



# GFE-DHA V2

## ADDRESSABLE MAGNETIC DOOR HOLDER

MANUAL 240201

MADE IN PORTUGAL - EU

### GLOBAL FIRE EQUIPMENT S.A.

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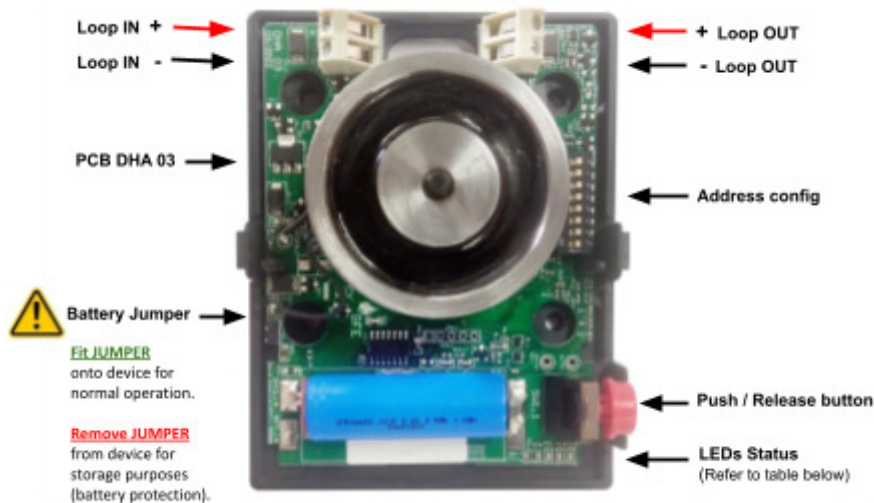
### TECHNICAL SPECIFICATIONS

|                                         |                                                                                                                                                                       |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUPPLY VOLTAGE / ADDRESS RANGE          | Loop Powered - 24v DC +/-15% / 1-125                                                                                                                                  |
| LOOP CURRENT - QUIESCENT / CHARGING     | 800 uA (650 uA module + 150 uA isolator) / 7 mA                                                                                                                       |
| ISOLATOR - LOOP LINE RESISTANCE         | 60m Ohms                                                                                                                                                              |
| SLEEP MODE CONSUMPTION                  | 28 ~ 60 uA                                                                                                                                                            |
| CHARGE UP TIME / FAIL SAFE RELEASE TIME | 25s / 30s - (Fail Safe Release Time is defined as the time taken to release door after removal of loop power or loss of communication with control panel is detected) |
| MANUAL RELEASE / MAX. CABLE SIZE        | Push Button - Normally Open / 2.5 mm <sup>2</sup>                                                                                                                     |
| MAX. HUMIDITY / OPERATING TEMPERATURE   | 95% RH Non-Condensing / 0°C to 50°C                                                                                                                                   |
| MAGNETIC FORCE                          | 200 N                                                                                                                                                                 |
| DIMENSIONS                              | Magnet: 112.5 (H) x 84.2 (W) x 46.8 (D) mm; Keeper: 55 (H) x 55 (W) x 50 (D) mm                                                                                       |
| WEIGHT                                  | 746g (complete boxed); 139g (Keeper); 580g (Magnet w/ module)                                                                                                         |

### ORDER CODE

|            |                                  |
|------------|----------------------------------|
| GFE-DHA V2 | ADDRESSABLE MAGNETIC DOOR HOLDER |
|------------|----------------------------------|

### CONNECTION DETAILS



#### Battery Jumper fitting:

This new model should not be connected to the loop wires without fitting on the battery jumper. The module does not work properly if that is forgotten.

If the DHA is connected to the loop wires without the jumper, a fault (2) will be reported to the panel, to avoid unnecessary faults and ensure that the module is connected correctly. Fault (2) means jumper not set or battery failure. (when this happens a reset in the panel must be done).

### Addressable DHA device

Before connecting the jumper, enter the desired address from 1 to 125 in the dip switch, attention, do not enter repeated addresses, as the panel will report a fault. In this mode the DHA will have to be connected to an addressable panel, otherwise it won't work. If by order of the panel or in case of communication failure, the DHA will release the door in a maximum time of 3 seconds.

At the insistence to re-open the door and dock at the DHA it will continually release it within 3 seconds.

After the release order the DHA will monitor the door, but if there is no activity to dock it back to the DHA, it will go into sleep mode after 30 minutes to protect the battery charge. The DHA will wake up automatically after the communication returns to the system.

The addressable device can be configured to conventional mode, for that, initialise the device with address 0 (All dips in 0 position).

With this configuration see Conventional Mode instructions below. See **PROGRAMMING MODES** for more features.

**NOTE:** To write the address in binary on the dip switch, refer to the attached table for ease.

| REPORTING DETAILS (Addressable Mode)                                                                                                                                |                                                                                                 |                                                                                                 |                                                                                                 |                  |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED SYSTEM REPORTING STATUS                                                                                                                                         |                                                                                                 |                                                                                                 |                                                                                                 | Analog.<br>Value | CAUSE / BEHAVIOUR                                                                                                                                                                                                                                                                                                                                                                                                         |
| Continuous                                                                                                                                                          | Blinking                                                                                        |                                                                                                 |                                                                                                 |                  |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ---                                                                                                                                                                 | <br>(1 second) | ---                                                                                             | ---                                                                                             | 16               | Loop present. Battery charge OK.<br>Charging system OFF.<br>The door is open (attached in the magnet).                                                                                                                                                                                                                                                                                                                    |
| ---                                                                                                                                                                 | ---                                                                                             | <br>(½ second) | ---                                                                                             | 16               | Loop present. Battery charging.<br>The door is open (attached in the magnet).                                                                                                                                                                                                                                                                                                                                             |
|                                                                                    | <br>(1 second) | ---                                                                                             | ---                                                                                             | 17               | Check analog value, Loop present. Battery charge OK.<br>Charging system OFF. The door is closed (not attached to the magnet).                                                                                                                                                                                                                                                                                             |
|                                                                                    | ---                                                                                             | <br>(½ second) | ---                                                                                             | 17               | Check analog value Loop present.<br>Battery charging.<br>The door is closed (not attached to the magnet).                                                                                                                                                                                                                                                                                                                 |
|                                                                                    | <br>(1 second) | <br>(½ second) |                                                                                                 | 4 or 6           | Check analog value, System fault (LED Green Blinks 1 or ½ second), in this case a maintenance technician must be send to the local to check the door status or the DHA operability. If any of the two door monitor functions are enable, the value (6) indicates that the door was forced to close or in case of alarm (fire or evacuation (release order)) the value (6) indicates that the door was forced open 4 times |
|                                                                                    | ---                                                                                             | ---                                                                                             | <br>(¼ second) | 2                | BAT EMERGENCY<br>Battery very low, the DHA doesn't execute any functions until the battery gets values to work properly. When the battery gets values to work properly, the system comes back to normal operation.                                                                                                                                                                                                        |
|   | ---                                                                                             | ---                                                                                             | ---                                                                                             | 2                | Jumper removed, battery missing or release button jammed<br>(in this case a maintenance technician must be send to the local to check the DHA).                                                                                                                                                                                                                                                                           |
|                                                                                    | ---                                                                                             | ---                                                                                             | ---                                                                                             | ---              | Protocol loop fails, in this condition, after 30 seconds a release occurs, and the system will monitor the door, and make a release every 3 seconds.<br>After 30 minutes without loop protocol, the system enters in Sleep mode for battery safety.                                                                                                                                                                       |
| ---                                                                                                                                                                 | <br>(1 second) | ---                                                                                             | ---                                                                                             | ---              | Protocol fail, door monitoring OK, low battery.                                                                                                                                                                                                                                                                                                                                                                           |
| ---                                                                                                                                                                 | ---                                                                                             | ---                                                                                             | ---                                                                                             | ---              | Module OFF. No Jumper, Sleep mode or damaged.                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                  | ---                                                                                             | ---                                                                                             | ---                                                                                             | ---              | Short-circuit in the loop, protection isolator activated.                                                                                                                                                                                                                                                                                                                                                                 |

(---) No LED presence.

## Conventional Mode

To activate the conventional mode, with the jumper removed, enter the address 0 in the dip switch.

Insert the battery jumper. Now the DHA is in conventional mode. Connect the DHA to 24V on the (LOOP in) plug. After this step, the DHA will report the status of the door and battery charge through the LEDs indicated in the table below.

If by order of a conventional panel or other device the 24V fails, the DHA will release the door in a maximum time of 3 seconds.

At the insistence to re-open the door and dock at the DHA it will continually release it within three seconds.

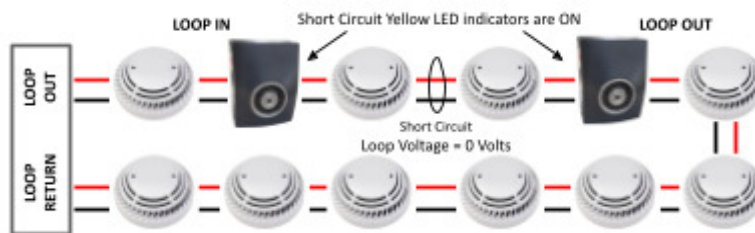
After the 24V failure the DHA will monitor the door, but if there is no activity to dock it back to the DHA, it will go into sleep mode after 30 minutes to protect the battery charge. The DHA will wake up automatically after the 24V returns to the system.

The DHA, after the port is docked, monitors its status every 100 seconds, if for any reason the door is released without an order from the release button, the DHA will, in the case of the conventional system, return information that the door is released in the LEDs status.

| REPORTING DETAILS (Conventional Mode)                                               |                                                                                                                                                                                                                                                |                                                                                             |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| LED SYSTEM REPORTING STATUS                                                         |                                                                                                                                                                                                                                                | CAUSE / BEHAVIOUR                                                                           |
| Continuous                                                                          | Blinking                                                                                                                                                                                                                                       |                                                                                             |
|  | ---                                                                                                                                                                                                                                            | Battery charge OK. Charging system OFF.<br>The door is open (attached in the magnet).       |
| ---                                                                                 |                                                                                                                                                             | Battery charging.<br>The door is open (attached in the magnet).                             |
|  | <br>Blinks every 2,5 seconds                                                                                                                                | Battery charge OK. Charging system OFF.<br>The door is closed (not attached to the magnet). |
|                                                                                     |  <br>The Red LED blinks every 2,5 seconds<br>the Green every ¼ of second | Battery charging.<br>The door is closed (not attached to the magnet).                       |
| ---                                                                                 | <br>The Green LEDs blinks<br>2 times fast and stay on every 1/2 sec                                                                                         | Jumper removed or battery missing.                                                          |
| ---                                                                                 | ---                                                                                                                                                                                                                                            | Module OFF or in sleep mode.                                                                |

## LOOP CONNECTIONS

**Maximum number of devices between 2 Isolators: 32 (EN54-2) - 20 (BS5839)**



## PROGRAMMING MODES

### (IN ALARM) DOOR ATTACHMENT MONITOR (For addressable version only / This function is disabled by default)

This function, in the event of an alarm (fire or evacuation) will monitor the status of the door, in case something or someone insists on keeping the door open (attached to the magnet). After the release order, if there is an insistence to open the door four times (4x), the DHA reports (analog value 6) to the panel.

### Forced release monitor (For addressable version only / This function is disabled by default)

This function sends a fault to the panel and (analog value 6) if anyone forces the door to close (Forced Release) without pressing the release button or order from the panel, to avoid damages in the DHA mechanical parts .

### BATTERY CHARGE TEST

This function allows us to check the battery charge status. The table below shows the available functions and correspondent values, as well as the DIL Switch configuration needed to obtain the desired output configuration:

| FUNCTION                                                    | VALUE |     |     |     |     |     |     |            |
|-------------------------------------------------------------|-------|-----|-----|-----|-----|-----|-----|------------|
| DIL SWITCH                                                  | SW1   | SW2 | SW3 | SW4 | SW5 | SW6 | SW7 | SW8        |
| (IN ALARM) DOOR ATTACHMENT MONITOR                          | ON    | OFF | OFF | ON  | OFF | OFF | OFF | See Mode 1 |
| FORCED RELEASE MONITOR                                      | ON    | OFF | OFF | OFF | ON  | OFF | OFF | See Mode 2 |
| (IN ALARM) DOOR ATTACHMENT MONITOR & FORCED RELEASE MONITOR | ON    | OFF | OFF | ON  | ON  | OFF | OFF | See Mode 3 |
| BATTERY CHARGE TEST                                         | ON    | ON  | OFF | OFF | OFF | OFF | ON  | ON         |

### Step by step door monitor configuration example:

#### Mode 1: (In alarm) door attachment monitor (ON)

**STEP 1:** Remove loop power from the unit

**STEP 2:** Set DIL Switched 1 to 7 to the OFF position and DIL Switch 8 to the ON position

**STEP 3:** Insert the JUMPER. The two LEDs flashing alternatively will indicate that the module is in programming mode

**STEP 4:** Set the DIL Switches 1 and 4 to (In alarm) door attachment monitor ON (SW1: ON, SW2: OFF, SW3: OFF, SW4: ON) (SW5,6,7: OFF)

**STEP 5:** Set the Switch 8 to the OFF position. The Green LED will stay fixed (memorised)

#### Mode 2: Forced release monitor (ON)

**STEP 1:** Remove loop power from the unit

**STEP 2:** Set DIL Switched 1 to 7 to the OFF position and DIL Switch 8 to the ON position

**STEP 3:** Insert the JUMPER. The two LEDs flashing alternatively will indicate that the module is in programming mode

**STEP 4:** Set the DIL Switches 1 and 5 to Forced Release ON (SW1: ON, SW2: OFF, SW3: OFF, SW4: OFF, SW5: ON) (SW6,7: OFF)

**STEP 5:** Set the Switch 8 to the OFF position. The Green LED will stay fixed (memorised)

#### Mode 3: (In alarm) door attachment monitor & Forced release monitor (ON)

**STEP 1:** Remove loop power from the unit

**STEP 2:** Set DIL Switched 1 to 7 to the OFF position and DIL Switch 8 to the ON position

**STEP 3:** Insert the JUMPER. The two LEDs flashing alternatively will indicate that the module is in programming mode

**STEP 4:** Set DIL Switches 1, 4 and 5 to Alarm door attachment monitor & Forced release monitor (ON) (SW1: ON, SW2: OFF, SW3: OFF, SW4: ON, SW5: ON) (SW6,7: OFF)

**STEP 5:** Set the Switch 8 to the OFF position. The Green LED will stay fixed (memorised)

### Disabling Door Monitoring Functions (Factory Default)

**STEP 1:** Remove loop power from the unit

**STEP 2:** Set DIL Switched 1 to 7 to the OFF position and DIL Switch 8 to the ON position

**STEP 3:** Insert the JUMPER. The two LEDs flashing alternatively will indicate that the module is in programming mode

**STEP 4:** Set the DIL Switches 1 to Disable Door Monitoring (SW1: ON, SW2: OFF, SW3: OFF, SW4: OFF, SW5: OFF)

**STEP 5:** Set the Switch 8 to the OFF position. The Green LED will stay fixed (memorised)

### BATTERY CHARGE TEST

**STEP 1:** Remove loop power from the unit

**STEP 2 :** Set SW1:ON, SW2:ON, SW7:ON and SW8:ON (SW3,4,5,6: OFF)

**STEP 3 :** Press the release button and at the same time insert the jumper. The LED Green and Red must turn ON (indicates that is in Bat Test Mode)

**STEP 4 :** Release the release button and wait for the LED or LEDs flashing according to the following table.

This allows to monitor the battery condition via DHA LED pattern.

| LED OUTPUT                                | CONDITIONS                                                   |
|-------------------------------------------|--------------------------------------------------------------|
| Only GREEN LED Flashes                    | Battery with more than 70% of the charge or with full charge |
| GREEN LED and RED LED flashes             | Battery with average values for operation                    |
| RED LED flashes                           | Low Battery                                                  |
| After 20 sec if the jumper is not removed | DHA goes into SLEEP mode                                     |

\*\*\*In conventional mode or addressable mode, after connecting the jumper, if there is no 24V presence or no communications activity after 30 minutes, the DHA will go into sleep mode for battery safety. It will wake up after the returning of the 24V or in the case of the addressable, after returning the communication with the panel.

## D.I.L. SWITCHES CONFIGURATION



### Switches 1-7

Used to configure the module's address.

### Switch 8

Programming mode.

### Address Switches binary weights

|         |          |          |
|---------|----------|----------|
| 1 ON =1 | 4 ON =8  | 7 ON =64 |
| 2 ON =2 | 5 ON =16 |          |
| 3 ON =4 | 6 ON =32 |          |

## ADDRESS SETTINGS

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |
| 01  | 02  | 03  | 04  | 05  | 06  | 07  | 08  |
|     |     |     |     |     |     |     |     |
| 09  | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
|     |     |     |     |     |     |     |     |
| 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
|     |     |     |     |     |     |     |     |
| 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32  |
|     |     |     |     |     |     |     |     |
| 33  | 34  | 35  | 36  | 37  | 38  | 39  | 40  |
|     |     |     |     |     |     |     |     |
| 41  | 42  | 43  | 44  | 45  | 46  | 47  | 48  |
|     |     |     |     |     |     |     |     |
| 49  | 50  | 51  | 52  | 53  | 54  | 55  | 56  |
|     |     |     |     |     |     |     |     |
| 57  | 58  | 59  | 60  | 61  | 62  | 63  | 64  |
|     |     |     |     |     |     |     |     |
| 65  | 66  | 67  | 68  | 69  | 70  | 71  | 72  |
|     |     |     |     |     |     |     |     |
| 73  | 74  | 75  | 76  | 77  | 78  | 79  | 80  |
|     |     |     |     |     |     |     |     |
| 81  | 82  | 83  | 84  | 85  | 86  | 87  | 88  |
|     |     |     |     |     |     |     |     |
| 89  | 90  | 91  | 92  | 93  | 94  | 95  | 96  |
|     |     |     |     |     |     |     |     |
| 97  | 98  | 99  | 100 | 101 | 102 | 103 | 104 |
|     |     |     |     |     |     |     |     |
| 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 |
|     |     |     |     |     |     |     |     |
| 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
|     |     |     |     |     |     |     |     |
| 121 | 122 | 123 | 124 | 125 |     |     |     |