



FIREscape[®]

Emergency Lighting System INSTALLATION MANUAL

FIREscape System Installation Manual

Title: FIREscape System Installation Manual

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1 Introduction

FIREscape is an addressable intelligent emergency lighting single point system that utilizes LED technology and low voltage SHEILDED cabling. The system is fully monitored and is controlled using up to 8 keypads (EL-KP) per system and / or PC interface

The system monitors every mains lighting circuit by use of a phase monitor. This device triggers the initial signal of 240v power loss to a mains lighting circuit via its communications line interfaced to the EL2 emergency lighting control panel.

The EL2 control panel is powered by a Mains Transformer (EL 35V) that takes the 240v input from the mains supply and converts it to 35V 220VA

Each EL2 panel runs 2 x 40v digital communications lines with each line having a capacity of up to 127 devices or 254 per panel which can consist of a mixture of Emergency exit lights, exit signs and I/O modules. (max and min line population is ascertained by use of a line calculator)

All luminaires are intelligent and given an address on the system to be easily identified. This address consists of a line number and a device number.

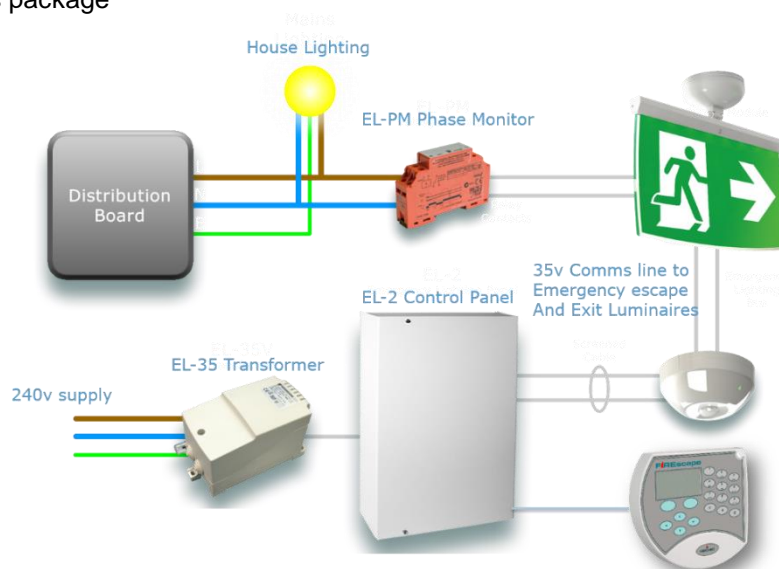
The Hochiki FIREscape range includes 16 meter to 24-meter range of emergency exit signs with the ability to be either wall or ceiling mounted, single sided or double sided.

The emergency escape luminaires also come in various transverse C0 and longitudinal C90 planes to best suit building specific applications including a high powered option. All emergency escape luminaires and exits signs are intelligent and equipped with an integral battery which once fully charged will allow the luminaire/sign to operate for a minimum of 3 hours under a mains power failure.

All luminaires and signs fit onto a Hochiki EL-TSB magnetic test switch base for easy installation and local operation.

The Hochiki FIREscape emergency lighting and exit system has an automatic testing facility performed weekly in accordance with AS2293 and a manual test facility that continuously monitors battery and luminaire performance that can be controlled through the systems keypad

The Hochiki FIREscape emergency lighting system has the ability to interface to third party products and available with a graphics package



2 Overview

This guide covers the installation of the FIREscape system featuring the EL-2 Emergency Lighting Control Panel

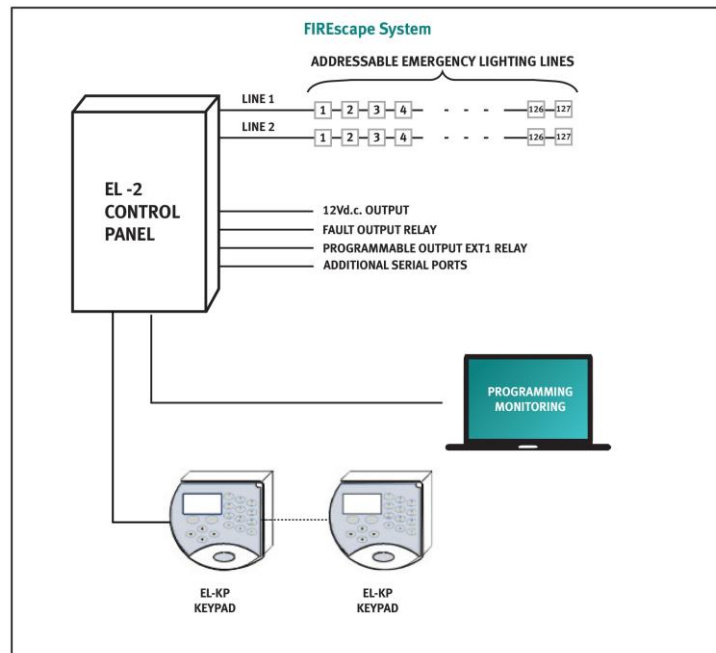


Figure 1 - FIREscape System

3 Standards

The system implements device tests, fault monitoring and reporting conformant to Australian standards AS2293.

3.1 Cables and Cable Screen

The cable type must be shielded cable. All calculations in this guide use a 1.5mm² conductor diameter and.

The insulation resistance between the conductors and building earth must be >1 MΩ. If the insulation resistance is smaller, uncontrolled ground currents will transfer to the system and cause interference. Problems are caused, for example, when the shield cable is terminated to metal installation boxes, which are bonded to the building earth.

All shield cables must be connected to the control panel housing. Similarly, the shield cable at the keypad end must be connected to connector pin S (shield). The shield cable must have continuity via the connection point of each mounting base on the lighting lines.

The cable between the transformer and the control panel must be of the MSK 2 x 1mm type. The cable must be less than 1m long. The cable is delivered with the control panel.

3.2 Installation Environment

The operating environment of the system and its connected components must be considered at the design stage prior to installation

4 Panel Housing

4.1 Installation

The weight of the control panel is approximately 8 kg, including 1 x 7 Ah battery. The weight of the control panel must be considered when for wall mounting. The cable between the control panel and the transformer must not exceed 1 m. The cable is provided with the control panel.

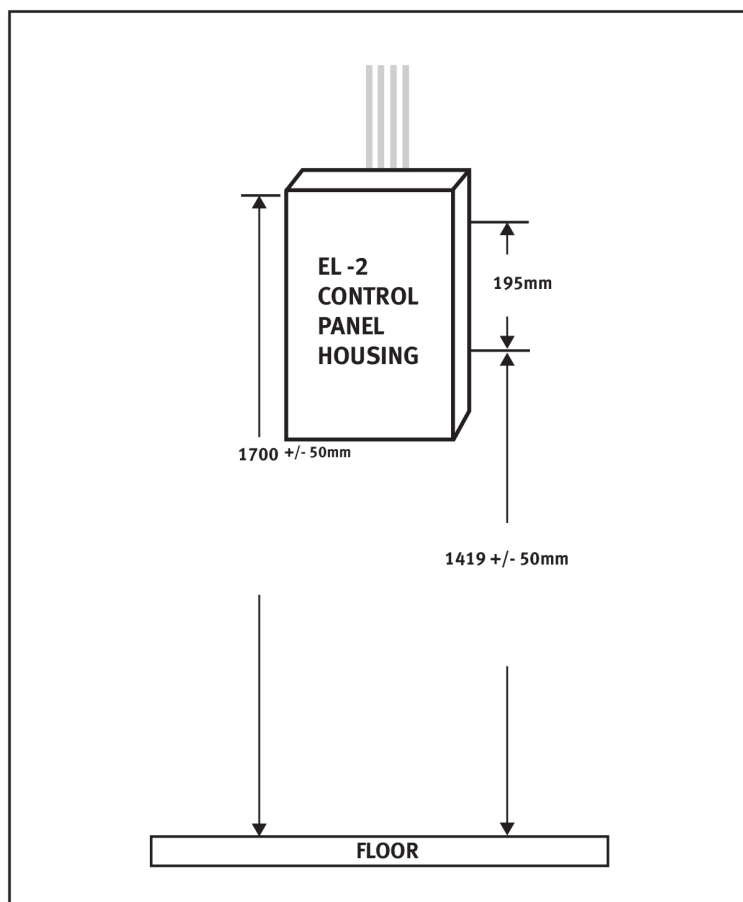


Figure 2 - An example installation

- ▶ Drill 4 x 6mm holes for the mounting plugs. The hole depth must be 20–25 mm. Refer to
- ▶ Figure 3 on page 8 for the location of the holes. Once drilled, insert appropriate fixing plugs.

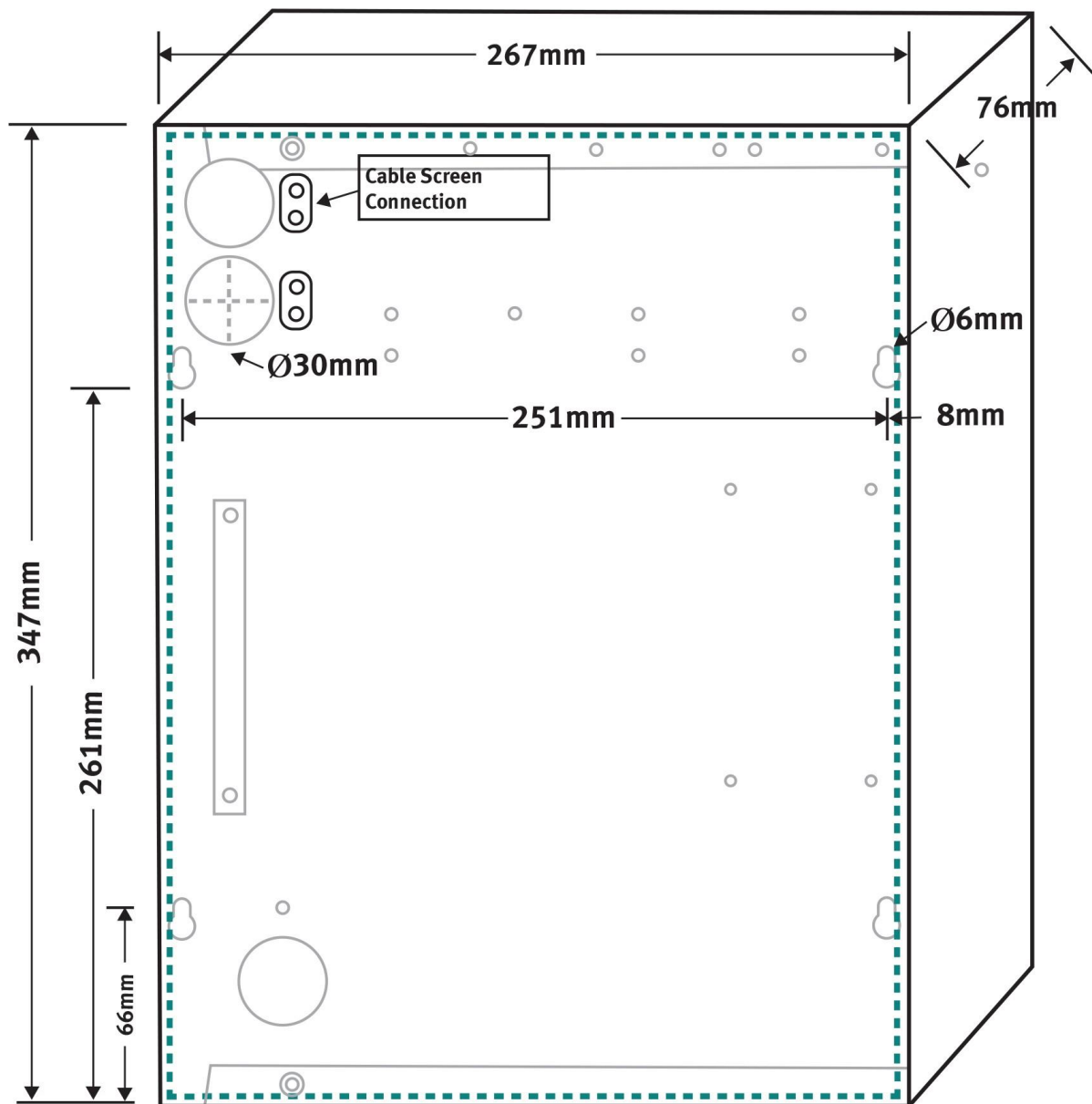


Figure 3 - Fixing Hole Template

- ▶ Insert 4 x 2mm screws into the plugs.
- ▶ Lift the control panel housing to the wall and guide the screws into the screw grooves in the housing.
- ▶ Tighten the screws.
- ▶ Route the cables between the wall and the panel housing and then through the cable aperture in to the panel housing. ▶ Shorten the cables to a suitable length.
- ▶ Strip the cables ready for connection.
- ▶ The insulation resistance must be measured before connecting the cable connectors.

NOTE: The aperture at the bottom of the housing is for the transformer cable. The apertures at the top of the housing are for other cables.

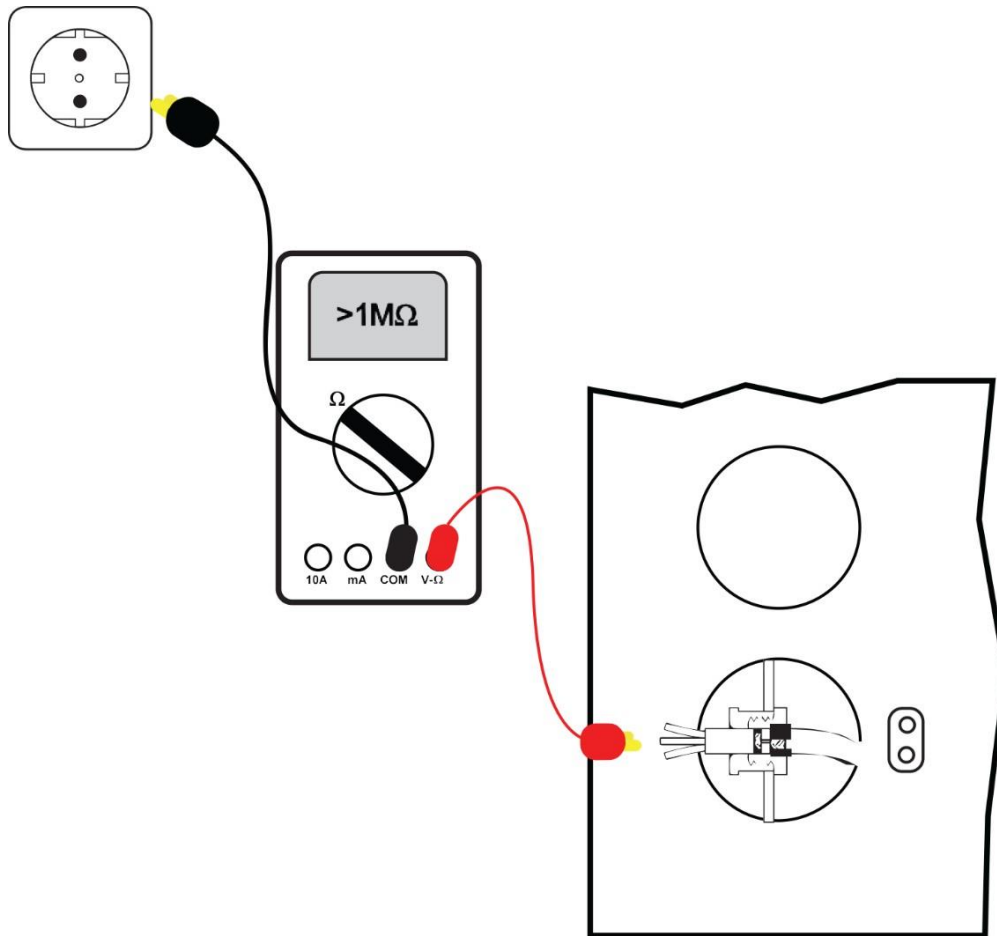


Figure 4 - Measuring Insulation Resistance

The insulation resistance is measured for each conductor, including the shield, against the building earth. The insulation resistance must be $>1\text{ M}\Omega$.

After this, the cable shield can be connected to the shield connection, see Figure 4 on page 9.

5 EL-KP Keypad

5.1 Overview

EL-KP keypad(s) are used to control and interact with the emergency lighting system. A maximum of 8 keypads can be connected to the system. The keypads are rear entry only by connection and connect directly to the CPN serial communication port of the motherboard.

A 4 core cable plus SHEILD is required for the connection of a keypad to the control panel. The keypad can be powered directly from a local power supply or the control panel's auxiliary supply. The local power supply must be double-insulated without need for grounding and must have battery backup. When using any other type of power supply, the RS485 traffic between the control panel and the keypad must be isolated with the EL-ISOL.

NOTE: When using separate power supplies without the EL-ISOL card, the negative leads of the power supplies must be connected with the negative leads of the control panel.

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The keypads are connected in parallel to the serial communication bus. The cabling can be a star (through a central node) or ring (through each device). The units do not have to be addressed sequentially.

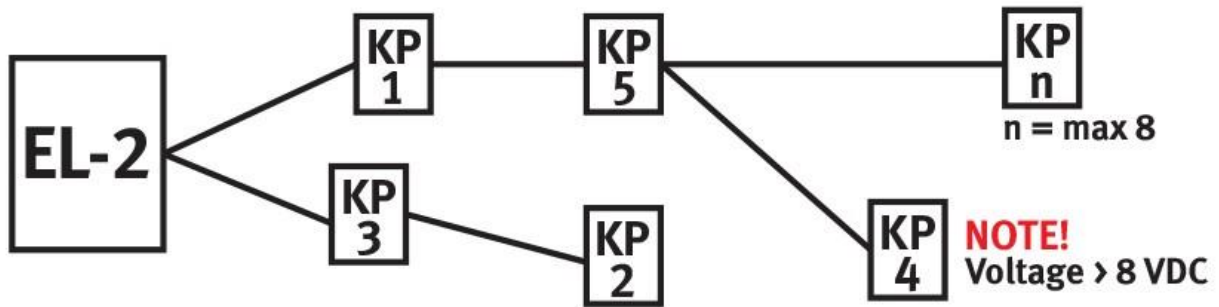


Figure 11 - EL-KP Keypad Connectivity

NOTE: The maximum length of the data bus is 500m.

When calculating the voltage drop, the maximum power consumption of the keypad must be used.

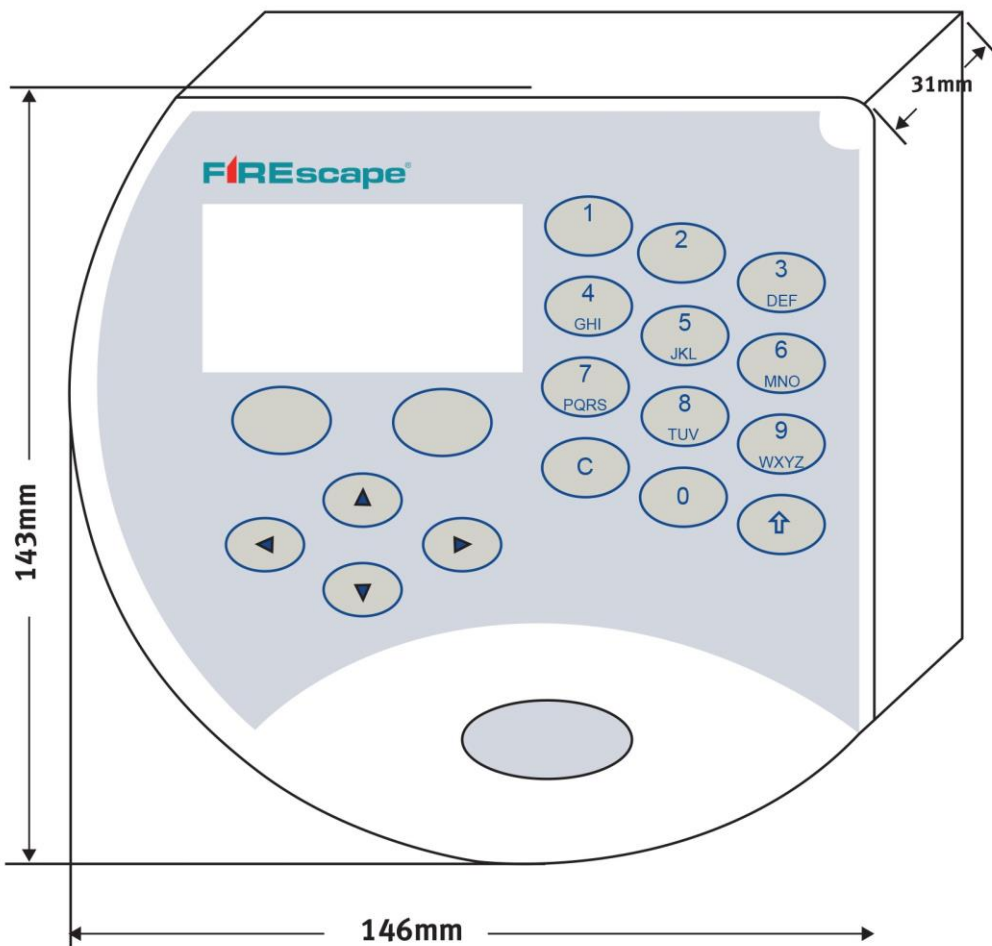


Figure 12 - EL-KP Dimensions

6 Installation

The keypad should be installed at an average shoulder level height of around 1500 (+200)mm. FIREscape System Installation Manual

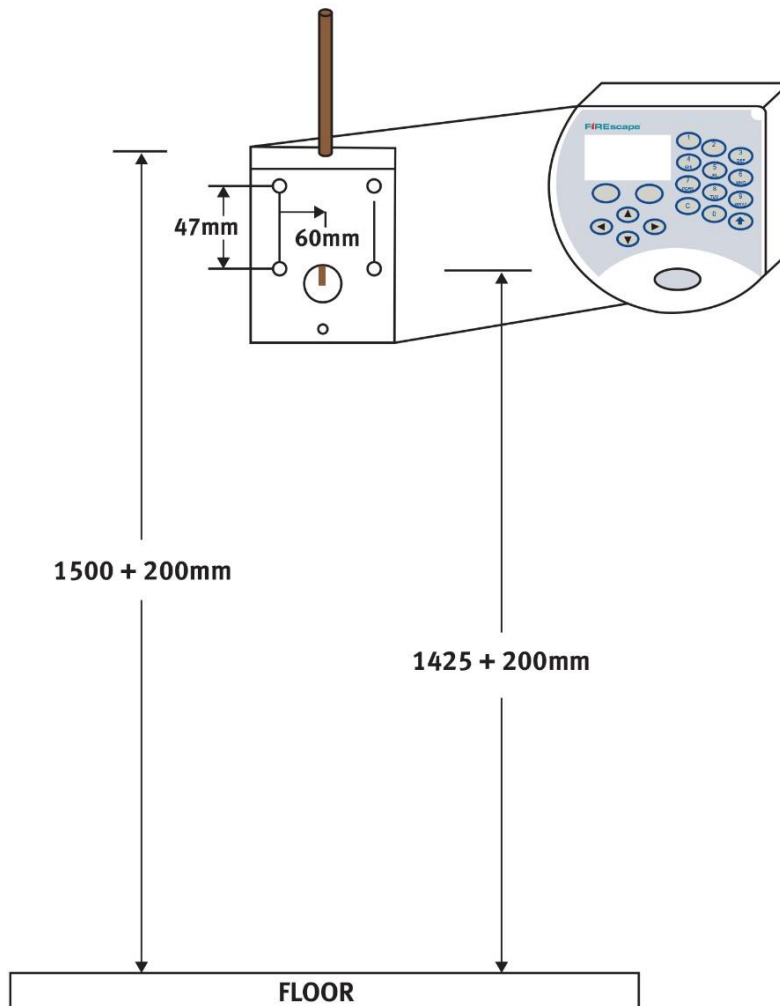


Figure 13 - EL-KP Typical Installation

- ▶ Drill 4 holes for the mounting plugs. The hole depth must be 20–25 mm. For the location of the holes, see Figure 14.
- ▶ Attach the plugs.
- ▶ Take the cable through the bottom plate. There is a pre-scored section at the top of the casing for surface installation. This should be snapped off and filed if it is required.
- ▶ Attach the base plate with 4 x 3.9 mm screws.
- ▶ Shorten the cables so that they are suitable for installation. Strip the cables for connection.
- ▶ Connect the 5-pin connector according to instructions.
- ▶ Terminate the cable at the control panel according to control panel instructions.

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- ▶ Set the address, configure any other settings required, and connect the 5-pin connector to the keypad.
- ▶ Attach the keypad to the base plate with 3 mm machinescrews.
- ▶ The front cover fixing screw is concealed with the supplied self-adhesive cover sticker.

6.1 Connection

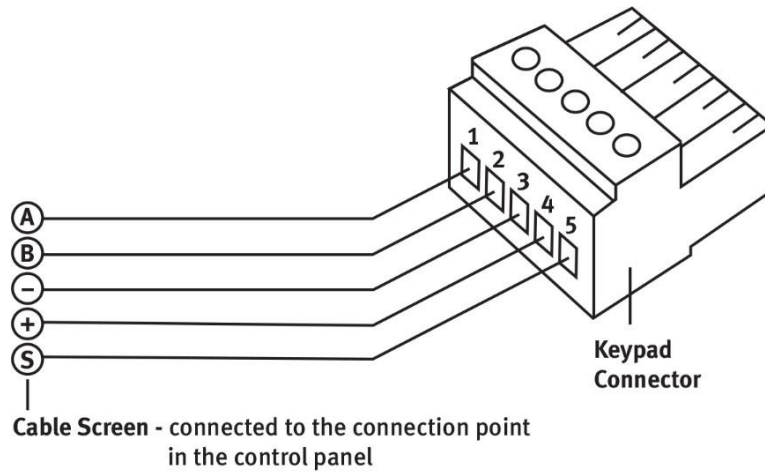


Figure 14 – Keypad Connector

| Description | EL-2 | EL-KP |
|-----------------|---|-------|
| Data RS485 A | X1, 8 | 1 |
| Data RS485 B | X1, 7 | 2 |
| Voltage - | X1, 6 | 3 |
| Voltage + 12VDC | X1, 5 | 4 |
| Cable shield | Connection point for the control panel housing's cable shield | 5 |

7 Settings

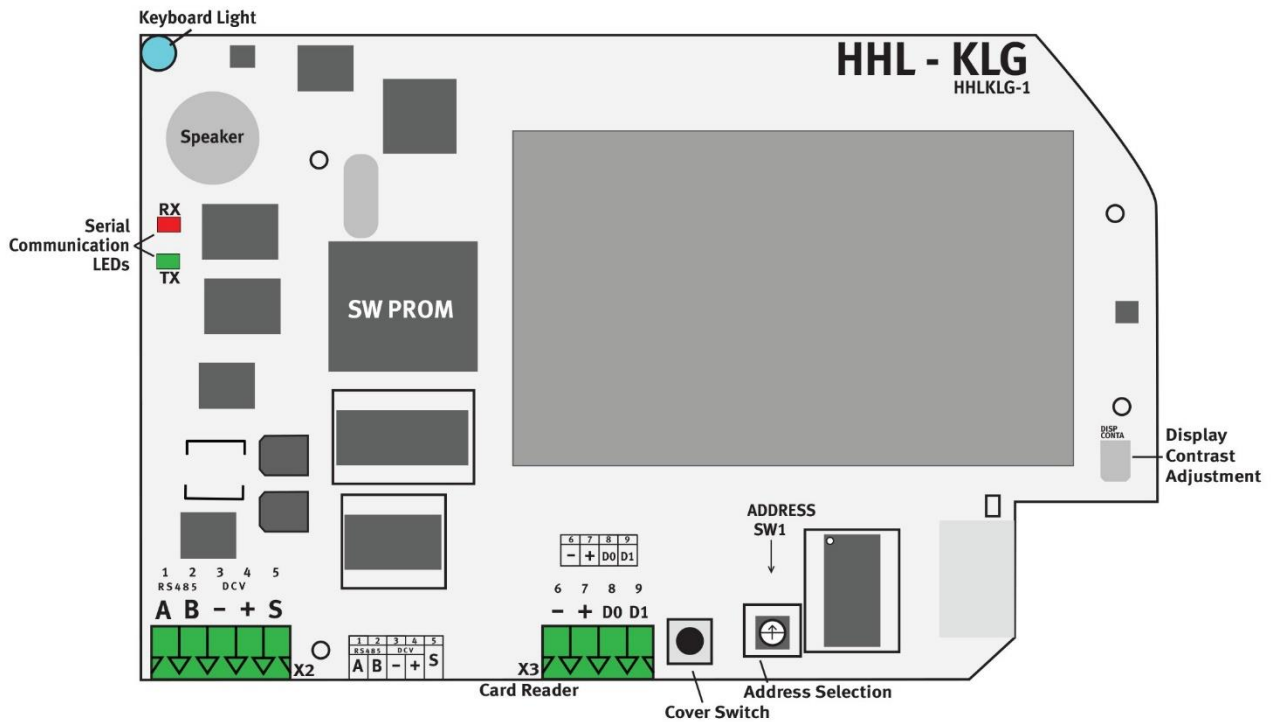


Figure 15 - EL-KP Settings

The address of the keypad is set with the rotary switch SW1.

- ▶ Connect the 5-pin plug into connector X2.
- ▶ Adjust the display contrast, if necessary, after applying power.
- ▶ Attach the keypad to the base plate with 3mm machine screws.

| Address | SW1 (backlight off) | SW1 (backlight on) |
|---------|---------------------|--------------------|
| 1 | 0 | 8 |
| 2 | 1 | 9 |
| 3 | 2 | A |
| 4 | 3 | B |
| 5 | 4 | C |
| 6 | 5 | D |
| 7 | 6 | C |
| 8 | 7 | F |

7.1 Start

When the keypad starts (voltage connected or restart), the display will show this text:

* KLG remote panel * c. 2005 Oy Hedpro
Ab.

If the data connection to the control panel is working, the keypad's address is shown, for example Addr 1, along with the software version and the text "Polling OK" on the bottom row. The text will change to

Connecting...

If there is a problem with the data connection, the display will read

"No polling..."

after which the keypad will restart. This will be repeated until the connection works.

For information on troubleshooting data connection problems, see the section "Troubleshooting" on page 49.

8 EL-2 Connections

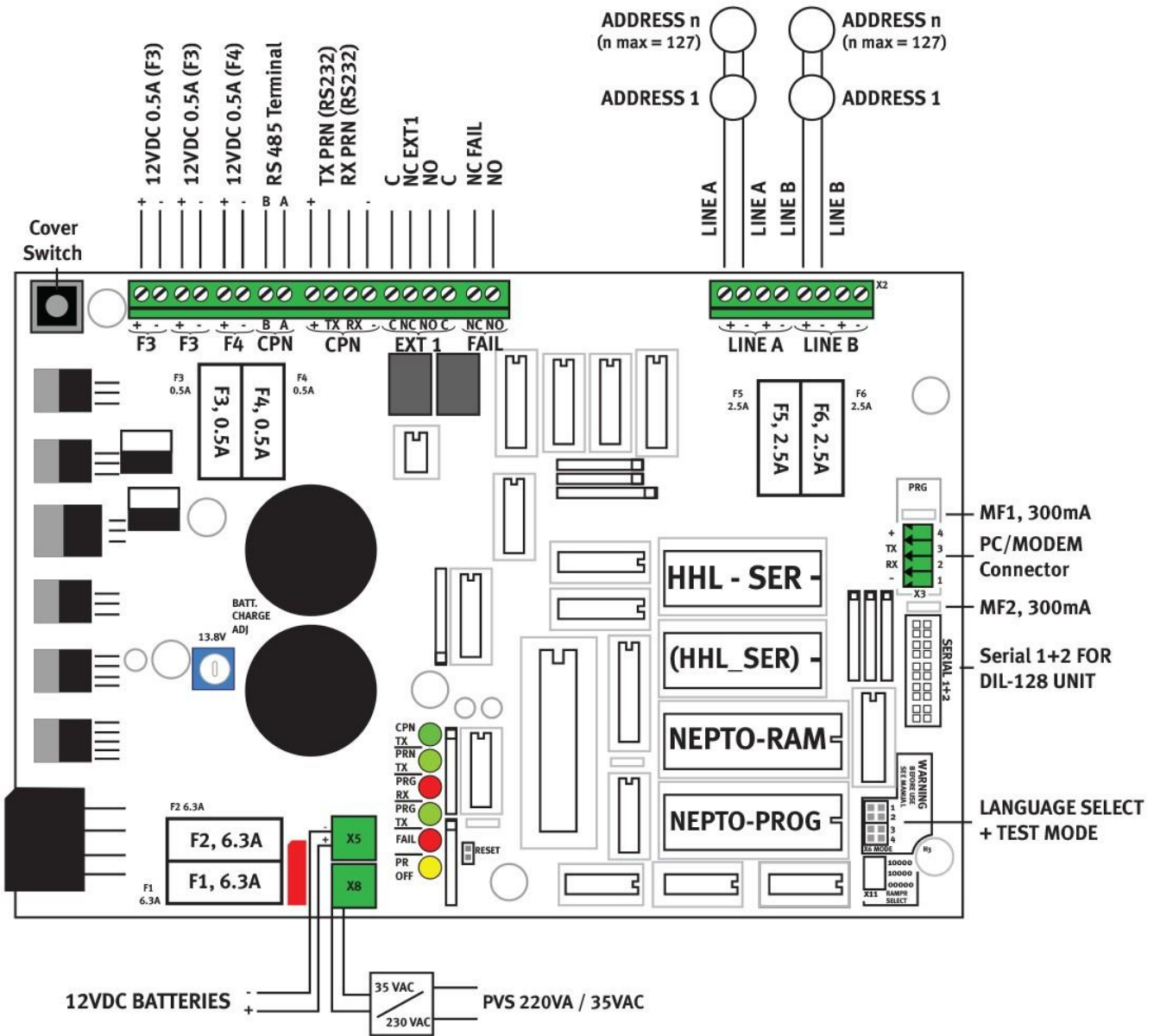


Figure 16 - EL-2 Motherboard Connections

8.1 Control Panel Fuses:

| Description | Fuse | Value [A] | Points | Connector |
|------------------------------|------|-----------|-------------------|-----------|
| 35 VAC | F1 | 6.3 | 1, 2 | X8 |
| Batteries 12VDC | F2 | 6.3 | 1 (+), 2(-) | X5 |
| Voltage for external devices | F3 | 0.5 | 1, 3 (+), 2, 4(-) | X1 |
| Voltage for external devices | F4 | 0.5 | 5, 9 (+), 6 (-) | X1 |
| Voltage for bus A | F5 | 2.5A | 1, 3 (+), 2, 4(-) | X2 |
| Voltage for bus B | F6 | 2.5A | 5, 7 (+), 6, 8(-) | X2 |

| | | | | |
|--|-----|----------------------|---|----|
| Voltage for device connected to PRG card | MF2 | 0.3 (automatic fuse) | 4 | X3 |
| Voltage for EL-EXP card | MF3 | 0.3 (automatic fuse) | - | X4 |

NOTE: The total maximum load for outputs F3+F4 is 0.6 A.

8.2 Relay Outputs

The control panel has 2 relay outputs. These can be configured as normally open (N/O) or normally closed (N/C). The outputs are rated at:

| Output | Action | Rating [Amps] | Points | Connector |
|--------|-----------|---------------|--------|-----------|
| EXT1 | Relay, C | 1 | 14 | X1 |
| EXT1 | Relay, NC | 1 | 15 | X1 |
| EXT1 | Relay, NO | 1 | 16 | X1 |
| FAIL | Relay, C | 1 | 17 | X1 |
| FAIL | Relay, NC | 1 | 18 | X1 |
| FAIL | Relay, NO | 1 | 19 | X1 |

8.3 LEDs

The LEDs on the motherboard indicate functions and serial communication. RX indicates serial communication reception (red)

TX indicates serial communication transmission (green)

- ▶ CPN (green), TX = Data sent from CPN port (NL-KLG)
- ▶ PRN (red), TX = Data sent from PRN port
- ▶ PRG (red), RX = Data received to the PRG port from a device
- ▶ PRG (green), TX = Data sent from the PRG port from a device
- ▶ FAIL (red) = Software fault, program execution termination
- ▶ PR OFF (yellow) = Write-protected configuration memory unlocked for editing.

8.4 Settings

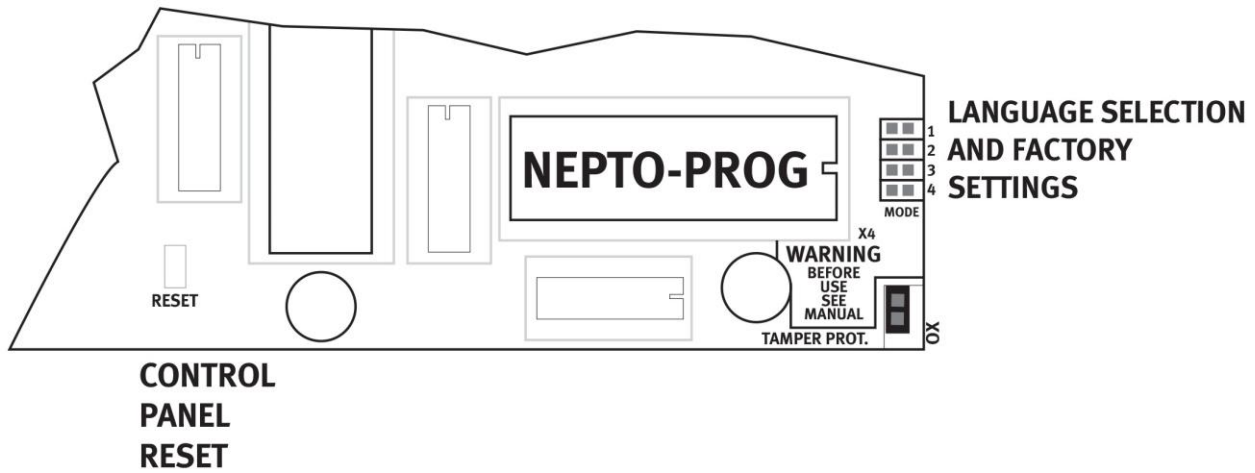


Figure 17 - EL-2 Motherboard Settings

8.5 Language Selection

The language of the control panel is set with the jumpers 1–3. The following settings are possible:

| Language | 1 | 2 | 3 |
|-----------|-----|-----|-----|
| English | ON | ON | OFF |
| Finnish | ON | OFF | OFF |
| Swedish | OFF | ON | OFF |
| Norwegian | OFF | OFF | ON |
| | | | |
| Test mode | ON | ON | ON |

4.8 Factory Reset

The control panel can be initialised with factory settings:

- ▶ Short the RESET pins.
- ▶ Short the language selection pins 1, 2, 3.
- ▶ Press and hold down the cover switch.
- ▶ Open the RESET pins.
- ▶ Release the cover switch.

9 RS-232 Connectors

9.1 PC Interface, PRG

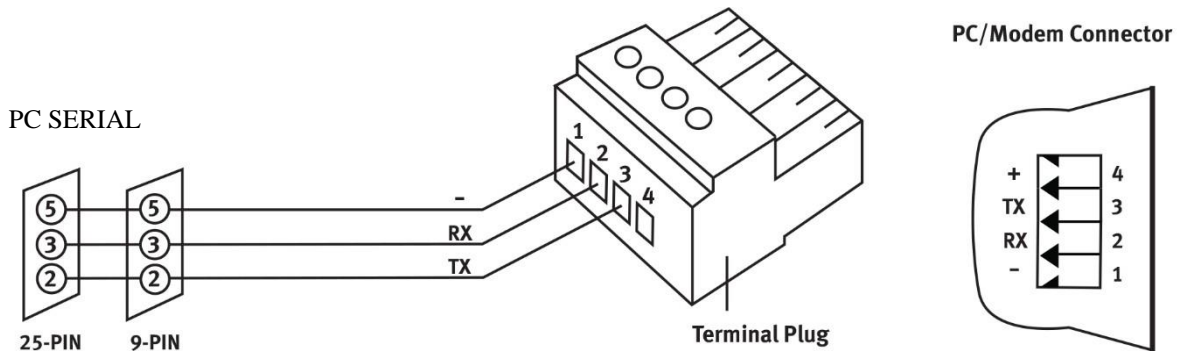


Figure 18 - PC Interface Cable Connection

9.2 EL-ISOL (RS-232 Isolator)

When connecting the control panel's RS-232 outputs to devices which are earthed, such as PC/printer, the connection may cause interference due to earth leakage. This is because the negative (-) pin of the RS-232 connector is usually connected to shield ground.

The connection must be arranged through a local modem or the EL-ISOL unit if the RS-232 device and the control panel are not connected to the same power supply group. Usually this means the same room. In no instance should the cable length without local modem exceed 20 m.

9.3 EL-ISOL Connection:

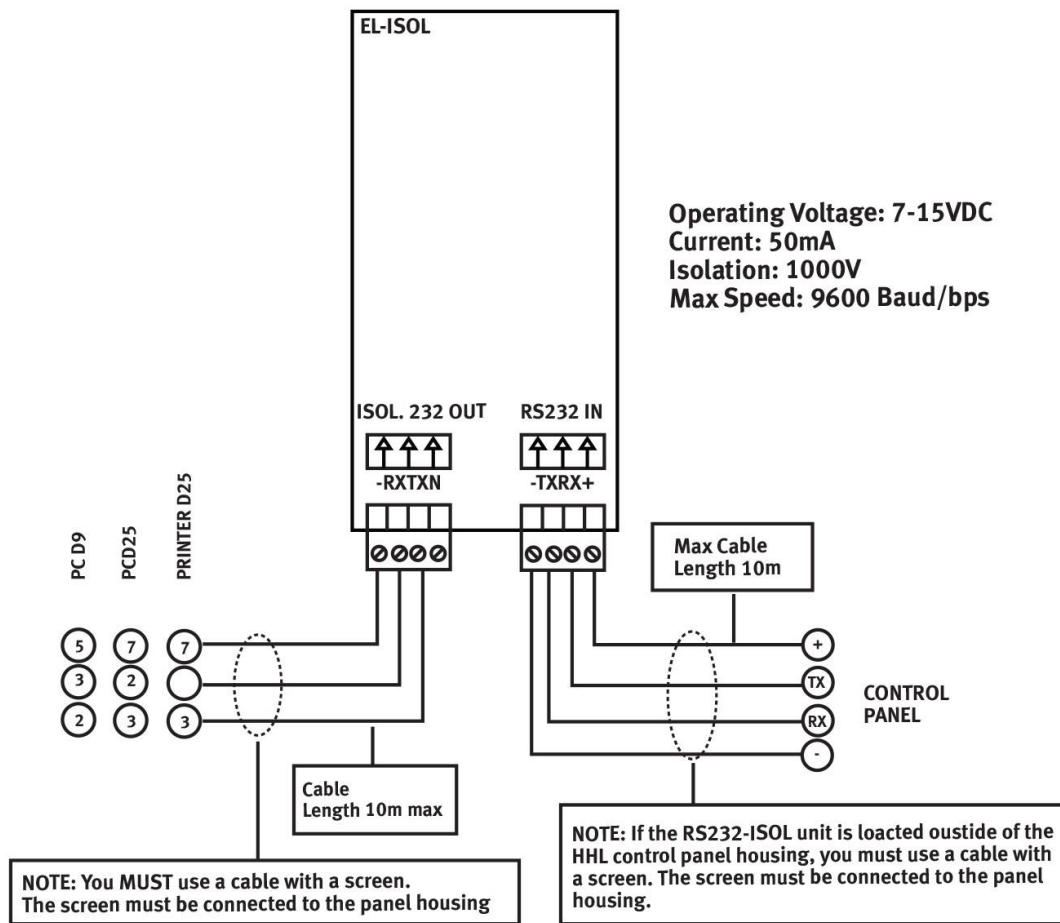


Figure 19 - EL-ISOL Connection

9.4 Additional Port, PRN

This port can be used for connecting external RS-232 devices

10 Addressable Emergency Lighting Lines

10.1 Principle

The system luminaires and interfaces are intelligent units equipped with their own batteries (luminaires) and have addresses. The control panel polls the units at approximately 0.75 s intervals per address. All units in the bus (127 devices max) are polled in <100 s. The luminaires also work standalone if the control panel cable breaks.

The luminaires are installed using the Hochiki EL-TSB base.

The factory default address of all luminaires is 127. The luminaires must be programmed with the TCH- B200 programming device before installation onto the mounting base.

The maximum length of each lighting line is 1 km, and the maximum loop resistance of the conductors is 74 Ω . The cable's conductor capacitance must be <0.7 μF . The power consumption also restricts the cable distance.

A maximum of 127 units can be connected to a single lighting line depending on the power consumption of the unit.

10.2 Mounting Base (EL-TSB)

The mounting base required for the luminaires is the Hochiki EL-TSB standard mounting base.

NOTE: The alignment 'rib' on the mounting base must face at a 90° angle in relation to the exit direction. The base has slight adjustment margin for this angle. Use a template when drilling.

- ▶ All devices must be installed on an even surface so that they will not distort.
- ▶ The bases can be wall or ceiling mounted.
- ▶ The bases should be fixed with appropriate size and type screws for the intended fixing surface.
- ▶ To avoid damage to the base do not over-tighten the fixingscrews.

10.3 Emergency Lighting Line Connection

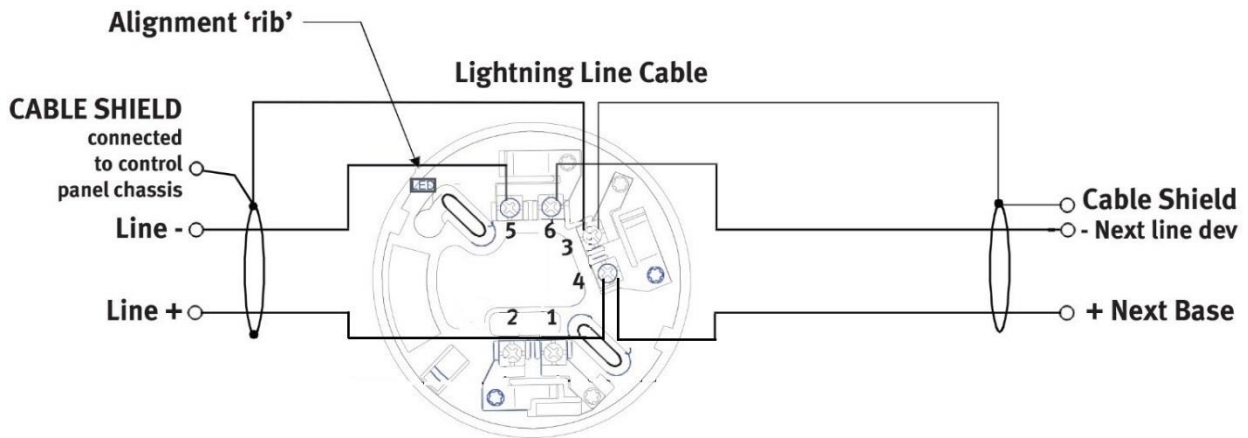


Figure 5 - Wiring the Lightning Line Cable to an EL-TSB Mounting Base

The lighting line cable is taken to each line device. The lighting line cabling can be a star (through a central node) or a ring (through each mounting base).

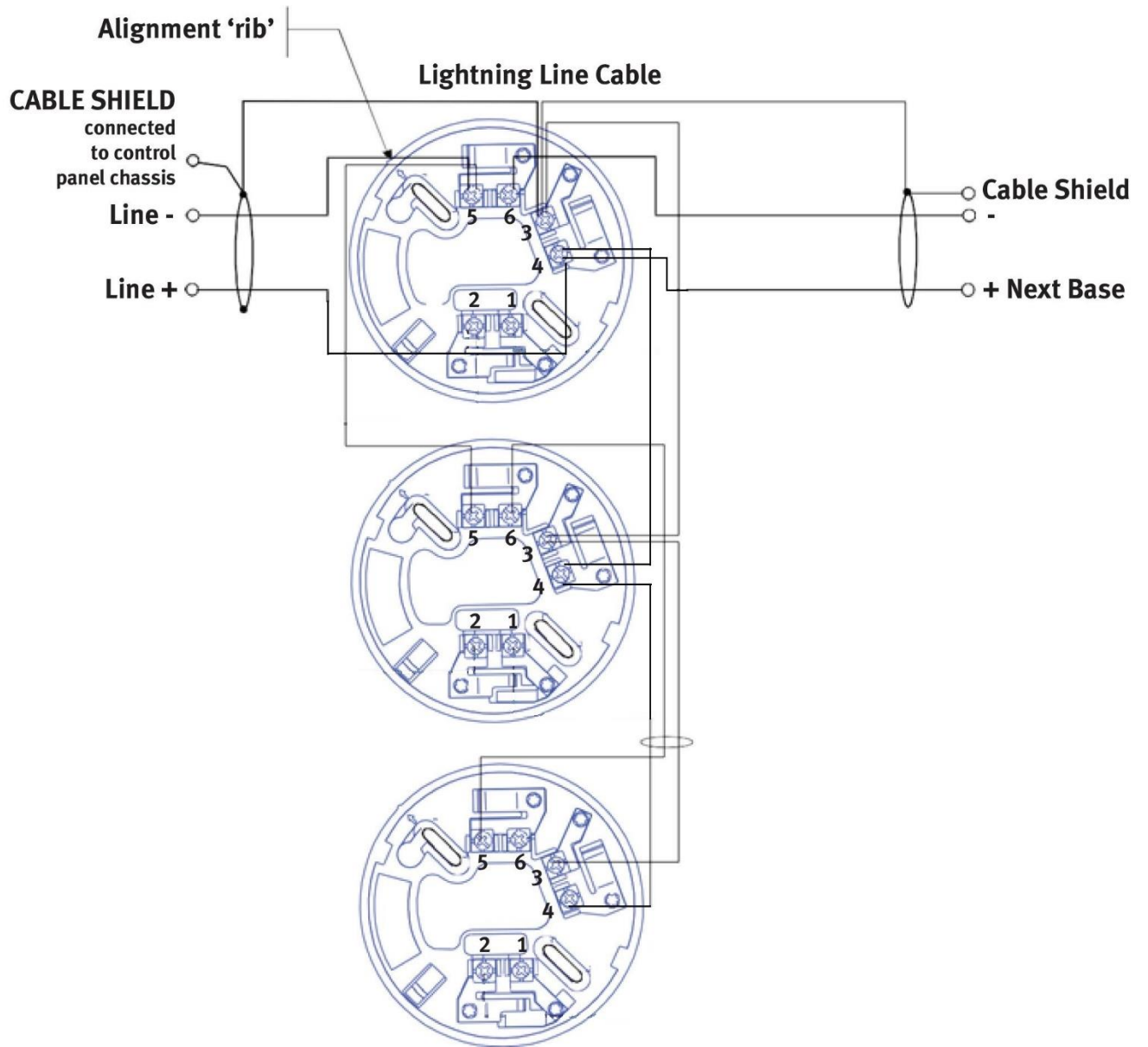


Figure 6 - An example of a spur arrangement

11 Wiring to House Lighting via PM

There are many ways from which to wire and monitor house lighting. Figure 7 is a typical example of how to do this.

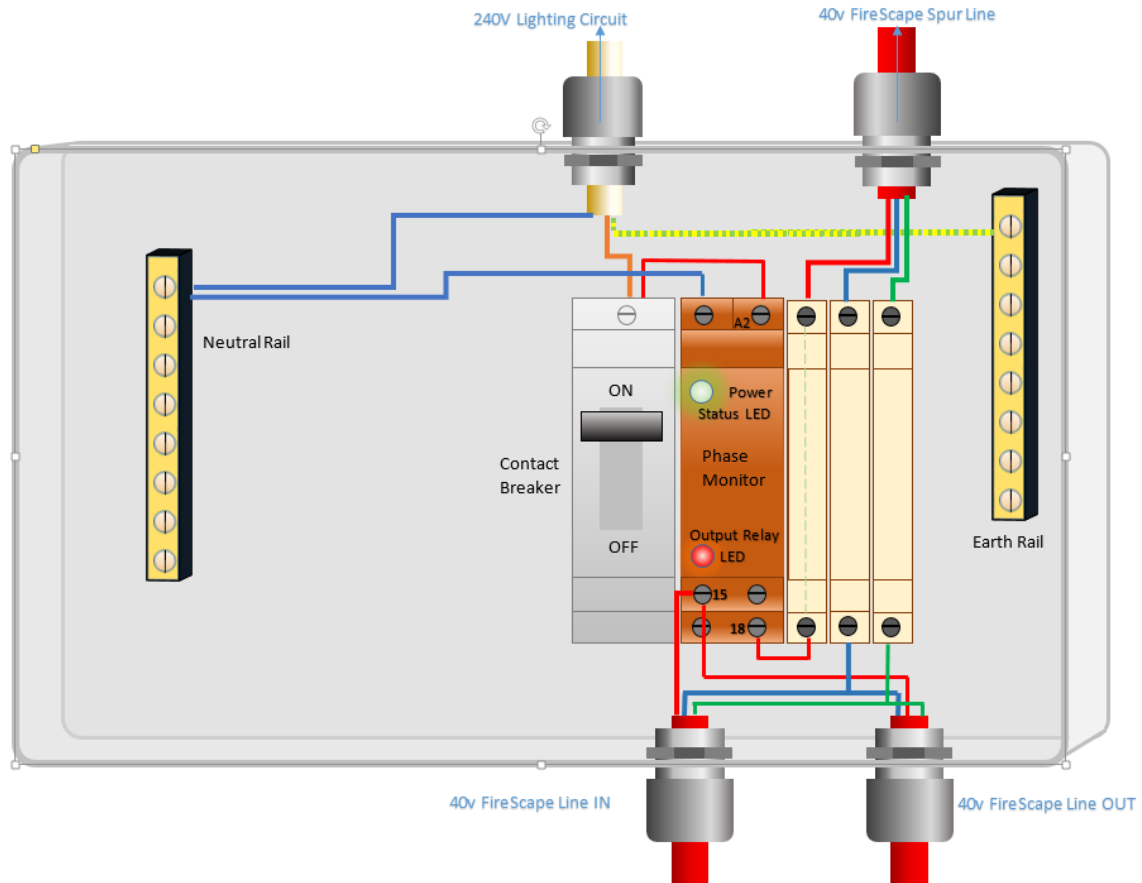
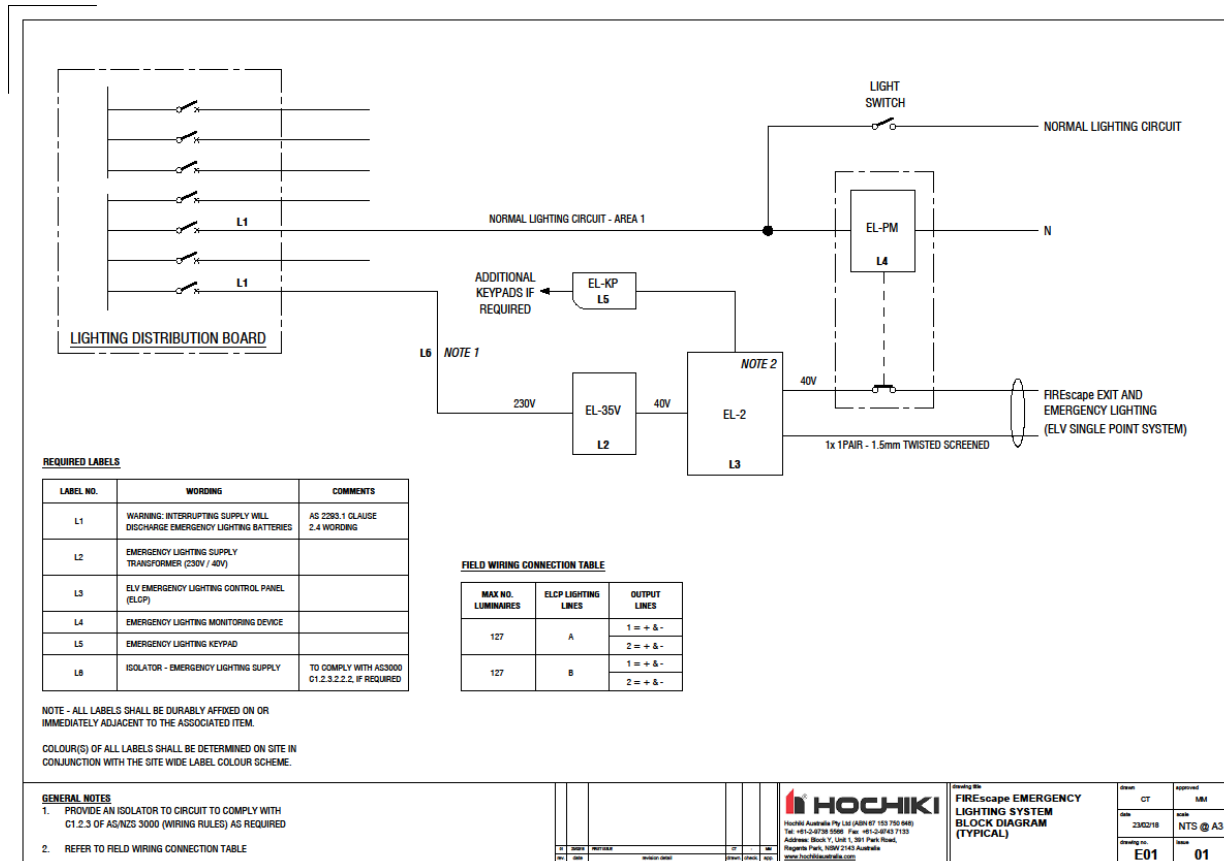


Figure 7 - An example of a typical connection to a single lighting circuit



The phase monitor (EL-PM) is to be installed in a location that's capable of monitor the house lighting from the output side of the circuit breaker

The + (positive) from the house lighting output of the circuit breaker shall spur a link into terminals A1 or A2 of the EL-PM.

A – (neutral) shall be wired into the opposite selected terminal of the above mentioned + to complete the circuit

This will energize the phase monitors coil when live, closing its relay contacts

The EL2's 40v line output from either lines A or B + terminals are to spur to each lighting circuit's phase monitor.

The + from line A or B shall feed in through terminal 15 of the EL-PM, and out of the terminal 18

From terminal 18 the + shall feed into the FIREscape emergency lighting connector block where it will be accompanied by the – from either line A or B

From the out output side of the FIREscape emergency lighting connector block, this line shall follow the house lighting and have exits and downlights where applicable and in accordance with AS2293.1

Repeat the process to monitor multiple phase monitors and house lighting circuits

12 Emergency Luminaires

The majority of the FIREscape light units can be fitted directly to the standard mounting base (EL-TSB).

12.1 EL-DL2-AS Escape Corridor Down Light

The EL-DL2-AS corridor down light is an LED based, addressable corridor down light featuring one high- powered LED with a specially engineered dual surface free-form optic.

The unit's body contains the electronics and the stand-by battery and features a bicolored status LED indicating charge/fault status (green for charging, red for fault).



12.1.1 EL-DL2-AS Technical Specifications

| | |
|----------------------------------|--|
| Classification | C0: C2 C90: E25 |
| Ordering code | EL-DL2-AS |
| Operating Voltage | 24v – 40v |
| Minimum Standby Operating time | + 3 Hours |
| Power consumption from line (W)* | 0.1 Watt |
| Battery | 7.4v /450mAh / 3.33Wh |
| Dimensions (mm) | 100 (diameter) x 48 (height) (inc 8mm for EL-TSB base) |
| Weight including battery (g) | 100g |
| Temp Range | 40°C |
| Fire class | UL94 V-O |
| Case material | Fire resistant PC + ABS plastic (FR3010) |
| Case color | White (RAL 9003 "Signal White") |
| Compliance | AS2293, AS/NZS 60598.2.22, EN55015 |
| IP Rating | IP 20 (IP67 available with EL-DE) |
| Base Compatibility | EL-TSB |

12.1.2 EL-DL2-AS Classifications & Mounting Heights

| | Mtr | 2.1 | 2.4 | 2.7 | 3 | 3.3 | 3.6 | 4 | 4.5 | 5 | 6 | 7 | 8 | 9 | 10 | 15 |
|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|------|------|------|------|
| C0 | C2 | 4.1 | 4.1 | 4.1 | 3.9 | 3.7 | 3.3 | 2.6 | | | | | | | | |
| C90 | E25 | 9 | 10 | 10.8 | 11.4 | 12.2 | 12.8 | 13.6 | 14.4 | 15.2 | 16.6 | 17. | 18.2 | 18.6 | 18.6 | 17.4 |

12.2 EL-DL3-AS Open Area Down Light

The EL-DL3-AS open area down light is an LED based, addressable open area down light featuring one high- powered LED with a specially engineered dual surface free-form optic.

The unit’s body contains the electronics and the stand-by battery and features a bicolored status LED indicating charge/fault status (green for charging, red for fault).



12.2.1 EL-DL3-AS Technical Specifications

| | |
|----------------------------------|--|
| Classification | C0: E6.3 C90: E6.3 |
| Ordering code | EL-DL3-AS |
| Operating Voltage | 24v – 40v |
| Minimum Standby Operating time | + 3 Hours |
| Power consumption from line (W)* | 0.1 Watt |
| Battery | 7.4v /450mAh / 3.33Wh |
| Dimensions (mm) | 100 (diameter) x 48 (height) (inc 8mm for EL-TSB base) |
| Weight including battery (g) | 100g |
| Temp Range | 40°C |
| Fire class | UL94 V-0 |
| Case material | Fire resistant PC + ABS plastic (FR3010) |
| Case color | White (RAL 9003 “Signal White”) |
| Compliance | AS2293, AS/NZS 60598.2.22, EN55015 |
| IP Rating | IP 20 (IP67 available with EL-DE) |
| Base Compatibility | EL-TSB |

12.2.2 EL-DL3-AS Classifications & Mounting Heights

| | Mtr | 2.1 | 2.4 | 2.7 | 3 | 3.3 | 3.6 | 4 | 4.5 | 5 | 6 | 7 | 8 | 9 | 10 | 15 |
|------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|----|----|
| C0 | E6.3 | 7 | 7.6 | 8 | 8.4 | 8.6 | 8.8 | 9.2 | 9.4 | 9.4 | 8.8 | 8.2 | 7 | | | |
| C90 | E6.3 | 7 | 7.6 | 8 | 8.4 | 8.6 | 8.8 | 9.2 | 9.4 | 9.4 | 8.8 | 8.2 | 7 | | | |

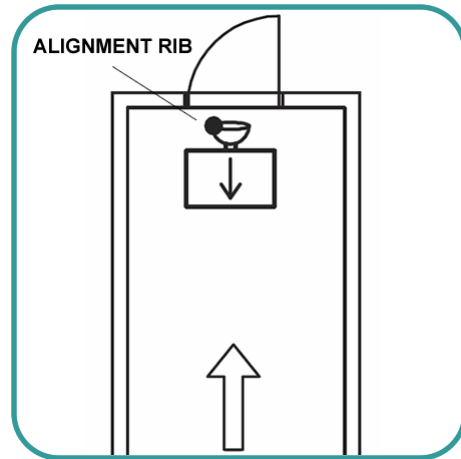
12.3 16 m Exit Sign

The EL-16-AS is an illuminated exit sign intended to be visible up to a distance of 16 meters. There are various models, each with a different arrow direction (indicating the direction of an exit).

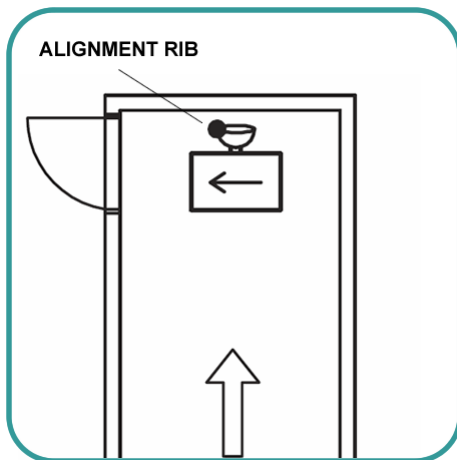
Note the direction of the LEDs and alignment rib on the cup of the exit sign in relation to the alignment rib on the mounting base when installing.



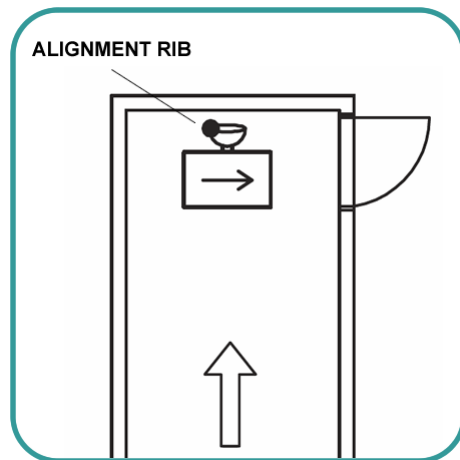
EL-16G-R-AS



Orientation of EL-16G-AS

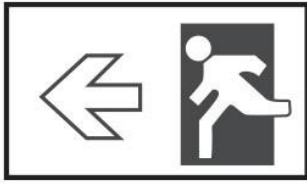


Orientation of EL-16G-L-AS



Orientation of EL-16G-R-AS

12.3.1 16 m Exit Sign Lenses



EL-16G-L-AS



EL-16G-S-AS



EL-16G-R-AS

12.3.2 16 m Exit Sign Technical Specifications

| | | |
|----------------------------------|-----------------|---|
| Classification | | C0: N/A C90: N/A |
| Exit Sign Frame | | EL-16-AS |
| Lens Ordering code | | EL-16G-L-AS (left arrow) EL-16G-R-AS (right arrow) EL-16G-S-AS (straight) EL-16G-AS (Reflective Worm, Back plate and Rivet Assy) |
| Operating Voltage | | 24v – 40v |
| Minimum Standby Operating Time | | + 3 Hours |
| Power consumption from line (W)* | | 0.4 Watt |
| Battery | | 7.4v /450mAh / 3.33Wh |
| Dimensions (mm) including base | Wall mounted | 204L x 133H x 81.3D |
| | Ceiling mounted | 204L x 201.5H x 32D |
| Weight (g) | | 150g |
| Temp Range | | 40°C |
| Material | Cup and bracket | Fire retardant |
| | Lens | Acrylic |
| Fire class | | UL94 V-O |
| Case color | | White (RAL 9003 “Signal White”) |
| Compliance | | AS2293, AS/NZS 60598.2.22, EN55015 |
| IP Rating | | IP 20 (IP44 Available) |
| Base Compatibility | | EL-TSB |

*at default light level 4

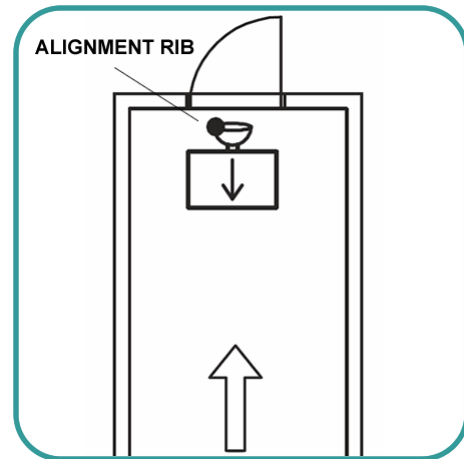
12.4 24 m Exit Sign

The EL-24-AS is an illuminated exit sign intended to be visible up to a distance of 24 meters. There are various models, each with a different arrow direction (indicating the direction of an exit).

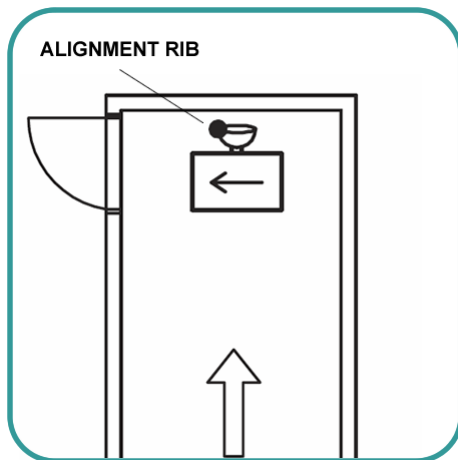
Note the direction of the LEDs and alignment rib on the cup of the exit sign in relation to the alignment rib on the mounting base when installing.



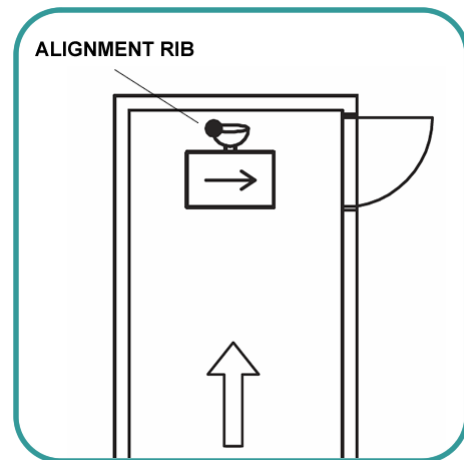
EL-24G-R-AS shown



Orientation of EL-24G-AS



Orientation of EL-24G-L-AS



Orientation of EL-24G-R-AS

12.4.1 24m Exit Sign Lenses



EL-24G-L-AS



EL-24G-S-AS



EL-24G-R-AS

12.4.2 24m Exit Sign Technical Specifications

| | | |
|----------------------------------|-----------------|---|
| Classification | | C0: N/A C90: N/A |
| Exit Sign Frame | | EL-24-AS |
| Ordering code | | EL-24G-L-AS (left arrow) EL-24G-R-AS (right arrow) EL-24G-AS (straight) EL-24G-AS (Reflective Worm, Back plate and Rivet Assy) |
| Operating Voltage | | 24v – 40v |
| Minimum Standby Operating Time | | + 3 Hours |
| Power consumption from line (W)* | | 0.4 Watt |
| Battery | | 7.4v /450mAh / 3.33Wh |
| Dimensions (mm) including base | Wall mounted | 204L x 133H x 81.3D |
| | Ceiling mounted | 204L x 201.5H x 32D |
| Weight (g) | | 150g |
| Temp Range | | 40°C |
| Material | Cup and bracket | Fire retardant |
| | Lens | Acrylic |
| Fire class | | UL94 V-O |
| Case color | | White (RAL 9003 “Signal White”) |
| Compliance | | AS2293, AS/NZS 60598.2.22, EN55015 |
| IP Rating | | IP 20 (IP67 Available) |
| Base Compatibility | | EL-TSB |

*at default light level 4

12.5 NF89-O-AS High Powered Emergency Escape Open Area Down Light

The NF89-O-AS open area down light is an LED based, addressable open area down light featuring one high- powered LED with a specially engineered dual surface free-form optic. The unit's body contains the electronics and the stand-by battery and features a bicolored status LED indicating charge/fault status (green for charging, red for fault).



12.5.1 NF89-O-AS Technical Specifications

| | |
|----------------------------------|--|
| Classification | C0: E40 C90: E40 |
| Ordering code | NF89-O-AS |
| Operating Voltage | 24v – 40v |
| Minimum Standby Operating time | + 3 Hours |
| Power consumption from line (W)* | 0.6 Watt |
| Battery | 7.4v /2950mAh / 21.46Wh |
| Dimensions (mm) | 100 (diameter) x 65 (height) (inc 8mm for EL-TSB base) |
| Weight including battery (g) | 190g |
| Temp Range | 40°C |
| Fire class | UL94 V-O |
| Case material | Aluminum |
| Case color | White (RAL 9003 "Signal White") |
| Compliance | AS2293, AS/NZS 60598.2.22, EN55015 |
| IP Rating | IP 20 |
| Base Compatibility | EL-TSB |

12.5.2 NF89-O-AS Classifications & Mounting Heights

| | Mtr | 2.1 | 2.4 | 2.7 | 3 | 3.3 | 3.6 | 4 | 4.5 | 5 | 6 | 7 | 8 | 9 | 10 | 15 |
|------------|------------|-----|------|------|------|------|-----|----|-----|----|------|------|------|------|------|----|
| C0 | E40 | 9.6 | 10.6 | 11.6 | 12.4 | 13.2 | 14 | 15 | 16 | 17 | 18.8 | 20.2 | 21.4 | 22.2 | 22.8 | 22 |
| C90 | E40 | 9.6 | 10.6 | 11.6 | 12.4 | 13.2 | 14 | 15 | 16 | 17 | 18.8 | 20.2 | 21.4 | 22.2 | 22.8 | 22 |

12.6 NF89-C-AS High Powered Emergency Corridor Escape Down Light

The NF89-C-AS Corridor area down light is an LED based, addressable open area down light featuring one high- powered LED with a specially engineered dual surface free-form optic. The unit's body contains the electronics and the stand-by battery and features a bicolored status LED indicating charge/fault status (green for charging, red for fault).



12.6.1 NF89-C-AS Technical Specifications

| | |
|----------------------------------|--|
| Classification | C0: D6.3 C90: D32 |
| Ordering code | NF89-C-AS |
| Operating Voltage | 24v – 40v |
| Minimum Standby Operating time | + 3 Hours |
| Power consumption from line (W)* | 0.6 Watt |
| Battery | 7.4v /2950mAh / 21.46Wh |
| Dimensions (mm) | 100 (diameter) x 65 (height) (inc 8mm for EL-TSB base) |
| Weight including battery (g) | 190g |
| Temp Range | 40°C |
| Fire class | UL94 V-O |
| Case material | Aluminum |
| Case color | White (RAL 9003 "Signal White") |
| Compliance | AS2293, AS/NZS 60598.2.22, EN55015 |
| IP Rating | IP 20 |
| Base Compatibility | EL-TSB |

12.6.2 NF89-C-AS Classifications & Mounting Heights

| | | 2.1 | 2.4 | 2.7 | 3 | 3.3 | 3.6 | 4 | 4.5 | 5 | 6 | 7 | 8 | 9 | 10 | 15 |
|------------|-------------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|
| C0 | D6.3 | 8.6 | 8.8 | 9 | 9.1 | 9.2 | 9.2 | 9.2 | 9 | 8.7 | 7.7 | 5.7 | | | | |
| C90 | D32 | 15.4 | 16.1 | 16.7 | 17.2 | 17.6 | 18 | 18.5 | 19.1 | 19.5 | 20.2 | 20.6 | 20.7 | 20.6 | 20.3 | 14.6 |

12.7 EL-SL Step Light

The EL-SL is a step level light for use when illuminating staircase steps, changes in floor levels or as a general low-level light. It can also be used to enhance an emergency lighting installation.

This unit is installed in a deep back box (not supplied), which can be surface or flush mounted.

The unit is addressed using the TCH-B200 Hand Held Programmer in conjunction with a programming lead.



12.7.1 EL-SL Technical Specifications

| | |
|----------------------------------|--------------------|
| Ordering code | EL-SL |
| Operating voltage (Vd.c.) | 24 ~ 40 |
| Power consumption from line (W)* | 0.5 ~ 10 |
| Batteries (V/mAh) | 9/200 |
| Dimensions (mm) | 70H x 70W x 65D |
| Ingress Protection Rating | IP44 |
| Material | Fire retardant ABS |
| Fire class | UL94 V-O |

*at default light level 4

13 EL-IO Module

The EL-IO is an input/output unit. The unit has 4 inputs and 2 outputs. A maximum of 16 units can be connected to the FIREscape EL2 control panel. The unit requires an address on the lighting line. The address is set with the unit's DIL switches.

EL-IO – The 4 volt free inputs can be used to interface with third party devices ie switches, motion sensors and phase monitors, for example. Each input can be programmed as N/O (normally open) or N/C (normally closed).

The EL-IO can be configured in the following 2 options:

4 x Un monitored NO / NC inputs or

2 x Monitored NO / NC inputs

EL-IO – The 2 outputs can be used to control traditional luminaires and can be activated using the system cause and effect programming. The output state is shown with a green LED ("OUT1/OUT2"). If an output is activated, the LED is illuminated.

NOTE: These are electronic output contacts with a resistance value. When using to switch DC Voltage allow for Voltage drop.

It is possible to show the polling of the unit's address with the green "POL" LED. The LED flashes when the unit is polled.

13.1 Address Switches

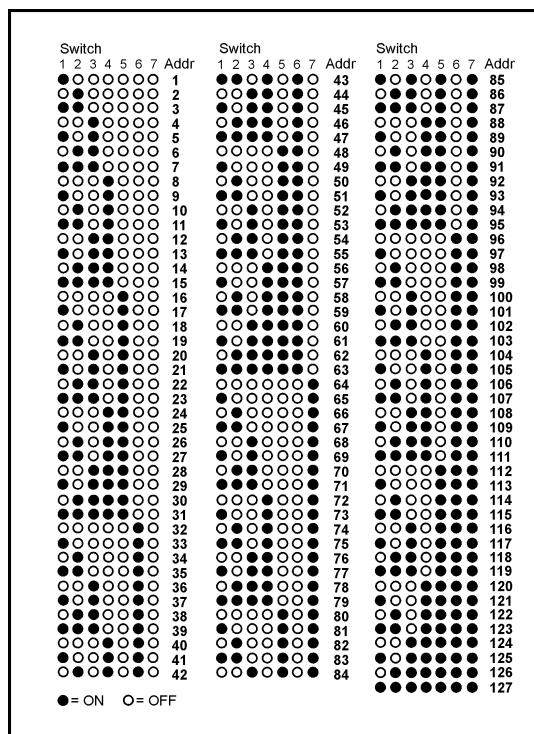


Figure 9 - Address Switches

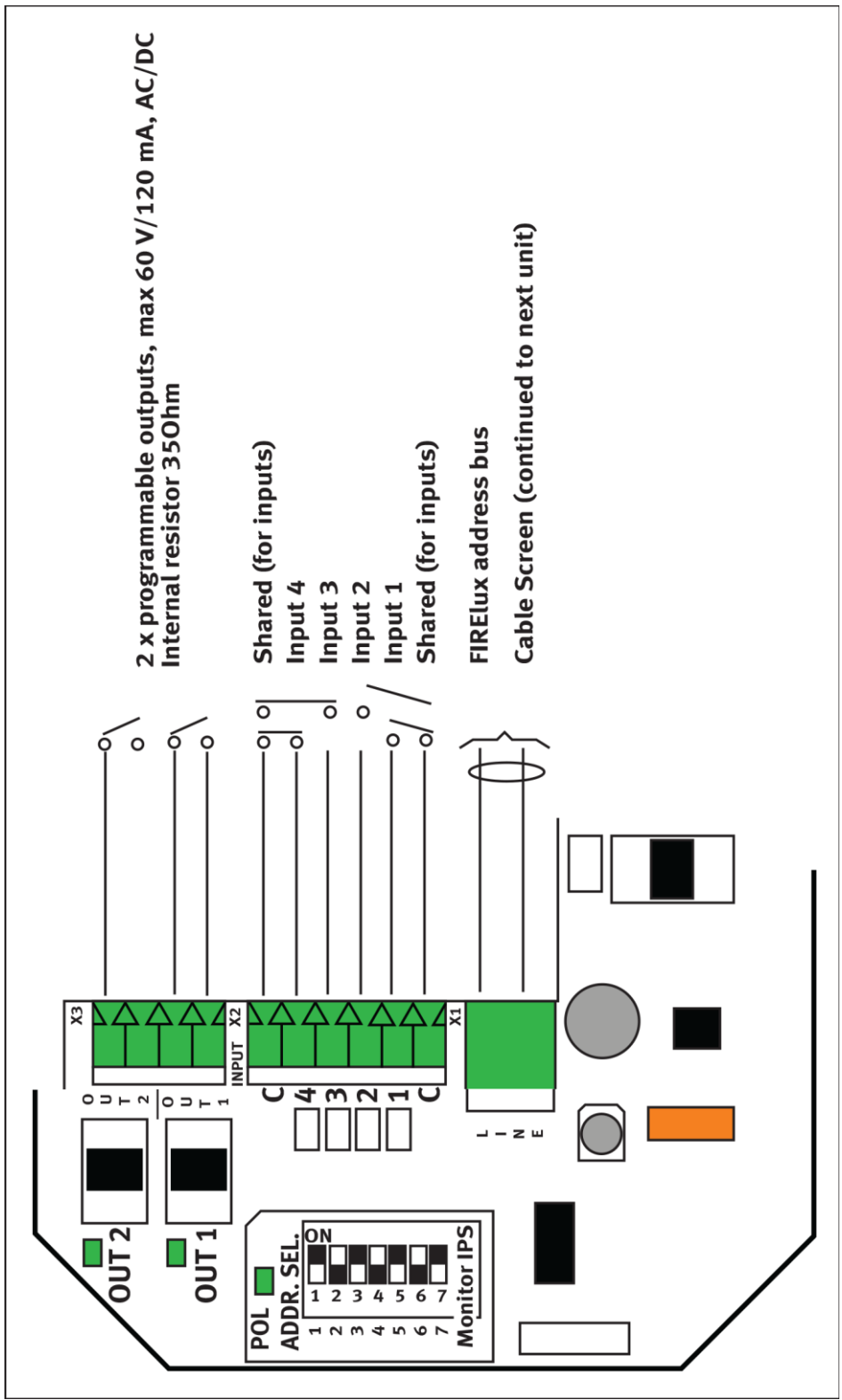


Figure 10 - EL-IO Wiring Connections

13.1.1 EL-IO Technical Specifications

| | |
|----------------------------------|----------|
| Unit | EL-IO |
| Operating Voltage [VDC] (VAC) | 24 – 40V |
| Power consumption from line [NU] | 2 / 0.1W |
| | |

14 EL-EXP Expansion Unit

The EL-EXP connectivity card is used for expanding the serial ports of the EL-2 control panel. The EL-EXP unit provides two additional ports, SER1 and SER2.

The EL-EXP is connected to the control panel with the flat cable supplied with the card. The card is connected to the top right corner of the control panel housing with the supplied plastic supports.

For the EL-EXP unit to work, the HHL-SER chip supplied with the unit must be installed in the control panel in the corresponding place, see Figure 20. The control panel must be powered off (mains and battery; you must wait until the CPN led turns off) before installing the chip. Note the orientation of the chip - the groove must point to the right toward the SER1+2 connector.

The card has 2 serial communication ports, which can be configured either as RS-232 or RS-485 ports. The selection of the port's serial communication format is done by setting all jumpers (4) that refer to the port (A or B) to the 232 setting (for RS-232) or 485 (for RS-485). The port will not work unless all of the jumpers (4) are either in the 232 or 485 position.

The LEDs on the card can be used for checking the functionality of the serial communication; ATX (port A transmit), ARX (port A receive), BTX (port B transmit) and BRX (port B receive).

NOTE: The 12V voltage output on the card is intended only for the EL-ISOL card. PORT A of the EL-EXP card refers to port SER1 when programming the control panel's serial communication port. Similarly, PORT B refers to port SER2.

15 TCH-B200 Address Programming Device

The address of the FIREscape devices is programmed with the TCH-B200 hand held device programmer. The programmer requires a 9V battery.

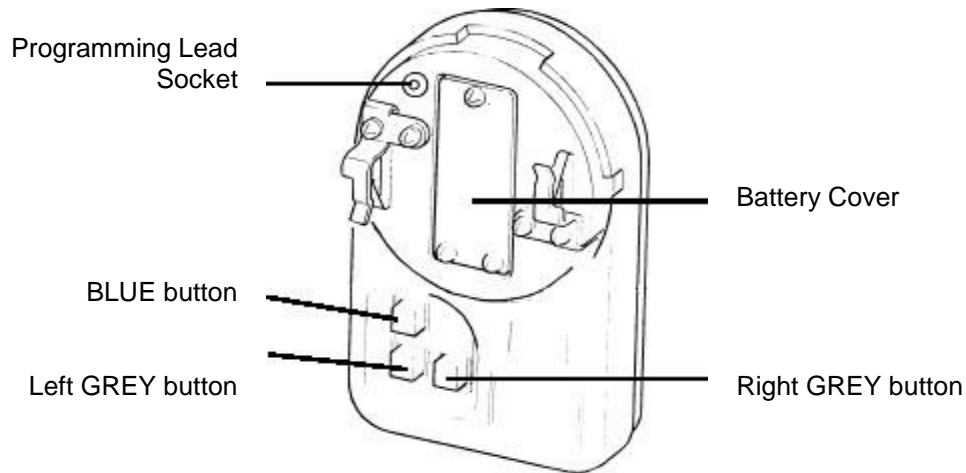


Figure 21 - TCH-B200 Device Programmer

15.1 Button Functions

- ▶ LEFT (grey): Start device, increment address (by 10)
- ▶ RIGHT (grey): Increment address (by 1), turn off device after programming
- ▶ RED / BLUE: Program/set address

15.2 Programming

Connect the FIREscape device to the programmer by placing the device onto the programmer's metal terminals. The FIREscape device has an alignment 'rib' – this should be at approximately 6 on a clock- face. Twist the FIREscape device clockwise until it locks in place.

- ▶ Press the left button on the programmer. The programmer reads the FIREscape device's address and this is displayed on the numeric LEDs. The factory preset address is 127.
- ▶ Set the address with the left (10s) and right (units) buttons.
- ▶ Set the displayed address into the FIREscape device by pressing the red button. When programming is successful, the numeric LEDs will blink.
- ▶ The programmer can be turned off with the right button.

NOTE: The programmer will turn off by itself approximately 15s after last key press.

NOTE: The FIREscape device is set to power save mode after programming. The load of a full battery will last for approximately 2 months. The unit wakes up from the power save mode when line voltage is connected or the battery is removed and reinserted.

16 Cabling Length

16.1 Illumination Points

The voltage level of the control panel's line out is approximately 39 V (high bit) or 34 V (low bit).

The FIREscape device's minimum line voltage is 24 V, which means that 15 V can be dropped through the cable.

The current load for each line is 2.5 A.

For exit route down lighters, the load on the line depends on the set normal light level. Luminaires take power from their own batteries whenever they are activated.

The power consumption of the luminaires is presented in the technical specifications section (see "Technical Specifications" on page 46). For cabling, the luminaires' power consumption is divided into units of 50 mW each.

The power requirement unit is referred to in this manual as an "NU".

The cabling examples use a 1.5mm²

The number of necessary conductor pairs can be derived from the power consumption of the luminaire points and the cable length.

16.2 Using the Cabling Recommendations Graphs

- ▶ Calculate the power consumption units.
- ▶ Estimate/measure the distance to the last luminaire point.
- ▶ Check the intersecting item in the graph.
- ▶ If the intersection item is in between the curves, the number of conductor pairs must be selected according to the higher curve.

FireScope line calculator (luminaries, power consumption)

| EL-DL2/3-AS | | | | | | | |
|-------------------|------------|-----------------|----------|-----------------|----------|----------|----------|
| Type | Brightness | Current (mA) | FU | Max Line Device | Quantity | Total mA | Total FU |
| EL-DL2/3-AS | 0 | 7.9 | 11 | | | 0 | 0 |
| EL-DL2/3-AS | 1 | 11.6 | 12 | | | 0 | 0 |
| EL-DL2/3-AS | 2 | 15.3 | 13 | | | 0 | 0 |
| EL-DL2/3-AS | 3 | 18.9 | 15 | | | 0 | 0 |
| EL-DL2/3-AS | 4 | 26.3 | 17 | | | 0 | 0 |
| EL-DL2/3-AS | 5 | 33.7 | 19 | | | 0 | 0 |
| EL-DL2/3-AS | 6 | 40.3 | 22 | | | 0 | 0 |
| EL-DL2/3-AS | 7 | Not Permissible | | | | | |
| STATUS LED | | 3.3 | 2 | | | 0 | 0 |

| EL-16-AS | | | | | | | |
|-------------------|------------|----------------|----------|-----------------|----------|----------|----------|
| Type | Brightness | Current (mA) | FU | Max Line Device | Quantity | Total mA | Total FU |
| EL-16-AS | 0 | 6.8 | 4 | | | 0 | 0 |
| EL-16-AS | 1 | 10 | 6 | | | 0 | 0 |
| EL-16-AS | 2 | 10.5 | 7 | | | 0 | 0 |
| EL-16-AS | 3 | 12 | 7 | | | 0 | 0 |
| EL-16-AS | 4 | 13.5 | 8 | | | 0 | 0 |
| EL-16-AS | 5 | 17.5 | 11 | | | 0 | 0 |
| EL-16-AS | 6 | 27.5 | 17 | | | 0 | 0 |
| EL-16-AS | 7 | 37.5 | 23 | | | 0 | 0 |
| STATUS LED | | 3.3 | 2 | | | 0 | 0 |

| EL-24-AS | | | | | | | |
|-------------------|------------|----------------|----------|-----------------|----------|----------|----------|
| Type | Brightness | Current (mA) | FU | Max Line Device | Quantity | Total mA | Total FU |
| EL-24-AS | 0 | 6.8 | 4 | | | 0 | 0 |
| EL-24-AS | 1 | 12 | 7 | | | 0 | 0 |
| EL-24-AS | 2 | 15.5 | 10 | | | 0 | 0 |
| EL-24-AS | 3 | 23 | 14 | | | 0 | 0 |
| EL-24-AS | 4 | 30.5 | 19 | | | 0 | 0 |
| EL-24-AS | 5 | 36.5 | 23 | | | 0 | 0 |
| EL-24-AS | 6 | 42 | 26 | | | 0 | 0 |
| EL-24-AS | 7 | 46 | 29 | | | 0 | 0 |
| STATUS LED | | 3.3 | 2 | | | 0 | 0 |

| STEP LIGHT | | | | | | | |
|-------------------|------------|----------------|----------|-----------------|----------|----------|----------|
| Type | Brightness | Current (mA) | FU | Max Line Device | Quantity | Total mA | Total FU |
| STEP LIGHT | 0 | 7.8 | 5 | | | 0 | 0 |
| STEP LIGHT | 1 | 12.8 | 8 | | | 0 | 0 |
| STEP LIGHT | 2 | 15.6 | 9 | | | 0 | 0 |
| STEP LIGHT | 3 | 16.8 | 10 | | | 0 | 0 |
| STEP LIGHT | 4 | 23.6 | 14 | | | 0 | 0 |
| STEP LIGHT | 5 | 37.3 | 22 | | | 0 | 0 |
| STEP LIGHT | 6 | 50 | 30 | | | 0 | 0 |
| STEP LIGHT | 7 | 78 | 47 | | | 0 | 0 |
| STATUS LED | | 3.3 | 2 | | | 0 | 0 |

| I/O UNIT | | | | | | | |
|----------|--|----------------|----|-----------------|----------|----------|----------|
| Type | | Current (mA) | FU | Max Line Device | Quantity | Total mA | Total FU |
| I/O UNIT | | 3.3 | 2 | | | 0 | 0 |
| I/O UNIT | | 15.6 | 9 | | | 0 | 0 |

Factory default and I/O unit **NO OUTPUTS**
when using the output relays of the I/O unit

| NFW89 | | | | | | | |
|-------------------|------------|-----------------|----------|-----------------|----------|----------|----------|
| Type | Brightness | Current (mA) | FU | Max Line Device | Quantity | Total mA | Total FU |
| NFW89 | 0 | 55.1 | 51 | | | 0 | 0 |
| NFW89 | 1 | 58.7 | 54 | | | 0 | 0 |
| NFW89 | 2 | 62.4 | 58 | | | 0 | 0 |
| NFW89 | 3 | 69.8 | 62 | | | 0 | 0 |
| NFW89 | 4 | 80.8 | 67 | | | 0 | 0 |
| NFW89 | 5 | 91.9 | 73 | | | 0 | 0 |
| NFW89 | 6 | 102.9 | 80 | | | 0 | 0 |
| NFW89 | 7 | Not Permissible | | | | | |
| STATUS LED | | 3.3 | 2 | | | 0 | 0 |

| | | | | | | | | | |
|------|--|---------------------|--|--|--|---|------|---|---|
| | | | | | | 0 | 0 | 0 | Max 2500 mA (per line) |
| 127 | | QUANTITY OF DEVICES | | | | | 0 | | PASS PASS PASS |
| 2.4 | | CURRENT IN AMPS | | | | | 0.00 | | |
| 1750 | | FIRESCOPE UNITS | | | | | 0 | | |

16.3 Illumination Points at Regular Intervals

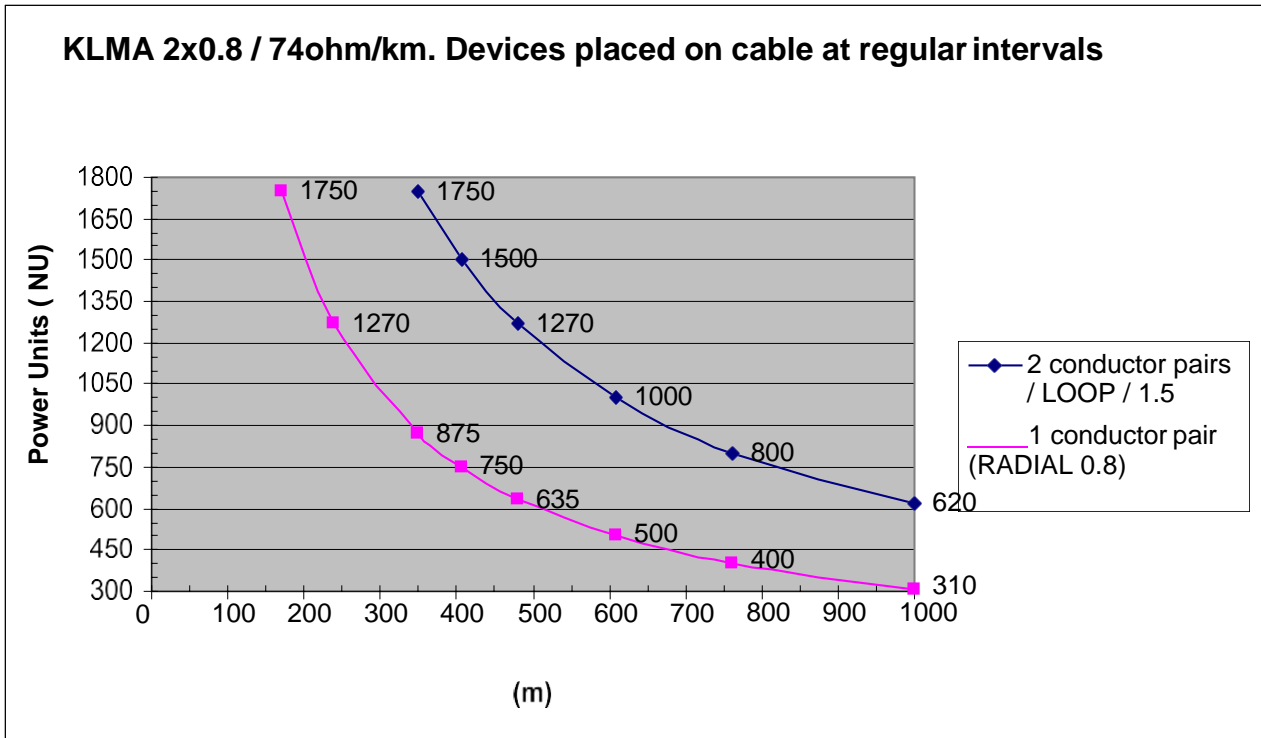


Figure 22

NOTE:-
 1. Conductor Pair = 0.8 CableRadial
 2. Conductor Pair = 1.5 Radial or 0.8 Loop

16.4 Examples

| Single-Storey Building | Luminaires Branch 1: | Luminaires Branch 2: |
|--|---|--|
| A building with the size 50 x 300 m. EL-2 Control Panel, using line A | 20 pcs EL-24-AS 24m signs @23NU 30 pcs EL-16-AS 16m signs @10NU 25 pcs EL-DL2-AS safety lights @4NU Power requirement 860NU | 20 pcs EL-24-AS 24m signs @23NU 30 pcs EL-16-AS 16m signs @10NU 25 pcs EL-DL2-AS safety lights @4N Power requirement 860NU |
| | Total power requirement: 1720NU. | |

The maximum power of one KLMA 2x0.8 + 0.8 cable of 350 m cabled with one conductor pair is then 875NU according to the cabling parameters graph. Owing to the high power requirement, the cabling is supplied as two branches. The length of both branches is 350 m.

We can implement the cabling if the power requirement of each branch remains under 875NU. If the all exit signs are the 16M model, the same building can be implemented as follows:

| Single-Storey Building | Luminaires Branch 1: | Luminaires Branch 2: |
|--|---|---|
| A building with the size 50 x 300 m. EL-2 Control Panel, using line A | 87 pcs EL-16-AS 16m signs @10NU Power requirement 870NU | 40 pcs EL-16-AS 16m signs @10NU Power requirement 400NU |
| Total power requirement: 1270NU. | | |
| | | |

We can implement the cabling if the power requirement of each branch remains under 875NU.

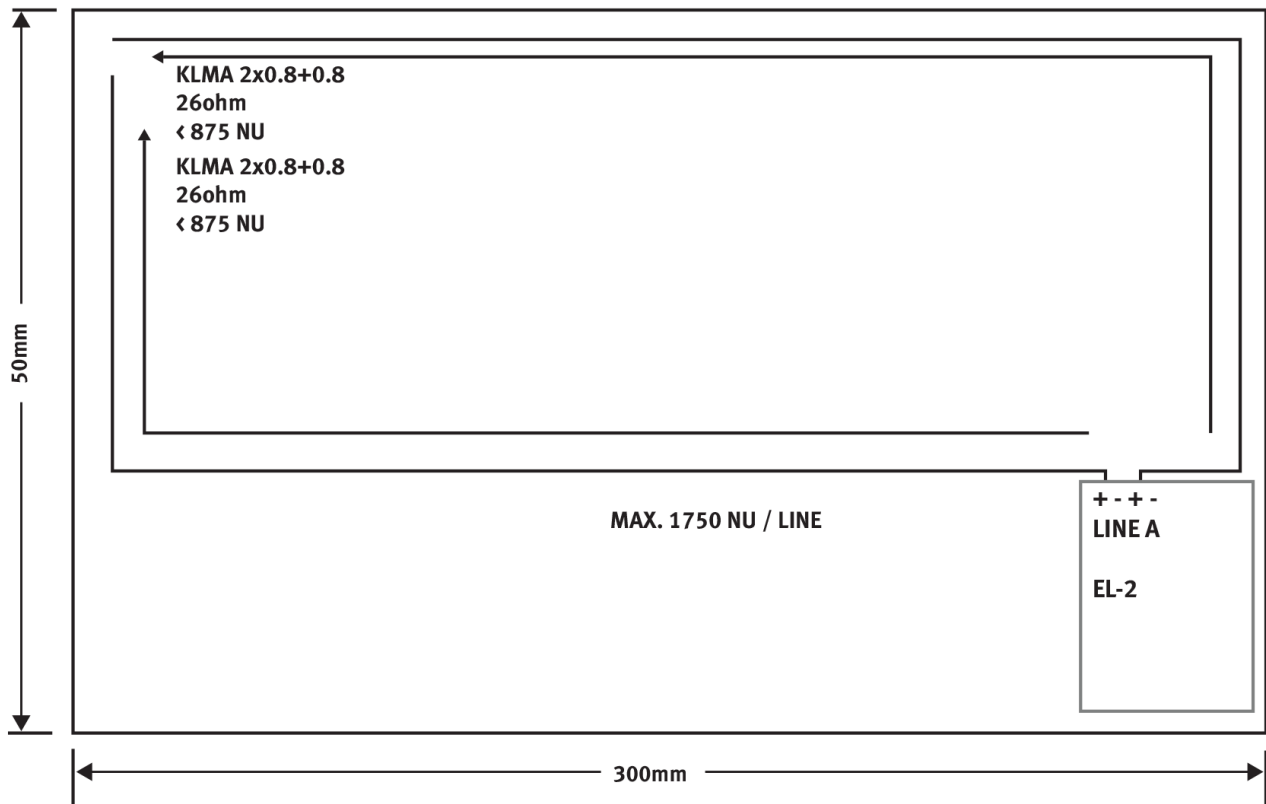


Figure 23

| Multi-Storey Building | Devices per Storey |
|---|--|
| <p>This is a 4-storey building.</p> <p>The surface area of a floor is 40 x 70 m.</p> <p>The distance between the floors is 5 m.</p> <p>EL-2 control panel, using lines A and B.</p> | <p>7 pcs EL-16-AS16m signs @10NU</p> <p>48 pcs EL-DL2-AS safety lights @4NU.</p> |
| | Total power requirement: 262NU/floor. |

Because of the number of luminaires, both A and B lines must be used.

In the floors the cabling is done by taking the cable through the length of the floor and branching there to different spaces. The distance to the furthest luminaire is approximately 20 + 70 m = 90 m.

The riser cable between the floors conveys twice the number of power units compared to the floor. Because the riser is rather short, this is not of real significance. Considering this, we can inspect each floor as a separate cable, noting that the total power consumption does not exceed the maximum.

The cable parameters graph shows that the 262NU power requirement of the floor allows for full 1000 m cable. Because the distance to the fourth floor is 105 m, we can do the cabling with a single conductor pair KLMA 2x 0.8 + 0.8.

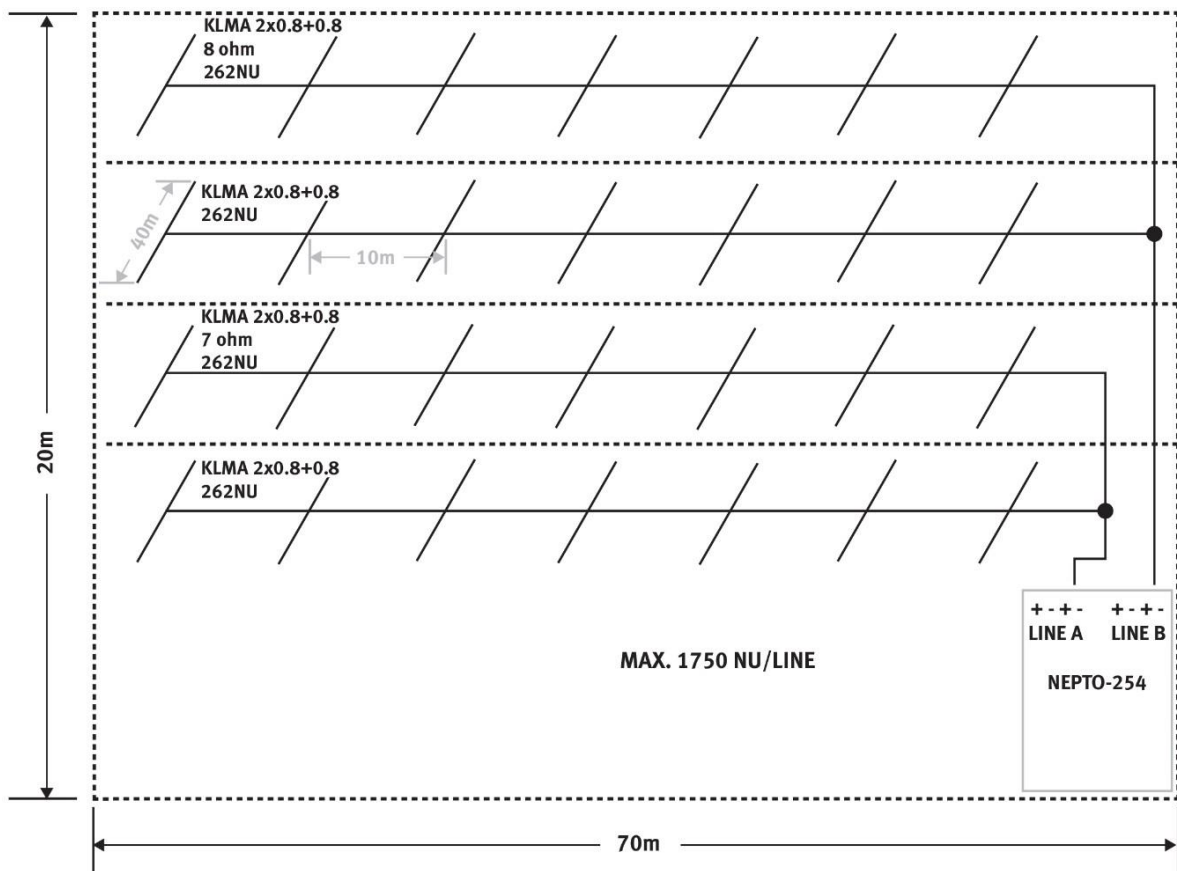


Figure 24

16.5 Other Devices

The minimum operating voltage of the control panel's voltage outputs is 10.0 V.

When supplying external devices from the EL-2 Control Panel power supply, note the minimum operating voltage of the devices and their maximum power consumption.

Also the position of the devices on the cable is important: are the devices equally distributed throughout the length of the cable or only at the end of the cable?

Estimate the cabling requirement by checking the minimum operating voltages of the devices. Try to locate the device that requires the greatest voltage at the beginning of the cable. If the cable has devices operating at different minimum operating voltages, the cabling can be calculated by estimating each device separately. However, you need to know the total power consumption of the cable.

The cable type is MHS (188 Ω/km).

| Example 1 | | |
|--|---|---|
| 2 pcs EL-KP, maximum current requirement 60 mA, minimum operating voltage 8 V. | Distance to the first EL-KP keypad is 50 m. | Distance to the last EL-KP keypad is 200 m. |
| <p>The current in the cable between the device x, EL-KP 1, and the control panel is a maximum of 60 + 60 mA = 120 mA. The voltage requirement is 8 V.</p> | | |

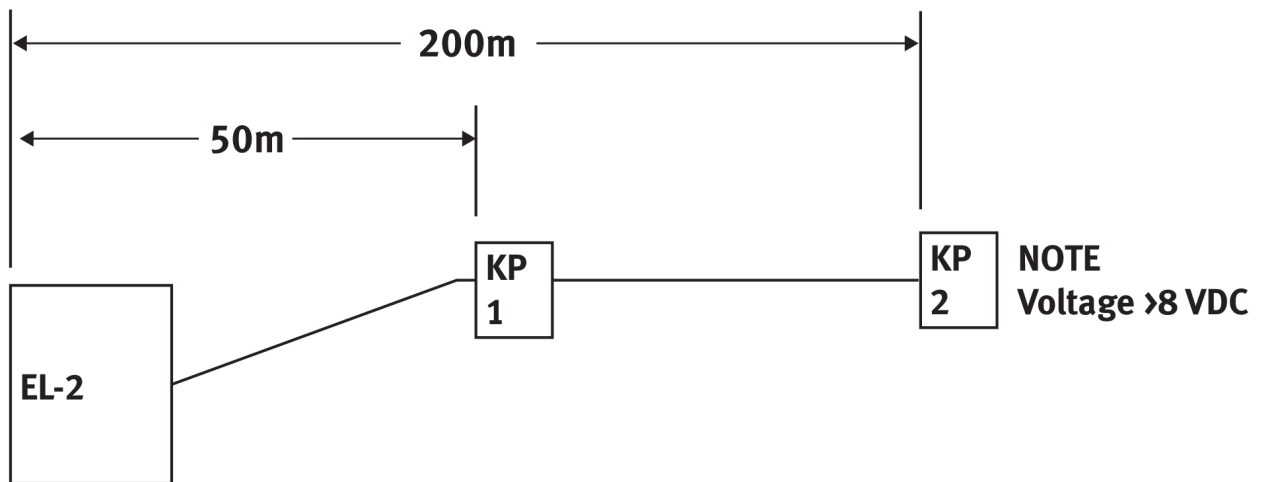


Figure 25

The graph shown in Figure 29 on page 42 indicates that one conductor pair can supply the voltage to the keypad.

| | |
|---|--|
| Example 2 | |
| 2 pcs EL-KP, maximum current requirement 60mA, minimum operating voltage 8V. | The keypads are in a different building, for example, at the end of the cable. |
| The current in the cable between the device x, EL-KP 1, and the control panel is a maximum of 60 + 60 mA = 120 mA. The voltage requirement is 8 V. | |

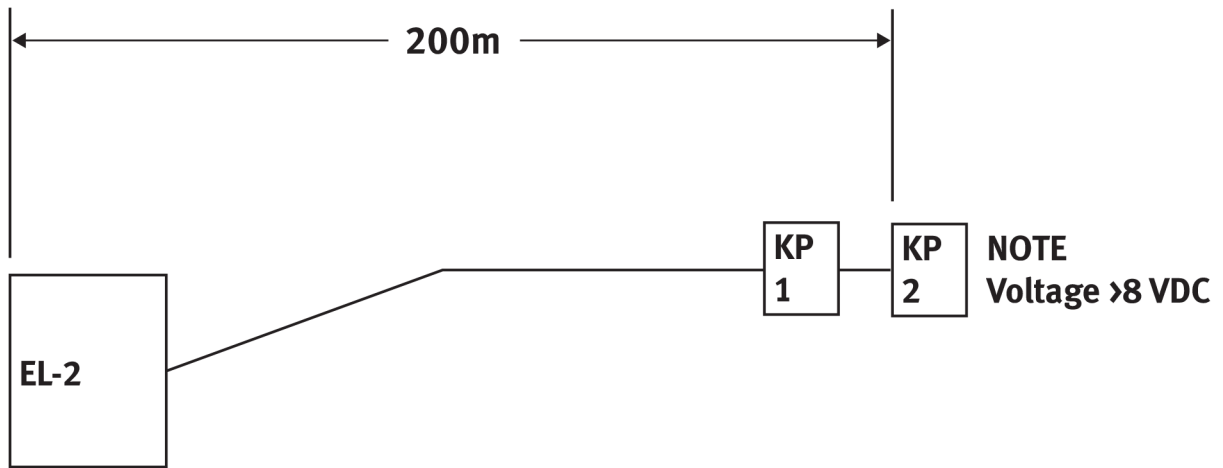


Figure 26

The graph shown in Figure 32 on page 45 indicates that two conductor pair can supply the voltage to the keypad.

16.6 Devices at Equal Intervals

Minimum Operating Voltage 6.5 V

Cable length compared to power consumption. Devices on cable at regular intervals.

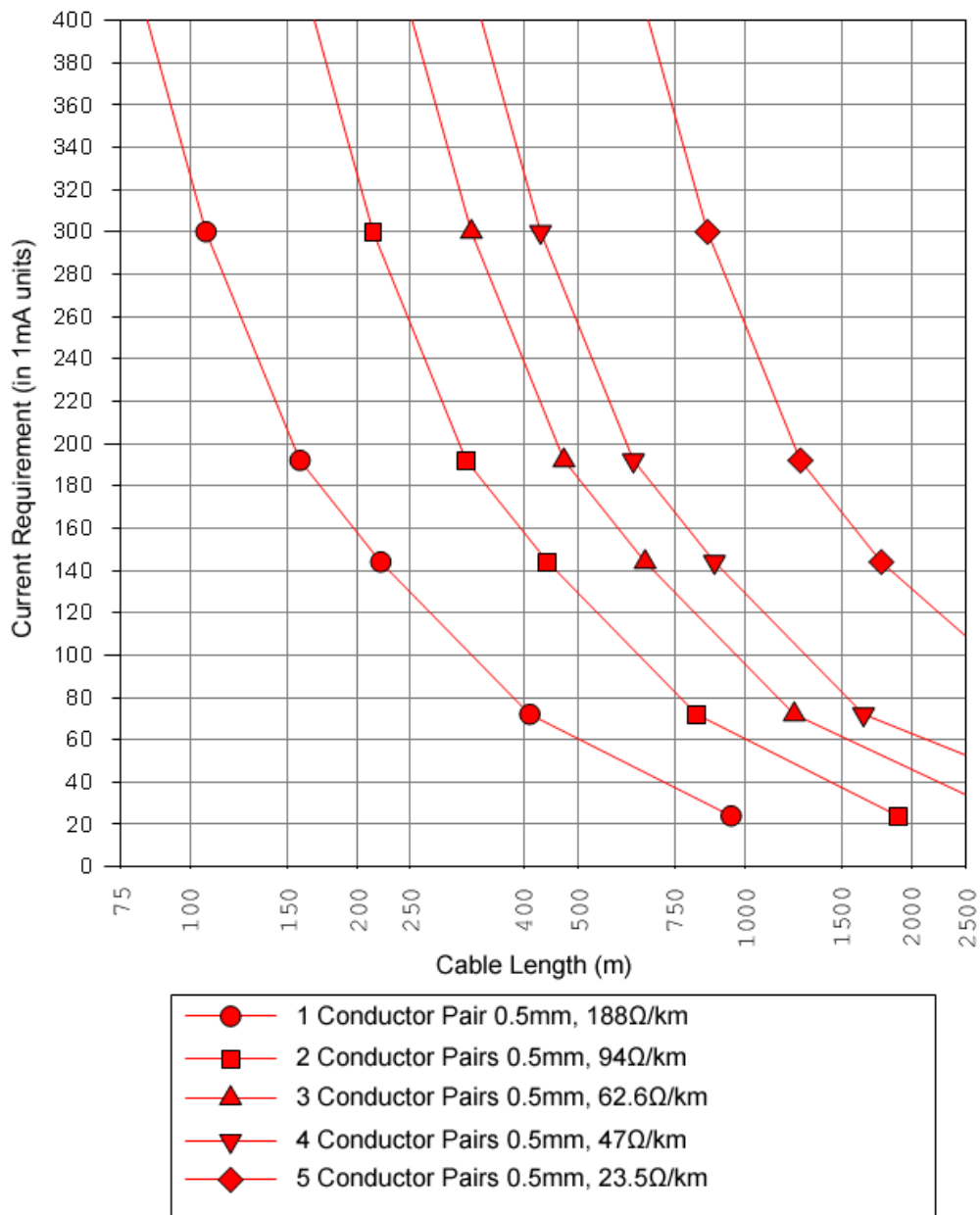


Figure 27

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Minimum Operating Voltage 7.5 V

Cable length compared to power consumption. Devices on cable at regular intervals.

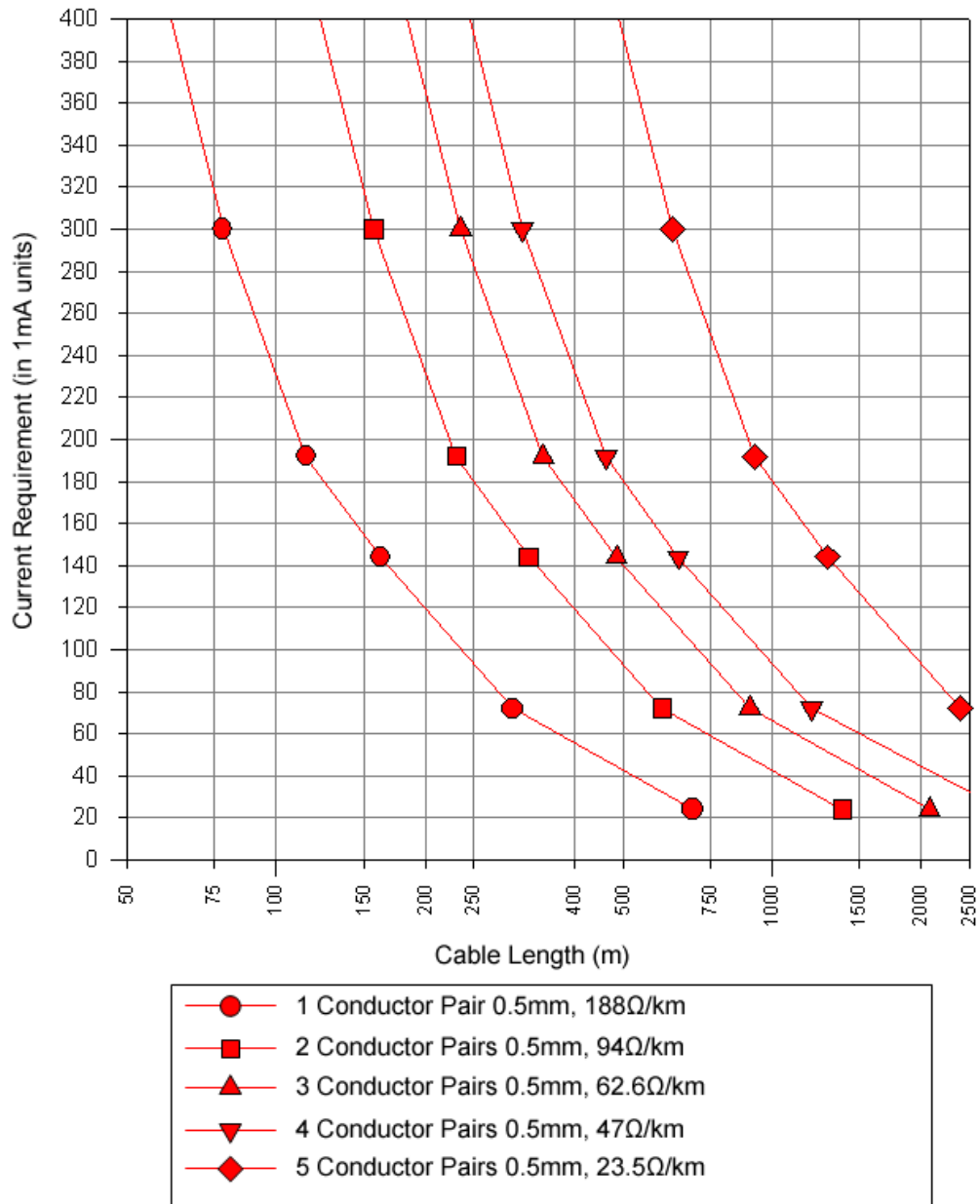


Figure 28

Minimum Operating Voltage 8.5 V

Cable length compared to power consumption. Devices on cable at regular intervals.

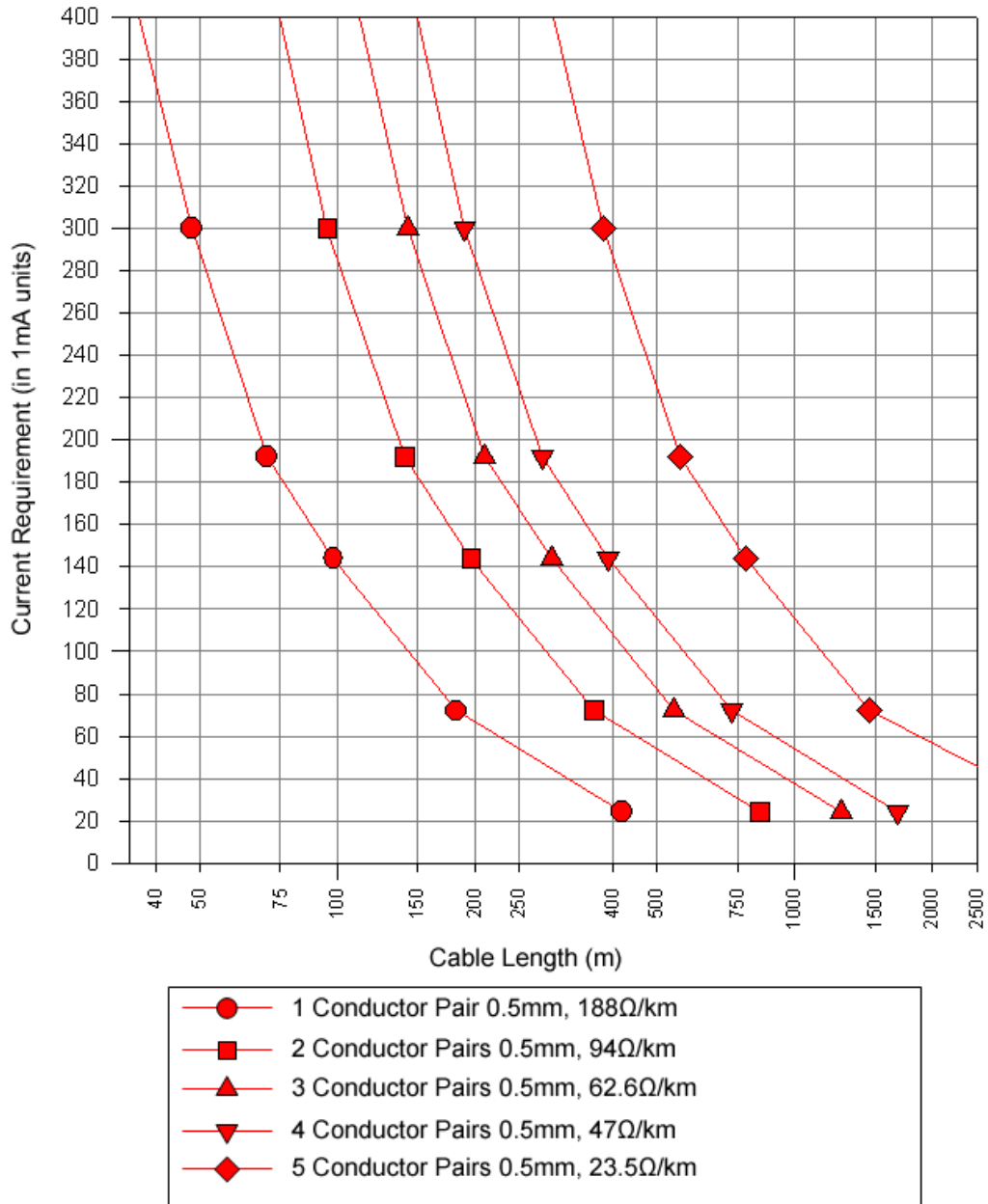


Figure 29

16.7 Devices at the End of The Cable

Minimum Operating Voltage 6.5 V

Cable length compared to power consumption. Devices at end of cable.

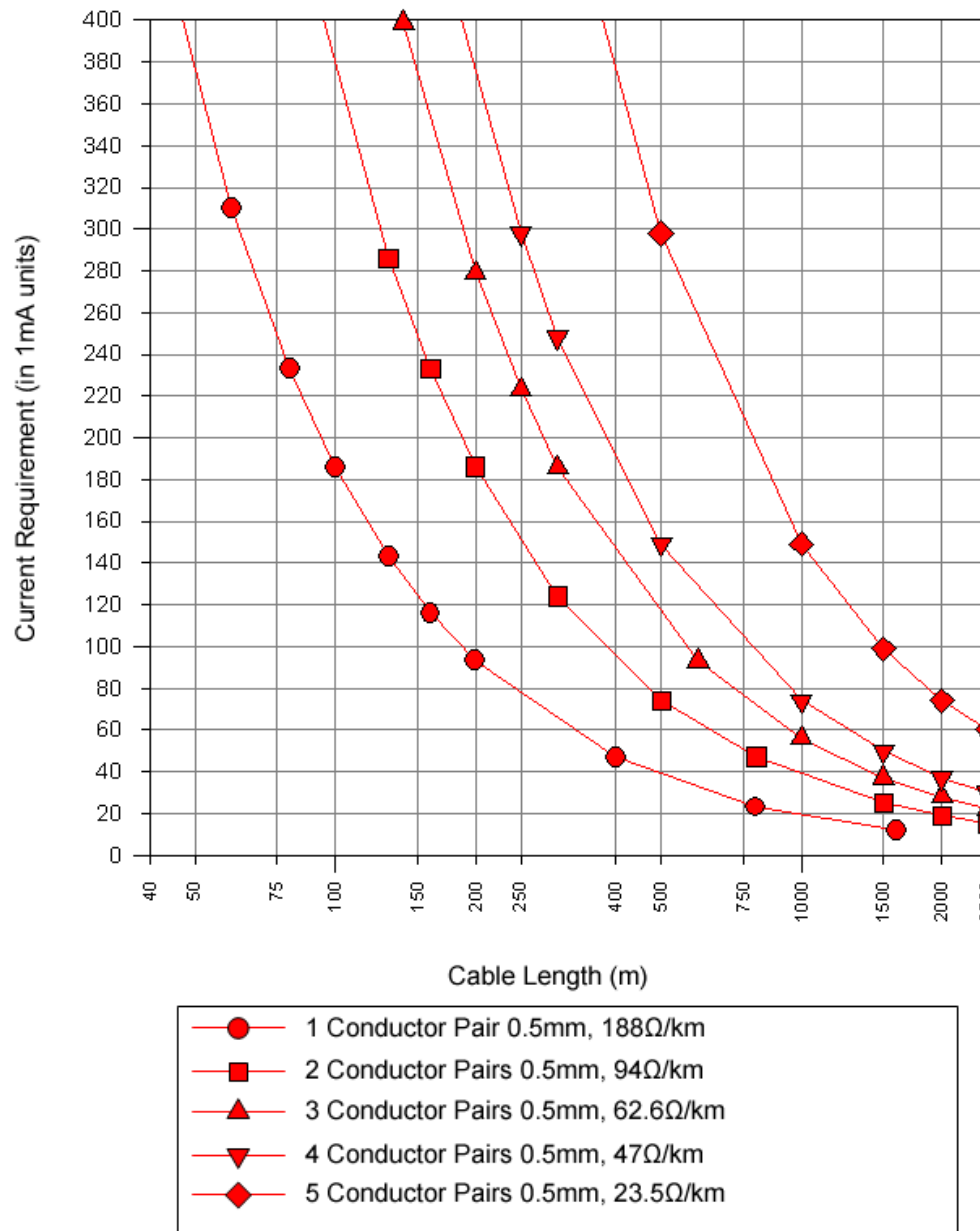


Figure 30

Minimum Operating Voltage 7.5 V

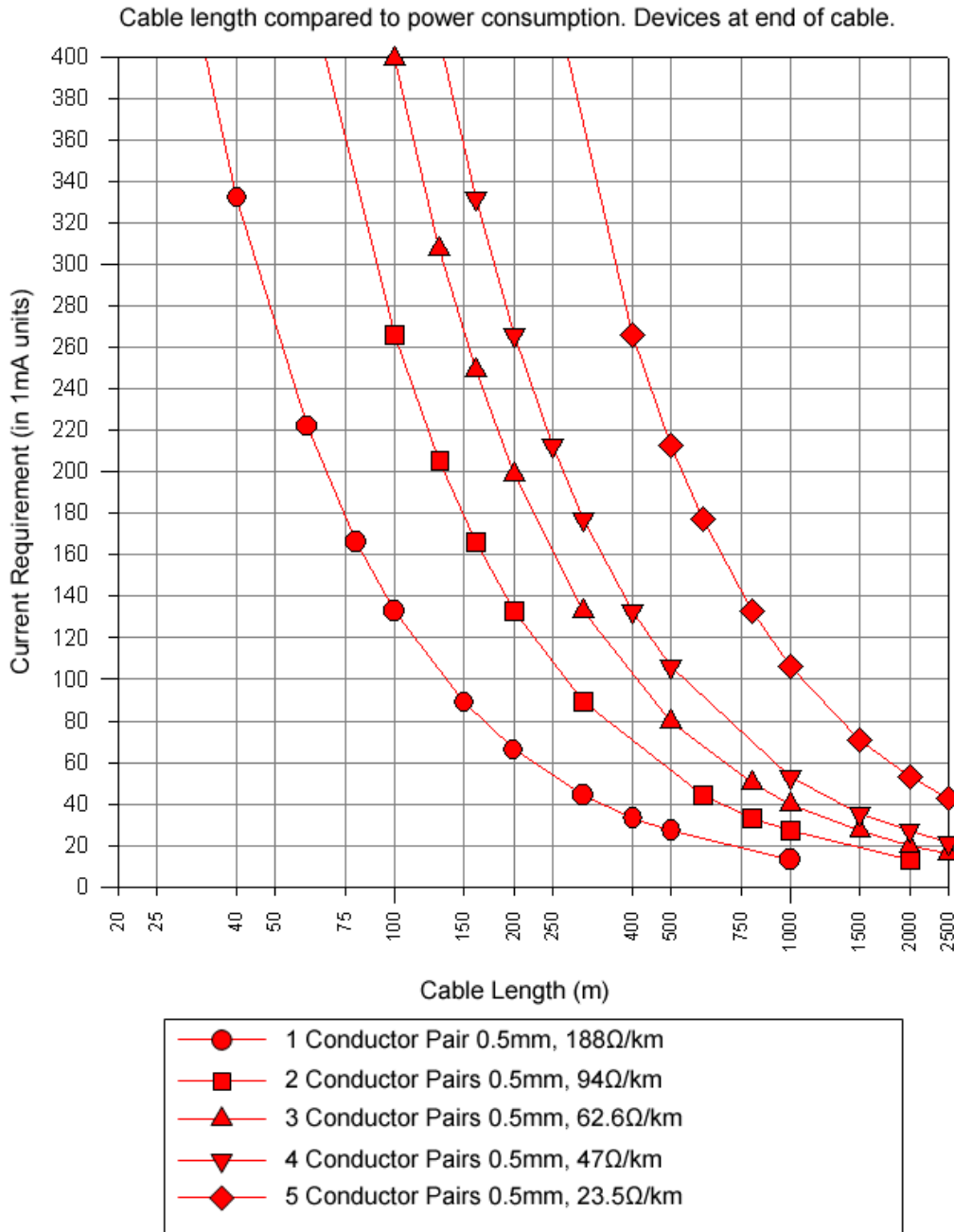


Figure 31

Minimum Operating Voltage 8.5 V

Cable length compared to power consumption. Devices at end of cable.

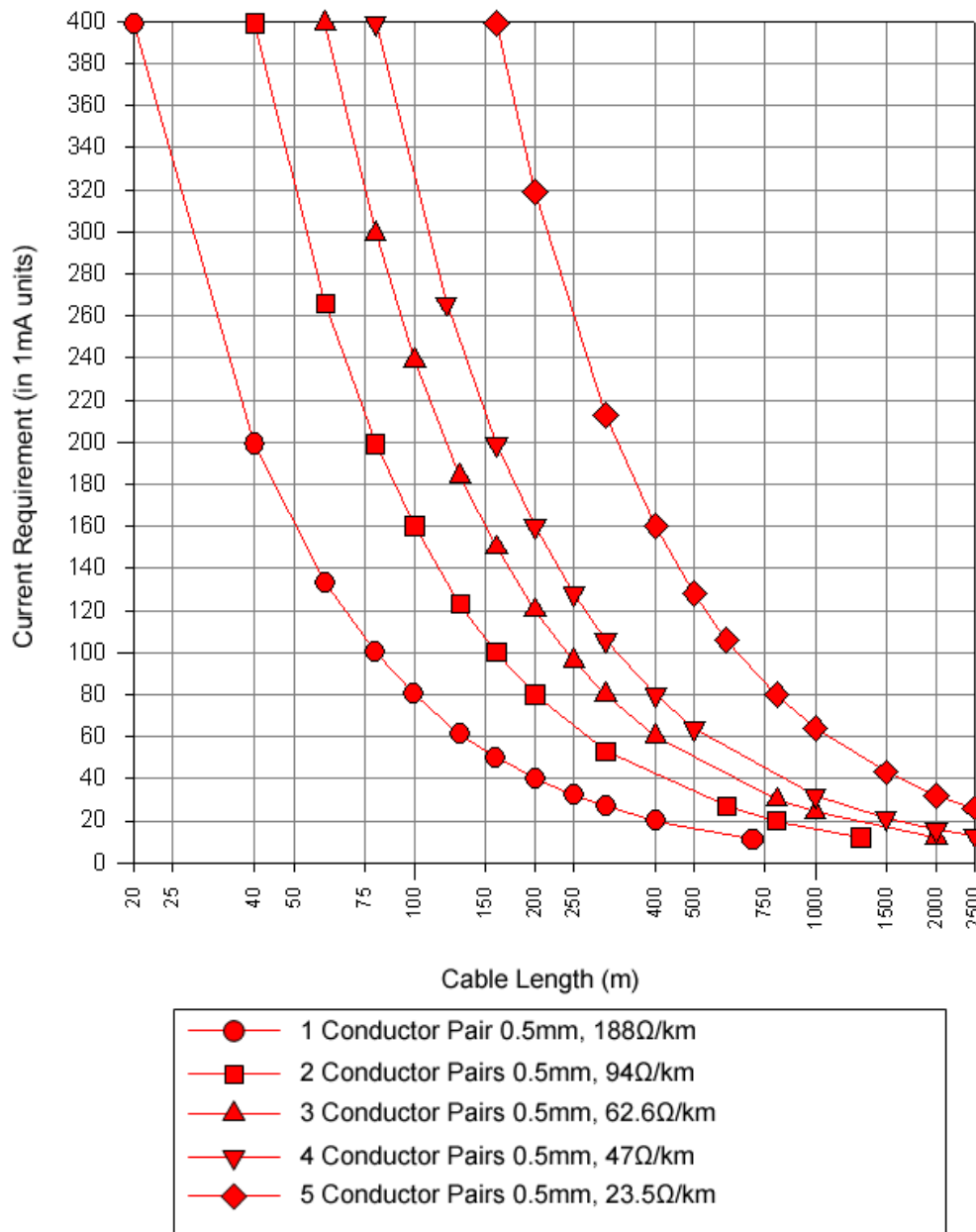


Figure 32

17 EL-2 Technical Specifications

17.1 Control Panel

| | | |
|--|--------------------|----------------|
| Control panel model | | EL-2 |
| Operating environment[°C] | | 5 - 40 |
| Operating temperature [°C]*1 | | 5 - 40 |
| Dimensions (h x w x d) [mm] | | 347 x 276 x 76 |
| Weight [kg] (includes 7 Ah battery) | | 8 |
| Luminaire lines | | 2 |
| Luminaires per line [pcs] | | 127 |
| Maximum number of luminaires [pcs] | | 254 |
| Areas | | 32 |
| Mains transformer | | 220 VA/35 VAC |
| Mains AC in minimum 230 VAC -15% [VAC] | | 195.5 |
| Mains AC in maximum 230 VAC +10% [VAC] | | 253 |
| Maximum battery capacity [Ah] | | 7 |
| Battery charge current [A] | | 0.4 |
| Battery charge voltage [V] @20°C | | 13.8 |
| Voltage outputs [V] | | |
| Minimum voltage | | 10.0 |
| Maximum voltage | | 14.5 |
| Normal ripple (from nominal voltage) [mV] | | 50 |
| Maximum ripple (from nominal voltage) [mV] | | 50 |
| +12 VDC F3 [A] | | 0.5 |
| +12 VDC F4 [A] | | 0.5 |
| Total [A] | | 0.6 |
| Current consumption motherboard [mA] | | 60 |
| Standby time [h] | | 72.5 |
| Outputs | Relay outputs [1A] | 2 |
| Serial Ports | PRG | RS232 |
| | PRN | RS232 |
| | CPN (for keypads) | RS485 |
| | SER1+SER2*2 | RS232/485 |

¹ Indoors, 5–40°C.

² Requires the EL-EXP serial port expander

18 System Components

| Unit | Desc | Operating temperature [°C] | Power save current consumption [mA] | Maximum current consumption [mA] | Power requirement on luminaire [NU] | Voltage [V] | Dimensions (L x W x D) [mm] |
|---------|-----------------------------------|----------------------------|-------------------------------------|----------------------------------|-------------------------------------|-------------|------------------------------|
| EL-KP | Keypad | -10 - 50 | 35 | 60 | | 8 - 15 | 143 x 146 x 31 |
| EL-BDC | Battery deep discharge prevention | 5 – 40 | 48.5 | 48.5 | | 10.5-15 | 35 x 43 x 22 |
| EL-ISOL | RS232 isolator | 5 – 40 | 50 | 50 | | 8-15 | 37 x 69 x 30 |
| EL-EXP | Serial communication expander | 5 – 40 | 10 | 15 | | 8-15 | 51 x 66 x 30 |
| EL-DL2S | Safety light | -10 - 50 | | | 4 | 20 - 40 | 99.7 x 48 (diameter x depth) |
| EL-SL | Step light | -10 - 50 | | | 10 * | 20 - 40 | 70 x 70 x 65 |
| EL-IO | Input/output unit | -10 - 50 | | | 2 | 20 - 40 | 108 x 108 x 32 |

* At default light level 4.

18.1 Luminous Intensity for Exit Signs

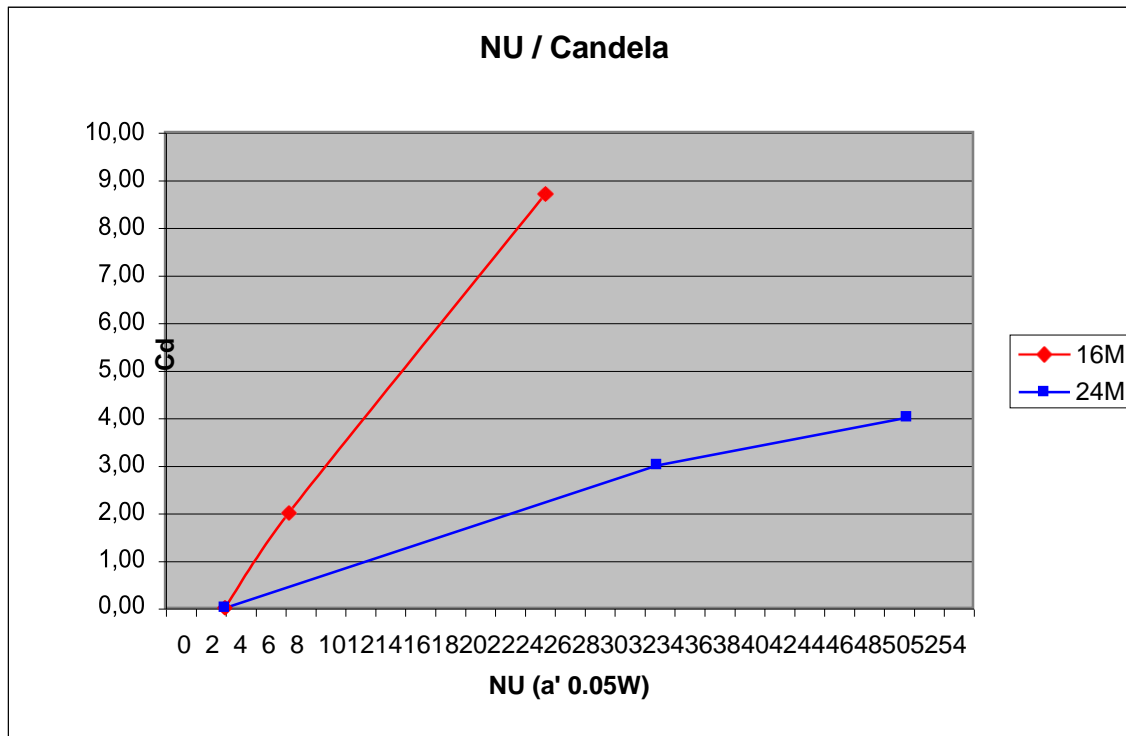


Figure 33 - Adjusted light level/corresponding luminous intensity

| Type | 16M | | 24M | |
|--------------------|--------------------|-----|--------------------|-----|
| Luminous Intensity | NU | Cd | NU | Cd |
| 0 | 4 | 0.0 | 4 | 0.0 |
| 1 | 6 | 0.9 | 7 | 0.4 |
| 2 | 7 | 1.6 | 10 | 0.7 |
| 3 | 8 | 2.0 | 16 | 1.3 |
| 4 * | 10 | 2.6 | 23 | 2.0 |
| 5 | 13 | 3.7 | 28 | 2.5 |
| 6 | | 7.0 | 33 | 3.0 |
| 7 | Power from battery | 9.0 | Power from battery | 3.2 |

* Factory setting for normal intensity

19 Troubleshooting

19.1 RS-485 Data Connection

Serial Port communications are indicated via LEDs; red (data receive) and green (data send).

When the red LED is flashing, the unit is receiving data. This does not mean that the unit understands the data. Not understanding the data may result from potential difference between the components.

When using separate power sources, these should be protectively isolated (not grounded). Cabling should also be supplied so that the negative pin is connected between devices (in problem cases using several conductors).

When the red LED is continuously on, it usually means that conductors A and B are reversed. Change the polarity of conductors A and B.

The data connection can be checked with an LED without a limiting resistor. The LED is connected to the line instead of the unit. Connect the LED between wires A and B; the LED should flash. Reverse the LED polarity; connect it between wires A and B; the LED should flash. If the LED does not flash, check the cable for faults.

19.2 Ground Leakage

19.2.1 Interference with Keypad Data Line

Interference could suggest there may be earth leakage. The system must be grounded only at one point. When a grounding point from an RS-232-connected device (such as a PC) is present, this must be located in the same power phase as the control panel. In other cases, the RS-232 device(s) must be isolated from the control panel with an isolator card. Measure the earth leakage by disconnecting the directly-connected RS232 device(s) from the system. After this, use a voltmeter in the DC range and measure each connection point against building earth. The meter must show 0V.

19.3 Luminaire Line

19.3.1 Supply Current

The current can be determined with a voltmeter in the DC range in line + and – of the luminaire mounting base. The voltage must be between 40 V and 20 V depending on the load.

If the voltage is over 0 V but under 20 V, the line is overloaded. The overload can result from cabling error (insufficient number of conductor pairs). The overload can also result from excessive normal-state light levels of exit signs. The luminaires' power consumption and, therefore the voltage loss, in the cable depends on the luminaires' light level/intensity.

If the voltage is 0 V, there is a break/short/overload that has blown the control panel's line fuse. Measure the cable for shorts. Check the line power units.

19.3.2 Line Data Communication

With the control panel programmed to communicate with only a specific address, for example, 127 (factory setting for luminaire), attach a EL-DL2-AS, set to address 127 and with a battery connected, to the first luminaire base in the wiring sequence.

By going through the system with a lit safety light you can determine if data communication works. Attach the lit safety light to the base; the light should turn off in a couple seconds. The light should blink once

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after approximately 5 s. After the blink, the line has been tested for that address. Remove the safety light and move to the next base and repeat the above process for each luminaire base.

19.3.3 Double Address Detection

If the EL-KP key pad reports a double address, it means that more than one device is using the same address.

The luminaires are supplied already set to address 127. You need to program the luminaires with unique addresses before installing. Failure to do this will result in a double-address situation.

Luminaires with a double address can be located, for example by setting them active or blinking etc. In a double address situation one address is also missing, for example, has the same address as another unit.