TEKNOWARE TWT8051WT ESC 80 Emergency Exit Light Instructions

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INSTALLATION

A maintained exit luminaire TWT/TWS80
Usage targets
Buildings and other locations where emergency lighting is required by local authorities.
Points to note

- This product may only be installed or maintained by a qualified electrician.
- Only original spare parts may be used for this product.
- Any modifications to this product without a written consent from the manufacturer are prohibited.
- This product may only be used for purposes specified by the manufacturer.
- The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.

Electrical and mechanical installation

As default, the luminaire is suitable for mounting in ceilings and walls. It may be fitted directly on the surface without a safety distance. Flag- and suspension brackets are available as separate accessories.

To open the luminaire: (Images can be found on page 5).

1. Image 1: Remove the luminaire's back plate by inserting a small screw driver in the clamp holes and pressing the clamps carefully open.
2. Image 7 (Only for maintenance use and for attaching the cove plate). Remove the light plate by opening the two screws.

   Warning! The light plate must not be removed if the luminaire is connected to mains!

Mounting: (Images can be found on page 5-8)

1. In case of a self-contained luminaire, mark the commissioning date on the sticker attached to the luminaire battery.
2. In case of an addressable luminaire (product code TW… K), set the address and/or the Local Controller function for the luminaire. For more information see chapter "About the installation of addressable luminaires".
3. If the luminaire is to be used as one sided, and the cover plate sticker is not pre-attached, attach it on one side of the light plate by removing the light plate and attaching the cover sticker on the light plate (Image 7).
4. Strip off 6 mm of the supply cable (1,5 mm^2 – 2,5 mm^2) wire coating.
5. Image 2-A: Locate the pre-thinned areas for the supply cable holes.
6. Image 3: Puncture a hole to a selected supply cable hole(s) with a flat headed screw driver, and pry the hole open with needle nose pliers. If necessary, clean the edges of the hole carefully with a knife.
7. Image 4: Cut or puncture a hole to the rubber seal. The hole should be a little smaller than the diameter of the supply cable. Pull the supply cable through the rubber seal, and push the rubber seal to the supply cable hole.
8. Regular mounting: To attach the luminaire back plate, drill holes to the selected pre-thinned areas, and screw the back plate in place with 2 screws (Image 2-B). For wall mounting, use the plastic spacers between the luminaire and the wall (Image 2-C). Flag Mounting: Pull the power cable through the bracket counterpart and attach the counterpart with screws (Image 9). Push the flag mounting bracket in its place, and fasten it with screws (Image 10). Connect the power cable (Step 8) and attach the back plate to the flag mounting bracket with screws (Image 11). Suspension Mounting: Trim the suspension shaft to the desired length. Pull the power cable through the attachment piece and fasten the piece to the ceiling with two screws (Image 14). Pull the power cable through the shaft, and attach the shaft to the attachment piece (Image 15). Insert the plastic nut inside the suspension bracket (Image 16), slide the counterparts on the shaft (Image 17), pull the power cable through the hole in the bracket, and attach the suspension shaft to the bracket (Image 18).
9. Image 5: Connect the supply cable to the connector on the back plate according to the markings on the sticker. The connector has additional slots for power out cable.
10. Image 6: Attach the luminaire into the back plate by inserting one end first, and then pressing the luminaire carefully in its place until you hear a click. Be careful that the connector fits in its place. Recess Mounting: After assembling the luminaire and connecting the power cable, insert the luminaire in the recess mounting aperture and bend the mounting flaps inside the screw holes (Image 7) to fasten the luminaire (Image 12-13). Then, fasten the recess mounting aperture with two screws.
11. Attach the sticker indicating the luminaire classification on the outer surface of the luminaire, according to the instructions included in the delivery.

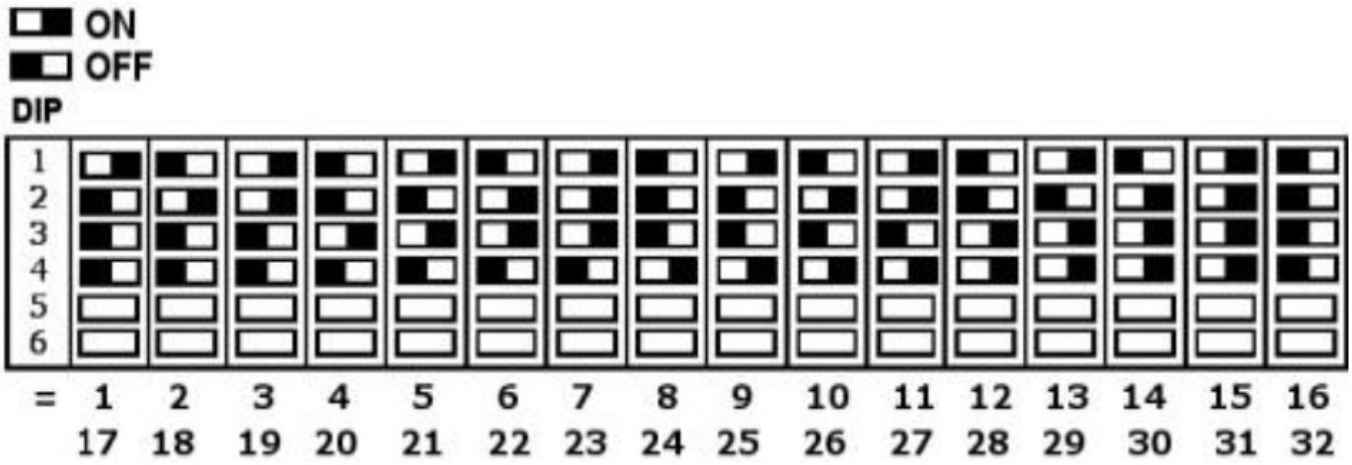
About the installation of addressable luminaires
The addressible luminaires (product code TW… K) are compatible with Teknoware Tapsa Control central battery unit and Local Controller.

- Each output circuit must have a separate neutral line.
- Neutral lines are not allowed to be connected together.
- The address must always be set prior to connecting the power supply to the luminaire.

To set the address:

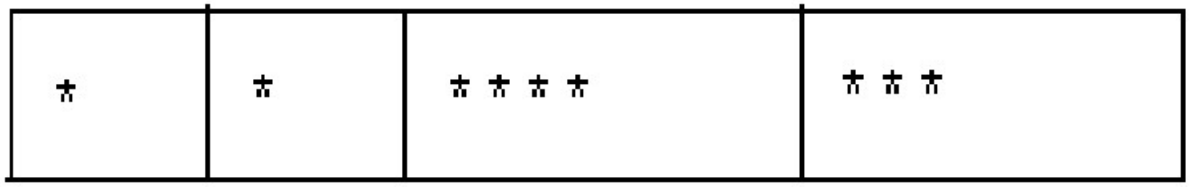
1. Find the address module with a DIP switch inside the luminaire.
2. Check on your central battery unit for the maximum number of addresses (16 or 32). If the maximum number is 16, use the LO setting.
3. Set the address from 1 to 16 (LO) or 17 to 32 (HI) according to the instructions on the label of the address module.

The address can be chosen freely or according to the installation plan. However, care must be taken that each luminaire in the same circuit has a different address.
DIP 5 OFF: ADDRESSES 1-16 (1-16 LO)
DIP 5 ON: ADDRESSES 17-32 (17-32 HI)
DIP 6 MUST BE IN OFF POSITION

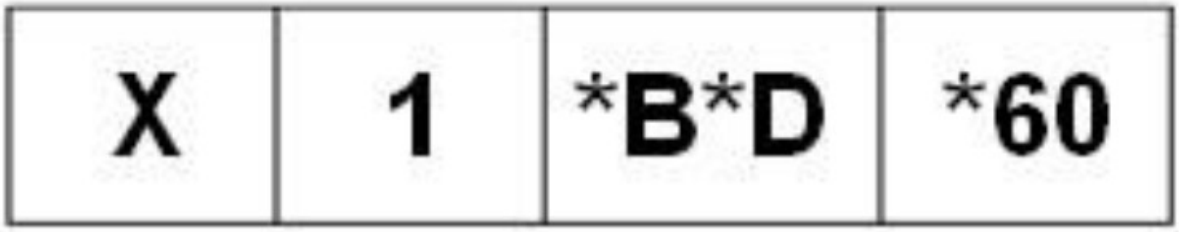


LUMINAIRE CLASSIFICATION LABEL

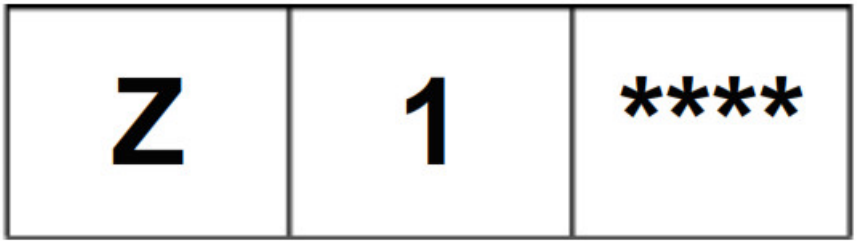
According to the EN 60598-2-22 standard requirements, the emergency luminaires shall be classified and marked according to their construction as follows.
A unique designation denoting the type, mode of operation, the facilities included and the rated duration of the luminaire shall be clearly affixed to the luminaire.
The designation consists of a rectangle divided the three or four segments each containing one or more positions. Relevant to the construction a position will obtain a letter or a figure, or a point if no indication has to be given.
The shape of the emergency lighting luminaire designation is as follows:



The segments and positions have to be completed by letters and figures indicating the intended constructions.
a) First segment containing one position: TYPE (Marked already inthe factory)
X self-contained
Z central supply
b) Second segment containing one position: **MODE OF OPERATION:**
0 non-maintained
1 maintained
2 combined non-maintained
3 combined maintained
4 compound non-maintained
5 compound maintained
6 satellite
c) Third segment containing four positions: FACILITIES. To be completed where appropriate at the time of installation.
A including test device
B including remote rest mode
C including inhibiting mode
D high-risk task-area luminaire
E with non replace lamp(s) and/or battery
d) Fourth segment containing three positions: FOR SELFCONTAINED LUMINAIRES to indicate the minimum DURATION of the emergency mode expressed in minutes:
***10** 10 min duration
***60** 1h duration
120 2h duration
180 3h duration
Two examples of a marking given to elucidate a selection



- A self-contained maintained luminaire including a remote rest mode and which is suitable for a high-risk task-area and having and emergency mode duration of 60 min.



- A central supplied maintained luminaire.

MONITORING AND MAINTENANCE

Testing

The operation of the luminaire shall be verified according to the requirements of the authorities. The testing of the self-contained luminaires can be tested, depending of the type, by switching off the mains supply voltage, by using the test button, or by using the self-testing feature. Testing of the centrally supplied luminaires is done automatically (addressable Tapsa Control system), or by switching off the central battery unit's mains supply voltage.

Wireless monitoring

Self-contained Aalto Control luminaires (product code TW… A) include a wireless monitoring feature. A separate manual for further information is sent with the delivery of Aalto Control software. All Aalto Control luminaires have the Lumi Test selftesting feature as standard.

Test button

On the outer surface of the self-contained luminaires (TWT/S8053/92W..) is a TEST button and two indicator LEDs for testing the luminaire and the battery. Pressing the button (in the models TWT/S8053/92WM and TWT/S8053/92WA) for:

- 2 seconds: starts the luminaire test
- 5 seconds: starts the battery test
- 10 seconds: resets the luminaire to factory setting (only for maintenance use)

While the battery test is running, pressing the button for 1 second will stop the test. The red LED is lit while the button is being pressed down.

Model TWT8053W: The luminaire goes into battery mode when the button is kept pressed down. The indicator LEDs indicate modes No Supply and OK as described in chapter Self-testing.

Self-testing

Self-contained Lumi Test luminaires (product code ..WM/WA) include an internal self-testing procedure. The Lumi Test luminaires test their LED light output in emergency mode briefly once a day. The luminaires also test their full-time emergency mode duration twice a year. The indicator LEDs show the status of the luminaire. The following figure shows the function of the indicator LEDs.

Green LED	**Red LED**	
OFF	OFF	No supply
ON	OFF	OK
2Hz	OFF	Low energy storage
1Hz	ON	Light source fault
ON	1Hz	Duration test fault
ON	2Hz	Battery/Escap-capacitor disconnected
1Hz	1Hz	Duration test and light source fault
1Hz	OFF	Test in progress

1Hz = Slow blinking (once / second)
2Hz = Fast blinking (twice / second)

Periodical checks and maintenance

The condition of the emergency lighting system shall be ensured by regular maintenance according to the regulations of local authorities.

The maintenance of the emergency lighting system is to be carried out according to the standard EN 50172.

- the indicators of the emergency lighting system must be visually inspected daily
- the emergency mode of each luminaire is tested monthly by switching the luminaire to battery feed
- once per year the full duration test of 1h, or a separately determined longer time, is to be made by switching to

battery feed

- all the tests and results shall be recorded in the logbook of the emergency lighting system and when asked it shall be presented to the authorities
- in addition we recommend a daily visual inspection of the maintained luminaires.

The life time of the battery is ca. 4 years and of the super capacitor ca. 10 years in normal conditions. The backup power source must be replaced when the luminaire is no longer working during the required duration of 1 or 3 hours.

Removing from usage

The LED luminaires which are removed from usage are electronics waste and shall be disposed of according to the requirements of local laws and regulations.

TECHNICAL DATA

Insulation class	II (230V) III (24 V)
Casing	IP44
Looping in	Max 6 A
Applicable European directives and standards	2014/30/EU, EMC directive 2014/35/EU, LVD directive EN 55015 EN 61547 EN 60598-2-22 EN 60598-1 EN1838 **NOTE:** LVD directive applies only to luminaires using 230 V supply voltage.

LUMINAIRE TYPES

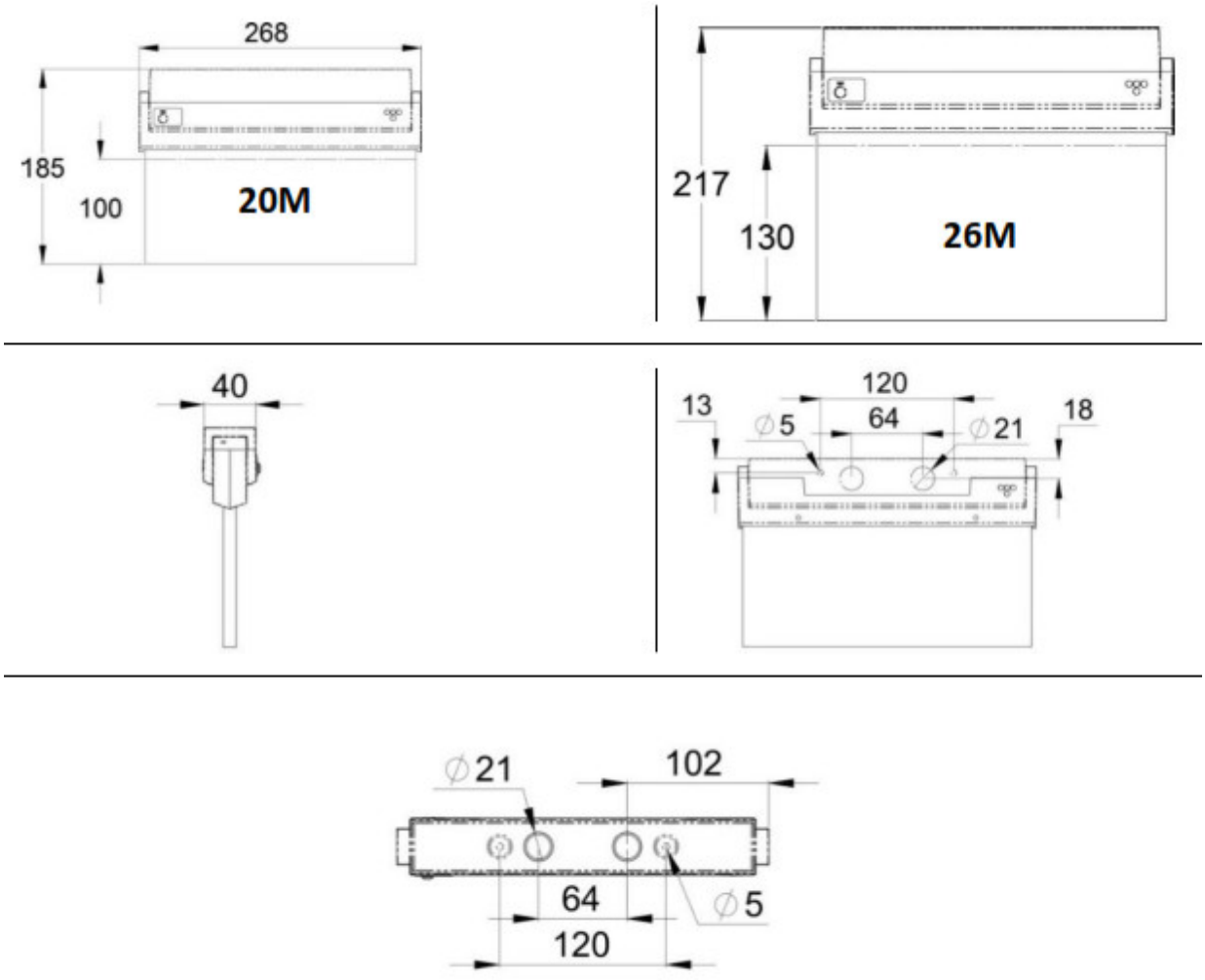
Product code	Supply voltage	Input power	Self-contained	Centrally supplied	Tasa Control	Aalto Control	Lumi Test
TWT8041W(T)	24 V, 50/60 Hz / DC	2 VA / 2,5 W	–	X	–	–	–

TWT8041 WK(T)	24 V, 50/60 Hz / DC	2,3 VA / 2,3 W	–	X	X	–	–
TWT8041 WKR(T)	24 V, 50/60 Hz / DC	2,3 VA / 2,3 W	–	X	X	–	–
TWT8051 W(T)	220…240 V, 50/60 Hz / DC	3,9 VA / 2,9 W	–	X	–	–	–
TWT8051 WK(T)	220…240 V, 50/60 Hz / DC	6,6 VA / 4,2 W	–	X	X	–	–
TWT8051 WKB	220…240 V, 50/60 Hz / DC	6,6 VA / 4,2 W	–	X	X	–	–
TWT8051 WKR(T)	220…240 V, 50/60 Hz / DC	6,6 VA / 4,2 W	–	X	X	–	–
TWT8051 WKX(*	220…240 V, 50/60 Hz / DC	6,6 VA / 4,2 W	–	X	X	–	–
TWT8053 W	220…240 V, 50/60 Hz	5,6 VA	3 h	–	–	–	–
TWT8053 WA(T)	220…240 V, 50/60 Hz	5,3 VA	3 h	–	–	X	X
TWT8053 WM(T)	220…240 V, 50/60 Hz	5,3 VA	3 h	–	–	–	X
TWS8092 WA(T)	220…240 V, 50/60 Hz	4 VA	1 h Escap	–	–	X	X
TWS8092 WM(T)	220…240 V, 50/60 Hz	4 VA	1 h Escap	–	–	–	X
TWT8071 W(T)	24-230 V 50/60 Hz AC / DC	24 V = 2 VA / 1,5 W 230 V = 5,5 VA / 2 W	–	X	–	–	–

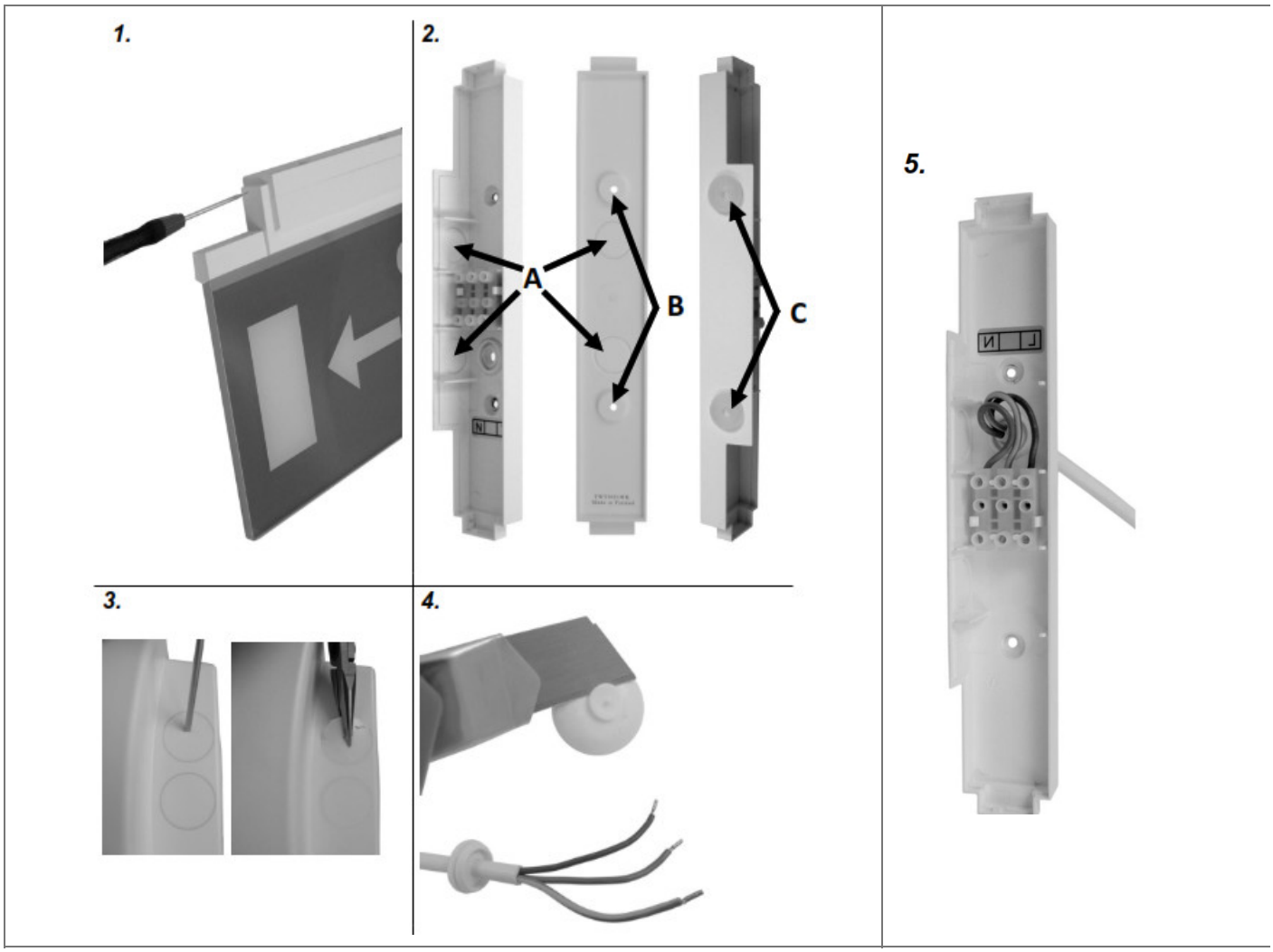
TWS8092 WAR(T)	220-240 V, 50/60 Hz AC	2,8 VA / 2,2 W	1 h Escap	–	–	X	X
TWS8092 WMR(T)	220-240 V, 50/60 Hz AC	2,5 VA / 2 W	1 h Escap	–	–	–	X
TWS8092 WR	220-240 V, 50/60 Hz AC	2,5 VA / 2 W	1 h Escap	–	–	–	–

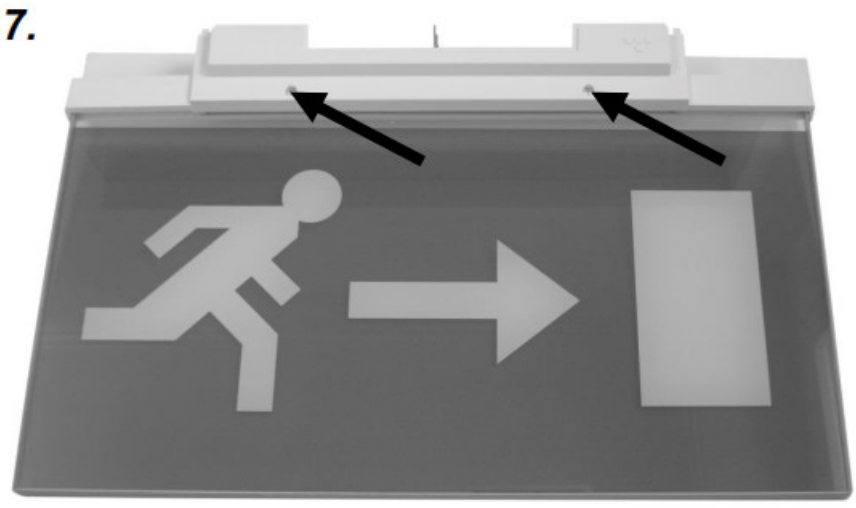
MECHANICAL DIMENSIONS

TWT/TWS80 ESC80



INSTALLATION IMAGES



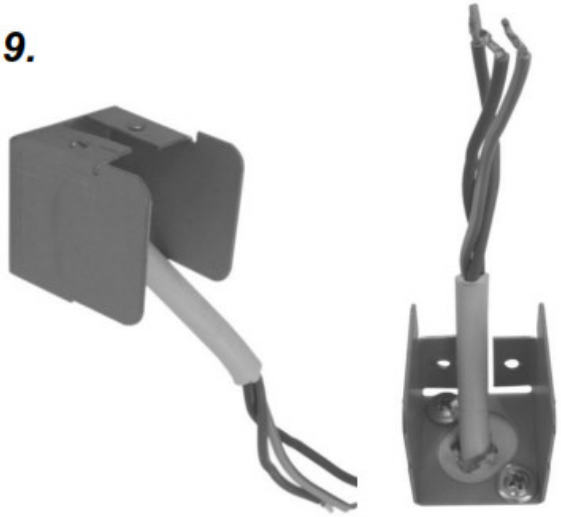


Warning! Only for maintenance use. The light plate must not be removed if the luminaire is connected to mains!

ALTERNATIVE MOUNTING METHODS

FLAG MOUNTING

9.



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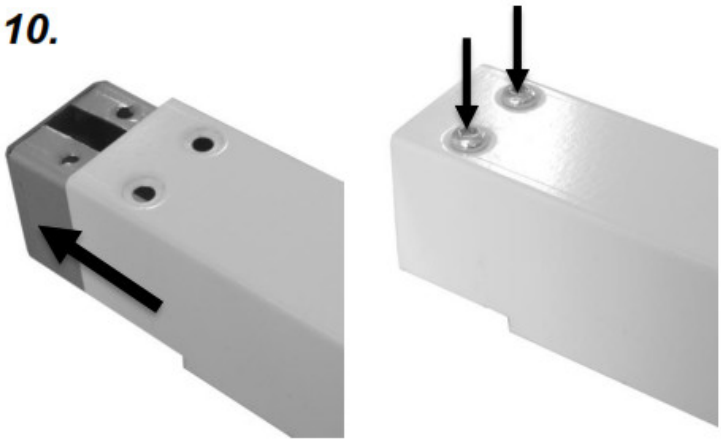

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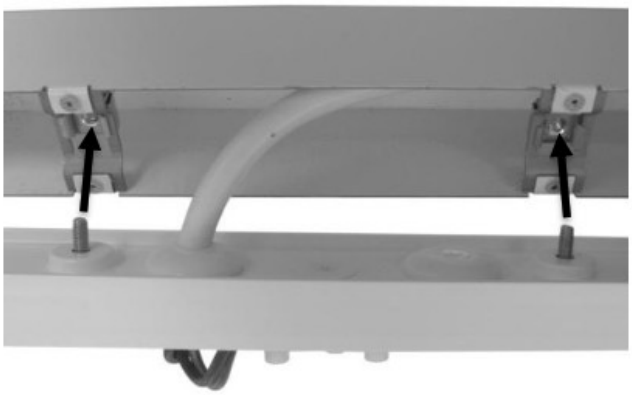
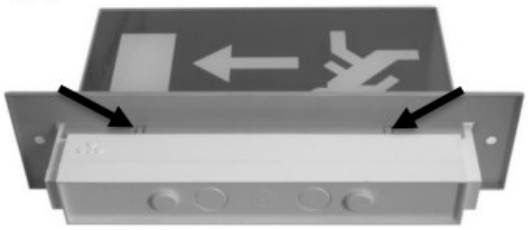


RECESSED MOUNTING
Mounting hole
53 X 415 mm
45 X 415 mm

12.



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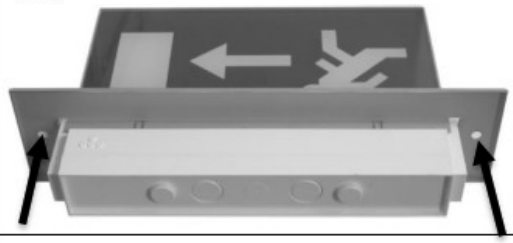

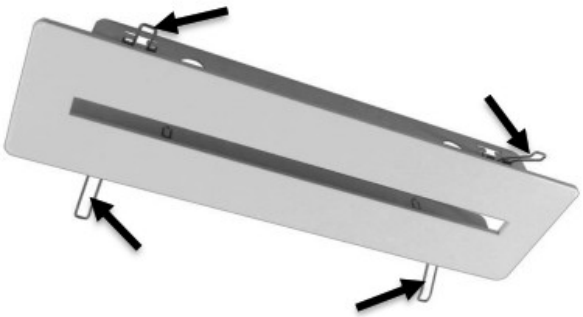

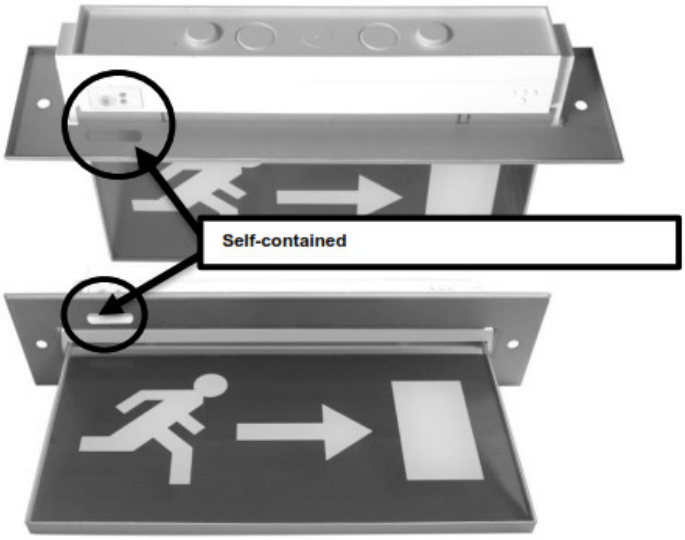

SUSPENSION MOUNTING

14.

15.

16.

17.

18.

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Documents / Resources

	TEKNOWARE TWT8051WT ESC 80 Emergency Exit Light [pdf] Instructions TWT8051WT ESC 80 Emergency Exit Light, TWT8051WT, ESC 80 Emergency Exit Light, Emergency Exit Light, Exit Light