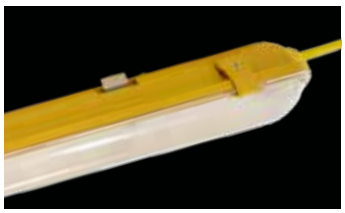
Clevertronics

48V

48V

TEMPORARY
LIGHTING RANGE



48V Temporary Lighting System

The **Next Generation** of **Clevertronics Temporary Lighting**

The Clevertronics 48V Temporary Lighting Range has been developed to improve safety, efficiency and scalability on modern construction sites.

Developed to meet the requirements of AS/NZS 3012, the 48V system provides reliable general and emergency lighting that can move and adapt as site layouts change.

Why 48V? | The Next Step Forward

48V SELV technology delivers greater scalability and capability while maintaining site safety

- Higher capacity — connect more than double the fittings per power supply vs 24V
- Longer runs — up to 30 battens per power supply (two legs of 15) plus up to 10 exits
- Extended coverage — 8-metre cable segments supporting maximum cable run up to 136.5m per line
- Streamlined installation — quicker installs and relocations, reducing labor time and downtime

Switched Control Without Compromise

The Clevertronics 48V system enables smart control of general lighting while ensuring emergency lighting remains fully operational and compliant. This enables;

- General lighting to be switched on or off as required
- Emergency batteries to remain continuously charged and ready
- Reduced energy consumption through limited run time
- Extended luminaire life
- Minimisation of light pollution where required

Purpose-Designed for **Construction** and **Demolition Environments**

The Clevertronics 48V temporary lighting system is engineered specifically for the conditions and operational demands of construction and demolition sites, where lighting infrastructure is temporary, frequently moved, and exposed to harsh environments.

Reliable operation in harsh site conditions

- Luminaires and cabling are designed with robust housings and IP-rated protection to withstand weather exposure and site contamination.
- LED light sources and electronics are selected for durability in vibration-prone environments such as multi-storey builds and active demolition areas.
- System reliability is maintained despite frequent power cycling and relocation.
- Result: Consistent lighting performance in environments where standard temporary solutions are prone to damage or failure.

Flexible mounting for temporary structures

- Luminaires support surface mounting or suspension to suit formwork, scaffolding, temporary ceilings and structural steel.
- Mounting methods are adaptable to changing ceiling heights and site layouts.
- No permanent fixing methods are required.
- Result: Lighting can be positioned where needed, regardless of the temporary nature of the structure.

Designed for frequent relocation and reuse

- Lightweight, modular components allow fittings to be removed and reinstalled without specialist tools.
- Plug & play connectivity avoids repeated termination and re-wiring.
- Products are designed for multiple install–remove cycles without degradation.
- Result: Reduced labour time and improved system longevity across the life of a project.

Aligned to construction site lighting requirements

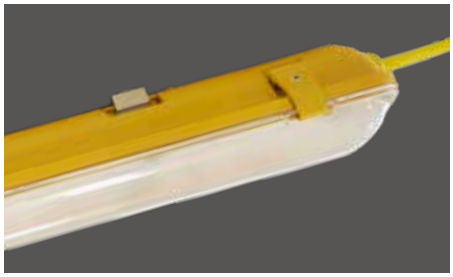
- System design aligns with AS/NZS 3012 construction site lighting provisions.
- Emergency and egress lighting considerations are integrated into the system architecture.
- Components are designed to support compliant lighting layouts as site conditions change.
- Result: Easier compliance management and reduced risk for contractors and site managers.

48V Temporary Lighting System

Temporary Luminaires – **Built for Site Use**

- The Clevertronics 48V range of battens, exit signs and flood lights is designed to deliver reliable, compliant lighting across changing construction site environments.
- Purpose-designed for temporary construction and demolition sites.
- Suitable for general, emergency and task lighting applications.
- Robust, weather-resistant construction for harsh site conditions.
- Simple installation with flexible mounting options.
- Easily relocated as site layouts and work areas change.

Power Supply



Battens - Weatherproof

Exit - Weatherproof

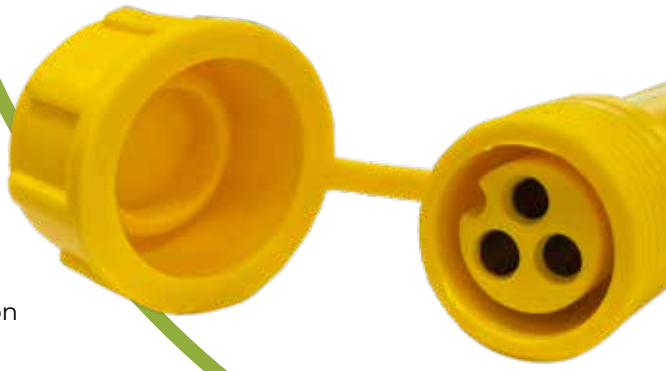
Exit - Indoor

Flood Light - Weatherproof

Clevertronics 48V Cables & Connectors

48V

Plug and Play Connectivity



- Tool-free plug & play connections for rapid installation
- Secure, keyed connectors to ensure correct and reliable connection
- IP-rated system suited to harsh, temporary site environments
- Easy to reconfigure as site layouts change
- Optional locking capability to prevent accidental or unauthorised disconnection

Cables - 4m, 6m, 8m

Splitters - 3 way, 4 way

Female Plugged Loom

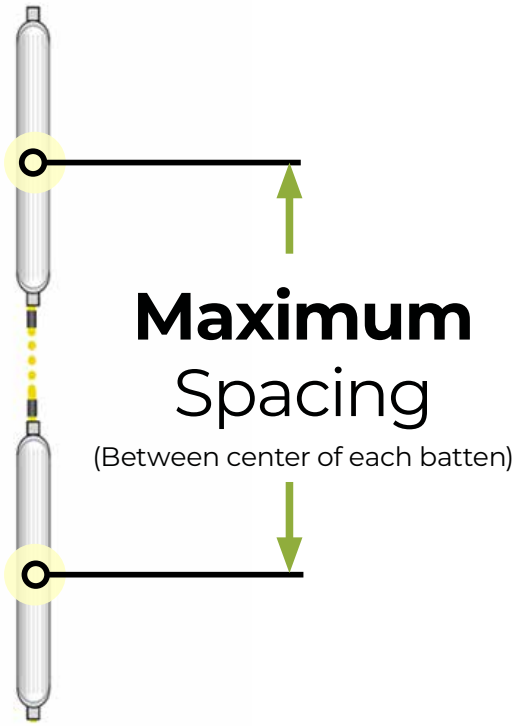
T-Lock

48V Temporary Lighting System

What is the maximum distance of a **compliant cable** run?

The Clevertonics 48V Temporary Lighting System is designed to support a maximum run length per cable of up to 136.5m at typical ceiling mounting heights.

With a minimum 2 x cable runs per power supply, that's a total of 273.0m, which may be split into multiple cable runs and over multiple levels of a construction site.

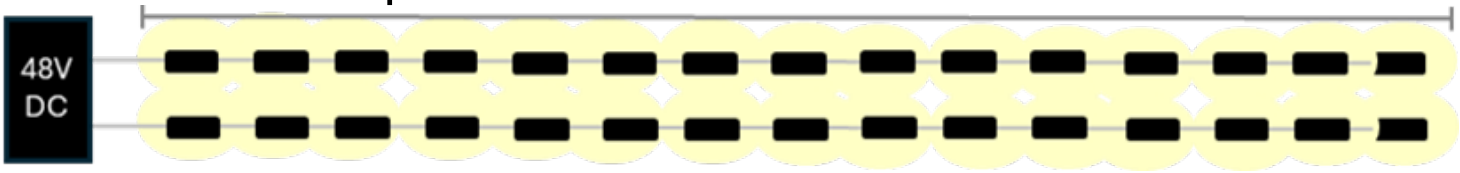


Ceiling **Mount**

Spacings are in accordance with AS/NZS 3012:2019 Clause 2.7.3.1 (b) and based on the TEMP-48V-1200-EM classification (C0=C200, C90=C200), and based on the C90 end-to-end spacing as indicated in image above.

MOUNTING HEIGHT	MAX SPACING (Using 1200mm Batten & 8m Loom)	MAX CABLE RUN LENGTH (15 x Battens)	MAX SYSTEM LENGTH (2 x Cable Runs)
2.7m	8.7m	130.5m	261.0m
3.0m	9.1m	136.5m	273.0m

Up to **136.5m** @ 3.0m Mounting Height



The Clevertronics 48V Temporary Lighting System is engineered to support safe and compliant construction sites, achieving 40lx average of general lighting levels to AS/NZS 3012:2019 and a minimum 20lx for safe movement in line with AS/NZS1680.0, across a 2.0m wide egress path.

* For wall mount horizontal and vertical mount applications refer to Design Methods for Demonstrating Lighting Compliance (page 18)

How many fittings can be attached to the power supply?

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30 BATTENS

Up to 15 x Battens per cable run and a total of 30 x battens per 48V System.

OR

15 FLOOD LIGHTS

Each Flood Light is equivalent to 2 x Battens in terms of load on the circuit. For example, on a single cable run you can connect up to 13 battens plus 1 flood light.

PLUS

10 EXITS

Up to 10 x Exits may be added using a splitter between Battens or Flood Lights without impacting the number of Battens or Flood Lights (maximum of 5 per cable run).

48V Temporary Product Range

Power Supply

- High-capacity power supply designed to support large-scale temporary lighting installations with built-in flexibility for construction site operation.
- Dual-line 48V DC output provides efficient power distribution across the temporary lighting system, supporting extended cable runs and multiple luminaires.
- Pre-fitted flex & plug connections enable fast, tool-free connection to the temporary cabling system, reducing installation time and simplifying relocation.
- General lighting can be switched off while batteries remain charging, allowing energy-efficient operation without compromising emergency lighting readiness.
- Supports more than twice the number of fittings compared to traditional 24V systems, reducing the number of power supplies required across site and simplifying system layout.
- IP66 rated enclosure provides protection against dust and water ingress, ensuring reliable performance in harsh construction site environments.

Product Specifications

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48V Temporary **Power Supply**

ORDERING INFORMATION	48V POWER SUPPLY	48V POWER SUPPLY (W/TEST SWITCH)
Product Code	TEMP-48V-PS	TEMP-48V-PS-ELTK
Lines	Double	
Dimensions (L x W x H)	400mm x 400mm x 200mm	

TECHNICAL SPECIFICATIONS	48V POWER SUPPLY (DOUBLE LINE)	48V POWER SUPPLY (DOUBLE LINE)
Operating Voltage	240V AC, 50Hz	240V AC, 50Hz
Rated Output Voltage	48V DC 25A (Max)	48V DC 25A (Max) & AS2293.1 Test Switch
Operating Temperature	0˚C - 40˚C	
Ingress Protection Rating (IP)	IP66	
Construction	Metal enclosure	
Mounting	Surface mount	
Weight	20kg	
Charging Method	Intelligent current limited constant voltage	
Rated Output Voltage	48V DC (SELV)	
Rated Output Current	20A (Combined, nominal output of the two power supplies). Absolute maximum rated current for each power supply at 48V is 12.5A)	

Available with integrated test switching which enables emergency lighting verification without disrupting general lighting or site operations. (Product Code TEMP-48-PS-ELTK)

* Test emergency lighting without isolating the supply

* General lighting stays on during testing

* Faster, safer compliance with minimal disruption

48V Temporary Product Range

Weatherproof Battens

- Reliable emergency and general lighting designed specifically for construction and demolition sites, providing compliant illumination with fast installation and flexible configuration.
- Long-life Lithium Iron Phosphate batteries provide dependable emergency operation with extended service life, reducing maintenance requirements over the duration of the project.
- Surface mount or chain suspension options allow installation to suit a wide range of temporary structures, ceiling heights and site conditions.
- Switchable general lighting with permanent battery charge enables general lighting to be controlled as required while ensuring emergency batteries remain continuously charged and ready.
- Available in 600mm and 1200mm lengths to suit different spacing, light level and layout requirements across site areas.
- End-to-end IP65 flex & plug connections enable fast, tool-free installation and easy relocation as site layouts and egress routes change.
- AS/NZS 2293.3 compliant with 1-hour emergency duration in accordance with AS/NZS 3012, supporting compliance with construction site lighting standards

Product Specifications

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48V Temporary **Weatherproof Battens**

ORDERING INFORMATION	600MM		1200MM	
Product Code	TEMP-48V-600	TEMP-48V-600-EM	TEMP-48V-1200	TEMP-48V-1200-EM
Dimensions (L x W x H)	655mm x 88mm x 81mm		1264mm x 88mm x 81mm	

POWER, LAMPS AND BATTERY	600MM		1200MM	
Power Consumption	12W	14.2W	24W	26.2W
Lamp(s)	LED strip module, L70/B50 Ta 40°C; Reported > 72,000h, projected > 152,250h			
Total Lumen Output	1800lm		3600lm	
Colour Temperature	4000K			
Colour Rendering Index (CRI)	Ra≥ 80			
Battery	-	Lithium Iron Phosphate	-	Lithium Iron Phosphate
Operating Mode	Non-emergency	Sustained	Non-emergency	Sustained
Operating Voltage	48V DC			
Mounting Type	End to End 3 Core IP65 Flex & Plug			
Ingress Protection Rating (IP)	IP65			
Impact Rating (IK)	IK08			
AS/NZS 2293.3, AS.NZS 3012 Classification	-	C0=D80 C90=C160	-	C0=C200 C90=C200

48V Temporary Product Range

Exits Lights (Weatherproof or Indoor)

- Fast, compliant exit signage designed for temporary construction and demolition installations where safety, reliability and ease of installation are critical.
- Long-life Lithium Iron Phosphate batteries provide reliable emergency performance with extended service life, reducing maintenance requirements over the duration of the project.
- Surface mount or chain suspension options allow flexible installation to suit a wide range of temporary structures and mounting conditions.
- Weatherproof options available for reliable operation in exposed indoor and outdoor site environments.
- All directional decals supplied in one box simplifies installation and ensures correct exit orientation without additional accessories.
- Flex & plug connection enables rapid, tool-free installation and easy relocation as site layouts and egress routes change.
- AS/NZS 2293.3 compliant with 1-hour emergency duration in accordance with AS/NZS 3012, supporting compliance with construction site lighting requirements.

Product Specifications

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48V Temporary
Exit Lights (Weatherproof or Indoor)

ORDERING INFORMATION	CLEVERFIT	UNIVERSAL WEATHERPROOF
Product Code	TEMP-48V-CFLED	TEMP-48V-WELED
Dimensions (L x W x H)	355mm x 80mm x 215mm	410mm x 100mm x 272mm
Directional Options	All Directional Inserts Included	

POWER, LAMPS AND BATTERY	CLEVERFIT	UNIVERSAL WEATHERPROOF
Power Consumption	1.5W	1.5W
Battery	Lithium Iron Phosphate	
Operating Mode	Maintained	
Operating Voltage	48V DC	
Viewing Distance	24m	
Mounting Type	Chain Suspension or Wall Mount	Wall and Ceiling Mount
Ingress Protection Rating (IP)	IP20	IP66/67

Note: Non-Emergency Version Only

48V Temporary Product Range

Weatherproof Flood Light

- High-output flood lighting designed to provide effective task and area illumination for construction site applications where robust, flexible lighting is required.
- Four adjustable LED heads allow light to be directed precisely where required, enabling effective coverage of work zones, access points and task areas.
- 3327 lumen total output delivers high-level illumination suitable for active construction environments and night works.
- IP65 rated construction provides protection against dust and water ingress, ensuring reliable operation in exposed outdoor and indoor site conditions.
- IK08 impact rating offers resistance to accidental knocks and impacts common on busy construction sites.
- Flex & plug connection enables fast, tool-free deployment and easy relocation as site layouts and work areas change.

Product Specifications

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48V Temporary
Flood Light (Weatherproof)

ORDERING INFORMATION	**48V WEATHERPROOF FLOOD LIGHT** (Non-Emergency)
Product Code	TEMP-48V-WFLED
Dimensions (L x W x H)	Total: 395mm x 100mm x 300mm Enclosure: 150mm x 100mm x 250mm

POWER, LAMPS AND BATTERY	**48V WEATHERPROOF FLOOD LIGHT** (Non-Emergency)
Power Consumption	36W
Lamp(s)	LED module, L70/B50 Ta 40°C; Reported > 60,000h, projected > 148,790h
Total Lumen Output	3327lm
Colour Temperature	4000K
Colour Rendering Index (CRI)	Ra≥ 80
Operating Voltage	48V DC
Connection Type	End to End 3 Core IP65 Flex & Plug
Ingress Protection Rating (IP)	IP65
Impact Rating (IK)	IK08

48V Temporary Product Range

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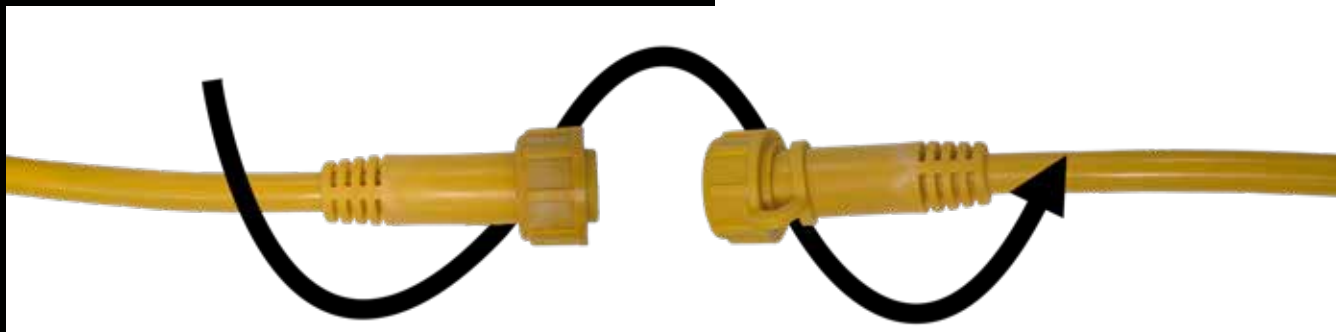
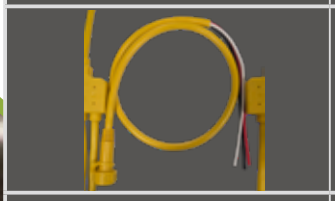


Click & **Twist**

Cables & Connectors

- A coordinated range of cabling and connection accessories designed to provide fast, secure and flexible connectivity for temporary lighting installations on construction sites.
- Designed to support rapid, tool-free connection of temporary lighting systems.
- Enables flexible system layouts and easy expansion as site requirements change.
- Provides secure, keyed connections to ensure correct polarity and reliable operation.
- Supports frequent relocation and reuse without re-termination or specialist tools.
- Optional connection locking helps prevent accidental or unauthorised disconnection on active sites.

48V Temporary
Cables & Connectors

	PART NUMBER	SYSTEM COMPONENTS
	TEMP-EC4M	4M Yellow Extension Cable - IP65
	TEMP-EC6M	6M Yellow Extension Cable - IP65
	TEMP-EC8M	8M Yellow Extension Cable - IP65
	TEMP-FP1M	1M Temp. Female Plugged Loom - IP65
	TEMP-SC3	Splitter Connector - IP65 3 Way
	TEMP-SC4	Splitter Connector - IP65 4 Way
	T-Lock	Connector locking device to prevent unauthorised disconnection of emergency lighting cables as per the requirement of AS/NZS:3012 - 2019 - 2.7.3.1

48V Temporary Application Guide

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Design Methods for **Demonstrating Emergency Lighting Compliance**

Emergency lighting must be installed on all construction and demolition sites in areas such as stairwells, access corridors, and locations adjacent to switchboards whenever adequate general illumination cannot be achieved through natural light alone. This lighting must enable occupants to move safely throughout the site and provide clear paths for entry and exit.

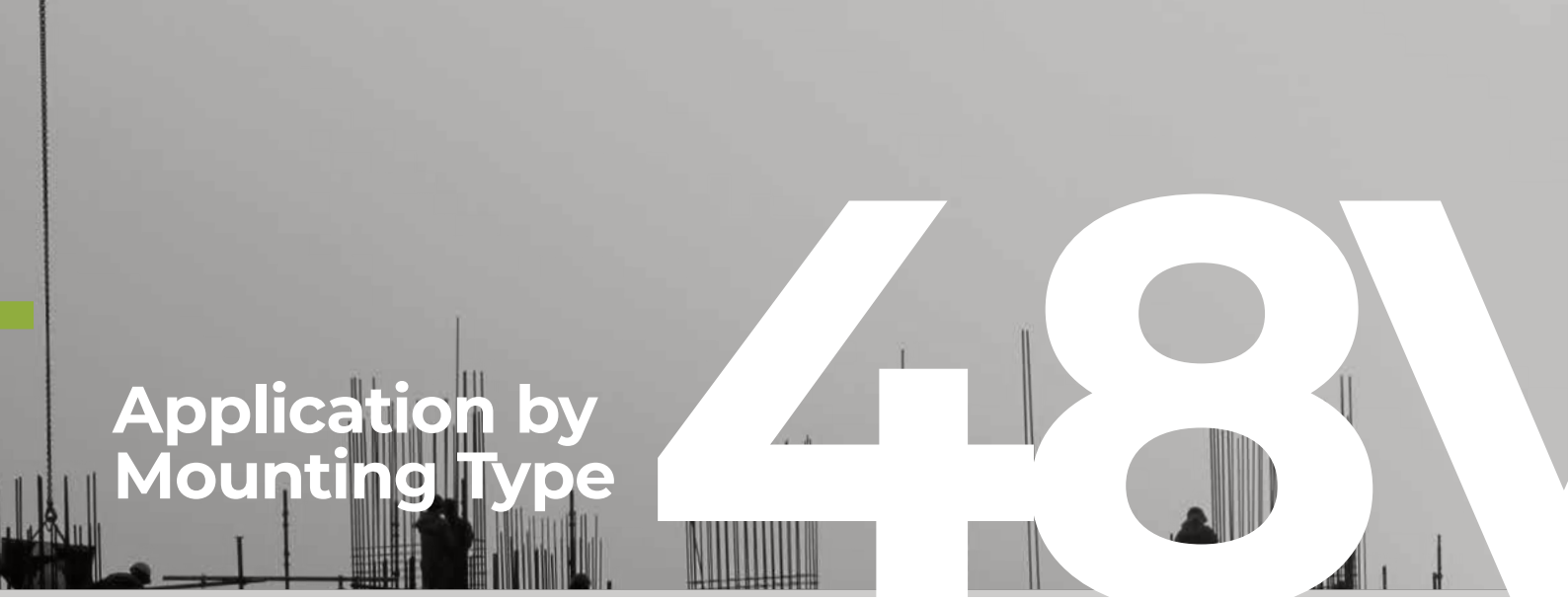
Within these required areas, emergency lighting must operate for a minimum of 1 hour following loss of normal power and comply with one of the following compliance approaches as per AS/NZS 3012:2019;

Option 1 Clause 2.7.3.1-(a)	**Option 2** Clause 2.7.3.1-(b)	**Option 3** Clause 2.7.3.1-(c)
Illuminance (Lux) Based Design	**Prescriptive Installation Method**	**Calculated Lighting Design**
• Provide an average illuminance of 20 lux • Measurement taken at 900 mm above floor level • Along the centre line of the corridor or escape path • Emergency luminaires must be positioned to achieve this average level	• Install emergency luminaires that comply with AS/NZS 3012 • Luminaires must meet the specified: • Luminaire classification • Mounting height • Spacing requirements • Refer to AS/NZS 3012:2019 Tables 2, 3, 4 and 5	• Emergency lighting designed using illuminance calculations • Calculations must comply with Clause 4.6.1 of AS/NZS 3012:2019 • Achieve a minimum horizontal illuminance of 3 lux • Emergency lighting must operate for a minimum of 1 hour following loss of normal power
Lux Plot Calculations Required	**Spacing Tables** as per ASNZ 3012:2019 (referenced below)	**Lux Plot Calculations Required**

Option 2 - Spacing Tables as per AS/NZS 3012:2019;

- 48V-TEMP-1200-EM > C0=C200, C90=C200
- 48V-TEMP-600-EM > C0=D80, C90=C160

EXAMPLE FOR METHOD (B) SPACING TABLE AND MOUNTING HEIGHTS – AS/NZS 3012:2019 (MINIMUM LIGHT LEVEL OF 3 LUX)												
Classification	2.1m	2.4m	2.7m	3.0m	3.3m	3.6m	4.0m	4.5m	5.0m	6.0m	7.0m	8.0m
C200	7.9	8.3	8.7	9.1	9.4	9.7	10	10.3	10.5	10.4	10.4	9.9
D80	7.9	8.1	8.3	8.4	8.4	8.4	8.3	8	7.6	N/A	N/A	N/A
C160	7.4	7.8	8.1	8.4	8.7	8.9	9.2	9.4	9.5	9.5	8.9	N/A



Application by Mounting Type

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Once a design method is selected, the appropriate compliance pathway depends on whether the luminaires are ceiling-mounted or wall-mounted.

Ceiling-Mounted Applications

Recommended design approach is:

- Option 2 may be used where the luminaire classification, mounting height and spacing align with the AS/NZS 3012:2019 spacing tables
- Options 1 and 3 may also be used where a calculated approach is preferred or required

Design Advantage: Ceiling-mounted installations offer flexibility, allowing either table-based compliance or calculated design.

Wall-Mounted Applications

Spacing tables from AS/NZS 3012:2019 do not support spacings for the wall mount horizontal and vertical classifications, therefore recommended design approach is;

- Apply Option 1 or 3 using the IES file to generate lux plot calculations
- Calculations must comply with AS/NZS 3012:2019 clause 2.7.3.1(a) or clause 2.7.3.1(c)

Design Confidence: Calculated design enables precise verification of light levels and ensures compliance across a wide range of wall-mount scenarios.

If using the 48V Temporary in wall mount application, seek spacing guidance based on Option 3, contact Clevertronics for support.

Maximum Cable Run Length

Maximum cable run length of the 48 Temporary emergency battens is determined by spacings in accordance with Option 2, the spacing tables from ASNZS 3012:2019. These are summarised below and based on C90 end-to-end spacing:

1200mm Batten (with 8m loom)
Ceiling Mount (C0=C200, C90=C200)

Mounting Height	Max Spacing (C90)	Max Length per Cable Run 15 x 1200mm Battens	Max Length 2 x Cable Runs 30 x 1200mm Battens
2.7m	8.7m	130.5m	261.0m
3.0m	9.1m	136.5m	273.0m

600mm Batten (with 8m loom)
Ceiling Mount (C0=D80, C90=C160)

Mounting Height	Max Spacing (C90)	Max Length per Cable Run 15 x 1200mm Battens	Max Length 2 x Cable Runs 30 x 1200mm Battens
2.7m	8.3m	121.5m	249.0m
3.0m	8.4m	126.0m	252.0m

48V Temporary Application Guide

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Example **Scenario**

- Connect up to 30 emergency battens per power supply (double line) with 8m interconnection cables.
- This equates to a maximum of 15 emergency battens per line with 8m interconnection cables between each fitting.
- Each flood light is considered equivalent to 2 battens in terms of load on the circuit. For example, on a single line, you can connect up to 13 emergency battens plus 1 flood light.
- Maximum number of connected fittings per line is determined by overall voltage drop.

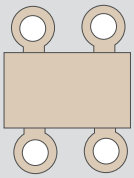
LEGEND

BATTEN

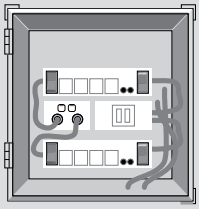
EXIT

LEAD

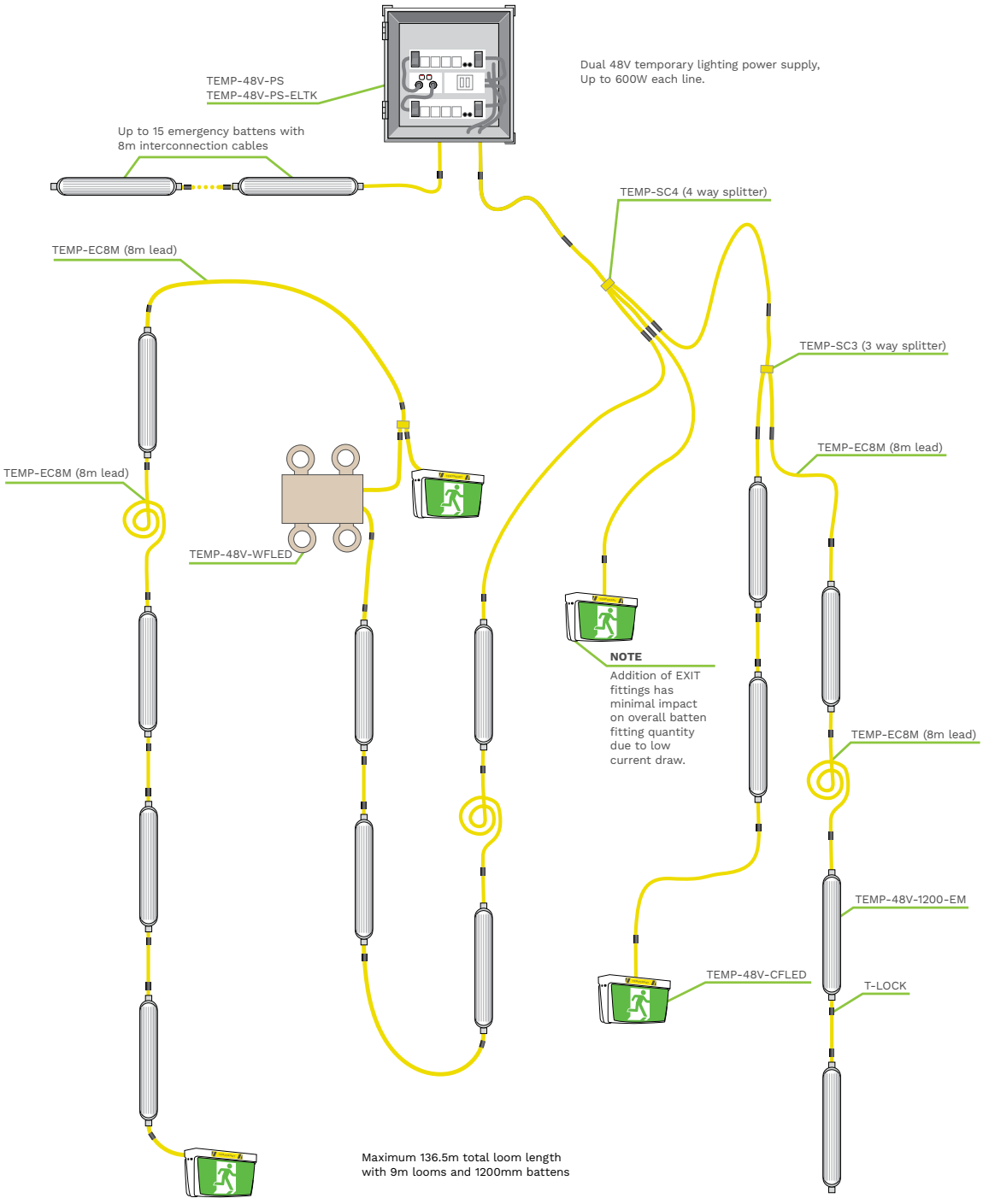
TEMP-48V-WFLED



TEMP-48V-PS
TEMP-48V-PS-ELTK



48V Example Scenario



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