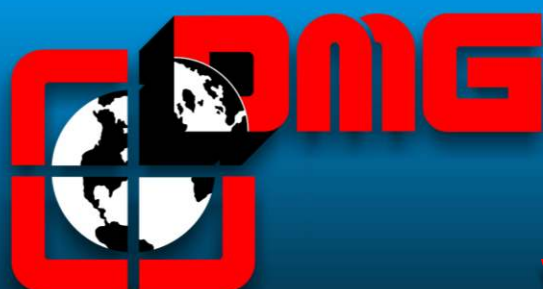




PITAGORA III

Integrated electric system for lifts



www.dmg.it

The PLAYBOARD III controller



- **Electronics with 32 bit microprocessor**
- **CAN Open serial transmission**
- **New software with extended features**
- **Quicker software updates with SecureDigital memory card**
- **Ready for remote monitoring via fixed / GPRS phone line**
- **Two MRL versions**



Fully programmable!

With its large 4-lines LCD screen, the *Playpad* programming module allows to configure all parameters of both the controller and the Inverter. The *Playpad* can also be connected directly to the top of car module. In this way, car stopping accuracy can be fine-tuned directly from inside the car (only with DMG encoder)



New modular PCBs with cover box

Each interface PCB is placed in a vertical box with front cover

- **Clean and protected wirings**
- **Easy location of modules**
- **Wiring diagrams replicated near terminal blocks or connectors**



Dynamic Inverter Control

All parameters of the inverter are controlled through the Playboard V3 software. They can be accessed and modified directly from the Playpad.

New Playboard III software allows for total control of inverter acceleration / deceleration settings and continuous car speed regulation.

Cod.	Parametro	Descrizione	Navigatione	Valori
F01	Speed command	Selezione del tipo di comando per la variazione della velocità	◀▶ ▲▼	0=MULTI 1=Analogico non polarizzato 2=Analogico (polarizzato)
F03	Maximum speed	Velocità max del motore	◀▶ ▲▼	150-3800
F04	Acceleration	Accelerazione (solo con sistema FAVFAS)	◀▶ ▲▼	0,00-99,9
F05	Deceleration	Decelerazione (solo con sistema FAVFAS)	◀▶ ▲▼	0,00-99,9
C07	Creep Speed	Velocità di accostamento (solo con sistema di conteggio FAVFAS)	◀▶ ▲▼	
C10	Middle Speed	Velocità in ispezione (solo con sistema di conteggio FAVFAS)	◀▶ ▲▼	
P01	Motor Poles	Numero di poli del motore	◀▶ ▲▼	
P02	Motor Rated Cap	Potenza nominale del motore	◀▶ ▲▼	



Encoder Positioning System

New DMG optical incremental encoder allows an extremely accurate control of car position. 2,5mm reading accuracy is passed on to the Playboard controller.

The system consists of two easy-to-install pulleys in the shaft and a rope fixed to the car. Top/bottom magnetic limit switches provide the reset signal: at each passage, the information provided by the Encoder is compared with the switch signal to correct discrepancies.

Easy Fine-tuning!

Thanks to the signal accuracy of DMG Encoder, the Playboard V3 controller automatically performs a self-learning procedure of floor positions.

Floor stopping accuracy is then adjusted through the Playpad connected to the top of car, without any further intervention in the shaft!



Integrated Emergency System

In case of black out, the Integrated Emergency module automatically re-powers both the controller and the inverter and moves the car down to the nearest floor at low speed. When the floor is reached, doors are opened.

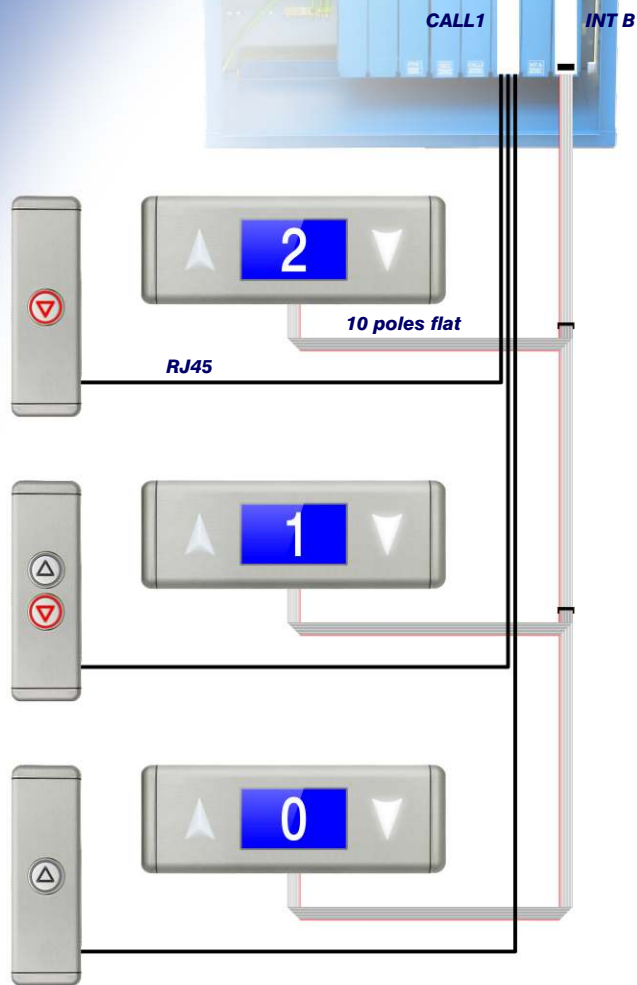
The system runs with 8 12V 7,2Ah batteries. Battery charge is controlled via software.



PARALLEL connection

Standard 1-line-per-floor parallel connection through RJ45 phone cables is the best solution for installations with up to 8-10 floors.

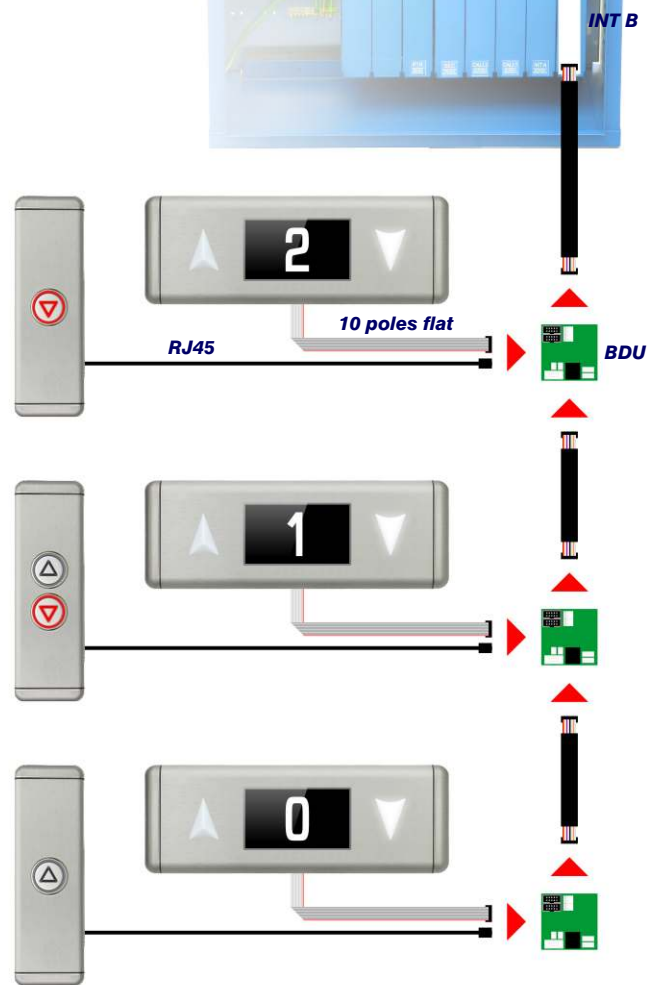
All floor position indicators are connected with a separate 10 poles flat cable.



SERIAL connection with hall interfaces (BDU)

Serial connection is most suitable for installations with 8+ floors.

One 10-poles twisted flat cable links all landing interfaces (BDU), which are then connected to landing call buttons and position indicators.



BDU interface

BDU serial interface allows to connect landing call buttons, serial indicators and direction arrows.

It can be easily configured and assigned a specific floor.

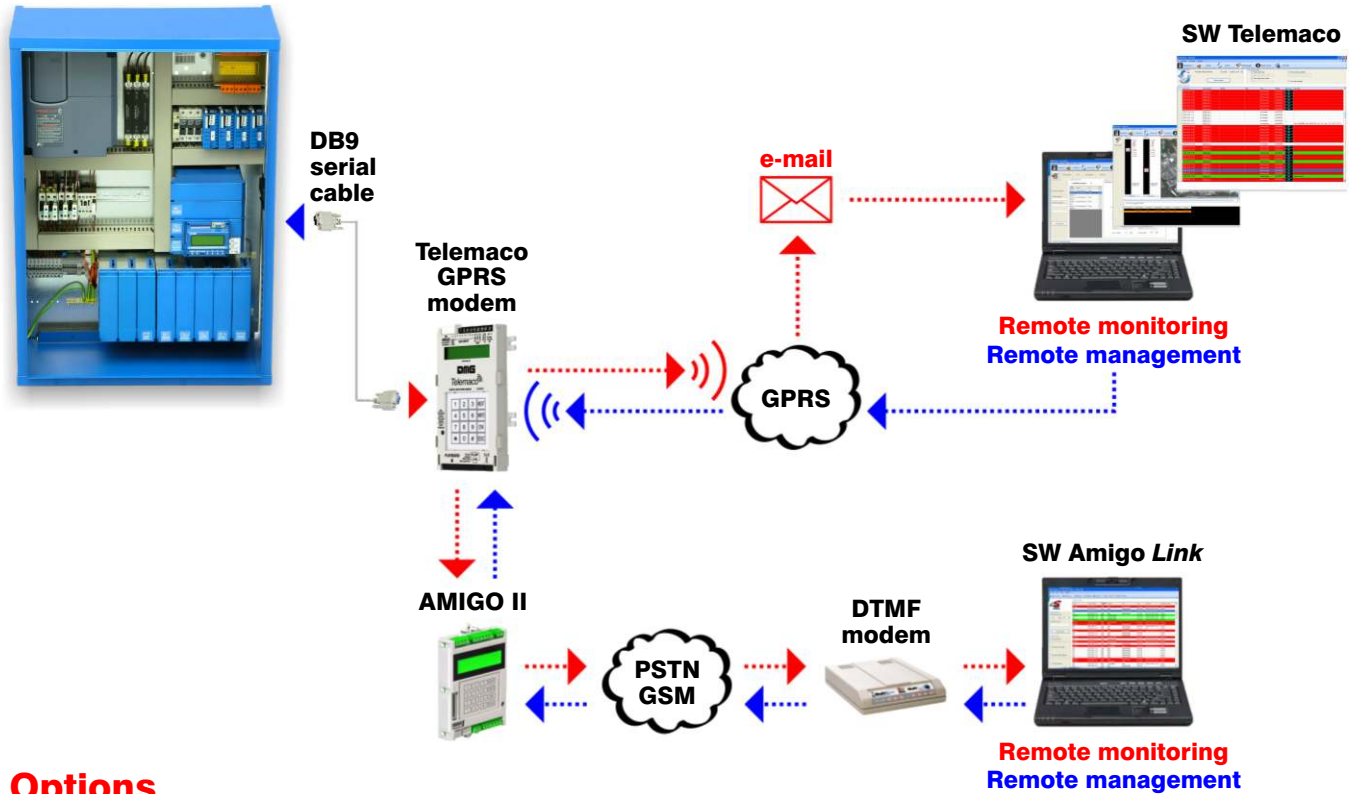


Independent next direction arrows

A simple magnet can be used to permanently assign the floor designation to the indicator: in such way, next direction arrow will appear only at the floor where the car is about to stop.

Remote monitoring

The Playboard is able to transmit from far all errors in real time using the *Telemaco* GPRS module. The remote monitoring software *Telemaco* allows to check and manage the status and the configuration of the system through a normal PC connected on Internet. Using the remote monitoring software *AmigoLink* it is possible to check the alarms and to manage the status of telephone Amigo II.



Options

Together with the traditional version for machine room installation, the Playboard III controller is also available in two *Machine Room Less* versions:

- in a box 400x2145x320 (LxHxD) to be positioned near one of the landing doors
- in a shaft box, with the command board inserted on the door jamb



Machine room



Shaft + Car frame



"All in One" Floor single cabinet

Componenti di sala macchine



**Cablaggio
sala macchine**
QSM.C_



Quadro elettrico DTU
QSM.DTU



**Pulsantiera manovra
di emergenza**
QSM.P3PME

Componenti di tetto cabina



Scatola TOC standard
QTC.TOCB_



Zona porte
QTC.P3RZP2



**Pulsantiera
di ispezione per TOC**
QTC.P3PMC



Stop secondo accesso
QTC.P3PSC



Kit cavi tetto cabina
QTC.P3CTOC_



**Kit AGB/AGH
meccanico**
QTC.P3FCR_



**Kit AGB/AGH
magnetico**
QTC.P3FCRM

FINE CORSA



**Kit AGB/AGH
meccanico**
QTC.P3FCR_



**Kit AGB/AGH
magnetico**
QTC.P3FCRM

SISTEMA DI CONTEGGIO



**Sirena allarme
precabata per TOC**
QVA.P3SAP



**Kit conteggio
ottico FAI/FAS**
QTC.P3FFO



**Kit conteggio
magnetico FAI/FAS**
QTC.P3FFM



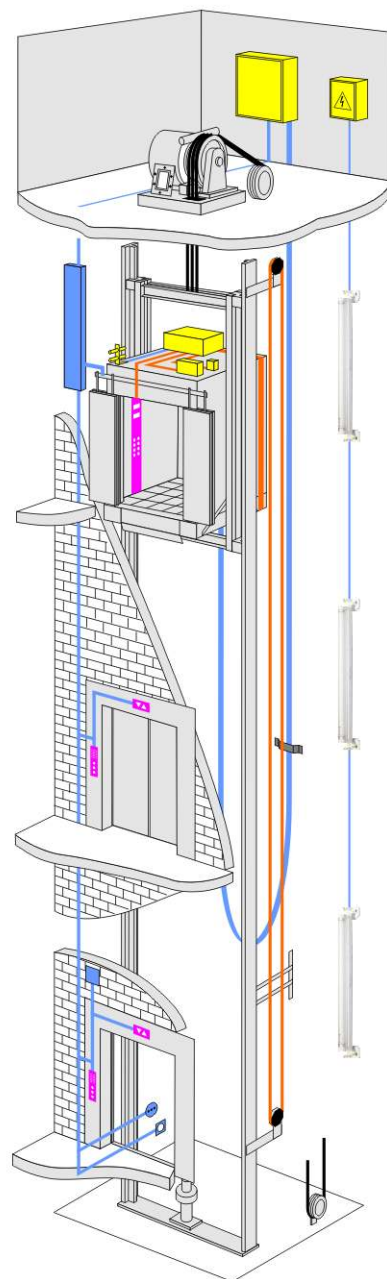
Kit encoder a cordino
QVA.ENC +
QVA.CORD060 (60 mt.)
QVA.CORD120 (120 mt.)



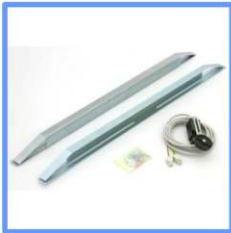
Kit cavi flessibili 20÷140
QVA.C16P20-...-140

**Kit balaustra
retrattile**
QVA.BALU

**Kit grembiule
retrattile**
QVA.GARD



Shaft components



Final limit switches kit
QVA.P3EXE • QVA.P3EXH



Shaft pit stop switch
QVA.P3PSC1



Shaft pit stop switch + 220V plug
QVA.P3PSC3



Shaft conduit
QVA.CAN



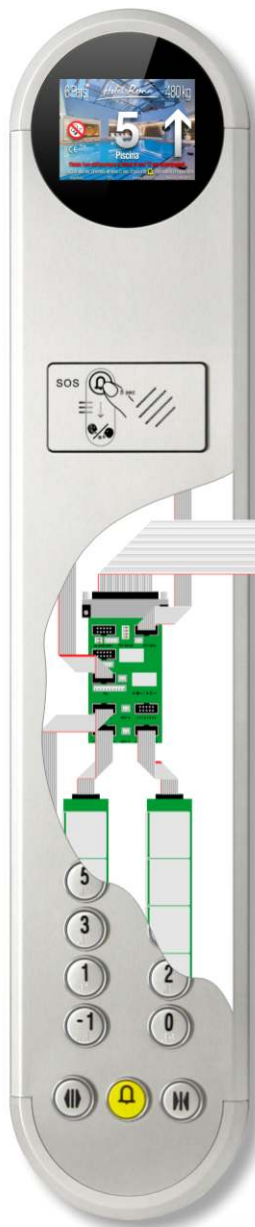
Safety chain
QVA.P3S

Shaft illumination kit
QVA.LUNE_



Pre-wired Car Operating Panels

DMG's pre-wired car and landing operating panels are supplied with "plug & play" connectors and flat cables to facilitate installation. Most of DMG's pushbuttons, indicators and accessories are available for the Pitagora III System.
All fixtures are pre-wired and factory-tested before delivery!



37 poles flat

◀ Pitagora Car Interface

It connects call buttons strips, car indicator and other components to the top of car box through 37 poles flat cable.

◀ CALL buttons strip

3x, 5x, 7x button strips allow to create all combinations of call buttons on 1 and 2 rows.

◀ SERVICE buttons strip

Door open, door close, alarm



10 poles flat



Technical features

- Traction 2 speeds, Hydraulic direct, Hydraulic star-triangle, Soft Starter
- Inverter open or close loop up to 22 kW
- Speed: up to 1,6 m/s (magnetic or optical FAI/FAS counting) or 2,0 m/s (with DMG encoder)
- Power supply: 220 ÷ 415V and 380 ÷ 415V
- Current: 18A ÷ 40A
- SAPB, down collective, full collective
- Simplex to Quadruplex (without additional modules if floor serial connection)
- Tradition wiring or pre-wired PITAGORA wiring
- Up to 16 floors with traditional wiring, 28 floors with Pitagora wiring and landing serial interfaces (BDU)
- Safety chain 110V AC (controlled on 4 different points), 48V DC and 110V DC
- Battery 12V at 1,2Ah with integrated battery charger
- Door type: manual, automatic, regulated, independent
- Dimensions (LxHxD): 600x720x320 • 600x840x320 • 600x1040x320 • MRL 400x2145x320

Main functions

- Re-leveling with open or closed doors
- Anticipated door opening
- Fire-fighters operation (DM 15/09/2005 or EN81-72), Priority operation, Out of Service operation
- Emergency operation integrated with batteries
- Full load control, overload control, temperature control, phase sequence control
- Fire sensors inputs
- Retiring cam control
- Car illumination time-limited or permanent
- Photocell NO/NC contact control
- Slowdown zone regulation different for each floor (for FAI/FAS counting only)
- Auto-learning of floor level and slowdown zone (with Encoder only)
- Short distance between floors
- Double entrance control
- Car parking programmable (week, hours and days)
- Remote monitoring of the installation through standard telephone line or GSM/GPRS

Signalizations and diagnostic

- Serial output for indicator (alphanumeric characters programmable for each floor)
- Segnalization present/busy/call registered permanently lighted or flashing
- Out of Service operation and signalization
- Car and landing gong with next direction acoustic signal
- Car and landing direction arrows and landing next direction arrows
- Landing alarm acoustic signal
- Programming module with LCD screen and 6 buttons keyboard
- Visualisation on LCD of I/Os and of the last 60 faults detected
- Over 50 different faults detected



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