

# NXL12D, NA12DLIFT



## Lift car levelling safety module



### Benefits

- **Lift Directive compliance.** Compliant by standards EN 81-20, EN 81-50, EN 12015 and EN 12016.
- **Dual channel input.** Possibility to connect mechanical or magnetic switches (Reed contact) for lift cabin position monitoring.
- **2 NO safety outputs.**
- **1 NC auxiliary output.** For NXL12DG020 model only.
- **Redundant circuit.** With 2 force guided relay contacts.
- **Input Control startup.** Both input channels are checked at the start.
- **Failure diagnosis by LEDs.**
- **Automatic or manual start.**

### Description

Lift car levelling safety module, designed according to Lift Directive 2014/33/EU and to safety circuits requirements of EN 81-20, EN 81-50, EN 12015 and EN 12016 Standards.

The module is provided with safety outputs with force guided relay contacts, and feedback circuit for external contactors monitoring.

### Applications



Ranking of Lift safety check list includes "Drive system with poor levelling accuracy" as one of the most important issue.

Inaccurate or inconsistent floor levelling is not merely an inconvenience, it is potentially hazardous, particularly for the infirm or partially sighted.

In the case of wheelchair users, entering the lift backwards, this risk can be very serious.

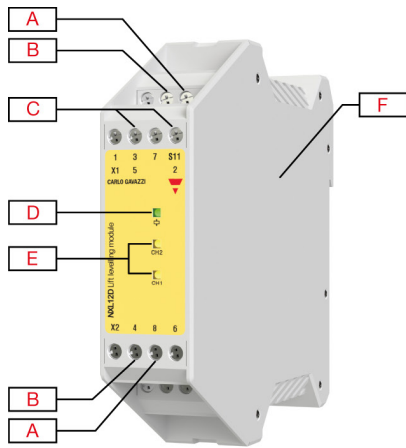
The levelling accuracy of many older lifts could be deemed unacceptable by today's standards.

**NXL12D & NA12DLIFT safety module can significantly reduce the risk of tripping and falling by greatly improving floor levelling.**

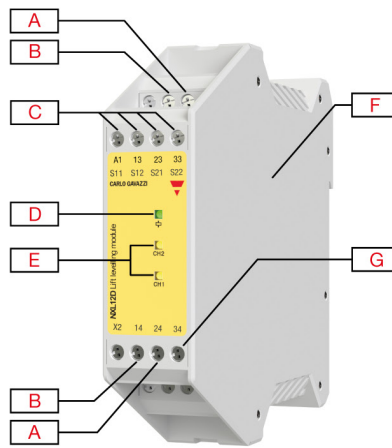
Lifts are amongst the very few modes of transport available for continuous unsupervised use and by all persons.

They are one of the safest forms of transport, being designed to strict and comprehensive standards.

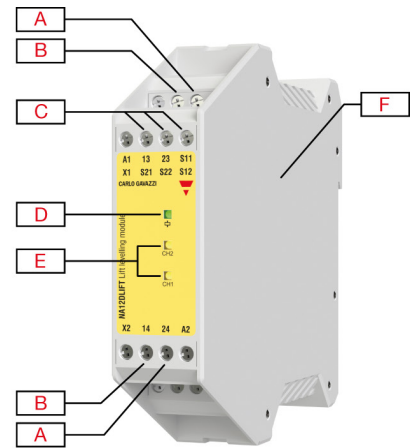
# Structure



NXL12DG002



NXL12DG020



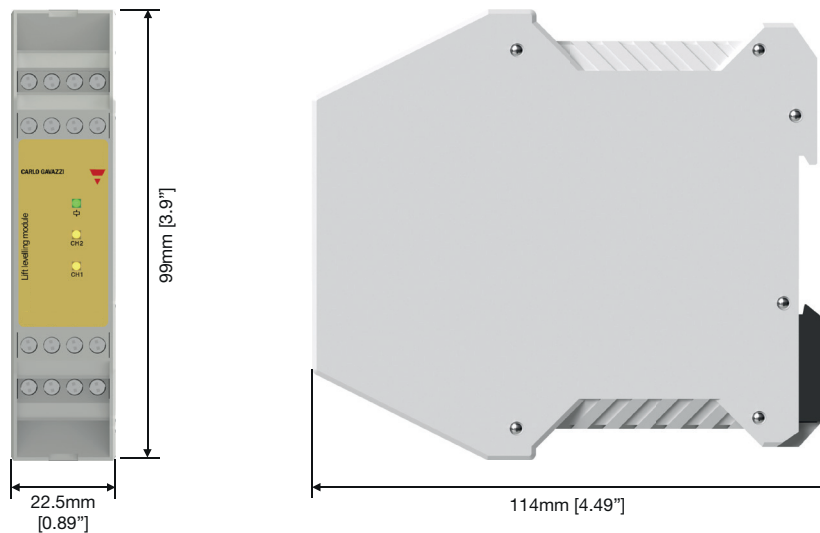
NA12DLIFT

Element	Component	Function		
		NXL12DG002	NXL12DG020	NA12DLIFT
A	Output terminal	Second safety output (NO)		
B	Output terminal	First safety output (NO)		
C	Inputs terminal	2 NO		
D	LED (green)	Power indicator		
E	LEDs (yellow)	Inputs channel status (NO)		
F	Safety relays	2 force guided relay contacts		
G	Output terminal	-	1 NC auxiliary output	-

# Features

## General

<b>Material</b>	PA 66
<b>Assembly</b>	DIN rail
<b>Protection grade</b>	Terminals: IP20, Housing: IP40
<b>Weight</b>	200g
<b>Terminals</b>	Section: 2.5 mm <sup>2</sup>
<b>Torque settings</b>	0.5 Nm



## Power Supply

<b>Power supply</b>	24VAC -15/+10% 50-60Hz 24VDC -15/+10%
<b>Consumption</b>	< 5W

## Environmental

<b>Working temperature</b>	-25°C to + 65°C
<b>Storage temperature</b>	-25°C to + 65°C
<b>Relative humidity</b>	10 - 95% non-condensing @40°C

## Time specifications

	NXL12DG002	NXL12DG020	NA12DLIFT
<b>Closing delay</b>	≤ 150 ms		
<b>Opening delay</b>	≤ 20 ms (typically 14.5 ms)	≤ 20 ms (typically 16.75 ms)	≤ 15 ms



**Inputs**

	NXL12DG002	NXL12DG020	NA12DLIFT
Input current/voltage	70mA @ 24VDC (2-6, 5-6)	70mA @ 24VDC (S11-S12, S21-S22)	
Input wiring	3-wires, 2 NO 1 common terminal	4-wires, 2 NO channel with short-circuit detection	
Start	Automatic / manual	Automatic	Automatic / manual
Channel simultaneity	∞	4 s	∞

**Outputs**

	NXL12DG002	NXL12DG020	NA12DLIFT
Safety outputs	2 NO		
Auxiliary outputs	-	1 NC	-
Mechanical life	>10 <sup>7</sup> Cycles		
Electrical life (max load)	>10 <sup>5</sup> Cycles		
Safety output switching	AC 1: 6A, 230VAC DC 12: 6A, 24VDC AC 15: 3A, 230VAC DC 13: 2.5A, 24VDC (3-4, 7-8)	AC 1: 6A, 230VAC DC 12: 6A, 24VDC AC 15: 3A, 230VAC DC 13: 2.5A, 24VDC (13-14, 23-24)	AC 1: 6A, 230VAC AC 15: 3A, 230VAC DC 13: 4A, 24VDC (13-14, 23-24)

**Compatibility and conformity**

Lift Directive 2014/33/EU			
	NXL12DG002	NXL12DG020	NA12DLIFT
EN 81-20: 2014	Safety rules for the construction and installation of lifts. Part 20: passenger and goods passenger lifts		
EN 81-50: 2014	Safety rules for the construction and installation of lifts. Part 50: design rules, calculations, examinations and tests of lift components		
EN 12015: 2014	Electromagnetic compatibility. Product family standard for lifts, escalators and passenger. Emission		
EN 12016: 2013	Electromagnetic compatibility. Product family standard for lifts, escalators and passenger. Immunity		
Lift Directive type certification	IMQ, EU-type examination certificate n. CA50.00460	IMQ, EU-type examination certificate n. CA50.00433	TUV Nord Cert, EU-type examination certificate n. 44 208 12 128602
Lift Directive production verification	IMQ		

Low Voltage Directive 2014/35/EU	
EN 60664-1: 2007	Insulation coordination for equipment within low-voltage systems

RoHS Directive 2011/65/EU	
EN 50581: 2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Approvals	(NA12DLIFT)
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**Insulation voltage**

<b>Between inputs/power supply and outputs</b>	2.5 kVac (for 1 minute) 4 kV (1.2/50 $\mu$ s)
<b>Pollution degree</b>	2
<b>Overvoltage category</b>	III

# Connection Diagrams

**Terminal markings**

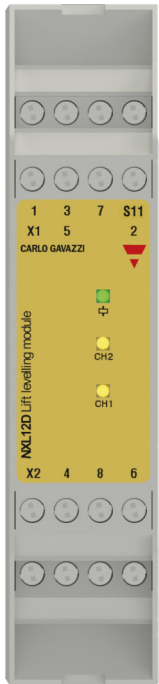


Fig. 1 NXL12DG002

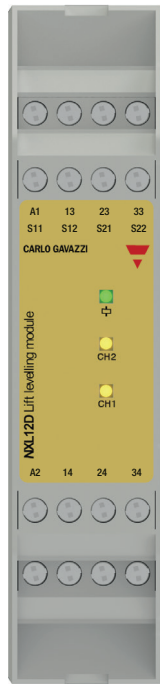


Fig. 2 NXL12DG020

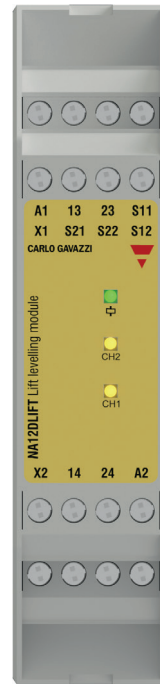


Fig. 3 NA12DLIFT

	NXL12DG002	NXL12DG020	NA12DLIFT
VDC or AC supply	1	A1	A1
GND or AC supply	6	A2	A2
First input channel (NO)	2 - 6(S11)	S11-S12	S11-S12
Second input channel (NO)	5 - 6(S11)	S21-S22	S21-S22
First safety output (NO)	3-4	13-14	13-14
Second safety output (NO)	7-8	23-24	23-24
Aux output (NC)	-	33-34	-
Start	X1-X2	-	X1-X2

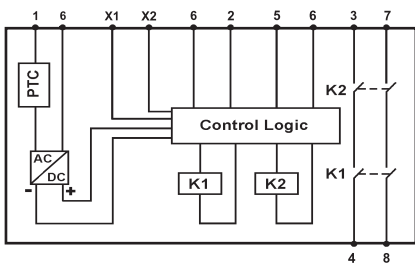


Fig. 4 NXL12DG002

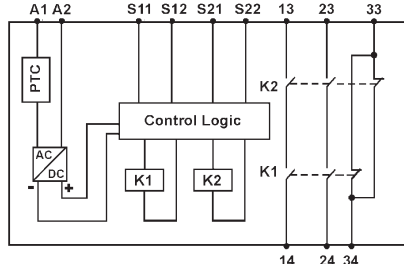


Fig. 5 NXL12DG020

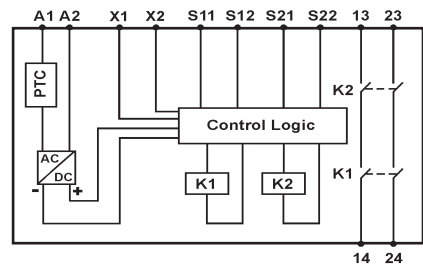
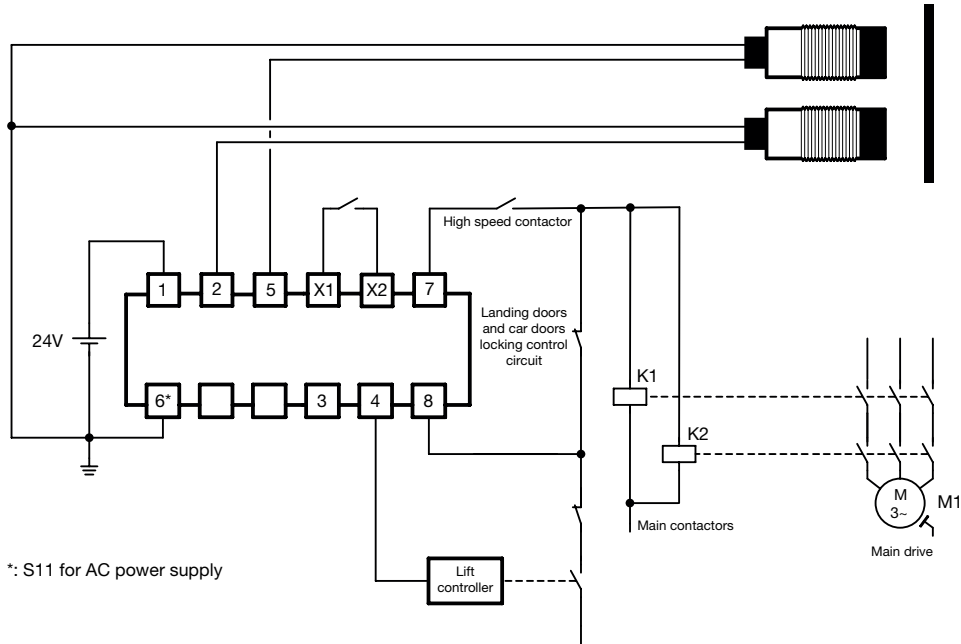
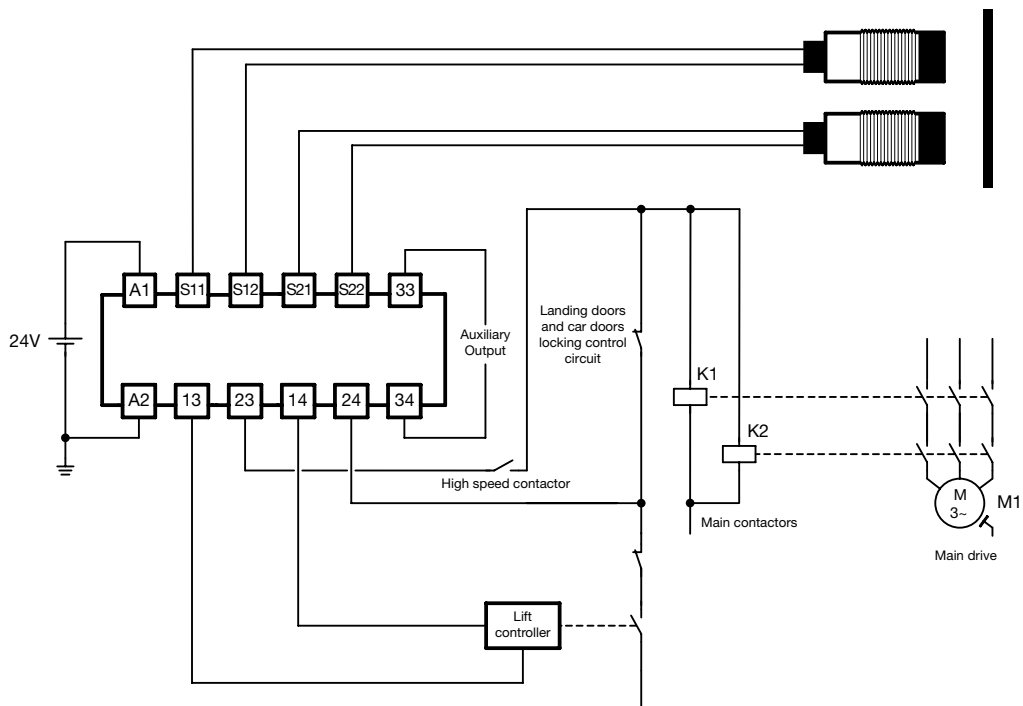


Fig. 6 NA12DLIFT

Application NXL12DG002

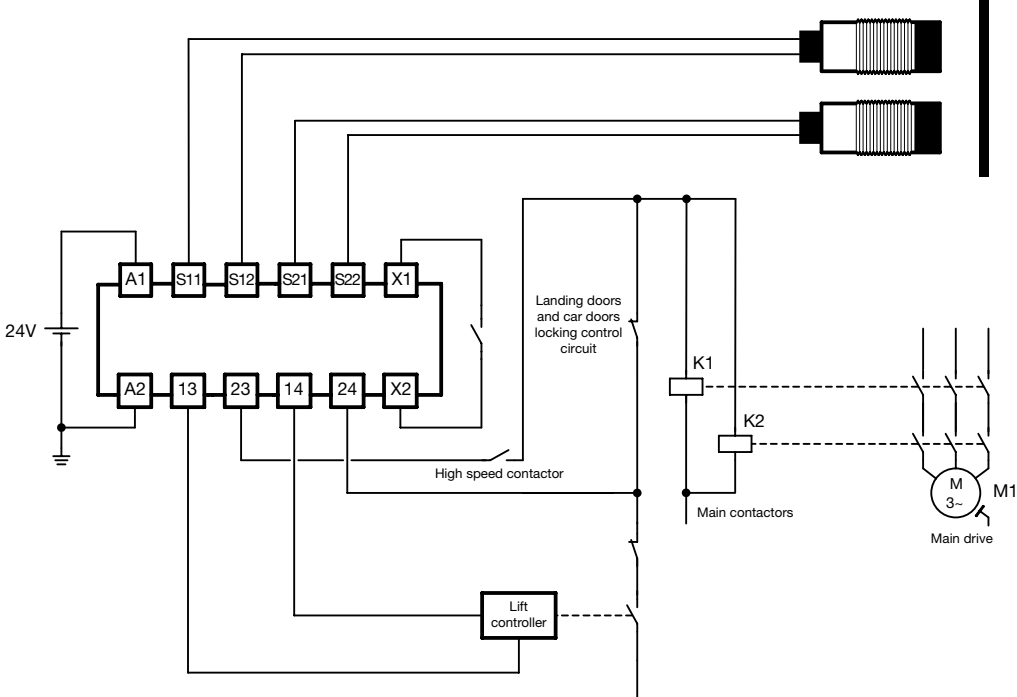


Application NXL12DG020





Application NA12DLIFT







## References

**Order code**

**NXL12DG002**

**NXL12DG020**

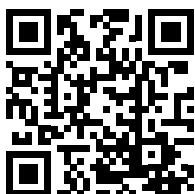
**NA12DLIFT**

**Further reading**

Information	Where to find it	QR
Sistema library	<a href="http://www.gavazzi-automation.com/nsc/HQ/EN/safety_modules">http://www.gavazzi-automation.com/nsc/HQ/EN/safety_modules</a>	
Software sistema	<a href="http://www.dguv.de/ifa/praxishilfen/practical-solutions-machine-safety/software-sistema/sistema-bibliotheken/index.jsp">http://www.dguv.de/ifa/praxishilfen/practical-solutions-machine-safety/software-sistema/sistema-bibliotheken/index.jsp</a>	
Magnetic Sensor	<a href="http://www.gavazzi-automation.com/docs/download_area/MAGNETIC_SENSORS.pdf">http://www.gavazzi-automation.com/docs/download_area/MAGNETIC_SENSORS.pdf</a>	

**CARLO GAVAZZI compatible components**

Purpose	Component name/code	Notes
Magnetic sensor	<b>FM Series</b> <b>FSMA Series</b> <b>FMP Series</b> <b>MSA1 Series</b> <b>SPA Series</b>	Reed contact



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