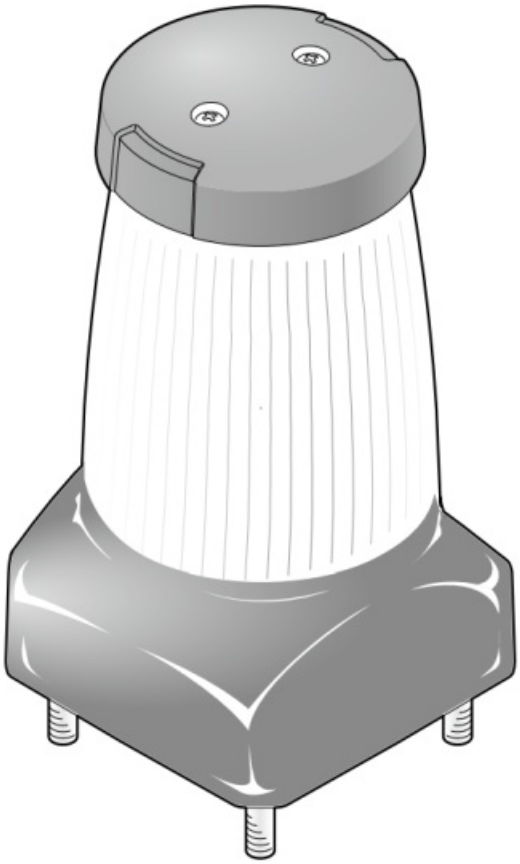
PATLITE GL10-M1NC1-T Flashing Beacon Instruction Manual

PATLITE®

Flashing Beacon
TYPE GL10 Series
GA0009810_01



Instruction Manual
[Web Version]

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GL10-M1NC1-T Flashing Beacon

Notice to Customer
Thank you very much for purchasing this product.

- This product requires installation and wiring work.
  Always have installation and wiring performed by a professional contractor.
- Before use, please read this manual carefully and use the product correctly. Also, keep this manual safe for future reference.
- If you have any questions, contact your nearest PATLITE sales representative listed at the end of the manual.
- When this product is installed and used in a vehicle, it may be regulated by the laws and regulations of the region where it is used. Please check the local laws and regulations where this product is used.

To the Contractor

- Prior to installation, read this manual thoroughly to ensure it is installed correctly.
- Return this manual to the customer.

Before You Begin

1.1. About Safety Symbols

To prevent injuries to the user and other personnel, as well as to prevent damage to assets, note the following.

- The following symbols classify warnings and cautions, and describe the level of harm and damage that will occur when the corresponding instructions are ignored.

⚠ **WARNING**	This symbol indicates, “Failure to follow the instructions may lead to death or serious injur y.”
⚠ **CAUTION**	This symbol indicates, “Failure to follow the instructions may lead to injury or property da mage.”

- The following symbols classify and describe the content of associated messages.

⃠ Prohibited	This symbol identifies “Prohibited” operations that should never be carried out.
❗ Mandatory	This symbol identifies “Mandatory” instructions that should always be carried out.
⚠	This symbol identifies general “Caution” related information.

1.2. Safety Precautions

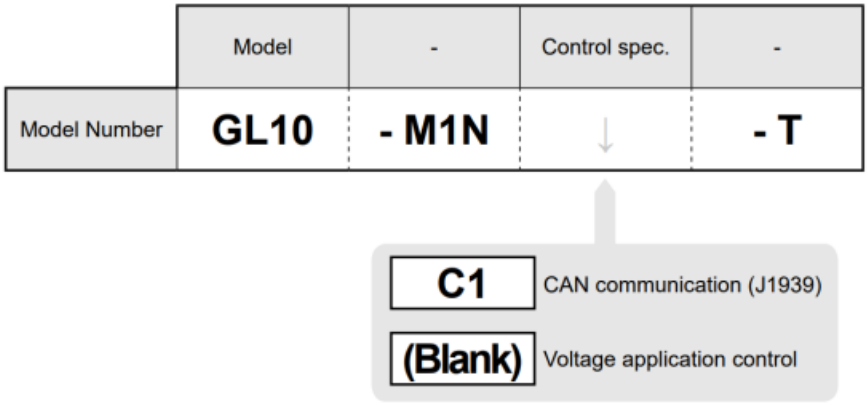
⚠ **WARNING**	
⃠ **Prohi bited**	● Its lifespan varies greatly depending on the frequency and environment of use, but refrain from using it for more than 10 years. Deterioration of the electrical components or circuit boards, their p oor insulation or contact may cause safety problems like fuming, ignition or electric shock. Aging d eterioration of resin, metal, rubber, sealant or other materials may cause deformation, damage, so aking and breakdown. (The products used outdoors deteriorate faster than those indoors.)
❗ **Mand atory**	● Disconnect the power before wiring, repairs or replacing a fuse. There is a risk of electric shock, short and damage. ● Install the product properly. Otherwise electric shock, short or damage may occur. ● Be sure to ask a professional contractor if installation work is necessary. The work carries the ri sk of electric shock, fire or falling. ● After installation on a machine, be very careful to prevent anyone from climbing onto it by grabb ing the product or its cover from getting snagged on the product during removal. Otherwise it may f all or drop causing extreme danger. ● Check the points where the product is fixed periodically (once or twice a year) to re-tighten the mounting hardware with the specified torque. Looseness at the points where it is fixed may lead to its falling, damage or customer injury. ● When using the product for security with an emphasis on safety, perform daily inspection and u se it together with another device to prepare for unexpected malfunction or breakdown.

⚠ CAUTION	
Prohibited	● Do not use the product near fire, in hot and humid places or in places where corrosive or flammable gases are generated. Otherwise the product may break down. ● Do not install it near equipment or power lines that generate strong electric or magnetic fields. Otherwise inductive noise may cause a malfunction. ● Do not use this product near chemicals. The product might melt or deform if a specific chemical adheres to it. ● Do not continuously apply high-pressure water current to the points where the product is fixed or the joints of individual parts. Otherwise waterproofing may be impaired. ● Do not look at the light at close range when it flashes. It may damage your eyesight. ● Do not disassemble the product. Otherwise waterproofing may be impaired.
Mandatory	● To protect the device connected to the product, be sure to install a fuse in the power supply wiring. Otherwise the connected device may break down or catch fire. ● Before handling the product, discharge static electricity from your body (by touching a metal part of another earthed object with bare hands). Otherwise ESD damage may occur. ● When removing packing/packaging from the equipment on which the product was installed, be careful not to let them get caught in the product. Otherwise the product may be damaged.

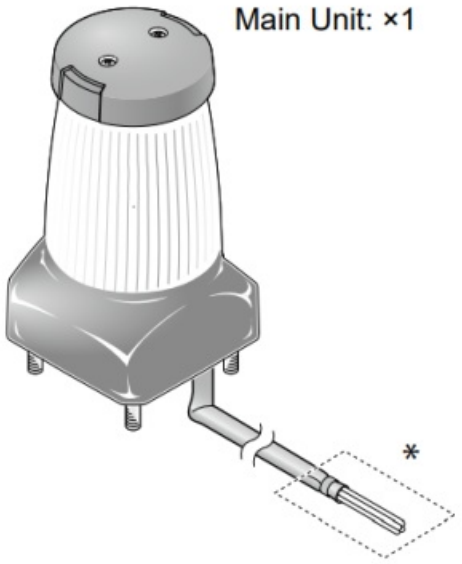
Note

- Wipe off any dirt on the product body with a soft cloth dampened with water (do not use thinner, benzine, gasoline, oil, etc.).

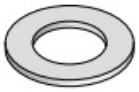
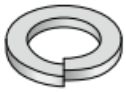
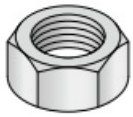
Model Number Configuration



Package Contents

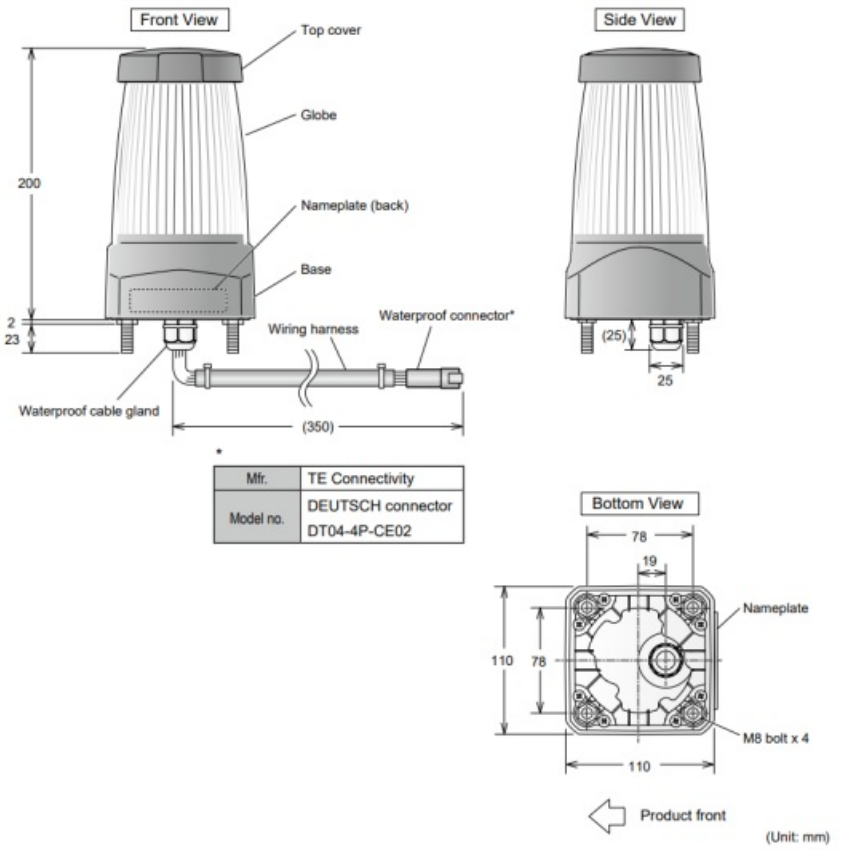


*Depending on the model, the end of the wiring harness differs.
For details, refer to “4. Names and Dimensions (☞ P.9).”

Accessories					
Flat washer		**Spring washer**		**Nut**	
Size	nominal dia. 8	Size	nominal dia. 8	Size	M8
Matl.	stainless steel	Matl.	stainless steel	Matl.	stainless steel
x 4 		x 4 		x 4 	

Names and Dimensions

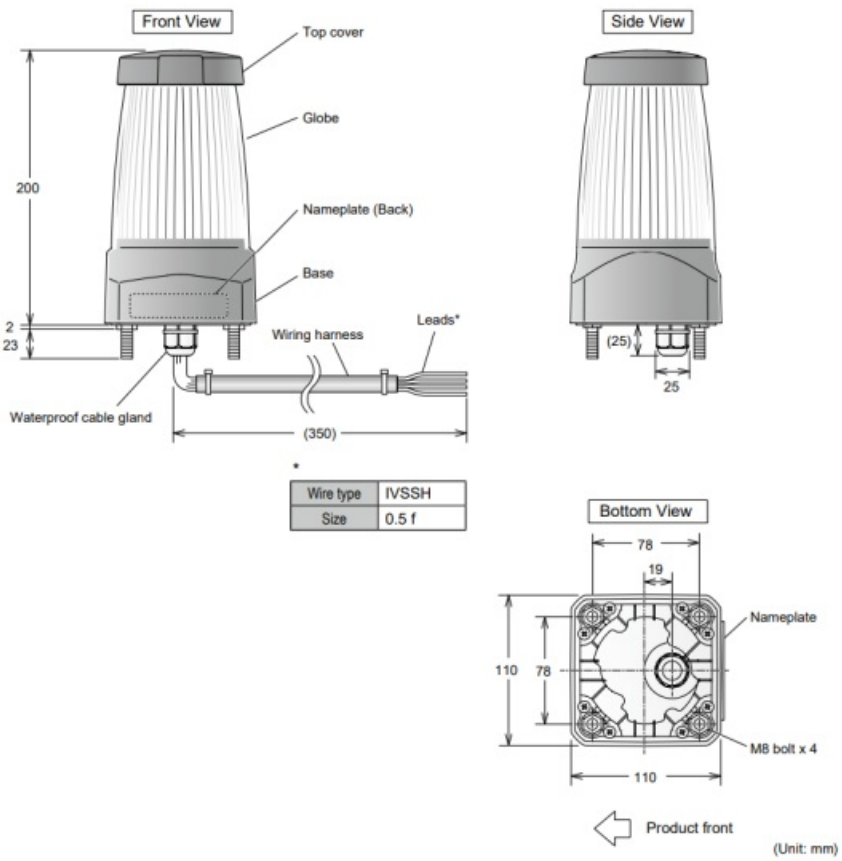
4.1. GL10-M1NC1-T



*

Mfr.	TE Connectivity
Model no.	DEUTSCH connector DT04-4P-CE02

4.2. GL10-M1N-T

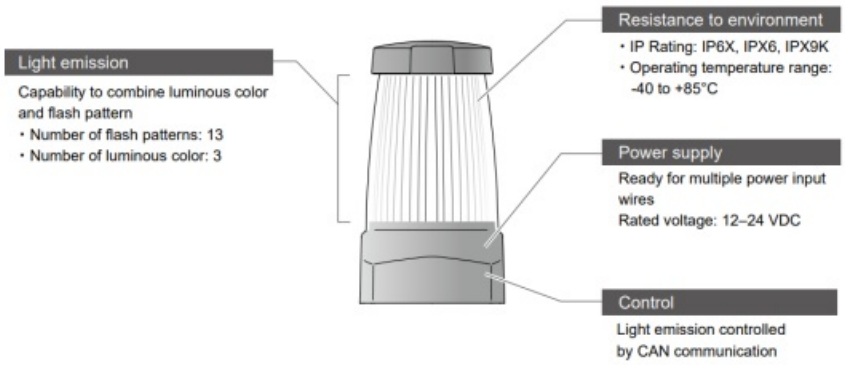


*

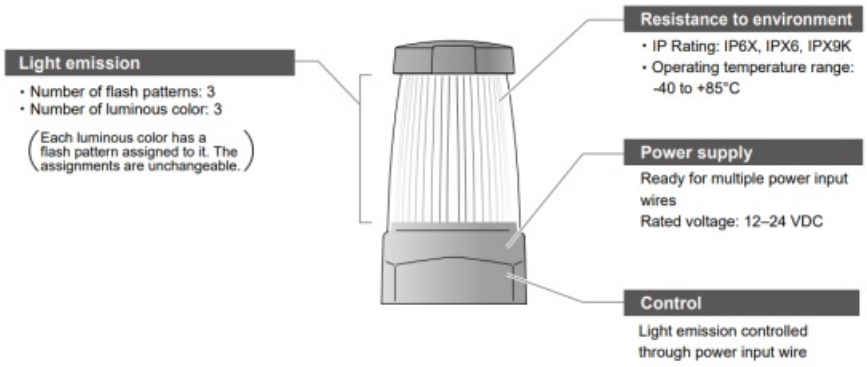
Wire type	IVSSH
Size	0.5 f

Features of Product

5.1. GL10-M1NC1-T



5.2. GL10-M1N-T



Product Functions

This chapter describes the functions of the product.

6.1. GL10-M1NC1-T

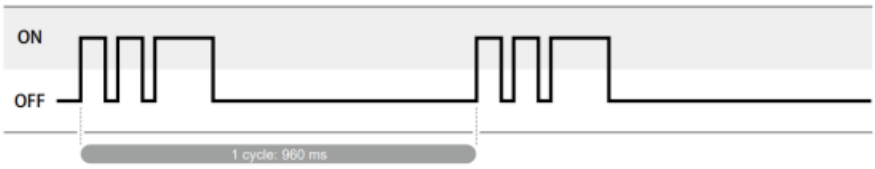
- The product conforms to the SAE J1939 protocol.
- The can control light emission and obtain its status by using the SAE J1939 protocol.

6.1.1. Selecting a flash pattern

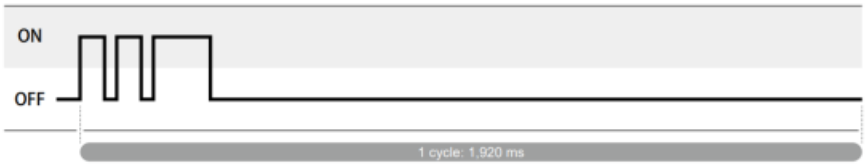
- The product allows you to select a flash pattern from 13 types below.
- For information of how to select it, refer to “9. Communication Specifications (☞ P.20).”

● Triple flash (High speed) (Number of flashes: 125 flashes per minute)

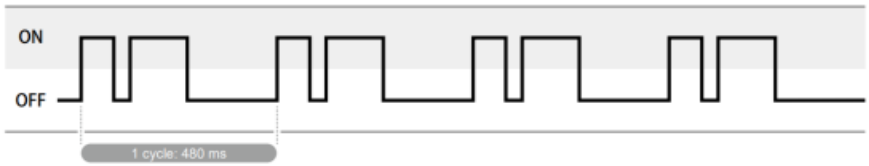
● Triple flash (Medium speed) (Number of flashes: 63 flashes per minute)



- **Triple flash (Low speed) (Number of flashes: 31 flashes per minute)**

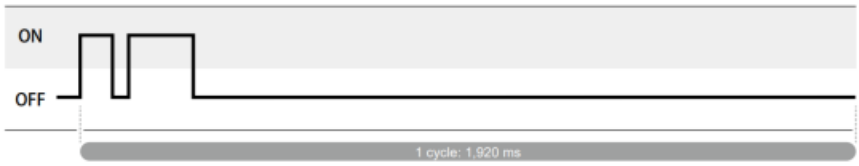


- **Double flash (High speed) (Number of flashes: 125 flashes per minute)**

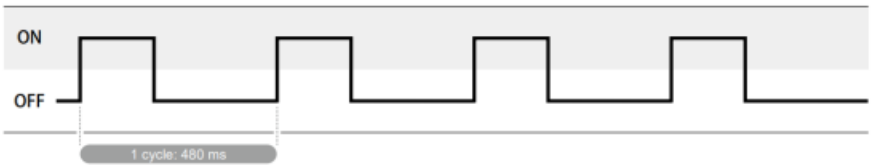


- **Double flash (Medium speed) (Number of flashes: 63 flashes per minute)**

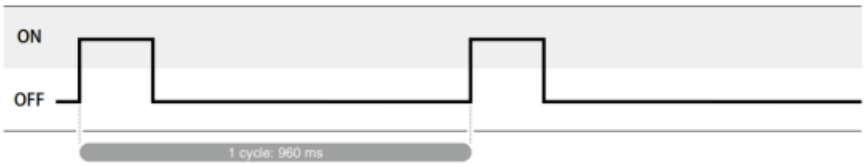
- **Double flash (Low speed) (Number of flashes: 31 flashes per minute)**



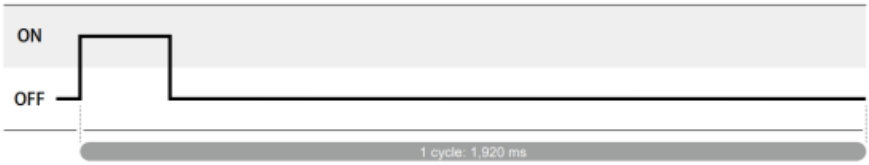
- **Single flash (High speed) (Number of flashes: 125 flashes per minute)**



- **Single flash (Medium speed) (Number of flashes: 63 flashes per minute)**

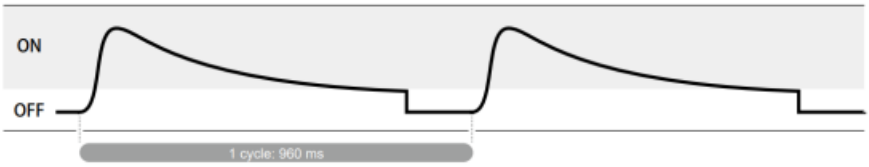


- **Single flash (Low speed) (Number of flashes: 31 flashes per minute)**

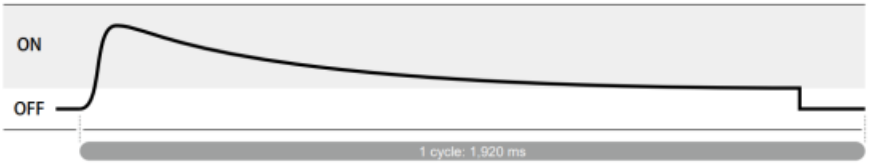


● **Slow flash (High speed) (Number of flashes: 125 flashes per minute)**

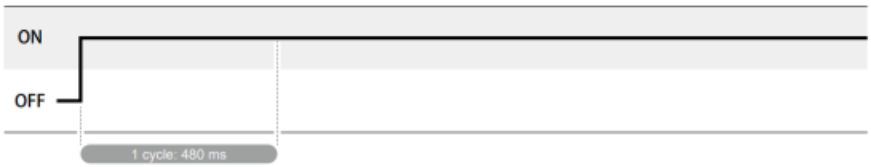
● **Slow flash (Medium speed) (Number of flashes: 63 flashes per minute)**



● **Slow flash (Low speed) (Number of flashes: 31 flashes per minute)**



● **Light always on**



6.1.2. Selecting the luminous color

The product allows you to select the luminous color from three colors (red, amber, green).

6.1.3. Selecting a dimming level

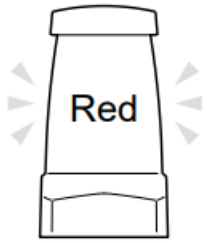
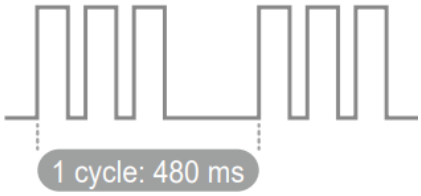
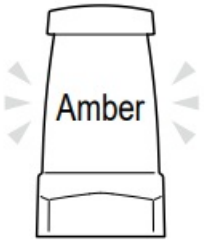
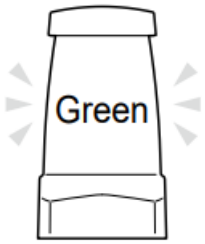
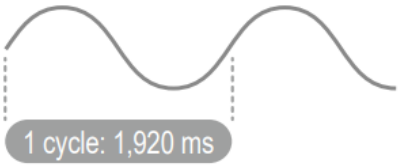
The product allows you to select a dimming level from four types.

Dimming level	**Brightness (approximate)**
No dimming	Bright
Dimming 1	A little dark
Dimming 2	Dark
Dimming 3	Darkest

6.2. GL10-M1N-T

6.2.1. Selecting luminous color/flash pattern

- For “GL10-M1N-T,” 3 colors of light are emitted from the product.
- Each color has an assigned flash pattern.
- The following table shows the flash patterns and flashing rate for each color.

Luminous color	Flash pattern	Flashing rate
	Triple flash 	125 flashes per minute (High speed)
	Double flash 	63 flashes per minute (Medium speed)
	Slow flash 	31 flashes per minute (Low speed)

Mounting Method

The product has two models, but their mounting method is the same. Read the following carefully before mounting.

⚠ **WARNING**

❗ Before installation, wiring or repairs of the product, be sure to disconnect the power (such as removing the ⊖ terminal of the battery).Otherwise ignition, electric shock or breakdown may result.

❗ To protect the device connected to the product, install a fuse of the specified capacity in the power supply wiring. Otherwise the connected device may break down or catch fire.

⚠ **CAUTION**

❗ This product can only be mounted upright.

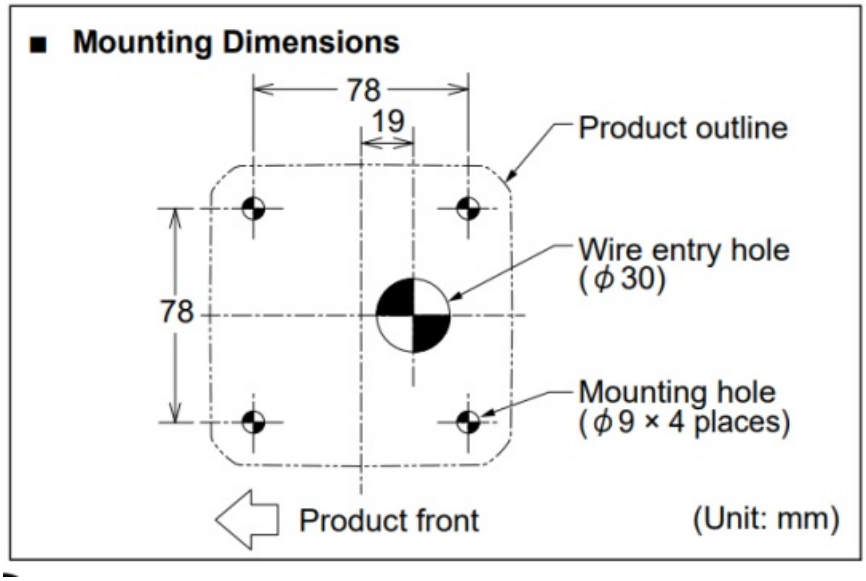
❗ Mount it on a sufficiently strong surface.

❗ Keep it as far away from radios, antennas of wireless devices, and wiring as possible. If the product is too close to them or depending on the surrounding environment, its and their operation may be affected.

❗ When installing the product on a surface that needs to be waterproof, seal the mounting holes, nuts, and wire entry/exit holes.

🚫 Do not pull the harness or push it into the body. This will cause a breakdown.

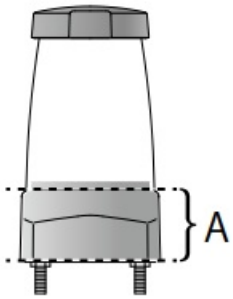
❶ Drill mounting holes and a wire entry hole in the body mounting location.

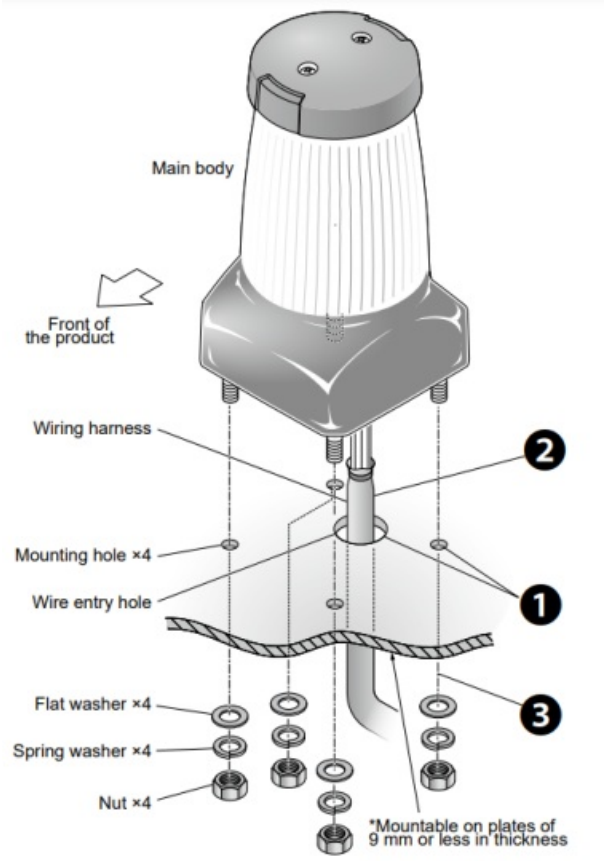


❷ Pass the harness through the wire entry hole.
❸ In the mounting location, fix the body with the flat washers, spring washers and nuts.

Recommended Torque (approximate): 6.0 N m

POINT
Water may intrude in between globe and base in part A of illustration on the right, but this has no effect on the product functionality.





Wiring Method

- The wiring method differs depending on the model of the product. See and use the wiring method appropriate to your model.
- The example of basic wiring is shown. For questions about other methods of use, please contact your nearest PATLITE sales representative listed at the end of this manual.

⚠ CAUTION

❗ Be very careful not to make a wiring error. Improper wiring will cause burn damage to the internal circuits.

❗ Use the correct working voltage. Otherwise it may cause a breakdown.

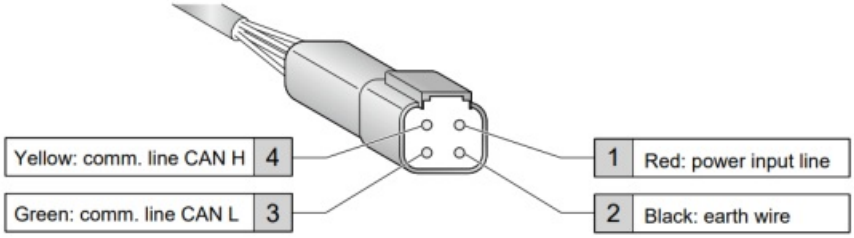
❗ Be sure to wrap each unused lead with insulating tape. Otherwise a short circuit may cause a malfunction.

❗ The product's IP rating does not cover the ends of the leads. If the ends of the leads are exposed to splashes of water or the like or dew condensation, make them waterproof or oilproof as described below.

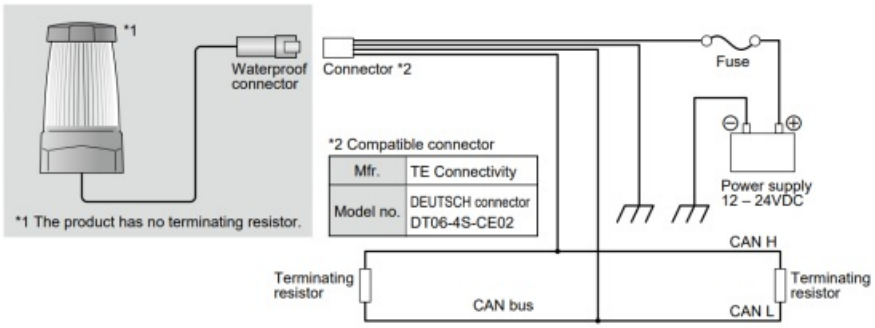
- Route the ends of the leads to a location that is free from splashes of water and oil.
- Apply sealant to the ends of the leads (silicone or the like).

8.1. GL10-M1NC1-T

8.1.1. Waterproof Connector Pinout

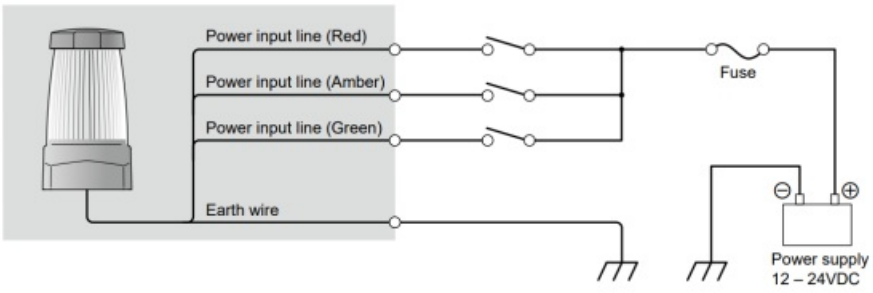


8.1.2. Wiring Example



● Fuse
Rating 2A

8.2. GL10-M1N-T
8.2.1. Wiring Example



● Fuse
Rating 2A

● List of leads and functions

Lead color	Function
Red	Power input line (Red)
Yellow	Power input line (Amber)
Green	Power input line (Green)
Black	Earth wire

8.2.2. Control Method
By changing the wiring method, you can control the color of the emitted light. The control method is shown below.

Luminous color	Lead color			
	Red	Yellow	Green	Black
Red	Power supply ⊕	Unconnected	Unconnected	Earth ⊖
Amber	Unconnected	Power supply ⊕	Unconnected	Earth ⊖
Green	Unconnected	Unconnected	Power supply ⊕	Earth ⊖

POINT

- Simultaneous connection of the red color and yellow color power input lines to the power supply ⊕ will produce a amber color light.
- Simultaneous connection of the red color and green color power input lines to the power supply ⊕ will produce a green color light. However simultaneous connection of the yellow color and green color power input lines to the power supply ⊕ will turn off the light.

Communication Specifications

This chapter describes the communication specifications of GL10-M1NC1-T.

- The product conforms to the SAE J1939 protocol.
- SAE J1939 is a protocol that uses CAN in the physical layer, mainly being used in vehicles for construction machinery.
- For details on SAE J1939, refer to the related standards.

9.1. CAN-BUS

- Connect the product to the CAN bus that meets the requirement specifications of J1939.
- If the branch wire (node sub length) that connects the product to the CAN bus is longer than the specification, the product may not communicate well via the CAN bus. Make the branch wire from the CAN bus as short as possible.
- This product does not have a terminating resistor for CAN bus. Since the product cannot communicate well via the CAN bus not properly terminated, correctly add a terminating resistor to the CAN bus where the product is connected.
- Ensure that the product has an address different from those of any devices on the CAN bus. If any device has a duplicate address, prevent duplication by changing the address of the product.

9.2. Communication Speed

- The product conforms to J1939-16 [Automatic Baud Rate Detection Process] and automatically decides whether to use 250 kbps or 500 kbps to control communication.
- Communication speed is determined when the power is turned on or a soft reset is performed.
- Since the baud rate of communication packets over the CAN bus is used to determine communication speed, automatic determination does not finish if there is no packet over the bus. If packet is absent over the bus during automatic determination, such as when only the product is connected to the bus, send a dummy packet

from the control side to terminate automatic determination.

- Unless there is any specific reason, 250 kbps is recommended as communication speed to improve reliability.

9.3. Device Name

● List of device names

Byte	bit	Parameter	Value
1	7	Arbitrary Address Capable	0
	6-4	Industry Group	0
	3-0	Vehicle System Instance	0
2	7-1	Vehicle System	0
	0	(Reserved)	0
3	7-0	Function	255
4	7-3	Function Instance	0
	2-0	ECU Instance	0
5	7-0	Manufacture Code	1321
6	7-5		
	4-0	Identify Number	See table below
7	7-0		
8	7-0		

● Composition of Identify Number

- You can change 5 bits (0–31) of Identify Number through communication.
- A change to the value is retained in the product even after power shutdown.

bit	Parameter	Value
20-16	Region that can be changed by user	31 (Factory default)
15-0	Fixed value (unable to be changed)	Indefinite value

9.4. Source Address

- The product automatically determines communication speed after the power to the product is turned on or after a soft reset, and then it automatically sends an address claimed message.
- The default source address of the product is “183.”
- The source address can be changed within the range of “128 to 247” through communication. A change to the value is retained in the product even after power shutdown.

9.5. Parameter Groups

- The product has its own parameter groups as shown in the table below.
- You can control the product by using these parameter groups.

Parameter group	Control	Reference
PGN=65383	Change of address name (Host -> Product)	☞ 9.5.1. Change of address name (Host -> Product) (P.22)
PGN=61184	Control of light emission (Host -> Product)	☞ 9.5.2. Control of light emission (Host -> Product) (P.24)
PGN=65384	Indication status (Product -> Host)	☞ 9.5.3. Indication status (Product -> Host)(P.28)

9.5.1. Change of address name (Host > Product)

- This parameter group allows you to change the source address and device name.
- When the parameter group is requested, the product is reset, and determination of communication speed and the address claim procedure are performed.

● Parameter Group

Transmission Repetition Rate	As required
Data Length	8
Priority	4
Extended Data Page	0
Data Page	0
PDU Format	255
PDU Specific	103
Parameter Group Number	65383

9.5.1.1. Data

	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
Byte 1	Source address setting							
Byte 2	Device name setting							
Byte 3	0	0	0	0	0	0	0	0
Byte 4	0	0	0	0	0	0	0	0
Byte 5	0	0	0	0	0	0	0	0
Byte 6	0	0	0	0	0	0	0	0
Byte 7	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**
Byte 8	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**

● Sourceaddresssetting(Default:183)

- 128–247: The source address is changed to the set value. The new value is retained in the product even after power shutdown.
- 255: The source address is changed to the default (183). The new value is retained in the product even after power shutdown.
- Others: The current source address remains without any change.

●Devicenamesetting(Default:31)

- 0–31: The device name is changed to the set value. The new value is retained in the product even after power shutdown.
- 255: The device name is changed to the default (31). The new value is retained in the product even after power shutdown.
- Others: The current device name remains without any change.

POINT

- [Byte 7] and [Byte 8] need setting of a specific value.

9.5.2. Control of light emission (Host > Product)

- This parameter group can be set or controlled as shown in the table below.
- In this parameter group, the control item changes depending on the value of [Byte 1].

Name	Description	Reference
Operation setting	Dimming and turning off upon timeout can be set.	☞ 9.5.2.1. Data (Operation setting): Byte 1 = 0(P.25)
Operation control	Emission color and flash pattern can be specified individually.	☞ 9.5.2.2. Data (operation control): Byte 1 = 1(P.26)
Inspection control	Self test can be conducted.	☞ 9.5.2.3. Data (Inspection control): Byte 1 = 2(P.27)
Soft reset	Soft reset can be performed.	☞ 9.5.2.4. Data (Soft reset): Byte 1 = 3(P.27)

● Parameter Group

Transmission Repetition Rate	As required
Data Length	8
Priority	4
Extended Data Page	0
Data Page	0
PDU Format	239
PDU Specific	DA*
Parameter Group Number	61184

* DA: Destination Address

9.5.2.1. Data (Operation setting): Byte 1 = 0
You can set dimming and turning off upon timeout.

	bit7	**bit6**	**bit5**	**bit4**	**bit3**	**bit2**	**bit1**	**bit0**
Byte 1	0	0	0	0	0	0	0	0
Byte 2	0	0	0	Turning off upon time out setting	0	0	0	0
Byte 3	0	0	0	0	0	0	Dimming setting	
Byte 4	0	0	0	0	0	0	0	0
Byte 5	0	0	0	0	0	0	0	0
Byte 6	0	0	0	0	0	0	0	0
Byte 7	0	0	0	0	0	0	0	0
Byte 8	0	0	0	0	0	0	0	0

●Settingofturningofflightupontimeout(Default:0)

- 0: enables turning off light upon timeout.
- 1: disables turning off light upon timeout.

POINT

- The function of turning off light upon timeout automatically turns off light if communication from the host is lost for 30 seconds or more.
- The light can go off automatically if an abnormal condition occurs in the communication environment such as a break of the CAN bus. If you want to maintain the state of light emission, regularly request “Indication status” from the control side within 30 seconds or less.
- If this function is unnecessary, you can disable it from the setting of turning off light upon timeout. As this setting returns to the default (Enable) when the power is shut off or a soft reset is done, reset it as necessary.

●Dimmingsetting(Default:0)

- 0: sets the dimming function to “No dimming.”
- 1: sets the dimming function to “Dimming 1 (A little dark).”
- 2: sets the dimming function to “Dimming 2 (Dark).”
- 3: sets the dimming function to “Dimming 3 (Darkest).”

POINT

- You can select a level from the four dimming levels.
- If the operation setting is requested, the light of the main body goes off.

9.5.2.2. Data (operation control): Byte 1 = 1
You can control the operation of the product.

	bit7	**bit6**	**bit5**	**bit4**	**bit3**	**bit2**	**bit1**	**bit0**
Byte 1	0	0	0	0	0	0	0	1
Byte 2	Flash pattern				Single operation	Luminous color		
Byte 3	0	0	0	0	0	0	0	0
Byte 4	0	0	0	0	0	0	0	0
Byte 5	0	0	0	0	0	0	0	0
Byte 6	0	0	0	0	0	0	0	0
Byte 7	0	0	0	0	0	0	0	0
Byte 8	0	0	0	0	0	0	0	0

● Flashpatterns

- 0: light goes off.
- 1: light always stays ON.
- 4: light is emitted in single flash pattern (low speed).
- 5: light is emitted in double flash pattern (low speed).
- 6: light is emitted in triple flash pattern (low speed).
- 7: light is emitted in slow flash pattern (low speed).
- 8: light is emitted in single flash pattern (medium speed).
- 9: light is emitted in double flash pattern (medium speed).
- 10: light is emitted in triple flash pattern (medium speed).
- 11: light is emitted in slow flash pattern (medium speed).
- 12: light is emitted in single flash pattern (high speed).
- 13: light is emitted in double flash pattern (high speed).
- 14: light is emitted in triple flash pattern (high speed).

- 15: light is emitted in slow flash pattern (high speed).
- Others: no setting is necessary.

● Singleoperation

- 0: continues the operation in the specified flash pattern.
- 1: performs one cycle of operation in the specified flash pattern and automatically returns to the OFF state.

● Luminouscolor

- 0: emits red light in the specified flash pattern.
- 1: emits green light in the specified flash pattern.
- 3: emits amber light in the specified flash pattern.
- Others: no setting is necessary.

9.5.2.3. Data (Inspection control): Byte 1 = 2

You can perform a self test of the product.

	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
Byte 1	0	0	0	0	0	0	1	0
Byte 2	0	0	0	0	0	0	0	0
Byte 3	0	0	0	0	0	0	0	0
Byte 4	0	0	0	0	0	0	0	0
Byte 5	0	0	0	0	0	0	0	0
Byte 6	0	0	0	0	0	0	0	0
Byte 7	0	0	0	0	0	0	0	0
Byte 8	0	0	0	0	0	0	0	0

● Inspectionoperation

- The product runs a self test.
- When the product starts a self test, the main body automatically emits light in order of red > green > amber at approx. 1-second intervals.
- The results of the self test are shown by LED that displays status. For details, refer to “9.5.3. Indication status (Product > Host) (☞P.28).”

9.5.2.4. Data (Soft reset): Byte 1 = 3

- You can reset the product.
- If you reset it, the values defined in the operation setting return to the defaults.

	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
Byte 1	0	0	0	0	0	0	1	1
Byte 2	0	0	0	0	0	0	0	0
Byte 3	0	0	0	0	0	0	0	0
Byte 4	0	0	0	0	0	0	0	0
Byte 5	0	0	0	0	0	0	0	0
Byte 6	0	0	0	0	0	0	0	0
Byte 7	0	0	0	0	0	0	0	0
Byte 8	0	0	0	0	0	0	0	0

● Softreset

- You can reset the main body.
- After the reset, communication speed is determined and the address claim procedure is started.

9.5.3. Indication status (Product > Host)

This parameter group is used to obtain the status of the product.

● Parameter Group

Transmission Repetition Rate	As required
Data Length	8
Priority	4
Extended Data Page	0
Data Page	0
PDU Format	255
PDU Specific	104
Parameter Group Number	65384

9.5.3.1. Data

	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
Byte 1	0	Temp. sensor	0	0	0	0	0	LED
Byte 2	Flash pattern				0	Luminous color		
Byte 3	0	0	0	0	0	0	0	0
Byte 4	0	0	0	0	0	0	0	0
Byte 5	0	0	0	0	0	0	0	0
Byte 6	0	0	0	0	0	0	0	0
Byte 7	0	0	0	0	0	0	0	0
Byte 8	0	0	0	0	0	0	0	0

● Temperaturesensor

- 0: does not detect anything wrong with the temperature sensor inside the product.
- 1: detects something wrong with the temperature sensor inside the product.

POINT

- In the event of abnormal condition of the temperature sensor, the main body emits dimmed light.

● LED(lightemittingpartofmainbody)

- 0: does not detect anything wrong with the LED.
- 1: detects something wrong with the LED, such as a break or a short circuit.

POINT

- While light is emitted from the main body, LED is checked for abnormal condition. Therefore, after power-on, error detection is unavailable until the main body emits light.
- If there is something wrong with LED, it does not emit light even when light emission control is enabled.

● Flashpatterns

- 0: light is OFF.
- 1: light is always ON.
- 4: main body is emitting light in single flash pattern (low speed).
- 5: main body is emitting light in double flash pattern (low speed).
- 6: main body is emitting light in triple flash pattern (low speed).
- 7: main body is emitting light in slow flash pattern (low speed).
- 8: main body is emitting light in single flash pattern (medium speed).
- 9: main body is emitting light in double flash pattern (medium speed).
- 10: main body is emitting light in triple flash pattern (medium speed).

- 11: main body is emitting light in slow flash pattern (medium speed).
- 12: main body is emitting light in single flash pattern (high speed).
- 13: main body is emitting light in double flash pattern (high speed).
- 14: main body is emitting light in triple flash pattern (high speed).
- 15: main body is emitting light in slow flash pattern (high speed).

● Luminouscolor

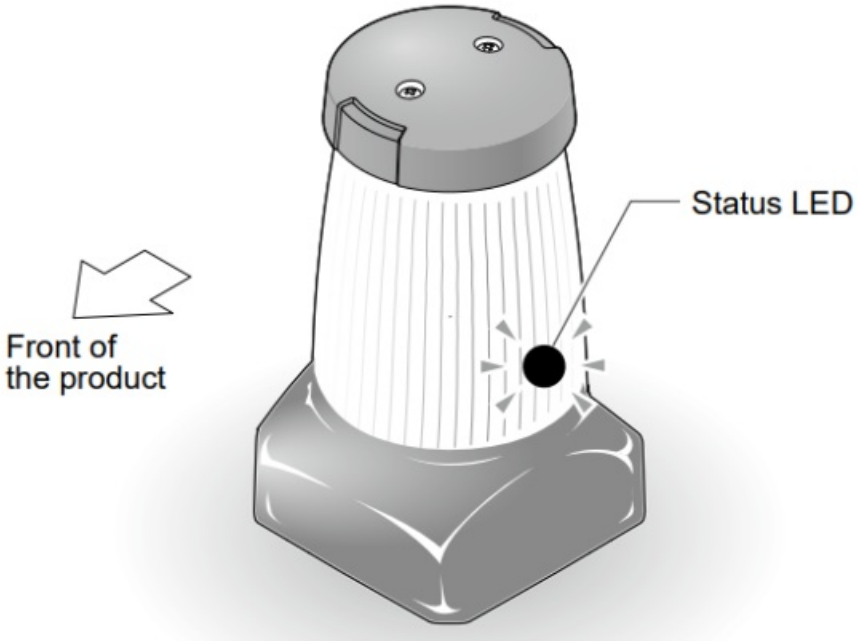
- 0: red corresponds to the specified flash pattern.
- 1: green corresponds to the specified flash pattern.
- 3: amber corresponds to the specified flash pattern.

POINT

- If there is something wrong with LED, light may not be emitted in the specified manner.

9.6. Status LED

- The product has a status LED installed.
- The status LED blinks in red under the following conditions.
- When light is turned off upon timeout
- When address claim failed due to duplicate address, etc.



Troubleshooting

10.1. GL10-M1NC1-T

When a problem occurs, take appropriate action based on the information in the table below.

No.	Trouble	Point to be checked	Action
1	Main body does not emit light.	Is wiring correct?	Check wires for correct connection. In particular, connect CAN-L and CAN-H wires to their correct destinations.
		Is correct power supply voltage applied?	Use the appropriate voltage.
		Is fuse blown?	If fuse is blown, replace it.
		Is LED error detected?	Check for detection of LED error by using [Indication status] request.
2	Communication is unavailable.	Does CAN bus have terminating resistor installed correctly?	As the product does not incorporate a terminating resistor, properly install it on CAN bus.
		Is branch wire from CAN bus to product longer than standard length?	Make branch wire between CAN bus and product as short as possible. Connect product to CAN bus that meets the requirement specifications of J1939.
		Is correct data being sent?	Send data that conform to J1939 protocol.
		Is destination address correct?	Send [Control of light emission] request to the source address set in main body.
3	After startup, the first request is ignored.	Are only product and control host node connected to CAN bus?	Since packets over CAN bus are used to determine communication speed, after startup packets being used to determine communication speed are ignored.
4	Main body is bright (glaring).	–	Adjust brightness by using dimming setting.
5	Light from main body slightly dims during operation.	Has ambient temperature risen close to upper limit of operating ambient temperature?	During light emission at high ambient temperatures, light may be dimmed to the level of [Dimming 2] or so to protect product.
6	Main body goes off, and after a while Status LED blinks.	Is the function of turning off light upon timeout in ON state?	If the function of turning off light upon timeout is ON, light goes off when there is no request for a certain period of time and Status LED blinks.
7	After power-on, a moment later Status LED blinks.	Is there any duplicate source address in the same CAN bus?	In the event of address claim failure due to duplicate source address or so, Status LED blinks in red.

10.2. GL10-M1N-T

When a problem occurs, take appropriate action based on the information in the table below.

No.	Trouble	Point to be checked	Action
1	Main body does not emit light.	Is wiring correct?	Refer to “8. Wiring Method (☞ Page 18)” and perform wiring again.
		Is correct power supply voltage applied?	Use the appropriate voltage.
		Is fuse blown?	If fuse is blown, replace it.
2	Main body emits light of unintended color.	Is wiring correct?	Refer to “8. Wiring Method (☞ Page 18)” and perform wiring again.
3	Light from main body slightly dims during operation.	Has ambient temperature risen close to upper limit of operating ambient temperature?	During light emission at high ambient temperatures, light may be dimmed to protect product.

Specifications

11.1. GL10-M1NC1-T

Model			GL10-M1NC1-T
Rated Voltage			12 – 24VDC
Operating Voltage Range			10 – 32VDC
Rated Current Consumption	**12 V DC**	**Typ.**	0.32A (Red, Triple flash, High speed)
		Max.	1.0 A
	24 V DC	**Typ.**	0.17A (Red, Triple flash, High speed)
		Max.	0.5 A
Rated Power Consumption		**Max.**	12.0 W
Operating Ambient Temperature			-40°C to +85°C
Operating Ambient Humidity			90% RH or less (No condensation)
Storage Ambient Temperature			-40°C to +85°C
Storage Ambient Humidity			90% RH or less (No condensation)
Mounting Location			Indoor/Outdoor (Construction equipment allowed)
Mounting Direction			Upright
Protection Rating			IP6X, IPX6 (IEC 60529), IPX9K (ISO 20653)
	Environmental Condition		Upright*
Vibration Resistance			110 m/s^2 (JIS D 1601:1995)
Impact Resistance			1,000 m/s^2 11ms (IEC60068-2-27:2008)
Communication Specification			CAN

	Communication Protocol	SAE J1939
	Baud Rate	250kbps, 500kbps (auto detection)
	Source Address	183 (default)
	Terminating Resistor	None
Mass (Tolerance ±10%)		840 g
Conformity Standards		EN ISO 13766-1 EN IEC 63000
Remarks		• Conforms to the CE requirements. • Conforms to the UKCA requirements. • The EMC level is in conformity with a requirements of ECE Regulation No.10.06 standards. • Due to the characte ristics of the LED elements, there may be a slight variation in color tone and brightness between pro ducts. • When the inside of the main unit becomes hot, the light is s elf- responsively dimmed to protect the main unit, even within the ambient temperature of use. * When mounting holes and wire entry holes machined in acc ordance with the mounting dimensions diagram are used.(Ref er to Mounting Dimensions diagram in “5. Mounting Method”)

11.2. GL10-M1N-T

Model			GL10-M1N-T
Rated Voltage			12 – 24VDC
Operating Voltage Range			10 – 32VDC
Rated Current Consumption	**12 V DC**	**Typ.**	0.32A (Red, Triple flash, High speed)
		Max.	1.0 A
	24 V DC	**Typ.**	0.17A (Red, Triple flash, High speed)
		Max.	0.5 A
Rated Power Consumption		**Max.**	12.0 W
Operating Ambient Temperature			-40°C to +85°C
Operating Ambient Humidity			90% RH or less (No condensation)
Storage Ambient Temperature			-40°C to +85°C
Storage Ambient Humidity			90% RH or less (No condensation)
Mounting Location			Indoor/Outdoor (Construction equipment allowed)
Mounting Direction			Upright
Protection Rating			IP6X, IPX6 (IEC 60529), IPX9K (ISO 20653)
	Environmental Condition		Upright*
Vibration Resistance			110 m/s^2 (JIS D 1601:1995)
Impact Resistance			1,000 m/s^2 11ms (IEC60068-2-27:2008)
Mass (Tolerance ±10%)			840 g
Conformity Standards			EN ISO 13766-1 EN IEC 63000
Remarks			• Conforms to the CE requirements. • Conforms to the UKCA requirements. • The EMC level is in conformity with a requirements of ECE Regulation No.10.06 standards. • Due to the characte ristics of the LED elements, there may be a slight variation in color tone and brightness between pro ducts. • When the inside of the main unit becomes hot, the light is s elf- responsively dimmed to protect the main unit, even within the ambient temperature of use. * When mounting holes and wire entry holes machined in acc ordance with the mounting dimensions diagram are used.(Ref er to Mounting Dimensions diagram in “5. Mounting Method”)

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Documents / Resources

	PATLITE GL10-M1NC1-T Flashing Beacon [pdf] Instruction Manual GL10-M1NC1-T, GL10-M1N-T, GL10-M1NC1-T Flashing Beacon, GL10-M1NC1-T, Flashing Beacon, Beacon

References

- User Manual