

CEAGUARD CG48

- Simple installation and operation
- Powers up to 48 x 8W luminaires for 3 hours
- High light output to maximise spacing
- Built-in automatic testing, without need of a data cable
- Extremely compact dimensions
- Network and centrally control up to 32 panels

CeaGuard CG48 is an extremely compact system for emergency lighting, with the benefit of built-in automatic testing. The system and luminaires are regularly tested and any faults identified, affording a high level of integrity. CG48 systems are easy to design, install, program and maintain. Every panel has four output circuits, each with a maximum of 12 luminaires. Designed primarily with smaller installations in mind, CG48 can also be utilised in larger projects that would benefit from independent sub-systems, such as multi-floor or multi-wing accommodation blocks. An application controller allows up to 32 panels to be networked, with central control and facility to connect a printer.



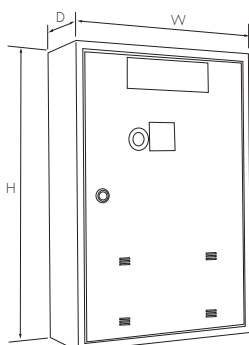
WHERE TO USE CEAGUARD CG48

- Universities, schools and colleges
- Accommodation blocks
- Retail
- Offices
- Industrial facilities
- Nursing homes

SYSTEM OPERATION

- In mains healthy condition, the system charges the batteries and stores power, ready for emergency operation
- The load to luminaires converted for maintained mode emergency use, is supplied by the system from the normal mains connected into the relevant maintained input supply terminals, via a changeover contactor fitted to each of the 4 output converter modules
- In the event of a mains failure, the system provides emergency power to converted luminaires, until mains power is restored (or for the rated duration of the system in the event of extended mains failure)
- Output voltage from the system, via the output module, is 230V AC under normal conditions, when operating in maintained mode and 220V DC nominal in the event of complete mains failure
- The system operates with dedicated CeaGuard compatible slave luminaires. An integral module is addressed using rotary switches
- Each of the output circuits can be programmed to operate in non-maintained, permanently maintained or switched maintained mode (switched maintained via remote switching of maintained supply or by change of output module setting)
- The CeaGuard system carries out weekly functional and annual full duration tests automatically. The results can be viewed on the control module or downloaded to a printer via the application controller
- No additional data cable is required for the testing function, as all signalling and reporting is carried down the power cable
- Up to 4 individual emergency lighting circuits can be operated from a single CG48 system. Each circuit can accept up to 12 x 8W luminaires

DIMENSIONS



Cubicle Ref	H (mm)	W (mm)	D (mm)
CG48 panel	600	400	160
Additional battery cubicle (for 3 hour system)	700	500	190

STANDARD SPECIFICATION

General	
Cubicle	Zinc coated steel panels with powder coat RAL7035 Light Grey finish. Lockable door with transparent panel for visible status display. Segregated control gear/battery compartment. Top cable entries. Wall mounted
Batteries	Valve regulated lead acid, 5 year design life
Charger and controls	
Mains supply	230V ± 10% AC single phase supply, 50 Hz
Battery fuse	Cartridge type
Input terminals	DIN rail mounted near to cable entry, 4 mm ² capacity
Charger	Constant voltage, current limited output Recharge period - 10 hours (24 Ah) or 20 hours (52Ah).
Deep discharge protection	Fitted as standard. Automatic shutdown of the output modules when battery voltage falls below pre-set level, during extended periods of mains supply failure
Monitoring circuits	Terminals and 24V current loop provided for connection of supply circuit/phase monitors. Max permissible cable run of the monitoring loop is 2,000m using 1.5mm ² cable 3 x volt free contacts for remote failure/status indication
Temperature compensation	Fitted as standard. Charger voltage is automatically adjusted with reference to ambient temperature to optimise charging and battery life.
Control module	Programmable, with 2 line alphanumeric LCD display and LED indicators
Alarm warning	Audible alarm fitted internally for charge, luminaire or general supply failure
Converter	
Output voltage	220V DC
Max. supply capacity	4 independent circuits, each with up to 12 x 8W CeaGuard compatible luminaires
Max. surge current	120 A/1ms
Output terminals	DIN rail mounted, 2.5mm ² capacity
Isolation	1kv rms between input and output terminals
Noise level	Effectively silent on both charge and discharge

LUMINAIRE CONVERSION MODULE

CG48 is designed primarily to operate 8W converted luminaires. Higher wattage lamps can also be used, although this would result in fewer luminaires being capable of connection to an individual CG48 panel. Each module has a rotary switch for addressing. A comprehensive standard range of CeaGuard luminaires is listed on page 58.

MAXIMUM CIRCUIT LOADING FOR LAMPS ABOVE 8W

Lamp Wattage & Type	Emergency Ballast Lumen Factor	Maximum per Circuit
9-13W TC-S/TC-DE	1.00	8
18-26W TC-L/TC-DE	1.00	3
32W TC-T	0.50	3
36W TC-L/T8	1.00	2
58W T8	1.00	1

Note: Maximum loading for each type of lamp assumes no other types of lamps are connected

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CONTROL MODULE

The control module is used for set up, programming, testing, monitoring and fault/alarm indication. Programming is menu driven via a 2 line LCD display, using 4 push buttons for selection, with a constant programming memory. The module has three main functions:

- Display of the current panel/luminaire status
- Control and monitoring of all test cycles and functions
- Configuration of the output module mode of operation

The following is displayed:

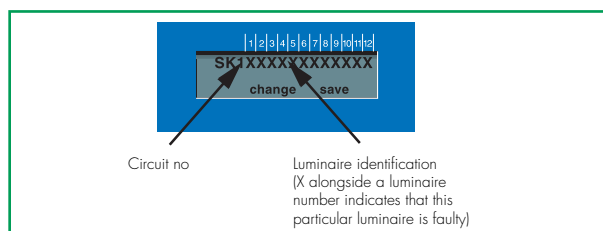
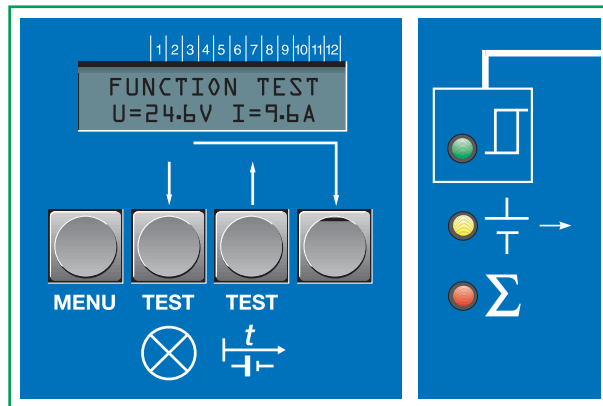
- Battery voltage level
- Battery current during test run or emergency operation
- Charger fault
- Interrupted battery circuit
- Duration test failure
- Deep discharge protection "ON"
- Function test (FT) in progress
- Battery duration test (BT) in progress

Function and battery duration tests can be manually initiated and cancelled any time. The display indicates the circuit and address number of luminaires with a fault condition. This can be cross referenced with luminaire location chart to identify the exact location.

Three LEDs, which are visible with the panel door closed, indicate:

- Mains ON/OFF (green)
- Battery in operation (amber)
- Luminaire or panel test failure (red)

The control module allows free programming of each of the 4 output circuits to independently operate in non-maintained, permanently maintained or switched maintained mode (via a remote switch).



SYSTEM DESIGN & APPLICATION

- Determine the number of emergency luminaires to be used using the spacing charts at the rear of this catalogue
- Use the plans and quantity of luminaires to determine the number of circuits and panels required (Each panel has a maximum of 4 circuits, with 12 x 8W luminaires per circuit. Less luminaires per circuit if higher wattage lamps are used)
- Determine whether each independent circuit should be non-maintained, permanently maintained or switched maintained
- If it is inappropriate to operate a circuit in the permanently maintained mode, circuit monitors should be used to switch them on in the event of a failure of the final circuit to the normal mains luminaires in that area
- Locate the CG48 panel where the visual indication/alarms can be readily seen and heard. Alternatively use an application controller or remote indicator. Select a location where fire risk is minimised (see notes on ventilation)
- Output wiring should be in fire protected cable
- As the luminaires are individually addressed, circuits can be teed or spurred, as is convenient
- Add a remote indicator and/or application controller for remote indication or control, or if printer connection/panel networking is required
- Set up the system using the control module. Program the mode of operation of each circuit. Program date and time of first test

SUPPLY CIRCUIT MONITOR



Provides signal to the CG48 unit in the event of supply circuit or phase failure, interrupting the 24V current loop of the panel which then energises all emergency luminaires. 2.5mm² terminals. Dims: 85mm(H) x W53mm(W) x 65mm(D). DIN rail mounting.

REMOTE INDICATOR/ISOLATOR



Remote indication of status of CG48 panel. LED's indicate mains ON/OFF, battery operation and system/luminaire failure. Indicator is powered by the CG48 panel. Built-in key operated switch allows isolation of the panel. Dims: 180mm(H) x 80mm(W) x 55mm(D). 2.5mm² terminals. Wall mounting.

CEAGUARD APPLICATION CONTROLLER



Micro-processor controlled, for the recording and remote control of up to 32 CeaGuard CG48 panels. All messages and commands are transmitted via the 3-wire serial data bus between the controller and panels. A standby voltage in the CG48 panel ensures operation during a mains fail condition. DB25

interface for connection of a printer (IBM proprietary/HP DeskJet printer driver included) to download logbook for test record-keeping. 2.5mm² terminals. Dims: 75mm(H) x 175mm(W) x 85mm(D). DIN rail mounted.

INSTALLATION NOTES

- A full set of Installation, Operating and Maintenance Instructions is supplied with each system to assist the installer carry out the work efficiently and safely
- Adequate ventilation has been provided in the cubicle to allow a safe dispersal of gases but it is important to remember that when choosing where to locate systems, particularly those with large batteries, attention must be paid to ensuring a build-up of potentially explosive gases is avoided
- Please refer to the System Design section for details of ventilation calculations
- Warning notices should be displayed on entry doors to battery rooms:
BATTERY ROOM. EXTINGUISH ALL NAKED LIGHTS BEFORE ENTERING. NO SMOKING.

CG48 SYSTEM REFERENCES

Description	Cat. No.
Cabinet with control module, charger & batteries - 24Ah, 1 hour duration	CG48/220/24
Cabinet with control module, charger & batteries - 65Ah, 3 hour duration	CG48/220/65
Application controller	CG48
Supply circuit monitor	CG3P
Remote Indicator/Isolator	CGF3

Typical Schematic - CeaGuard 48 system

