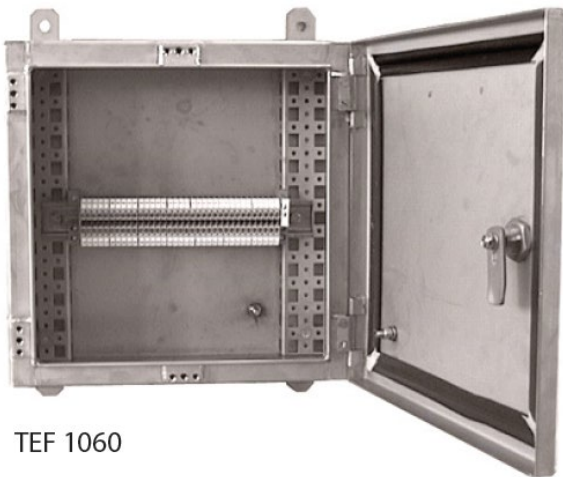




TEF 1058



TEF 1061



TEF 1060



Installation Manual

TEF 1058, 1059, 1060 & 1061 Terminal Enclosures & Control Stations

Zone 1, Zone 2 & Safe Area

Document properties (TUM4309)

Revision	Comment	Revision date	Approved
K	Added information for TEF 1061	22.02.2023	CKR
L	Minor editorial changes	27.02.2023	MRE
M	Re-introduction of 1059, no technical changes.	01.12.2023	TAA



Installation and operating manual

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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.

Marking and intended use

DANGER
Not for use in Zone 0
CAUTION
The empty enclosures of these enclosure series are suitable for the installation of explosion protected components. The empty enclosures feature a component certificate. Therefore, the equipment may only be used for its intended use. Improper or impermissible use or non-compliance with the information in these operating instruction voids any warranty. Changes to the equipment that impair the function of the equipment or the explosion protection are not permissible.



Ex marking (depending on installed equipment):

ATEX Approval Explosion category:

ATEX: Ex II2G Ex db eb mb ia/ib op pr IIC Gb T6/T5/T4

IECEX: Ex db eb mb ia/ib op pr IIC Gb T6/T5/T4

ATEX Certificate No.: Presafe 14ATEX4124

IECEX Certificate No.: IECEX PRE 14.0001

Notified Body: Presafe AS, Norway

For use in Zone 1, Zone 2 & Safe Area

Special conditions for safe use

DANGER

Special conditions for safe use are critical conditions to maintain the explosion protection of the equipment. These shall be adhered to in all cases and under all circumstances.

- Follow this manual for installation and maintenance.
- Only qualified personnel are allowed to perform installation and maintenance tasks to this equipment.
- Changes made to the product which do not confirm to the approvals of this equipment, is a safety violation. The manufacturer is under no circumstances responsible for personal injuries, death or any other damage caused by such activities.
- For replacement and repairs of the terminal/junction box, only R. Stahl Tranberg AS spare parts may be used. Repairs effecting the explosion protection of the equipment, may only be carried out by R. Stahl Tranberg AS, or qualified electricians in compliance with the respective national regulations.
- Any damage done to the equipment during transportation is not the responsibility of R. Stahl Tranberg AS.
- If the content is not complete, file a claim to the producer immediately.

Technical data

Property	Value	Value
Explosion protection:	Depending on equipment installed	Ref. previous chapter on marking and intended use.
Ingress Protection:	1058: IP66/67	1060 / 1061: IP66
Tamb:	Depending on installed equipment	
Operating temp.* 1058:	EPDM gasket: -40°C ...+80°C	Silicone gasket: -60°C...135°C
Operating temp.* 1060:	EPDM gasket: -20°C ...+60°C	Silicone gasket: -50°C...100°C
Operating temp.* 1061:		Silicone gasket: -58°C...85°C
Area of use:	Zone 1, Zone 2 & Safe Area	
Material housing:	Acid proof stainless steel	
Material gasket:	EPDM or Silicone	

* Max / Min values before assembled. Refer to marking plate.

Product description

TEF 1058, 1060 and 1061 Enclosure series can be built to specific needs, as terminal box, control station or High Voltage enclosure equipped with f. ex. bus bar.

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!

Mounting and installation

DANGER

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

Installation

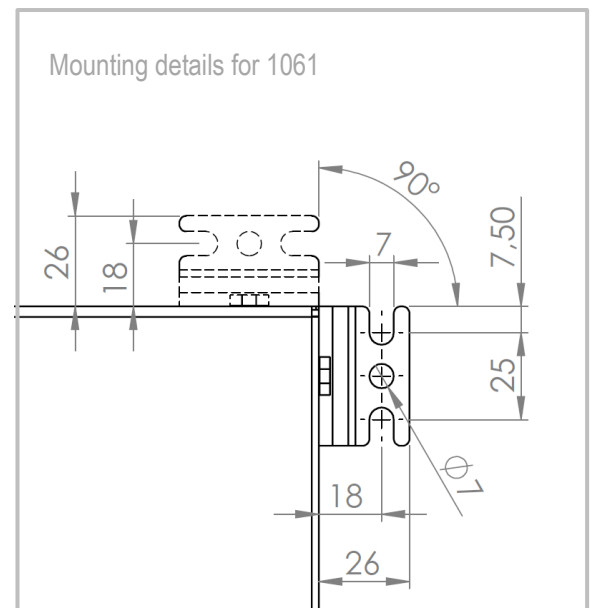
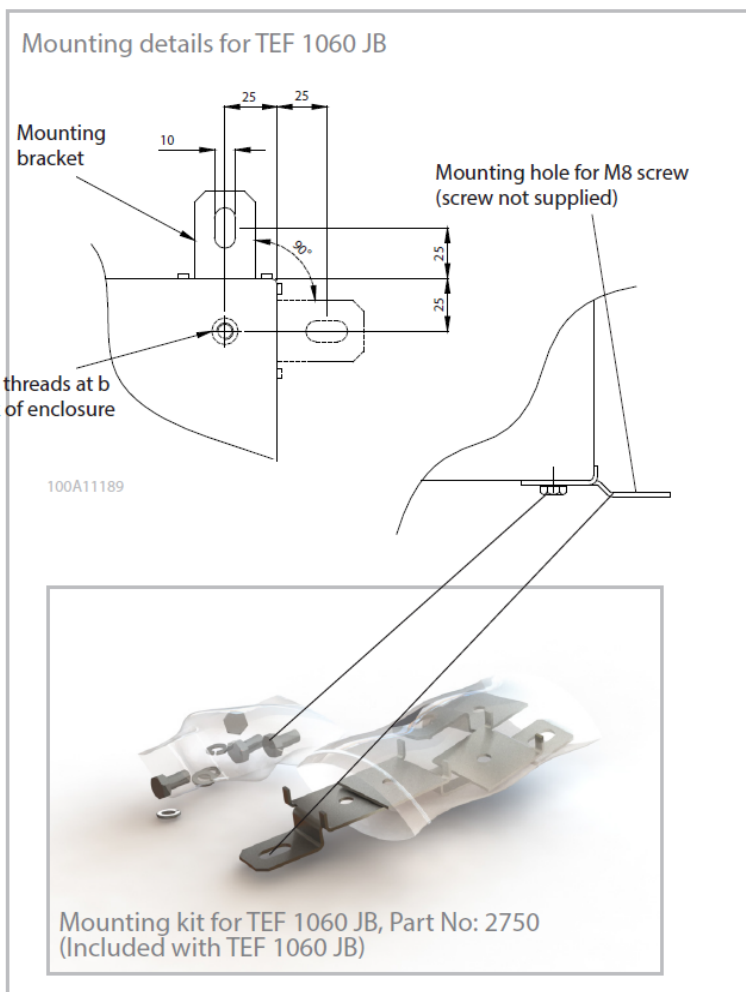
Only qualified personnel are allowed to perform installation and maintenance tasks to this product. The Terminal/Junction box may be equipped according to customer specification and is then ready for installation when leaving the production facilities of R. Stahl Tranberg AS. Otherwise the equipment installed in the Terminal/Junction box has to be according to product data sheet.

Note: The number of components varies dependent on the maximum operating temperature on conductors.

Mounting

The Terminal/Junction box should be mounted with the drainplug facing downwards. The Terminal-/Junction box is mounted with at least four bolts. M6 for TEF 1058 and and M8 for TEF 1060.

Note: Prior to mounting the Junction box, all temporary plastic plugs shall be replaced with cable glands, stopping plugs, drain plug or similar. IECEx and ATEX approved.



Connections

In order to maintain the mode of protection, the conductor must be connected with special care. The isolation must reach up to the terminal and the conductor must not be damaged. All conductors, including floating/non-current carrying wires, should be properly terminated. Wires should not be bundled in bundles with more than three wires per bundle. For larger enclosures, cable trays are recommended, to ensure proper routing of the cables.

All screws and nuts on the terminals are to be tightened, whether a cable is terminated or not. Tightening torque according to table 1 in this manual.

For earth connections to a stud or a bar, a cable shoe shall be used.

Only certified cable entries and stopping plugs may be used. Make sure the cable gland matches the cable diameter and the holes in the Terminal-/Junction box, and tighten according to the cable gland user manual.

Reinstall lid and tighten screws firmly by hand force. Over tightening of the lid screws may impair the mode of protection and ingress protection.

Table 1

Tightening Torque Weidmüller terminals	Type	Torque (Nm)
	WFF300	25-60
	WFF 185	14-31
	WFF 120	10-20
	WFF 70	6-12
	WFF 35	3-6
	WDK 10/PE	1,5-1,8
	WDK 1N/PE	0,5-1
	WDK 2,5	0,4-0,6
	WDU 70/95	6-12
	WDU 35	4-5
	WDU 16	3-4
	WDU 10	1,5-1,8
	WDU 6	0,8-1,6
	WDU 4	0,5-1
	WDU 2,5	0,4-0,8
	WDU 2,5N	0,4-0,6

Table 2

	Type	Torque (Nm)
Tightening Torque Phoenix Contact terminals	MBK3/E-Z	0,6-0,8
	MBK6/E	1,5-1,8
	MSLKG 5	0,6-0,8
	MSLKG 6	1,5-1,8
	MXK 4	0,6-0,8
	UK 1,5 N	0,22-0,25
	UK 2,5 N	0,6-0,8
	UK3N	0,6-0,8
	UK5/N/TWIN	0,6-0,8
	UK 35	1,5-1,8
	UK 16 N	1,5-1,8
	UK 10 N	1,5-1,8
	UK 6 N	1,5-1,8
	UKH50	6-8
	UKH95	15-20
	UKH150	25-30
	UKH240	25-30
	USLKG 1,5 N	0,22-0,25
	USLKG 2,5	0,6-0,8
	USLKG 3	0,6-0,8
	USLKG 5	0,6-0,8
	USLKG 6 N	1,5-1,8
	USLKG 10 N	1,5-1,8
	USLKG 16 N	1,5-1,8
	UT 2,5 /PE/Twin/Quattro	0,6-0,8
	UT 4 /PE/Twin/Quattro	0,6-0,8
	UT6 /PE	1,5-1,8
	UT10 /PE	1,5-1,8
	UT16 /PE	2,5-3
	UT35	3,2-3,7

Table 3

Terminal size / Cross section	Load
1,5mm ² /AWG16	10A
2,5mm ² /AWG14	16A
4mm ² /AWG12	20A
6mm ² /AWG10	25A
10mm ² /AWG8	35A
16mm ² /AWG6	63A
25mm ² /AWG4	80A
35mm ² /AWG1	100A
50mm ² /AWG1/0	135A
70mm ² /AWG2/0	165A
95mm ² /AWG4/0	210A
120mm ² /AWG250	230A
150mm ² /AWG300	250A
185mm ² /AWG400	300A
240mm ² /AWG500	300A
300mm ² /AWG600	450A

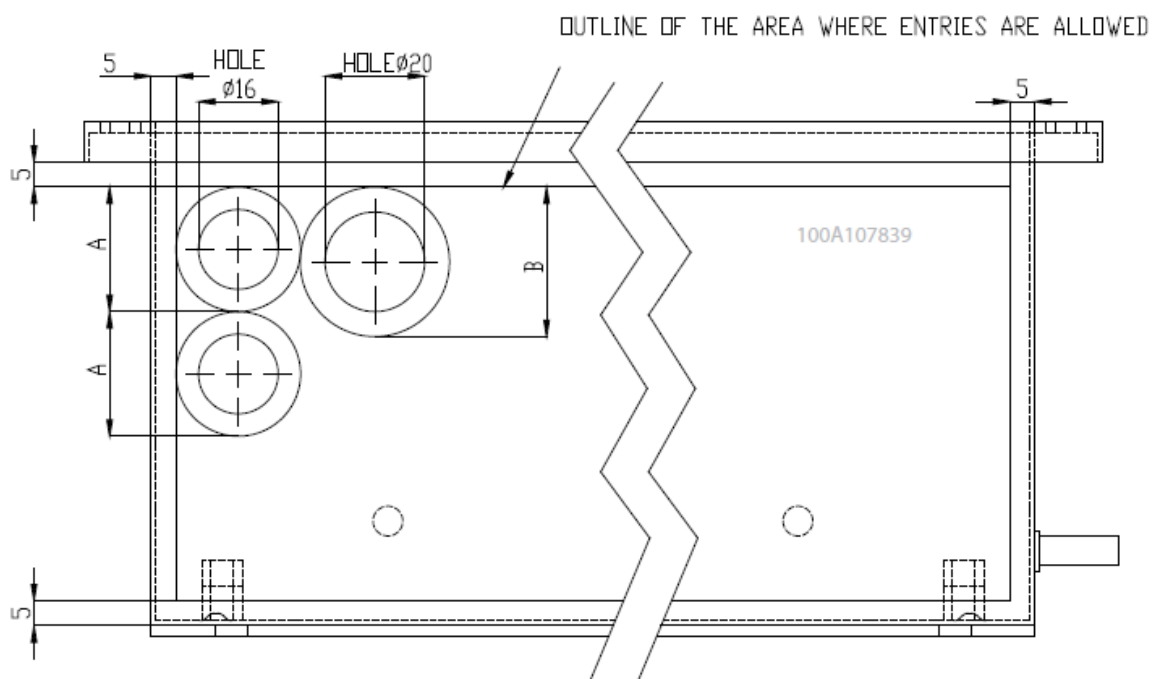
Entries allowed

Diameters A and B: The smallest possible circle circumscribing the outermost corners of the cable gland or stopping plug used, concentric with the hole in the enclosure. For other entries, "A" and "B" shall be the hole diameter +min. 2mm.

Minimum center distance for holes in the enclosure: $(A+B)/2$ or "A" if the circles are of the same diameter.

There shall be a minimum of 5mm between every hole and any edge or obstruction in the enclosure. There shall also be a minimum distance of 5mm between the edge of every hole.

A minimum distance of 5mm between every circle "A" or "B" and the nearest edge or obstruction is recommended. Any entry should have a diameter between 8 and 100mm.



Maintenance and cleaning

- Maintenance according to national regulations and company practice.
- Before opening the junction box make sure that the power is disconnected.
- Servicing the junction box is done by checking the intactness of the junction box, gasket and glands. If necessary lubricate the lid bolt threads with grease type Renolit Unitemp 2 from Fuchs or equivalent.
- If repair or overhaul is necessary this may only be done with spare parts from R. Stahl Tranberg
- Modification of the JB or change of design are not permitted, except for installing additional glands and terminals according to the approval of the JB.
- Clean only with a damp cloth, 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.

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

- Presafe 14ATEX4124
- IECEx PRE 14.0001
- Applicable standards:
 - **2014/34/EU ATEX Directive:** EN 60079-0:2012 [2018], EN 60079-1:2007 [2014], EN 60079-7:2007 [2015/A1:2018], EN 60079-18:2009 [2015/A1:2017]
 - **2014/35/EU Low Voltage Directive:** EN 61439-1:2011, EN 61439-2:2011
 - **2011/65/EU RoHS Directive:** EN 50581:2012
- Document no DoC: TDC3131
- Document no DoC: TDC5507
- Document no UKCA DoC: TDC7838