



EN81.20 & EN81.50 RULES





GIOVENZANA INTERNATIONAL B.V.

THE INNOVATION

Giovenzana International B.V., widely recognized as a leader in elevator technology and the name that operators associate with security and quality, has created the **new GM series** of inspection boxes (**complies with International Standard EN 81.20 and EN 81.50**).

The ergonomic design ensures **maximum operator safety**. Giovenzana has applied its new design philosophy which incorporates these rules:

- Mushroom stopping device in accordance with IEC / EN 60947-5-5;
- Mandatory Run button;
- Operators are protected against accidental impacts at all times;
- Cam switch (not selector) binding to the norm for inspection operation with solid drive and without margin of error in the switching;
- Contact blocks with spring clamp conform to EN 60068-2-6 and EN 60068-2-27 and vibration resistant with IP20 degree of protection;
- AC-15 and DC-13 contact blocks in accordance with EN 60947-5-1:2004 (1M cycles).

Giovenzana designs and implements safety components for the world's major chain lift manufacturers.

GENERAL CHARACTERISTICS

Pit bottom push button stations, recall drive control units and EN81 inspection boxes with max 11 functions. Connection by spring or wired on the printed circuit European specification EN 81.20 and EN 81.50 "Safety rules for the build and for lift plant" and Nord America CSA - B44.1/ASME-A17.5 "Elevator and Escalator Electrical Equipment", resistance to vibrations and impacts as EN 60068-2-6, EN 60068-2-27, EN 60068-2-2. The components are made in conformity to **IMG, CCC, GOST-R** e **UL** Certifications.

GENERAL CHARACTERISTICS

The products have European EN 81.20 and 81.50, North America CSA - B44.1 / ASME - A17.5 specifications and are meeting all safety requirements. The components are made in fully accordance with standard product norms **IEC 947-3, IEC 947-5-1, EN 60947-3, EN 60947-5-1, uL 508, IEC 204-1, EN 60204-1, EN ISO 13850** and in conformity to directives: **RoHS, PFOS, RAEE, REACH**. With over 70 years experience in this field, Giovenzana International B.V., European market leader in the lift equipment electrical devices, made a wide range of standard products for all installation requirements with actual specification and safety guidelines.

The Lift products series are classified as:

- Pit bottom stations - Recall drive control units - Car top inspection boxes beyond the standard versions are available a wide range of specials products and customizable meeting customers technical needs.
- In conformity to EN 81.20, EN 81.50, CSA-B44.1/ASME-A17.5, EN ISO 13850, SIL1 and SIL2 (pending).
- CSA approved.
- Enclosures made of self extinguishing thermoplastic material.
- Protection class EN 60529: NEMA 4X, IP65 w/ot socket, with socket IP54,

terminal connections IP20.

- Vibration resistance as EN 60068-2-26 and EN 60069-2-27.
- Shocks resistance as EN 600068-2-29
- Connections: spring clamp contacts for push buttons, mushrooms, screws terminals for cam switches, buzzers and socket outlets.
- Ambient temperature: operating -25° + 70°C, storage -30° + 70°C.

ELECTRICAL CHARACTERISTICS	
In conformity to standard rules	
Approvals	IMG, CCC, EAC, UL, RINA
Rated insulation voltage Ui	V 690
Rated impulse withstand voltage Uimp	kV 4
Rated thermal current Ith/Ithe	A 16
Frequency	Hz 50/60
Rated operating current Ie:	V
AC - 15 alternate current	A
DC - 13 direct current	V
AC - 21A - AC - 22A alternate current	A
Conditional short circuit withstand current	A
Fuse Rating gG	A 1000
Switching mechanism	A 10A - 500V
Positive	
Screws and clamps	
Connections:	Fex cable and solid cable n. 1 min/max mm- n. 2 min/max mm- AWG
UL508 characteristics: general use	
Standard motors load	10A 600V AC - 2.5A 125V DC
	single phase - 2 poles
	3 phases - 3 poles
Heavy Duty (HD) category	A600 - 0600

CONTACT BLOCKS		CAM SWITCHES	
IEC/EN 60947-5-1, UL508		IEC/EN 60947-3, UL508	
		IMG, CCC, EAC, UL, RINA	
	690		690
	4		4
	16		20/16
	50/60		50/60
24 60 110 240 400 500 690			
10 8 6 5 4 4 2			
24 48 60 110 250			
2 2 1 0.4 0.4			
	-		16A-690V
	1000		5000
	10A - 500V		20A - 690V
slow break double gap contacts			
Contact blocks NC positive open Ⓢ		Positive open Ⓢ *	
Spring clamp connection			
	0,5/2,5		M3,5
	0,5/2,5		0,75/4
	20-12		0,75/2,5
	10A 600V AC - 2.5A 125V DC		16-12
	-		16A 600V AC
	-		1HP (16FLA) 120V AC
	-		1,5HP (10FLA) 240V AC
	-		3HP (14,4FLA) 200V AC
	-		5HP (15,2FLA) 240V AC
	-		7,5HP (11FLA) 480V AC
	-		7,5HP (9FLA) 600V AC
	A600 - 0600		-

* Suitable for use as switch disconnector 0-1 90° 2-3-4 poles.



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The new **EN 81-20** replace the EN 81-2 & EN 81-1.
EN 81-20: Passengers & Good/Passenger Lifts
 Contains requirements for complete passenger or goods passenger lift installations independent of the driving system.

EN 81-20 MAIN FEATURES

In the pit the following items must be present:

- 1 An inspection box must be (permanently) available (further on the cabin roof);
- 2 Stopping device accessible from the pit floor and once every shaft lift door is open;
- 3 Socket (Power Point);
- 4 Shaft lift lights available once every shaft lift door is open;
- 5 An audible and flashing warning device.

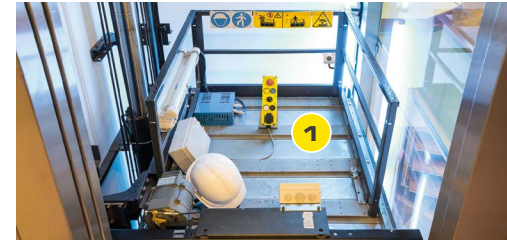
5.2.1.5 Electric equipment in the pit and in machinery spaces and pulley rooms

5.2.1.5.1 There shall be in the pit:

Stopping device(s) visible and accessible on opening the door(s) to the pit, and from the pit floor, in conformity with the requirements of 5.12.1.11.

For pits with depth less than or equal to 1,60 m the stopping device(s) shall be located:

- ▶ within a vertical distance of minimum 0,40 m above the lowest landing floor and a maximum of 2,0 m from the pit floor;
- ▶ within a horizontal distance of maximum 0,75 m from the door frame inner edge.



5.12.1.5 Control of inspection operation

5.12.1.5.1 Design requirements

5.12.1.5.1.1

To facilitate inspection and maintenance, a readily operable inspection control station shall be permanently installed:

- On the car roof;
- In the pit;
- In the car (if there are areas of work in the car);
- On a platform (if there are areas of work on the platform).

5.12.1.5.1.2

The inspection control station shall consist of:

- a switch (inspection operation switch) which shall satisfy the requirements for electric safety devices (5.11.2). This switch, which shall be bi-stable, shall be protected against involuntary operation;
- direction push buttons "UP" and "DOWN" protected against accidental operation with the direction of movement clearly indicated;
- a push button "RUN" protected against accidental operation;
- a stopping device in conformity with 5.12.1.11.

The control station may also incorporate special switches protected against accidental operation for controlling the mechanism of doors from the car roof.

Return to normal operation of the lift

The return to normal operation of the lift shall

only be effected by switching the inspection operation switch(es) back to normal. Additionally return to normal operation of the lift from pit inspection station shall only be made under following conditions:

- Landing doors giving access to the pit are closed and locked;
- All stopping devices in pit are inactive;
- Electrical reset device outside the well is operated:
 - In conjunction of emergency unlocking key of the door giving access to the pit, or
 - Accessible to authorised persons only, e. g. inside a locked cabinet located in close proximity of the door giving access to the pit.

Precautions shall be taken to prevent all involuntary movement of the car in the event of inspection operation.

The movement of the car in inspection operation shall solely depend on constant pressure on a direction and the "RUN" push-button. It shall be possible to operate the "RUN" button and a direction button with one hand simultaneously.

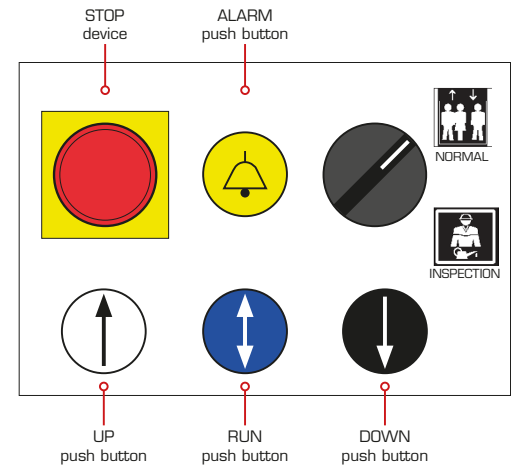
The inspection operation electric safety device shall be bypassed by one of the following solutions:

- A series connection of a direction and the "RUN" push-button. These push buttons shall belong to the following categories as defined in EN 60947-5-1:2004:
 - AC-15 for safety contacts in A.C. circuits
 - DC-13 for safety contacts in D.C. circuits
 The durability shall be at least 1.000.000 operating cycles mechanical and electrical related

to the applied load.

- An electric safety device in accordance with 5.11.2 which is monitoring correct operation of direction and "RUN" push buttons.

Colors and Design Symbols





1. CAR ROOF MAINTENANCE CONTROL STATION



GM750

IP54 Maintenance station.



GM751

IP65 Maintenance station.



GM822

IP54 Maintenance station.

2. CAR ROOF DEVICES WITH 5 LUX LED LIGHT

5.4.10.4

There shall be emergency lights with an automatically rechargeable emergency supply, which is capable of ensuring a lighting intensity of at least 5 lux for 1 h:

- a) at each alarm initiation device in the car and on the car roof;
- b) in the centre of the car 1 m above the floor;
- c) in the centre of the car roof, 1 m above the floor.

This lighting shall come on automatically upon failure of the normal lighting supply.



GM034

Maintenance station with 5 LUX white light and hole plug.



GMS169

Maintenance station with 5 LUX white light and alarm button.



GM033

Maintenance station with 5 LUX white light, alarm button and socket.



3. UNDER THE CAR DEVICE

5.12.1.8.3 (rif. G)

An audible signal at the car and a flashing light under the car shall be activated during movement. The sound level of the audible warning shall be minimum 55 dB(A) below the car at 1 m distance.



GMS131

Maintenance station with yellow flashing light (without 5 LUX) and continuous buzzer.



GMS167

Maintenance station with yellow flashing light (without 5 LUX) and continuous buzzer and alarm button.

4. MAINTENANCE PIT STATION

5.12.1.5.1.2

The inspection control station shall consist of:

- a) a switch (inspection operation switch) which shall satisfy the requirements for electric safety devices (5.11.2). This switch, which shall be bi-stable, shall be protected against involuntary operation;
- b) direction push buttons "UP" and "DOWN" protected against accidental operation with the direction of movement clearly indicated;
- c) a push button "RUN" protected against accidental operation;
- d) a stopping device in conformity with 5.12.1.11.



16000062

TLP5 Holder.



TLP5

Maintenance pit station.

5. BYPASS DEVICE

5.12.1.8

Landing and car door bypass device

5.12.1.8.1

For maintenance on landing door, car door and door locking contacts a bypass device shall be provided in the control panel or emergency and test panel.

5.12.1.8.2

The device(s) shall be a switch protected against unintended use by mechanically movable means (e.g. cover, security cap) permanently installed, or a plug socket combination which shall satisfy the requirements for electric safety devices according 5.11.2.

5.12.1.8.3

The landing and car door bypass devices shall be identifiable by the word "BYPASS" written on or near to them. In addition, the contacts to be bypassed shall be indicated with the identifiers according to the electrical diagrams (alternatively the symbol together with identifier according to electric diagrams can be used).

NOTES:

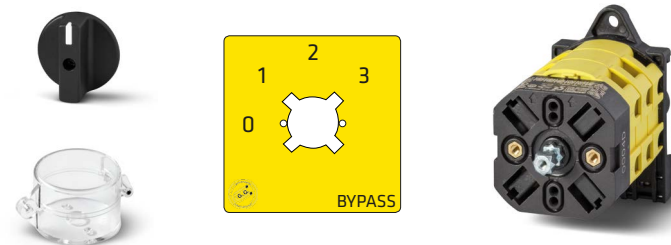
Many solutions are available according to electric scheme.

The two solutions outlined on the right are examples to give indication of the available Bypass type.

OPTION 1
Bypass device with housing



OPTION 2
Rear fixing Bypass device



Fixing screws included.

Safety SOLUTION

AUTOMATION LIFT HANDLING SYSTEM

EN81.20 and EN81.50



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PERU
ECUADOR
BRASIL
BOLIVIA
ARGENTINA
CHILE

LOGISTICS

Giovenzana International B.V. to support the market and his different necessity has created this organization that is always in process to cover territory in five different hubs.

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GREENLAND



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