D110CG, ND12D230CG 240 g
Housing type	22.5 housing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



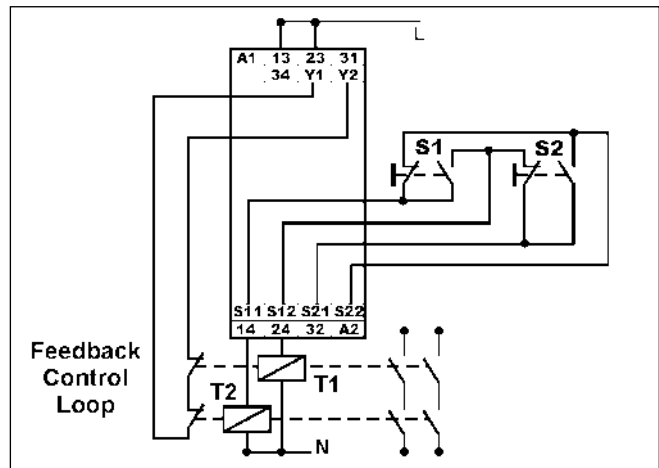
## Dimensions



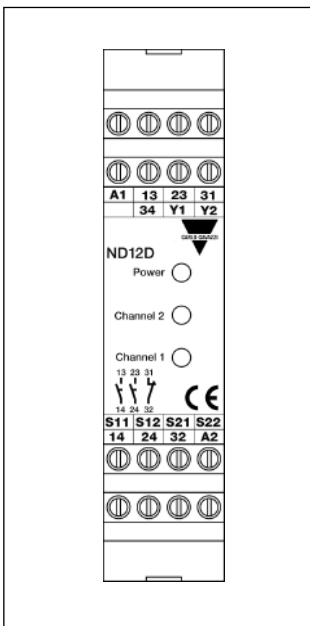
## Wiring Diagrams



## 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)