



## Installation Manual

### TRANBERG® Floodlight

#### TEF2581 LED Floodlight

#### BlueLine Series

#### Document properties (TUM7401)

Revision	Comment	Date	Approved
Rev 0	First edition	30.12.2022	CKR
Rev B	Minor changes	18.10.2023	CS
Rev C	DoC attached	09.11.2023	CS
Rev D	Minor updates	09.04.2024	KABH
Rev E	Minor changes	08.11.2024	TBH

# Installation and operating manual

---

## Contents

Document properties (TUM7401) .....	1
Warnings and risk levels.....	3
General information .....	3
Safety .....	3
Marking and intended use .....	4
Technical data .....	5
Product description.....	5
Transport and storage .....	5
Tools required for installation .....	5
Mounting and installation.....	6
Preparation.....	6
Mounting .....	6
Electrical connections .....	8
Dimensions.....	13
Maintenance and cleaning.....	15
Disposal.....	15
Compliance/Conformity .....	16
Appendix #1.....	17

## Warnings and risk levels

DANGER
Non-compliance with the instruction results in risk of severe or fatal injuries to persons

WARNING
Non-compliance with the instruction may result in risk of severe or fatal injuries to persons

CAUTION
Non-compliance with the instruction may result in risk of injuries or damage to equipment

NOTICE
Non-compliance with the instruction may result in reduced lifetime of equipment, malfunctions etc.

## General information

Before installation, make sure to read and understand this installation and operating manual.

Observe national assembly and installation regulations.

Always contact the manufacturer if anything is unclear, or if you notice any faults on the product or in this document.

This installation and operating manual shall be available to anyone operating, installing, inspecting, modifying or repairing the equipment.

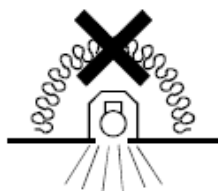
## Safety

- To ensure that the product is used safely and to optimize its life time, the following instructions must be observed and adhered to.
- Only qualified personnel may install the product.
- Note that changes to the product and/ or installation of components which do not conform to the approval, may be a safety violation. The manufacturer will not under any circumstances be held responsible for such activity.
- For your health and safety, always use safety gear suited for the task.
- Be certain to follow codes, regulations and / or specific procedures that are related to the installation.
- The equipment shall be attached to a solid surface in a way suitable for the conditions of use.
- The lamp is sealed for life. Never open the sealed parts of the lighting fixtures.
- Do not use chemicals or caustic substances of any kind when cleaning.

## Marking and intended use



The luminaire is not suitable for covering with thermally insulated material:



Do not stare at the operating light source:



## Technical data

Property	Value
<b>Material</b>	Casted seawater resistant aluminium, chromated and powder coated, glass, EPDM gasket, AISI 316L bracket
<b>Input voltage</b>	200-240V AC / 18-32V DC (only 5000 lm)
<b>Maximum load capacity for a 16A B, circuit breaker</b>	13 pcs lamps can be connected on the same circuit
<b>Maximum load capacity for a 16A C, circuit breaker</b>	22 pcs lamps can be connected on the same circuit
<b>Wiring in series 24 VDC</b>	No through wiring possible due to the high current
<b>Light output</b>	5000 lm & 10 000 lm
<b>Color temperature</b>	2200K, 4000K & 5000K
<b>Power consumption</b>	5000 lm: max. 35W & 10 000 lm: max. 70W
<b>Ingress protection</b>	IP66/IP67
<b>Weight 5000 lm</b>	Approx. 6 kg with mounting bracket
<b>Weight 10000 lm</b>	Approx. 7 kg with mounting bracket
<b>Mounting</b>	Mounting bracket with hole pattern for different options
<b>Cable entries</b>	1x M25 Phoenix QPD quick installation plug for cables up to 2,5mm <sup>2</sup> 1x M25 stopping plug
<b>Surge protection</b>	LED driver: Differential Mode 6kV, Common Mode 10kV
<b>Operating temperature</b>	- 40°C...+55°C
<b>Light distribution</b>	Narrow, Medium & Wide
<b>Light source</b>	LED
<b>Lifetime</b>	Load 80% > 120 000h

## Product description

LED Floodlight made of high quality, sustainable materials including seawater resistant aluminium and glass front. Maintenance free with a plug and play plug for fast and easy installation. The small and modern design makes it excellent for use for area lighting on smaller ships.

## Transport and storage

- Transport and store the equipment only in the original packaging
- Store the equipment in a dry and vibration free place
- Do not drop!

## Tools required for installation

Regular tools required for installation:

Tools for mounting the mounting bracket to the surface: A wrench

Tools for mounting the bracket to the lamp: A size 13 wrench

## Mounting and installation

### ⚠ DANGER

Incorrect mounting and installation may lead to risk for falling objects, risk for electric shock or fire and risk for equipment malfunction. In turn, this can lead to severe damage and/or injuries.

### Preparation

- Make sure you read the whole manual before starting the installation.
- Check whether the fixture is to be installed in an environment that meets the ambient temperatures.
- Remove the fixture from the package and check it for mechanical damage.
- Ensure that the surface where the fixtures are to be mounted on is flat.

Only qualified personnel are allowed to perform installation and maintenance tasks to this product. The equipment is ready for installation when leaving the production facilities of R. Stahl Tranberg AS. Please check the condition of the equipment and any other contents in the box when unpacking. Any damage done to the equipment during transportation is not the responsibility of R. Stahl Tranberg AS. If the content is not complete, please file a claim to the manufacturer immediately.

The TEF 2580 is delivered with a mounting bracket.

Any damage caused by the use of an incorrect combination of cable and cable glands is not the responsibility of R. Stahl Tranberg AS and is not covered by the warranty.

### Mounting

If the lamps are not electrical connected at the installation time, make sure that the QPD plug are properly sealed by a sealing plug (or a protective cap) for unused cable entries IP68 (part no 50500231). **See figure on next page.** If this is not done the lamp will not be protected against water intrusion. The lamp comes with a sealing plug installed.

When the lamp is ready for electrical connection remove the sealing plug and connect the cable to the QPD plug. After properly mounting of the cable and the plug, the deck light has an IP66/67.

The mounting bracket is packed inside the box with the luminaire.



sealing plug (included)



Protective cap (not included)

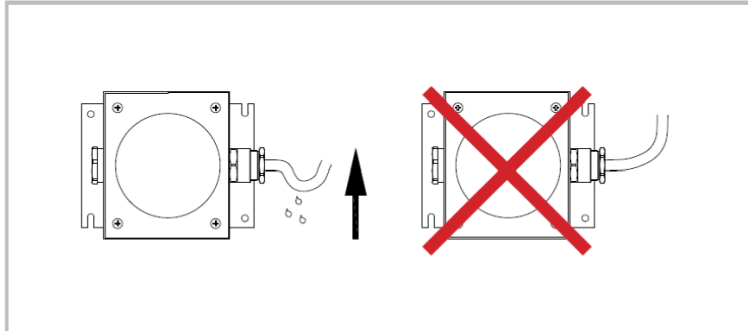
## Electrical connections

Only qualified electrical personnel may install and start up the QPD components. For correct electrical termination, please follow the Phoenix user manual, Appendix 1 in the end of this document. Below is an excerpt of the Phoenix user manual describing the main points of the procedure.

### **Important!**

*Be sure to install the cable in a way, which prevents water to penetrate into the enclosure through the connection plug. Always let the cable bend downwards from the cable gland to prevent water to sip in with the cable. See illustration below. The illustration is showing another type of lamp, but the principle is the same.*

*Also make sure to use the correct QPD Plug connector size (according to the cable diameter) when you install the luminaire.*



### **Cable termination**

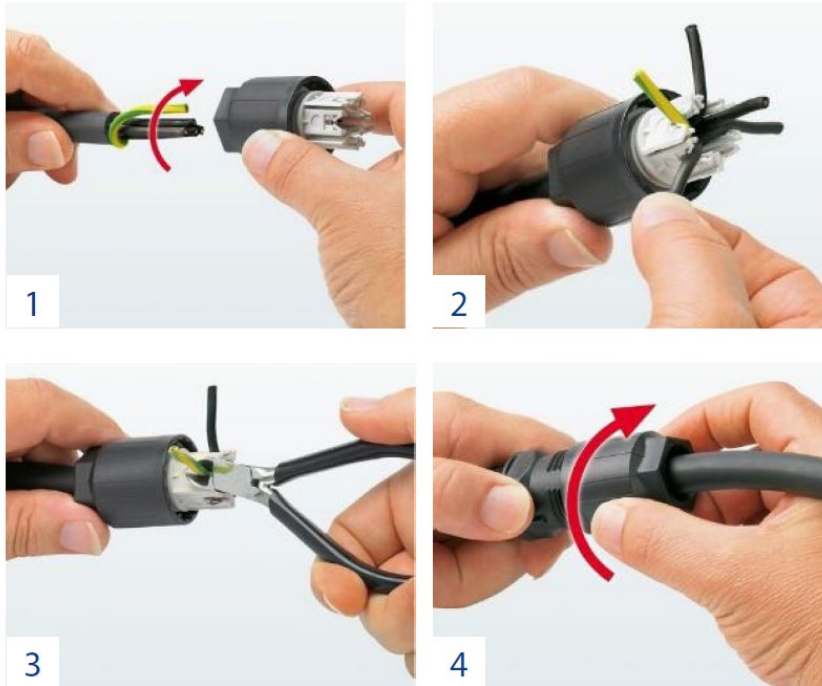
- Cable diameter: Ø9-16mm
- Wire cross section: 1.0mm<sup>2</sup> to 2.5mm<sup>2</sup>.
- Wire diameter incl. insulation: 2.0mm to 3.80mm.

### **Connections**

1. Strip approx. 60mm off the cable.
2. Loop the PE conductor around the live conductors (1). As a result, the PE conductor will be pulled out of the terminal block last if strong tension is exerted on the cable.
3. Insert the cable into the terminal nut.
4. Fix the wires in the conductor support of the splice body (2).
5. Cut off the wires with a diagonal cutter flush on the splice body (3).
6. When connecting the terminal nut to the light connector socket, make sure that their markings are aligned.
7. Screw the terminal nut together with the light connector socket (4). For this, we recommend using either the socket wrench, a wrench, or a plier. Screw the terminal nut as far as it goes, or with the specified torque. It must not be possible to unscrew the terminal again by hand.
8. **Seal off any non-allocated connections using a protective cap or a sealing plug.**

### **Ground bounding screw**

The floodlight is equipped with a ground bounding screw which can be used as grounding where national or company regulations require it.



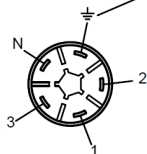
Photos courtesy of Phoenix Contact GmbH.

#### QPD plug information (for more details see Phoenix QPD original datasheet)

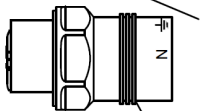
Wrench size, union nut	27 mm
Tightening torque, union nut	10 Nm
Tightening torque, counter nut	5 Nm
Wrench size, counter nut	30 mm
Numbers of connections	10
Conductor cross section flexible min.	1 mm <sup>2</sup>
Conductor cross section flexible max.	2,5 mm <sup>2</sup>
Conductor cross section solid min.	1 mm <sup>2</sup>
Conductor cross section solid max.	2,5 mm <sup>2</sup>
Conductor cross section AWG min.	16
Conductor cross section AWG max.	14
Dimensions of slip-on connection	4.8x0.8 mm
External cable diameter	9 mm ... 16 mm
Position marking	1, 2, 3, N, PE
Quickon connectability	Max 10
Insertion/ withdrawal cycles	Max 50

## STANDARD version 240VAC

The QPD plug is marked with symbols for termination on the round surface at the lower end of the plug.

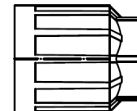
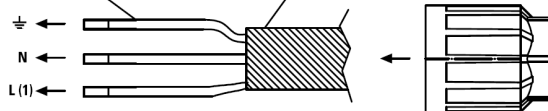


Inner part of QPD plug  
(installed in the decklight)

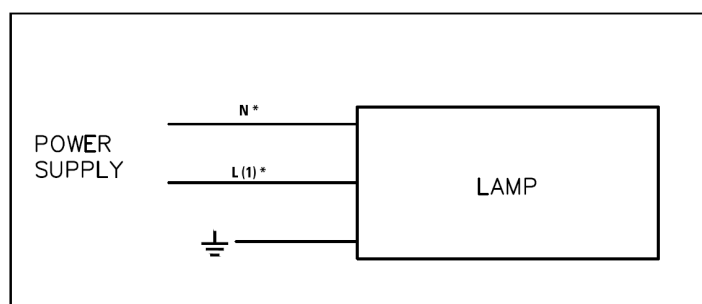


Cable  
(conductor cross  
section flexible:  
min. 1mm<sup>2</sup> & max 2,5mm<sup>2</sup>)

Cable diameter  
min. 9mm, max. 16mm.

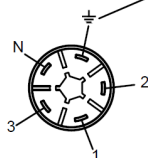


Outer part of QPD plug  
(delivered with the decklight)

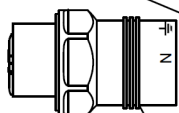


## STANDARD version 24VDC

The QPD plug is marked with symbols for termination on the round surface at the lower end of the plug.



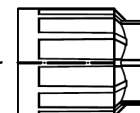
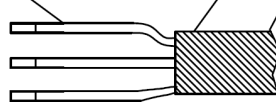
Inner part of QPD plug  
(installed in the decklight)



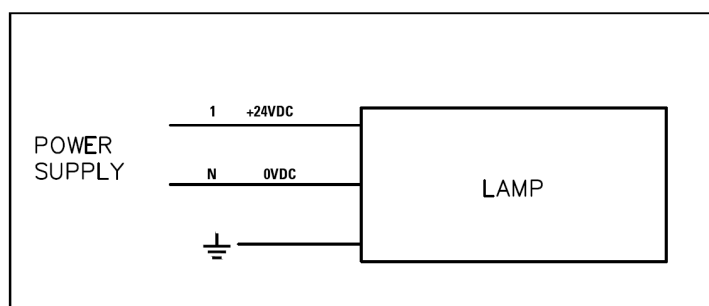
Cable  
(conductor cross  
section flexible:  
min. 1mm<sup>2</sup> & max 2,5mm<sup>2</sup>)

Cable diameter  
min. 9mm, max. 16mm.

⏏  
0VDC (N)  
+24VDC (1)

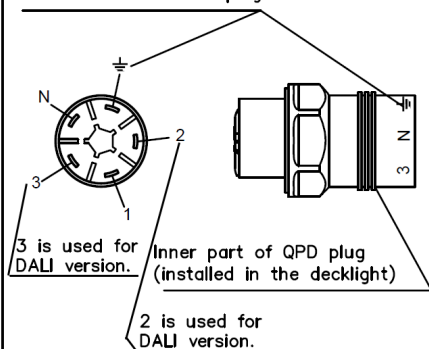


Outer part of QPD plug  
(delivered with the decklight)



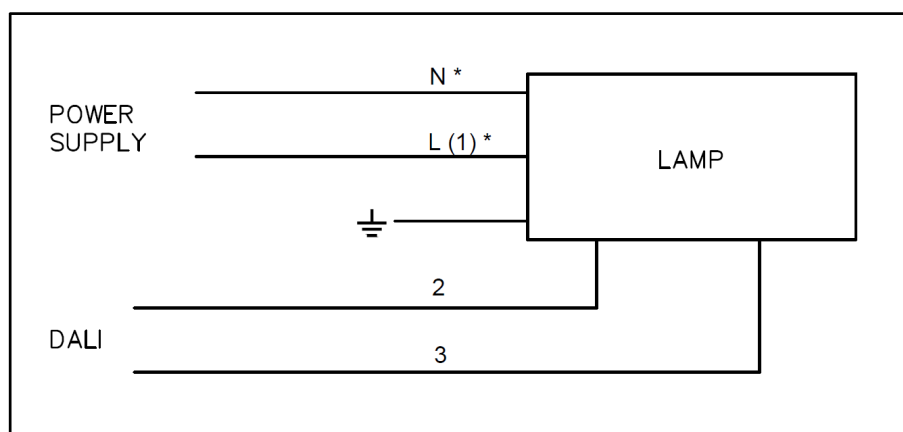
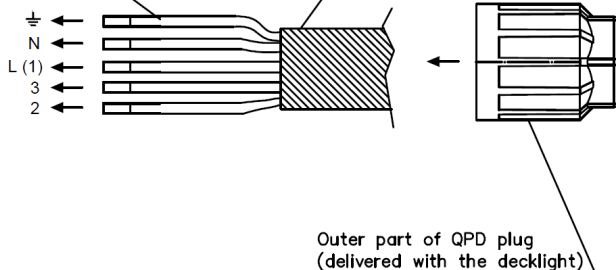
## DALI version 230VAC

The QPD plug is marked with symbols for termination on the round surface at the lower end of the plug.



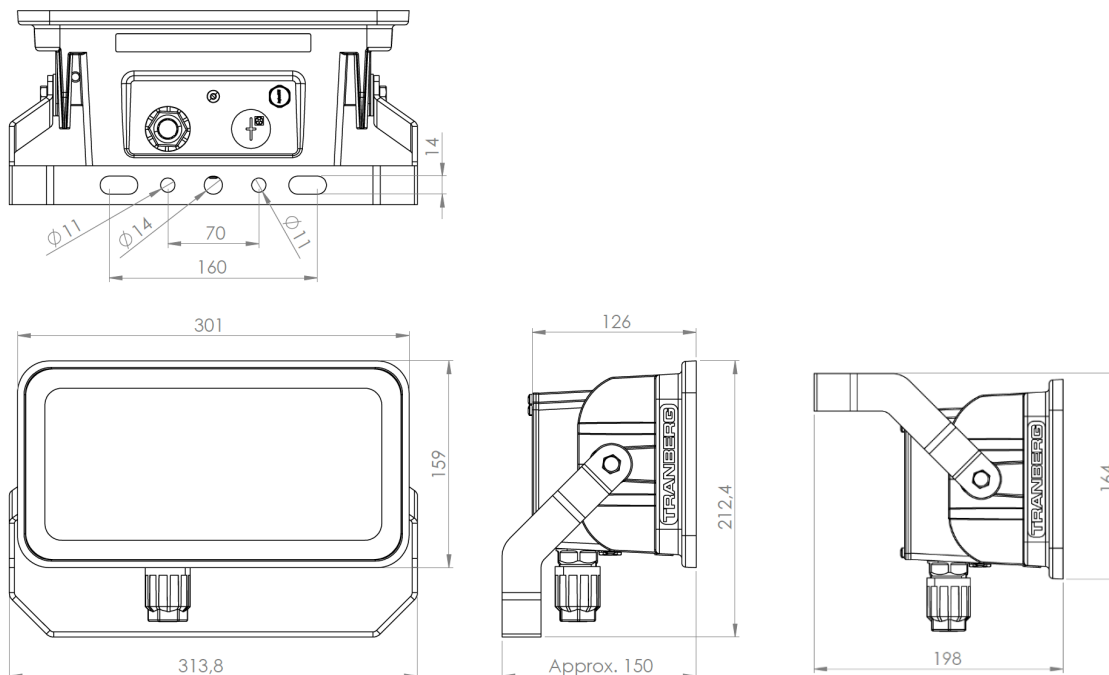
Cable  
(conductor cross  
section flexible:  
min. 1mm<sup>2</sup> & max 2,5mm<sup>2</sup>)

Cable diameter min. 9mm, max. 16mm.

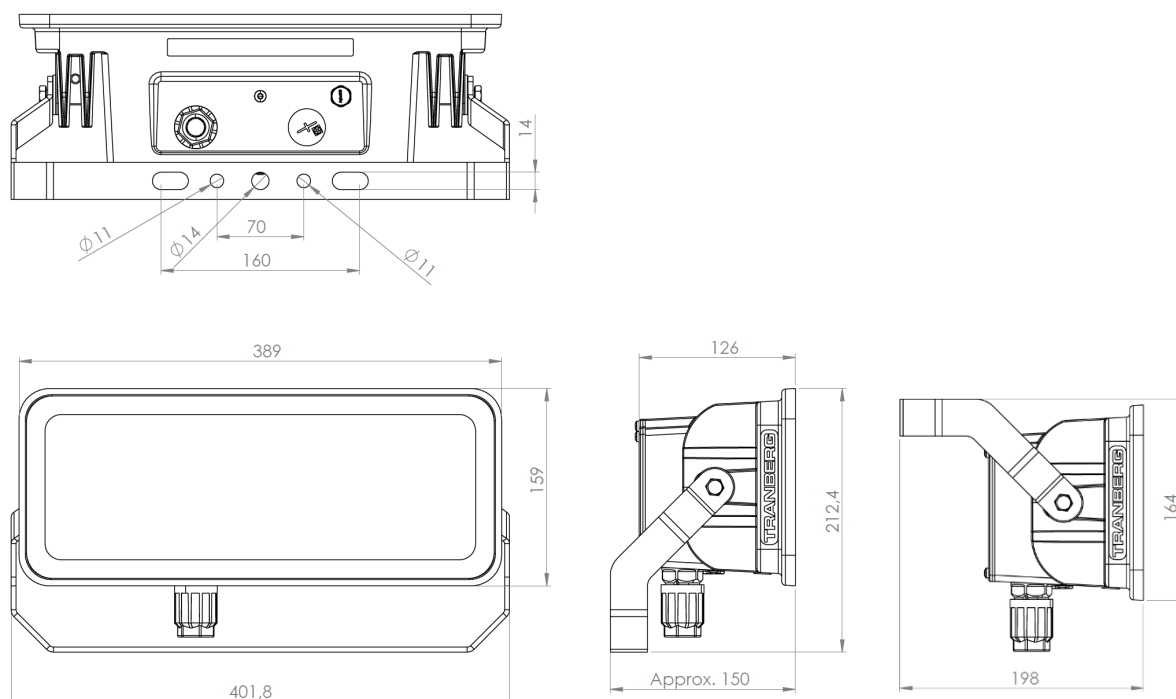


## Dimensions

5000 lm



10 000 lm



Options and spare parts

Image	Description	Part No
	Cable termination nut Ø6 -11 mm	50500223
	Cable termination nut Ø9-16 mm	50091435
	Plug connector for cable Ø6 - 11 mm	-
	Plug connector for cable Ø9-16 mm	Digital output (Alarm output)
	Sealing plug 14x22 (delivered with the lamp)	50500231
	Protective cap for unused cable entries IP68 (to be ordered separately)	50500226
	Breather plug M12 IP68	50091434
	Blind plug M25	50091436

## Maintenance and cleaning

The floodlight should be inspected according to company routines.

- Do not clean the fixtures with a high-pressure steam or water jet. This could cause damage that is not covered by the warranty. Only clean by washing down with cloths / soft brushes, water and mild detergents. Avoid chemicals with high or low pH, abrasives, high pressure washer, strong detergents, solvents, petroleum- or alcohol based cleaning agents and similar. Avoid any corrosive media.
- This is a sealed product safe for water intrusion if it is not used pressure steam or water jet directly on the lamp. The manufacturer still suggest regular check for water intrusion in the housing.
- When cleaning, use only mild detergents. Alcohol or petroleum based products may damage the sealing.

## Disposal

### CAUTION

This equipment or part of this equipment is considered EE-Waste, and shall be handled accordingly

- Observe national and local regulations and statutory regulations regarding disposal
- Separate materials when sending it for recycling
- Ensure environmentally friendly disposal of all components
- No component or packaging shall end up in the ocean during any stage of the product's lifetime

## Compliance/Conformity

### EU Declaration of Conformity

EU Konformitätserklärung

Déclaration de Conformité UE



**R. STAHL Tranberg AS • Strandsvingen 6 • 4032 Stavanger, Norway**

**declares in its sole responsibility, / erklärt in alleiniger Verantwortung / déclare sous sa seule responsabilité,**

**That the product:** Floodlight  
*dass das Produkt:* Flutlicht  
*que le produit:* Le projecteur

**Type(s), typ(en), type(s):** TEF2581 "Blueline"

**is in conformity with the requirements of the following directives and standards.**

*mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.*

*est conforme aux exigences des directives et des normes suivantes.*

Directive(s) / Richtlinie(n) / Directive(s)		Standard(s) / Norm(en) / Norme(s)
2014/35/EU 2014/35/EU 2014/35/UE (OJ L 96, 29.03.2014, p. 357-374)	Low Voltage Directive Niederspannungsrichtlinie Directive Basse Tension	EN IEC 60598-1:2021/A11:2022 EN 60598-2-5:2015 EN 62471:2008 EN 60529:1991/A2:2013/AC:2019-02 IP66/67
<b>Authorized person for the technical file:</b> <i>Autorisierte Person für die techn. Dokumentation:</i> <i>Personne autorisée pour la documentation technique:</i>		Technical Director c/o R.Stahl Tranberg AS Strandsvingen 6 4032 Stavanger Norway
2014/30/EU 2014/30/EU 2014/30/UE (OJ L 96, 29/03/2014, p. 79–106)	EMC Directive EMV-Richtlinie Directive CEM	NEK IEC 60533:2015 Electrical and electronic installations in ships - Electromagnetic compatibility (EMC) - Ships with a metallic hull
2011/65/EU & (EU) 2015/863 RoHS Directives 2011/65/EU & (EU) 2015/863 RoHS-Richtlinien 2011/65/UE & (EU) 2015/863 Directives RoHS (OJ L 174, 1/07/2011, p. 88–110 & OJ L 137, 04/06/2015, p. 10-12)		EN IEC 63000:2018
<b>Other standards :</b>		IEC 60092-306:2009 - Electrical installations in ships - Part 306: Equipment - Luminaires and lighting accessories

Signed for and on behalf of: / unterzeichnet für und im Namen von: / signé pour et au nom de:

**R.STAHL Tranberg AS**

Stavanger, 2023-11-09

**Ort und Datum**  
*Place and date*  
*Lieu et date*

**Kjell Are Berg-Hagen**  
Technical Director

**Tor Arne Appfjell**  
Quality Manager

## Appendix #1

### English

#### Installation instructions for the QUICKON installation system QPD

Different components are available. However, they are all connected in the same way (1):

- 1 Cable connector
- 2 Combination of cable connector and panel feed-through
- 3 Panel feed-through with connected cables
- 4 Panel feed-through with spade connection
- 5 QUICKON connector with QUICKON nut
- 6 QUICKON nut  
H-distributors and T-distributors (see 2))

#### 1 Safety note

Only qualified electrical personnel may install and start up the QPD components.

#### 2 Assembly

- Strip approx. 60 mm off the cable (3).
- Loop the PE conductor around the live conductors (4). As a result, the PE conductor will be pulled out of the terminal block last if strong tension is exerted on the cable.
- Insert the cable into the QUICKON nut.
- Fix the wires in the conductor support of the splice body (5).
- Cut off the wires with a diagonal cutter flush on the splice body (6).
- When connecting the QUICKON nut and QPD component, make sure that their markings are aligned.
- Screw the QUICKON nut together with the QPD component (7). For this, we recommend using either the socket wrench QSS..., a wrench, or a pliers. Screw the QUICKON nut as far as it will go, or with the specified torque. It must not be possible to unscrew the QUICKON nut again by hand.
- Seal off any non-allocated QUICKON connections using a protective cap.

#### QUICKON connector

The QUICKON connector is connected as described. It is equipped with a capacitive PE contact, polarized to prevent mismatching, and features touch-proof protection according to DIN EN 50274.

**WARNING:** Always de-energize the connector before connecting or disconnecting it.

#### 3 Dismantling

**WARNING:** Only detach the cable when it is de-energized.

- To detach the cable, completely unscrew the QUICKON nut (loosening torque 5 Nm).
- Hold the panel feed-throughs of type QPD W ... with a wrench.
- Pull out the splice body without using a tool.

#### 4 Reconnection

- The QUICKON connection may be rewired up to 10 times maximum with the same conductor cross-section. For this, you must cut the cable and re-make the connection from scratch.

#### Technical data

Rated voltage (III/3)

Rated current (QPD W M20 FC = 15 A)

Contact resistance

Housing material

Contact material

Flammability rating according to UL 94

Degree of protection

Ambient temperature (operation)

Temperature while connecting cable

#### QUICKON connection

Wire insulation material: PVC, PE, TPE, rubber

Wire diameter incl. insulation

Stripping length

Litz wire structure / smallest wire diameter

Frequency of connections

Conductor cross section (solid/stranded)

AWG conductor cross section

Tightening torque (QUICKON nut)

Loosening torque (QUICKON nut)



PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstraße 8, 32825 Blomberg, Germany  
Fax +49-(0)5235-341200, Phone +49-(0)5235-300

phoenixcontact.com

MNR 0139827 - 04

2018-06-06

DE Einbauanweisung für den Elektroinstallateur

EN Installation notes for electricians

FR Instructions d'installation pour l'électricien

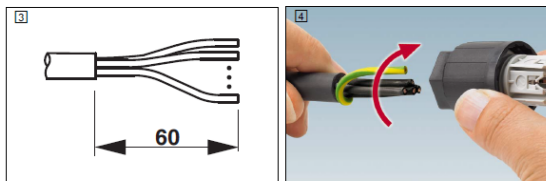
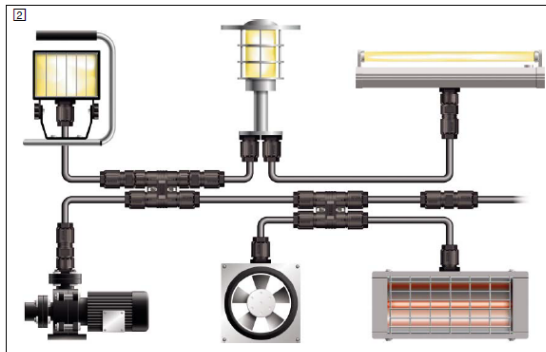
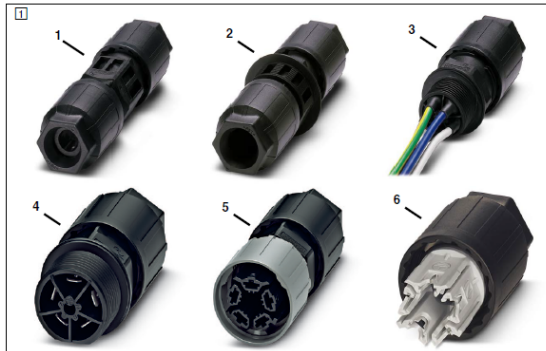
IT Istruzioni di installazione per l'elettricista

ES Instrucciones de montaje para el instalador eléctrico

QPD...1,5...

QPD...2,5...

QPD...6,0...



© PHOENIX CONTACT 2018-06-06

MNR 0139827 - 04 10598904