

With the ZN lighting system ZQUARE you can effectively put your fence and gate systems in the right light. Your property boundaries, dark sidewalks and gate entrances shine in a pleasantly bright light. Your outdoor facilities and company premises are presented in a stylish and elegant way.

ZN lighting system

Assembly Instructions

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Scope of delivery

1 piece of ZQUARE in the ordered variant

Assembly set 1 (optionally available)

Assembly set 2 (optionally available)

All other options and additional packages are available online or by arrangement.

Intended Use

The ZQUARE product is used to illuminate fences and gates. In the correspondingly selected variant, ZQUARE is suitable as an illuminated post cap for standard fence posts. ZQUARE is only intended to be attached to suitable fence posts. Any other use is not permitted. The manufacturer and the seller accept no liability for damage of any kind or for improper use. Damaged products or parts thereof must not be used. The product is not to be used for games, sports, fun or trade fairs.

Symbols and explanation of signs



Warning!

This notice describes an indirect threat to the life and health of people. Failure to observe these instructions can have serious health effects, including life-threatening injuries.



Caution!

This notice describes a potentially dangerous situation. Failure to follow these instructions can result in minor injuries.



Notice!

This note describes necessary work processes, organizational measures, aids to make work easier or gives references to further information.



Conformity marking

Products marked with this symbol meet all applicable community regulations of the European Economic Area.



Protection class III

This symbol indicates that the product, up to the power supply unit, is operated in a safe voltage range of the so-called safety extra-low voltage (SELV).

IP65

Protection class

(6) Dust-tight and complete protection against contact, (5) and protection against water jets from any angle.

Note on the operating instructions

These operating instructions are available online on the manufacturer's website (see service address). Information with QR code is included with every product in its packaging. If you have any questions about installation, suggestions about the product or help understanding these instructions, please do not hesitate to contact the manufacturer.

General information

Read these assembly instructions carefully. In this way you avoid errors or the emergence of dangers and damage.

Keep these instructions or the information that you can find in the manual for future reference.

If ZQUARE is passed on to third parties, these operating instructions must be included.

These operating instructions can be requested from the service contact address or online as a PDF file.

Safety instructions



Warning! Electric shock - Maintenance

Warning when troubleshooting and maintaining ZQUARE.

ZQUARE, its electrical parts and in particular the switched-mode power supply are only to be checked and repaired if necessary. Disconnect the switching power supply from the power supply (e.g. socket) so that the entire system is voltage-free. Work on the electrical power supply with voltages greater than 50 V ~ is only permitted by trained personnel. Call in a professional.



Warning! Electric shock - Cleaning

Warning when cleaning ZQUARE.

ZQUARE, its electrical parts and especially the switched-mode power supply are only to be cleaned without voltage. Disconnect the switched-mode power supply from the power supply (e.g. socket) so that the entire system is voltage-free.



Warning! Choking hazard

There is a risk of suffocation with packaging, protective films and the small parts supplied. Keep all parts of the product away from children.



Attention! Risk of injury

The safe operation of this product is only guaranteed if the following safety instructions are observed. Failure to do so can result in injury.

- Only the parts intended by the manufacturer may be used.
- Repairs to ZQUARE may only be carried out by the manufacturer, his service department or a trained electrician.
- If the product is damaged, it must not be used any longer.
- Children and persons whose physical, mental or other abilities are restricted and who cannot safely operate this product, as well as unauthorized persons, must not have unsupervised access to this electrical device.



Note! The right tool

Only use approved, trouble-free and undamaged tools that are suitable for the task at hand. Pay attention to the specified intended use of your tool. Personal protective equipment (protective goggles, gloves, etc.) may be required to protect against injury. For information and assistance, please contact the service address.



Attention! Assembly

Observe all safety and help information during installation. Proceed carefully and carefully when handling the components and the tools. Do not endanger yourself or other people. Access to the corresponding fence post and for laying the connection cable must be possible without risk.

Note! Assembly instructions

The following notes simplify assembly:

- An optimal assembly is possible with the optionally available assembly set 1/2.
- Determine the number of ZQUAREs to be supplied and, based on this, the corresponding switched-mode power supply. Pay attention to the necessary cable length. Corresponding cables are also required in each post.

Only use approved, trouble-free and undamaged tools that are suitable for the task at hand. Pay attention to the specified intended use of your tool. Personal protective equipment (protective goggles, gloves, etc.) may be required to protect against injury. For information and assistance, please contact the service address.



Please follow the steps below, these refer to the assembly of all ZQUARE products. To assemble ZQUARE Move, also follow the steps from point 13:

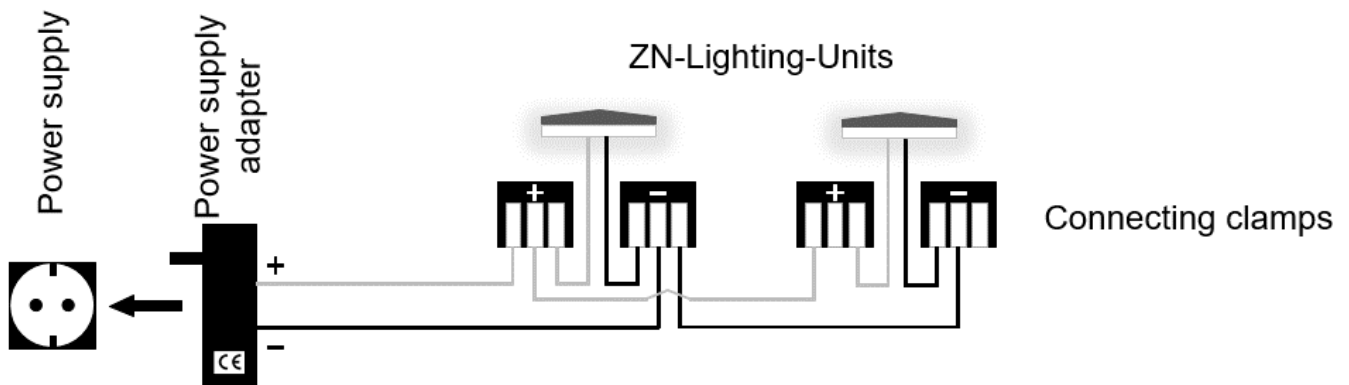
No.	Task	Tool / Material
1.	<p>Connect the switching power supply to the WLAN module with the underground cable.</p> <p>To do this, remove the black jacket from the three-core underground cable over a length of 40 mm.</p> <p>Then strip the three (individual lines) strands of the underground cable over a length of 10mm.</p> <p>Push the red wire of the positive potential (+) from the switching power supply, DC Out, with a wire (preferably red) of the earth cable into the connection of the positive potential (+) of the WLAN module and screw the terminal shut.</p> <p>Proceed in the same way with the negative potential (-).</p> <p>Connect the third strand of the underground cable to the dimmer contact (o).</p>	Side cutter, wire stripper, screwdriver
2.	TIP: Make a note of the color coding of the strands from the outgoing underground cable. This makes it easier for you to assemble the lights with each other later.	
3.	<p>Make a trench for laying the cables (optimal depth is 80cm, with 10cm sand and cover with a warning tape; [VDE0100-520: 2003-06]). Make sure that the target post is easily accessible from two sides when the cables are laid continuously. The cable can also be laid above ground if the post foot is completely set in concrete. The cable should, however, be sure-footed, firm, with no movement, as resistant to environmental influences as possible and be relatively easy to reach for control purposes.</p>	E.g. spade or shovel.
4.	If the cabling is continuous, make two access holes with a Ø 3 mm metal drill. The holes should be at the same height, this will make it easier to lay the cables later.	Cordless screwdriver or comparable. Ø 3 mm metal drill, grain chisel, measuring material.
5.	Drill the holes you just made with a Ø 13 mm metal drill. Clean the hole.	Cordless screwdriver or comparable. Ø 13 mm metal drill.
6.	Spray zinc spray on the drilled holes. Let the zinc spray work and dry. This can take a few minutes, depending on the environmental conditions. The zinc spray prevents the fence posts that have just been drilled from rusting.	Zinc spray.

No.	Task	Tool / Material
7.	Guide the underground cable through both holes so that enough cable protrudes on both sides. Run enough cable through the holes so that any subsequent fence posts with ZQUARE lights can be reached.	-
8.	If necessary, remove the post cap on top of the post. Push the underground cable through the hole up the post so that a cable loop of approx. 100 mm is created. If necessary, secure the cable against slipping back into the fence post with adhesive tape.	Duct tape.
9.	Prepare the underground cable for further installation. To do this, cut the cable loop in the middle of the loop with a wire cutter. On both sides of the cable ends that have now been created, remove the black sheathing by approx. 40 mm. Do not strip the strands!	Diagonal cutters, wire strippers.
10.	Now carry out the wiring of the ZQUARE. The three strands to be wired (green, black and red) are visible on the underside of ZQUARE. Do not strip these strands. The red cable is the connection for the positive potential. The black cable is the connection for the negative potential. The green cable is the connection for the dimmer. These strands must be connected with the same polarity (see point 1) to the strands of the underground cable prepared under point 9. To do this, use the enclosed cable connectors. Work carefully and conscientiously, as the cable connector cannot be re-used. Take a cable connector and push the unstripped black strand of the incoming underground cable, the outgoing underground cable and the one from ZQUARE into those as far as it will go. Now use pliers to press the cable connector together on the blue component as far as it will go. Check the tight fit of the connection by gently pulling on the strands. Proceed with the green and red strands according to the black ones.	Cable connector (scope of delivery), pliers (combination pliers, pipe wrench)
11.	<u>Cabling of ZQUARE Move with WLAN module</u> On the underside of ZQUARE Move are the four cable ends to be wired, the so-called strands (green, black, red and blue). Do not strip the strands. Notes on the strands: The red cable is the connection for the positive potential (white LED). The black cable is the negative potential of the white and red LEDs. The green cable is the connection for the dimmer. The blue cable is the connection to the control line of the gate or the positive pole of the red LED. The strands (green, black and red) must be connected with the same polarity (see also point 1) with the strands of the underground cable prepared under point 9. Use the enclosed cable connector for this. Proceed carefully and conscientiously with the work. A cable connector is not reusable. Take a cable connector and push the unstripped black strand of the incoming underground cable, the outgoing underground cable and that of ZQUARE into the cable connector as far as it will go. Now press the cable connector together with pliers as far as it will go on the blue component. Check that the connection is secure by pulling gently on the strands. Proceed with the green and red strands according to the black ones.	Cable connector (scope of delivery), pliers
12.	To connect and use the red LED of ZQUARE Move, use the 24V control line of the electric gate (if necessary, refer to the instructions for the gate control). <u>Potential-free connection:</u> Connect the blue cable from ZQUARE Move to the 24 V control line of the gate. <u>Galvanic connection:</u> Connect the blue cable from ZQUARE Move to the positive pole and the black cable from ZQUARE Move to the negative pole of the power supply unit of the gate.	

No.	Task	Tool / Material
13.	Place ZQUARE on the fence post. Check the cabling up to the power supply unit. Make sure that no short circuit has been wired and that no person can come into contact with dangerous voltages. Now carry out a function test by connecting the switched-mode power supply to a voltage source (socket). The wired ZQUARE should now shine with the same brightness. Now pull the power pack out of the voltage source again. If a ZQUARE did not light up, check the wiring and, if necessary, carry out points 9, 10 and 11 again.	Power supply unit, if necessary side cutters, wire strippers, connecting terminals.
14.	You can now position functioning ZQUARE on the top end of the fence post. Make sure that the wiring end and all wiring parts disappear into the fence post. Do not pinch any cables. For the final fastening, press the ZQUARE into the head of the fence post. If necessary, tap the cover of the ZQUARE lightly. Do not damage the fence post or a ZQUARE. ZQUARE is stuck when the underside has disappeared into the fence post as far as it will go. <u>Notes on mounting ZQUARE Round</u> After wiring and a function test, apply a thin layer of suitable assembly adhesive to the pipe and place the ZQUARE Round light unit in the middle.	Assembly adhesive (not included)

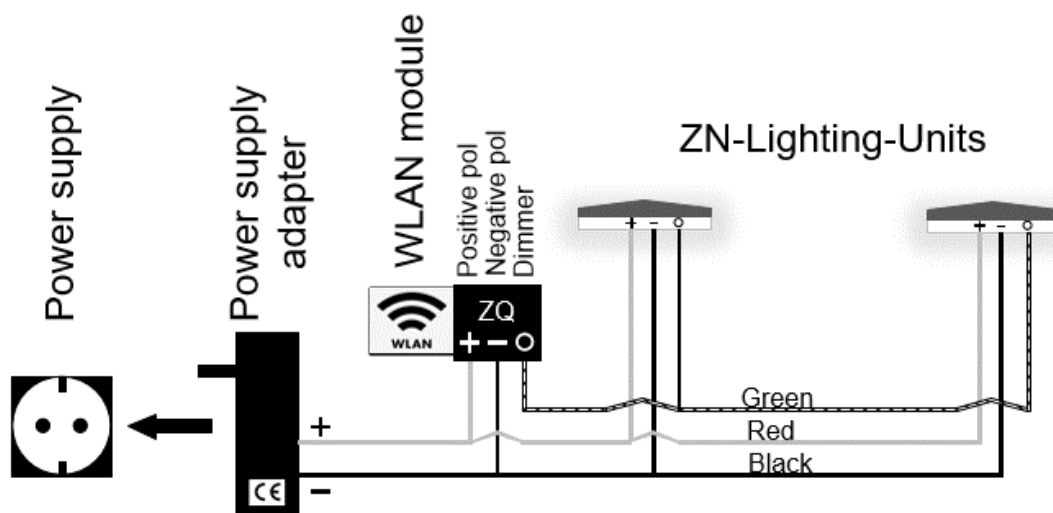
Wiring illustration

The individual ZQUARE are wired together in a parallel connection. If a ZQUARE fails, the other ZQUARE can continue to operate and the failed ZQUARE can be identified and replaced more easily.



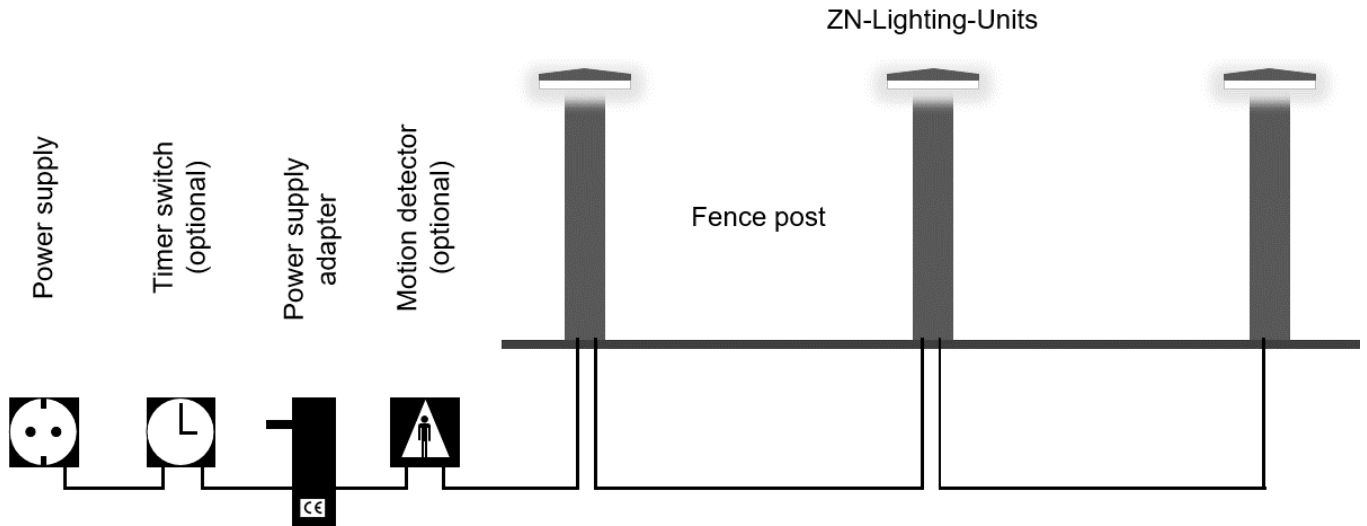
Wiring illustration with option dimmer and WLAN module

The WLAN module is connected + (red) and - (black). With the dimmer option, the dimmer control device must wire the relevant dimmer connections to the individual lighting units.



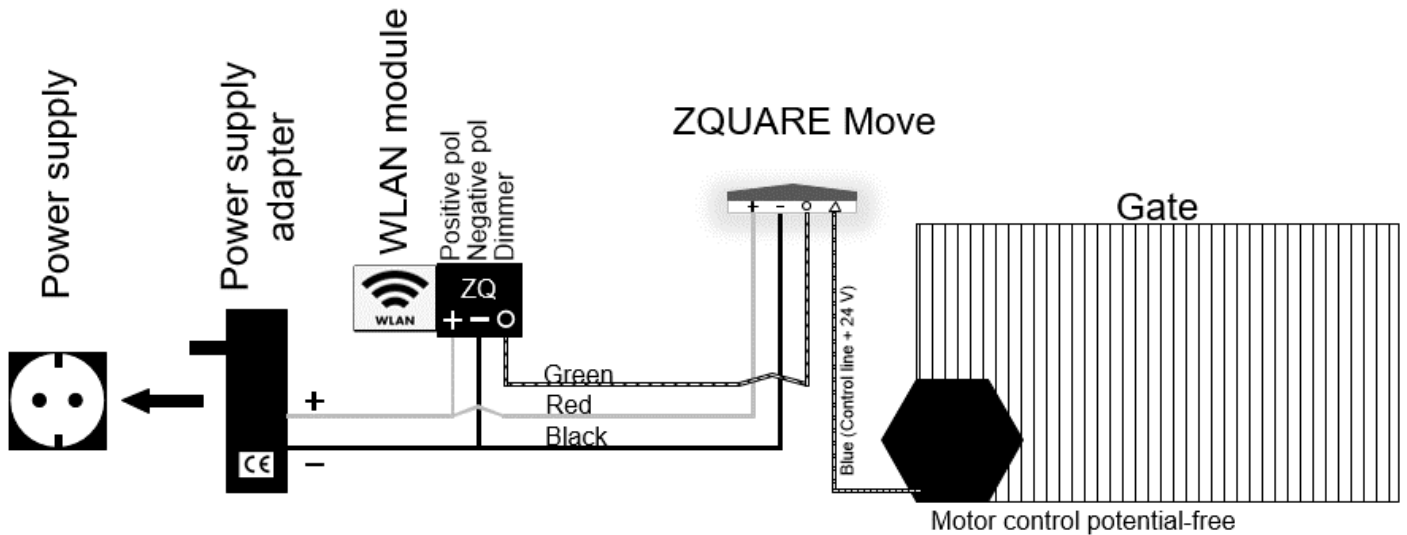
Schematic representation

The following illustration shows the connection and assembly principle.



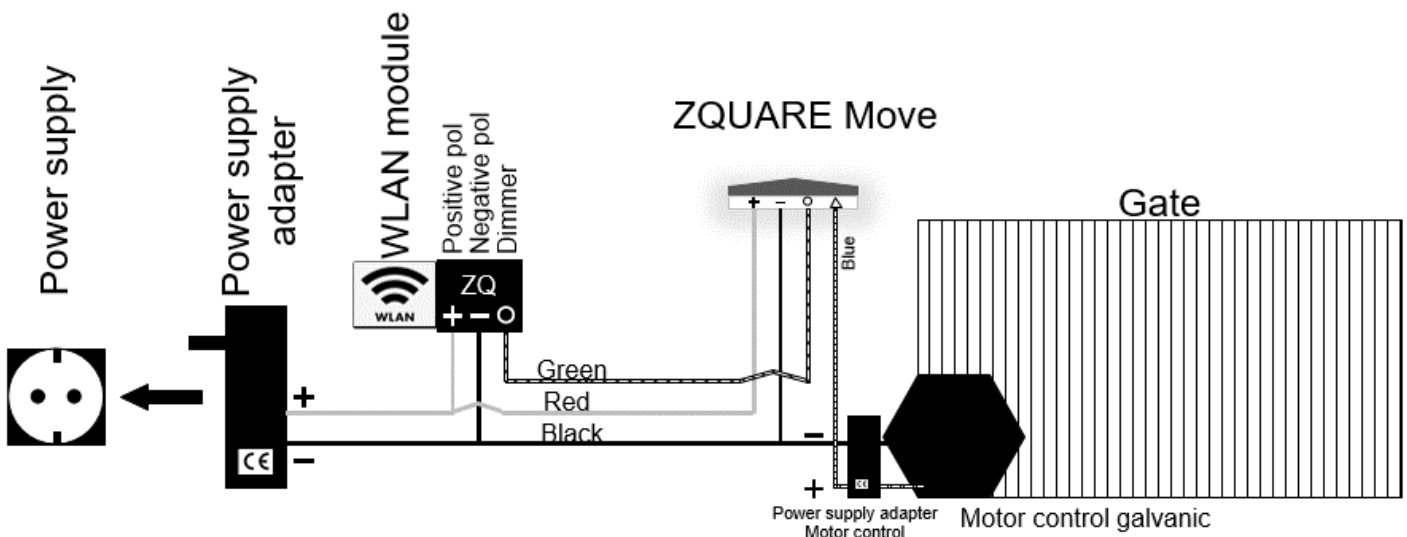
Wiring illustration ZQUARE Move with potential-free motor control

The blue line of the ZQUARE Move must be connected to the control line (24 V) of the door control.



Wiring illustration ZQUARE Move with galvanic motor control

The blue line of the ZQUARE Move must be connected to the + of the power supply unit of the door's motor control.



Notes on LEDs

The LEDs used in this lamp have a very long service life and are not exchangeable. At the end of the life of the LEDs, the light must be replaced. The built-in LEDs represent light sources of energy efficiency class A ++.

Error detection and elimination



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No.	Malfunction / Problem	Possible Cause	Troubleshooting
1.	A single LED does not work.	An LED is defective.	It is not possible to replace an LED. Contact the service contact address.
2.	A ZQUARE does not work.	No power supply. Interruption in the wiring.	(Observe warning notice) Check the power supply and the electrical wiring. Make sure that an interference-free current flow is possible and that there is no short circuit.
		Too many ZQUARE on one power supply.	Make sure there is sufficient power reserve for the switched-mode power supply. The switched-mode power supply can only supply a limited number of ZQUARE.

Cleaning instructions



Warning! Electric shock - Cleaning

Warning when cleaning ZQUARE.

ZQUARE, its electrical parts and especially the switched-mode power supply are only to be cleaned without voltage. Disconnect the switched-mode power supply from the power supply (e.g. socket) so that the entire system is voltage-free.



Attention! Cleaning supplies

Be careful when using hazardous materials and substances. Dangerous cleaning agents can damage the eyes and skin. Use of cleaning agents only in compliance with the respective instructions for use.



Note! Splash water

Do not splash with water. Splashing with water or liquids can damage the electrical installation. Cleaning with a direct water jet should be avoided.

A soft cloth should be used to clean ZQUARE. A mild cleaning agent, such as soap or washing-up liquid, should be used for heavier soiling. Abrasive agents should never be used for cleaning, as this can damage the protective layer. Do not try to open the product. If there is any contamination in the product, contact the service.

Technical specifications

Color types (standard and suitable for the corresponding fence types)

- Anthracite gray RAL7016
- powder coated



More color types

Other RAL color types are optionally available. Contact us via our service address.

Housing dimensions and variants

ZQUARE is available in different versions. Find out more on the manufacturer's website or contact the service address if you have special requests. The following examples:

- ZQUARE 6040 (25x50x94 mm [HxWxD])
- ZQUARE 60 (25x68x68 mm [HxWxD])
- ZQUARE 80 (25x88x88 mm [HxWxD])
- ZQUARE 100 (25x108x108 mm [HxWxD])
- ZQUARE Round 76 (dimensions (DxH) 83x47 mm)
- ZQUARE 120 (25x128x128 mm [HxWxD])
- ZQUARE 150 (25x158x158 mm [HxWxD])
- ZQUARE Move 100 (25x108x128 mm [HxWxD])
- ZQUARE Move 120 (25x128x128 mm [HxWxD])
- ZQUARE Move 150 (25x158x158 mm [HxWxD])
- ZQUARE gabion (25x48x128 mm [HxWxD])

LED

High-performance LED (warm white) with a service life of over 40,000 hours

Performance per ZQUARE

The power consumption varies depending on the size of the ZQUARE. Find out more about the information on the manufacturer's website.

Voltages

24 V

Protection type

IP65

Protection class

III

Energy efficiency class

A ++

Disposal instructions



LED lights

LED lights must be properly disposed of and recycled at the end of their service life; they may not be disposed of with normal household waste.

LED lights comply with Annex III of EU Directive 2012/19 / EU (WEEE Directive) and must be disposed of accordingly.



Wiring parts and electronics

The parts built into this product do not contain any dangerous or harmful materials or substances according to 2011/65 / EU (RoHS directive). The parts are still electronic scrap and must be disposed of separately.

Also dispose of the packaging according to type.

You can find more information about correct disposal and where you can dispose of your products on the Internet or from your local information center / citizens' office.

EU declaration of conformity

This ZQUARE product in the types listed below complies with the directives 2012/19 / EU (WEEE directive), 2011/65 / EU (RoHS directive, as well as in applicable parts of 2014/30 / EU (EMC directive) and 2014 / 35 / EU (Low Voltage Directive).



WEEE Reg. No .: DE 74460158

Type list: All types of the ZQUARE product line.

The following standards are used:

- DIN EN 60598-1: 2018-09 Luminaires - Part 1: General requirements and tests
- DIN EN 62031: 2015-09 LED modules for general lighting - Safety requirements
- DIN EN 61547: 2010-03 Equipment for general lighting purposes - EMC immunity requirements

The optionally available power supply unit and the WLAN module are purchased parts. These meet all applicable requirements and standards for the intended task. The manufacturer of the power supply unit and the WLAN module declares CE conformity.

Manufacturer and service address

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