

Emergency lighting

Increased affordance technology for self-contained luminaires



Faster and safer evacuations
with better recognition of
escape routes

EATON

Powering Business Worldwide

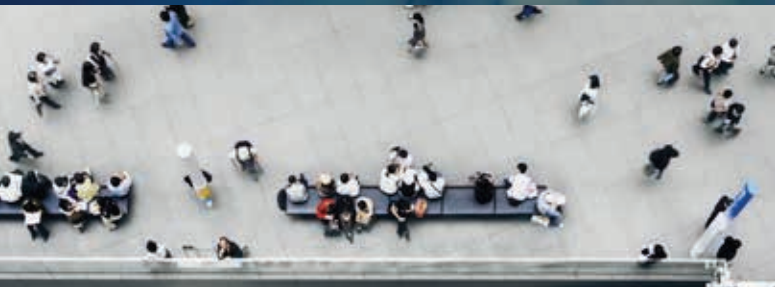


WorkSafe

Protect people and property

Risk management for commercial buildings is evolving rapidly. Facing a growing diversity of threats in an urbanised and complex environment, the owners and managers of buildings are re-evaluating the way they protect people, property and business continuity. It is not only a legal obligation but a moral, financial and reputational imperative. In emergencies involving fire, terrorism and civil unrest, it is essential that hazards can be detected, occupants alerted and evacuations expedited. The safe and timely completion of this process is dependent on planning, equipment, training and infrastructure. Special consideration must be given to situations in which occupants are unfamiliar with layout and procedures, and particularly if they are in large, densely populated, high-risk or complex premises such as railway stations, shopping centres, airports, stadia, government buildings or leisure facilities.

Building upon decades of expertise in the delivery of life safety systems, and particularly emergency lighting technologies, Eaton's solutions enable faster, safer and more agile evacuations.



Increased affordance

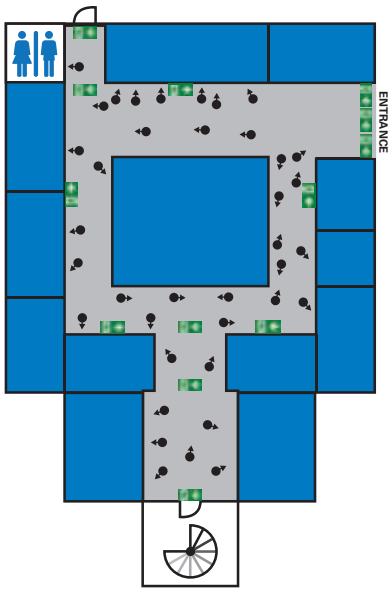
The evacuation of commercial buildings can be inhibited by people's failure to recognise standard emergency exit signs.

To improve the visibility of signs, Eaton has introduced an Increased Affordance capability to its emergency lighting range, which enables exit signs to flash or pulse when activated manually or through automated connection to other evacuation triggers.








How does Increased affordance help ?

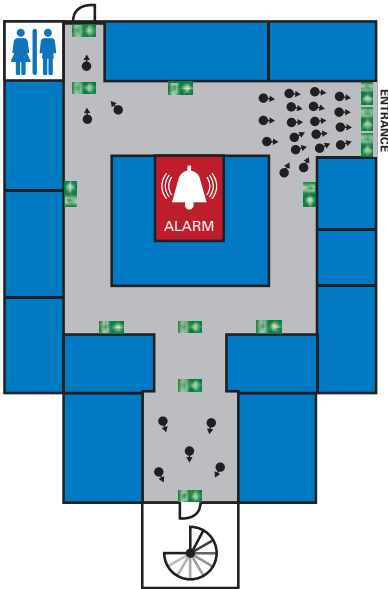
1. Normal situation



In a standard configuration, the exit signs positioned in accordance with the rules are showing the way to the next exit route.

-  Evacuation alert
-  Shops
-  Public
-  Emergency exit
-  Blinking

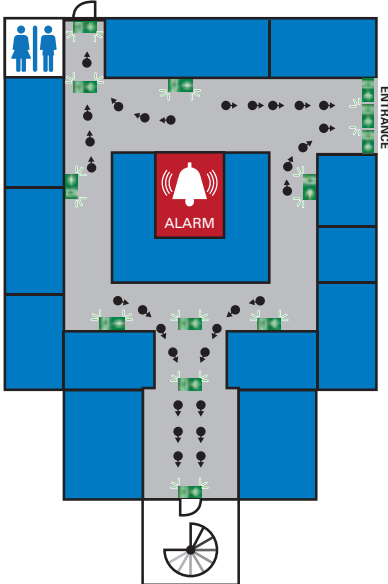
2. Evacuation without IA



The ability of the public to recognise emergency exit signs is crucial in emergency situations requiring evacuation of a building. However, research has shown that only 38 per cent of people may see conventional exit signs during evacuation from an unfamiliar environment. Furthermore, the proliferation of branding, advertising and informational signage in buildings such as shopping centres and airports can distract attention away from exit signs.

As a result, occupants may become confused or be inclined to return to the point where they entered the building, which can lead to overcrowding, congestion and delayed evacuation.

3. Evacuation with IA



Eaton has developed a new system to increase the visibility of exit signs, whereby the emergency luminaire that illuminates the sign can flash on and off or pulse more softly.



Bearing in mind the two-sense principle for emergency notification, the challenge of recognising exit signs is exacerbated for people with hearing disabilities who may not hear any accompanying vocal instructions or alarms. In their normal mode, the luminaires offer excellent visibility thanks to a high level of luminance that exceeds the minimum requirement in most countries.

When activated, Increased Affordance enables even better recognition by flashing or pulsing but never dipping below the minimum level of luminance that is established in industry standards, thus achieving full compliance.

Increased affordance portfolio

The Increased Affordance functionality has been added to selected emergency luminaires within Eaton's lighting range, including CrystalWay and Nexitech.

This fully programmable function can be activated manually or automated to respond to a preset trigger such as a fire alarm, panic button or other system. Eaton's Increased Affordance solution has been developed and tested by an engineering team with decades of expertise in emergency lighting.



CGLine+ Web-Controller



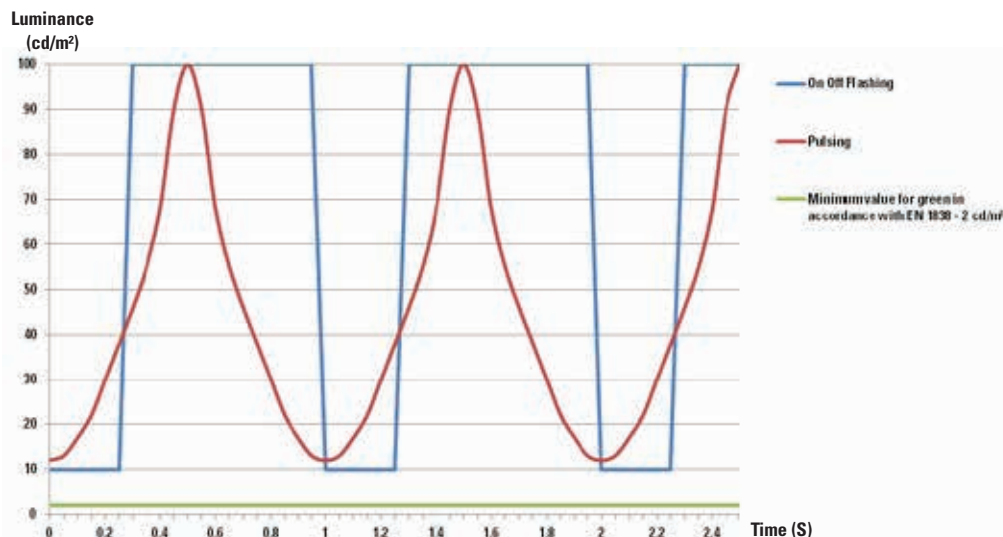
CGLine+ Touchscreen Web-Controller



TL CGline+

When connected to Eaton's monitoring and control system for emergency lighting, CGLine+, the exit sign luminaires are able to provide either soft pulsing or on-and-off flashing. In their normal mode, the luminaires offer excellent visibility thanks to a high level of contrast that exceeds the minimum requirement in most countries. When activated, Increased Affordance enables even better recognition by flashing or pulsing but never dipping below the minimum level of luminescence that is established in industry standards, thus achieving full compliance. The IA function can be started either in normal maintained mode or in emergency lighting mode because an evacuation is not necessarily linked to a mains failure. The IA function will remain activated for 30 minutes (typical evacuation times are lower) before the luminaire switches back to normal operation.

Luminance in the green zone of an IA luminaire (flashing or pulsing) compared with the minimum luminance in battery mode defined by EN1838:

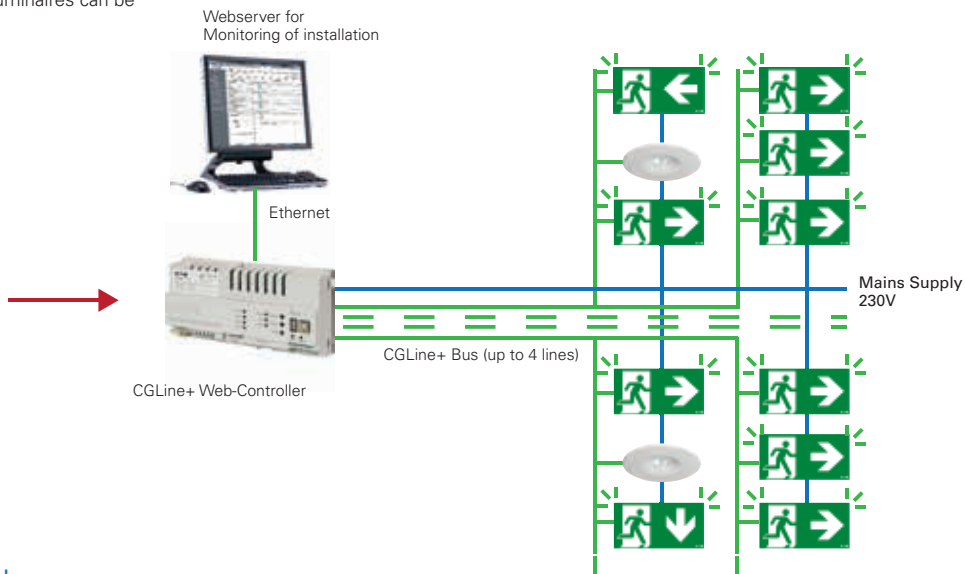


Basic configuration with Controller

- One input signal will activate blinking of all luminaires connected to a line
- Select activation of all lines or single lines
- One controller for both: Standard CGLine+ and IA luminaires can be controlled via the same controller



1x Universal input (Dry contact)

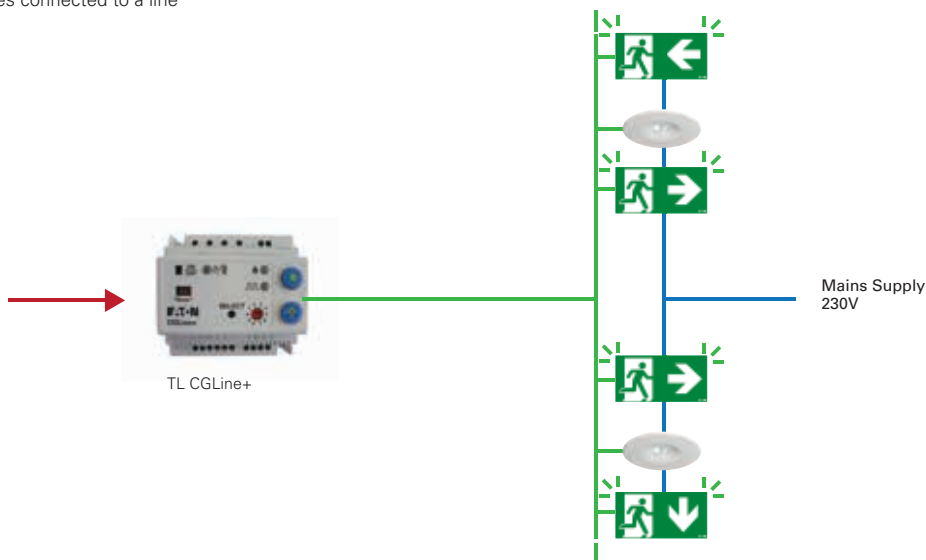


Basic configuration with TL CGLine+

- One input signal will activate blinking of all luminaires connected to a line



1x Universal input (Dry contact)

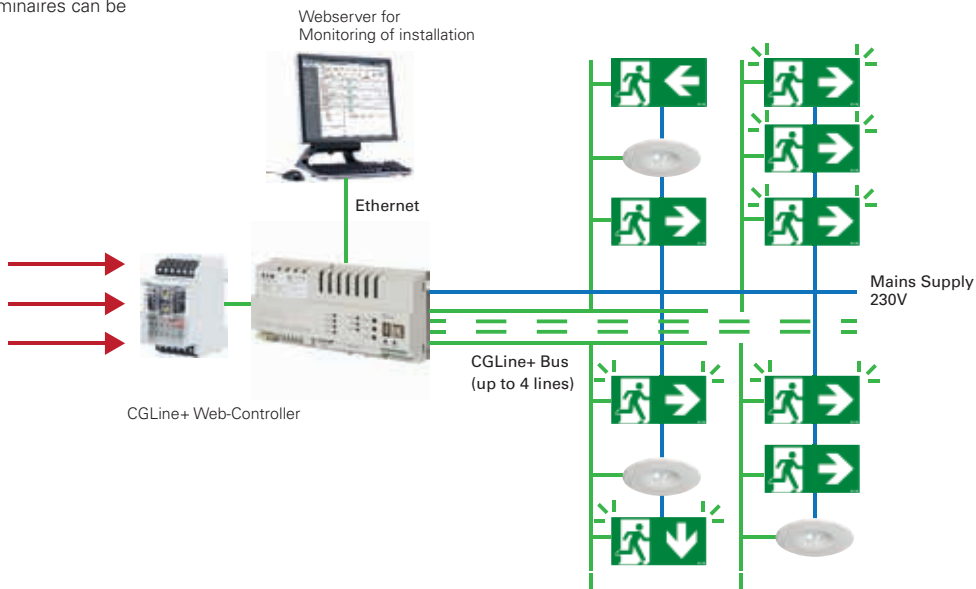


Advanced configuration

- Scenarios will be activated via inputs (switch contacts)
- The programming will be via the PC Software
- Every single luminaire can be assigned to IA scenarios
- One controller for both: Standard CGLine+ and IA luminaires can be controlled via the same controller



10 inputs in standard
Optional up to 30 inputs

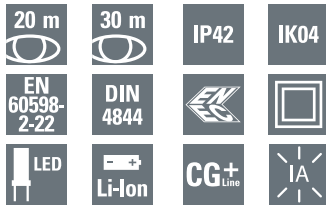




CrystalWay IA

The CrystalWay design combines LED Lightguide technology with a highly transparent frame. Also thanks to optimal illumination, this achieves excellent recognition of the escape sign and a concise, discreet appearance. The standard scope of supply for CrystalWay already contains all accessories for mounting to walls or ceilings and a pictogram set. For planning and purchasing, a differentiation must only be made between viewing distances of 20 m and 30 m. Further accessories are also available for additional mounting methods such as recessed ceiling or cable suspension.

The CrystalWay incorporates high performance components and the newest Lithium-Ion battery technology to create a low profile yet robust emergency lighting solution which performs to a high standard while providing a long operating life.



CrystalWay IA 19821, 19822 CGLine+

- Self-contained LED luminaire with CGLine+ functionality for reduced inspection effort
- With Increased Affordance (IA) function: Triggered by a CGLine+ Web-controller or TL CGLine+ the product flashes in order to improve perceptibility. This way, evacuation can be quicker and safer.
- The IA CGLine+ Webcontroller enables users to program in which situation the luminaire will go to IA function and choose between blinking and pulsing (smooth blinking) depending on the application and surrounding
- Perfect homogeneity and uniformity of the pictogram's illuminance
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Frameless design with pictogram integrated in acrylic glass
- Unobtrusiveness, thin and slim electronic base (Height: only 22mm)
- Brightness selectable in mains operation (eg. standard: 500 cd/m² or theater: 50 cd/m²)
- Selectable operating time (1h, 3h, 5h, 8h operation)
- Environmentally-friendly due to modern lithium-ion technology
- Low operating costs thanks to low connected load
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Simple fault analysis and status display via bicolor LED and testing button
- Blocking function prevents unintended discharge during idle operating times (only with CGLine+ Web-controller)
- Configurable product for wall or ceiling mounting
- Delivered with non adhesive pictograms to suit most existing configurations (single & double sided signage)

Wall-surface mounting



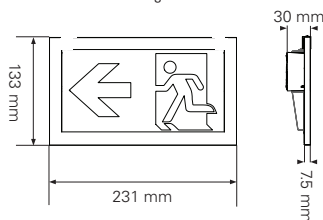
Ceiling-surface mounting



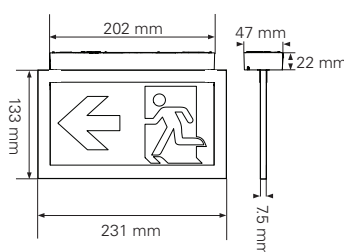
Pictogram	
Viewing distance	20m and 30m
Included labels	Included pictograms: Up, down, left, right, blind
Luminous flux Φ_E/Φ_N at end of rated operating time	100 % at 1 h; 45 % at 3 h; 25 % at 5 h; 18 % at 8 h
Testing system	Automatic test in compliance with EN 62034 Connection possible to the CGLine+ monitoring system
Housing	
Type of mounting	Wall surface-mounting, Ceiling surface-mounting
Material	Polycarbonate
Colour	RAL9003
Degree of protection	IP 42 & IK 04
Terminals	Screwless terminals (L, L', N, PE, GGLine+ bus) for flexible and rigid wires From 0.5 to 2.5 mm ²
Connection voltage	220-240 V AC 50-60 Hz
Permissible ambient temperature	+5°C to +35°C
Battery	CrystalWay19821 : Li-Ion 3.6 V/620 mAh CrystalWay19822 : Li-Ion 3.6 V/1240 mAh
Light source	LED strip
Weight	CrystalWay19821 : 0.4 kg CrystalWay19822 : 0.7 kg

CrystalWay 19821

Wall-surface mounting

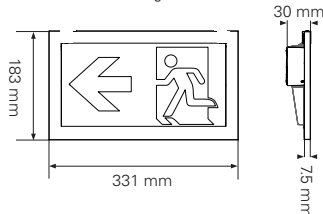


Ceiling-surface mounting

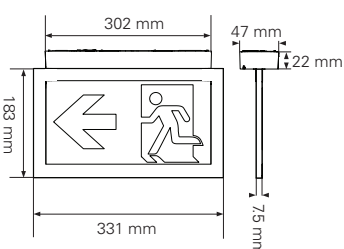


CrystalWay 19822

Wall-surface mounting



Ceiling-surface mounting



Ordering details

Product	Viewing distance	Picto (mm)	Duration	Consumption Max 500 Cd	50 Cd	Order N°
CrystalWay 19821 1-8h/D IA CGLine+	20m	100 x 200	1/3/5/8h	4.1 W	2.3 W	40071777000
CrystalWay 19822 1-8h/D IA CGLine+	30m	150 x 300	1/3/5/8h	5.8 W	2.5 W	40071777001

Ordering details - accessories

Product	Order N° CrystalWay 19821	Order N° CrystalWay 19822
Wire suspension kit	LUM10560	LUM10560
Recessed base, for ceiling mounting	LUM10561	LUM10562
Recessed base with cover, for ceiling mounting	LUM10563	LUM10564
Recessed base with cover, for combination with wire suspension kit	LUM10563S	LUM10564S
Concrete box (suitable for recessed base with cover)	LUM10565	LUM10566
Add-on housing for expanded spatial conditions for wiring and cable infeed	LUM10567	
Horizontal pictogram Arrow Down, ISO 7010	LUM10573	LUM10587
Horizontal pictogram Arrow Left, ISO 7010	LUM10574	LUM10588
Horizontal pictogram Arrow Right, ISO 7010	LUM10575	LUM10589
Horizontal pictogram Arrow Up, ISO 7010	LUM10577	LUM10591
Vertical pictogram Arrow Down, ISO 7010	LUM10584	LUM10592
Vertical pictogram Arrow Left PL, ISO 7010	LUM10585	LUM10593
Vertical pictogram Arrow Right PR, ISO 7010	LUM10586	LUM10594



NexiTech IA

NexiTech LED™ was created with the aim of simplifying the work of the installer. No tools are needed to open or close the product and installation is further simplified by the presence of a quick plug-in screwless terminal block.

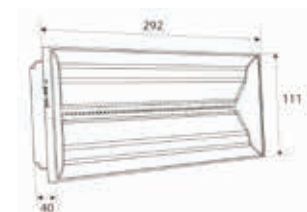
NexiTech LED™ can be installed on walls, ceilings, recessed walls or false recessed ceilings. Although it is particularly suitable for interiors such as offices, schools, universities and hospitals, NexiTech LED™ can be quickly turned into an outdoor unit with the simple addition of an IP65 protection kit. This kit makes it possible to use NexiTech LED™ even in humid and dusty environments such as underground car parks and light industrial plants.



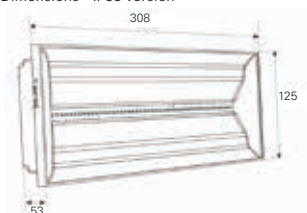
NexiTech LED IA



Dimensions - IP40 version



Dimensions - IP65 version



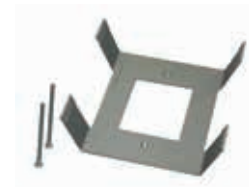
Finishing frame



Recessed base for bricks wall



False ceiling adapter



NexiTech LED IA CGLine+

- Self-contained LED exit sign luminaire with automatic test for reduced inspection effort connected to TL CGLine+ or the CGLine+ monitoring system
- With Increased Affordance (IA) function: Triggered by a CGLine+ Web-controller or TL CGLine+ the product flashes in order to improve perceptibility. With this evacuation can be quicker and safer.
- Via the IA CGLine+ Web-controller it is possible to programme the scenario in which the luminaire will go to IA function. Users can be choose between a blinking and pulsing (smooth blinking) mode depending on the application and surrounding.
- In combination with TL CGLine+ the luminaire will work only in pulsing mode
- High quality pictogram foils with special printing for improved uniformity
- The pictograms are easy to position while they are well-protected behind the cover
- Low operating costs thanks to low connected load
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings)
- Simple fault analysis and status display via bicolor LED and testing button
- Blocking function prevents unintended discharge during idle operating times
- Configurable product for wall or ceiling mounting

Pictogram Viewing distance	20m
Luminous flux Φ_e/Φ_N at end of rated operating time	100%
Housing	
Type of mounting	Wall surface-mounting
Material	Polycarbonate
Colour	RAL9003
Degree of protection	IP 40 & IK 03 (IK07 for IP65)
Terminals	Screwless terminals (L, L', N, PE, GGLine+ bus) for flexible and rigid wires From 0,5 to 2,5 mm ²
Connection voltage	230 V AC 50/60 Hz
Permissible ambient temperature	+5°C to +30°C
Battery	7.2 V 1.7 Ah Ni-Cd
Light source	LED strip
Weight	NexiTech IA IP40 : 0.630 kg NexiTech IA IP65 : 0.770 kg

Ordering details

Product	Viewing distance	Degree of protection	Duration	Consumption		Order N°
				500 Cd	50 Cd	
NexiTech LED 1h IA CGLine+ IP40	20m	IP40	1 h	8.2VA/4W	5.4VA/2.5W	NEXI1HIA-CGL
NexiTech LED 3h IA CGLine+ IP40	20m	IP40	3 h	8.2VA/4W	5.4VA/2.5W	NEXI3HIA-CGL
NexiTech LED 1h IA CGLine+ IP65	20m	IP65	1 h	8.2VA/4W	5.4VA/2.5W	NEXI1HIACGLIP
NexiTech LED 3h IA CGLine+ IP65	20m	IP65	3 h	8.2VA/4W	5.4VA/2.5W	NEXI3HIACGLIP

Pictograms not included

Ordering details - Accessories

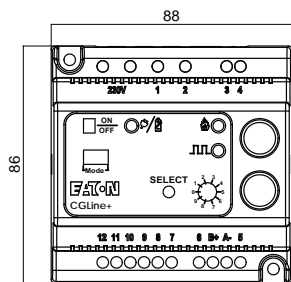
Order N°	Product
NEXI-PICTO-D	Pictogram Down ISO7010 single-side 20m
NEXI-PICTO-L	Pictogram Left ISO7010 single-side 20m
NEXI-PICTO-R	Pictogram Right ISO7010 single-side 20m
NEXI-PICTO-U	Pictogram Up ISO7010 single-side 20m
NEXI-RB	Bricks wall recessed base (cut-out 277x100mm)
NEXI-FC	False ceiling adapter (cut-out 272x95mm)
NEXI-FR	Finishing frame NexiTech LED

TL CGLine+

TL CGLine+



Dimensional drawings, data in mm



TL CGLine+

- Control Module for up to 400 luminaires with CGLine+ bus connection
- For starting the Increased Affordance (IA) function at all connected luminaires via switch contact with this function the luminaires will start to flash (smooth pulsing). This way, evacuation can be quicker and safer.
- The input contact for starting the IA function has a differential loop monitoring for secured function of the connected switch
- Start of Rest-Mode via button at the TL CGLine+ or via switch input.
Rest-mode: In case of planned mains outage this switches off the emergency lighting function. By this, the battery capacity is saved and the luminaires are ready for emergency mode directly after end of the planned outage
- With function for synchronizing the test times at all connected luminaires
- Function to post-pone the test times by 24 h
- Manual start of function and duration test
- With TL CGLine+ the connected CGLine+ luminaires work all in automatic test mode. That means the status and test results are visible at the luminaires but not at the control module.

Dimensions	88 x 86 x 60 mm
Housing type	For DIN rail 5 HP
Power supply	230 V AC, 50/60 Hz
Power consumption	1.5W
Connection terminals	max. 2.5 mm ²
Permissible ambient temperature	5 °C ... 40 °C
Degree of protection	IP20

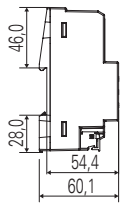
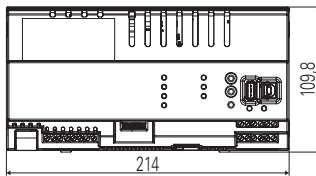
Ordering details

Type	Scope of supply	Order No.
TL CGLine+	Electronic control box for 400 CGLine+ self-contained luminaires	LUM10319

CGLine+ Web-Controller with integrated web server



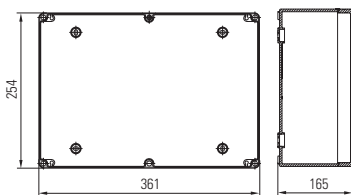
Dimensional drawings, data in mm



CGLine+ Web-Controller connection box



Dimensional drawings, data in mm



CGLine+ Touchscreen Controller



CGLine+ Web-Controller

- Connection of up to 800 luminaires in max. 4 lines
- The integrated web server enables convenient visualization, control and monitoring
- With Increased Affordance (IA) functionality: In case of an evacuation the controller can send an IA command to all connected Exit signs with IA CGLine+ functionality. With this command the luminaire will start to flash (on/off or smooth pulsing)
- The IA function can help to increase the visibility of the signs and therefore lead to a faster and safer evacuations. This also increases safety for hearing impaired or deaf people, under the two-sense-principle.
- Selection of blinking scheme and line to start with the IA function can be programmed via the PC. The IA function is triggered by closing a potential free contact at the controller.
- For more complex situations an input module for 10 scenarios can be connected to the controller (optional). This enables programming to select which single luminaire will start the IA function. These predefined scenarios are programmed via PC software.
- The system can be extended up to 30 inputs (optional). The communication between the Input module and the Controller is constantly monitored and any failure is reported at the WebController, as well as being delivered by email report.
- Within a CGLine+ system standard CGLine+ luminaires can easily be combined with IA CGLine+ luminaires
- Each luminaire is assigned with a unique ID by the manufacturer
- Automatic luminaire search function requires no manual addressing
- Simple sorting using unrestricted short address assignment
- Unrestricted entry of target location names for the luminaires with up to 20 characters
- Allocation of luminaires - up to 8 zones per line – is clearly displayed
- Automatic function test and duration test
- Tested and approved by BSI: KM No. 636748 - Automatic test system for Battery Powered Emergency lighting to EN 62034
- Up to 8 test groups per luminaire can be defined for the function test (FT) and duration test (DT)
- Electronic logbook storage for a period of minimum 4 years
- Email service for sending automatic email (in case of malfunction) to up to 10 e-mail addresses, assignable to 2 escalation groups
- Blocking of the emergency lighting function during non-operational periods (all / per bus line/ per zone / per luminaire)
- Luminaires in maintained mode switchable (all / per bus line / per zone / per luminaire)
- Password protected access as an administrator or user
- Visualization of luminaires in up to 30 different building layouts
- Efficient and convenient analysis of the log book using the CGLine+ PC software

Dimensions	214 x 109.8 x 60.1 mm
Housing type	For DIN rail 12 HP
Power supply	230 V AC, 50/60 Hz
Power consumption	< 4 W in standby, < 21 W at full load
Connection terminals	max. 2.5 mm ²
Permissible ambient temperature	0 °C ... 35 °C
Storage temperature	-20 °C ... 70 °C
Degree of protection	IP20

Ordering details

Type	Scope of supply	Order No.
CGLine+ Web-Controller	Controller, for DIN rail mounting	40071361055

Accessories

Type	Scope of supply	Order No.
CGLine+ PC software	on CD-ROM	40071361178
CGLine+ Web-Controller connection box	CGLine+ Web-Controller in wall-mounted housing can not accomodate input module	40071361184
Input module	Module for DIN rail mounting, with 10 inputs, to be connected to the CGLine+ Web-Controller via bus, requires 24 V power supply	On request
Power supply for input module	Power Supply for DIN rail mounting. Input 230 V AC, On request 24V DC	On request

*CGLine+ Touchscreen Controller integrates the CGLine+ Web-controller so that it can also be used for IA applications. Check the CGLine+ catalogue for further information about CGLine+ Touchscreen controllers.

Eaton is a power management company with 2016 sales of \$19.7 billion. We provide energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton is dedicated to improving the quality of life and the environment through the use of power management technologies and services. Eaton has approximately 96,000 employees and sells products to customers in more than 175 countries.

For more information, visit **Eaton.com**.

Eaton Industries Manufacturing GmbH
Electrical Sector EMEA
Route de la Longeraie 7
1110 Morges, Switzerland
Eaton.eu

Changes to the products, to the information contained in this document, and to prices are reserved; so are errors and omissions. Only order confirmations and technical documentation by Eaton is binding. Photos and pictures also do not warrant a specific layout or functionality. Their use in whatever form is subject to prior approval by Eaton. The same applies to Trademarks (especially Eaton, Moeller, Cutler-Hammer and CEAG). The Terms and Conditions of Eaton apply, as referenced on Eaton Internet pages and Eaton order confirmations.

© 2017 Eaton Corporation
All Rights Reserved

Eaton is a registered trademark
of Eaton Corporation.

Publication No. BR451011EN
October 2017

All other trademarks are property
of their respective owners.