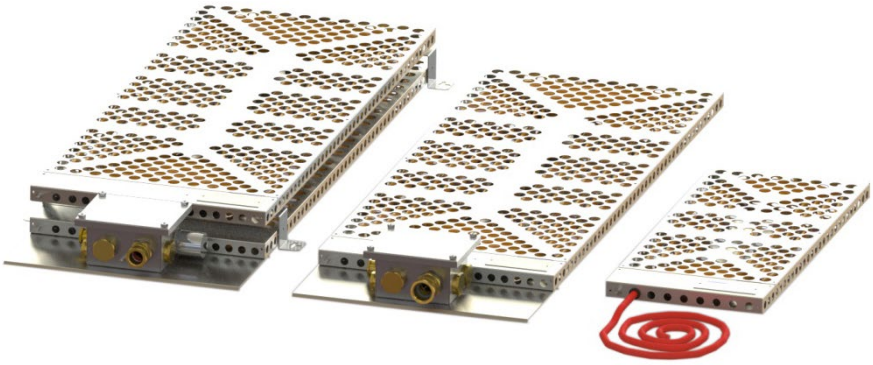

Installlation Manual

ENCLOSURE HEATER TEF 9209

Zone 1, Zone 2 & Safe Area

TRANBERG STAHL

THE STRONGEST LINK.

Document properties (TUM7138)

Revision	Comment	Revision date	Approved
-	First issue	-	AKA
A	Removed CSA-certification	25.10.2021	TBH
B	Removed EAC-certification	06.04.2022	CKR
C	Updated with new certificate and UKCA	01.04.2023	CKR
D	Updated Decleration of Conformity	22.05.2023	TBH

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Installation and operating manual

Contents

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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.

For further information, see the referenced certificates.

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Marking and intended use

DANGER
Not for use in Zone 0 or Class I division 1. Shall be placed inside an enclosure with IP min. IP54
CAUTION
The enclosure heater shall not be exposed to direct sunlight, dust, water or similar. The enclosure heater should be protected from contamination and shall not be cleaned with running water.

- CE
- ATEX / IECEx/ UKEx: II 2G Ex 60079-30-1 IIC T3 Gb

  I 2G Ex 60079-30-1 eb mb IIC T3 Gb

For use in hazardous areas Zone 1 or Zone 2

For use in onshore/offshore areas protected from exposure.

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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.

- The heaters with permanently connected unterminated flying lead cable need an appropriate protection of the free end of the cable (for example terminated in an Ex e junction box).
- The heaters with thermostat shall be connected to a circuit breaker with rated current max. 16A and a breaking capacity of min. 1500A.
- The supply circuit shall include an electrical protection device in conformity with EN 60079-30-1 (For version 2015/2017 clause 4.3).
- Enclosure heaters of type TEF 9209, shall be installed inside an enclosure with IP min. IP54
- Follow the instructions given in this IOM

Technical data

Property	Value	Value
Explosion protection ** Note:"mb" only with thermostat*	Ⓔx II 2G Ex 60079-30-1 IIC T4 Gb	Ⓔx II 2G Ex 60079-30-1 eb mb IIC T4 Gb *
Input voltage and frequency	100-120V AC	50/60Hz
Input current	Model specific	Start-up: >6x nominal current
Rated power	50W-600W (model dependant)	
Ingress protection	N/A	
Ambient temperature	-50°C …+50°C (+80°C if thermostat is used or power is disconnected)	
Communication	N/A	
Weight	Model specific, see datasheet	
Size	Model specific, see datasheet	Mounting: 4x M6 Screw
Terminals	Screw terminals, 6(10)mm²	
Entries/Cable glands	If installed, M25 (CMP A2F 25)	Ø11.1-20.0mm
Housing material	Stainless steel	
Other materials	Polymer, Silicone, Brass	

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Product description

The TEF 9209 Enclosure heater consists of a self-limiting heat tracing cable arranged in stainless steel housing. Different versions come with a flying lead silicone cable, integrated junction box or integrated junction box with thermostat. The product series is designed to maintain a minimum temperature inside an enclosure (distribution board, storage cabinet or similar). The self-limiting characteristic of the heating element prevents severe over-heating, but a thermostat is always recommended, especially for sensitive equipment.

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!
- Protect the flying lead cable during transport and storage

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Mounting and installation

DANGER

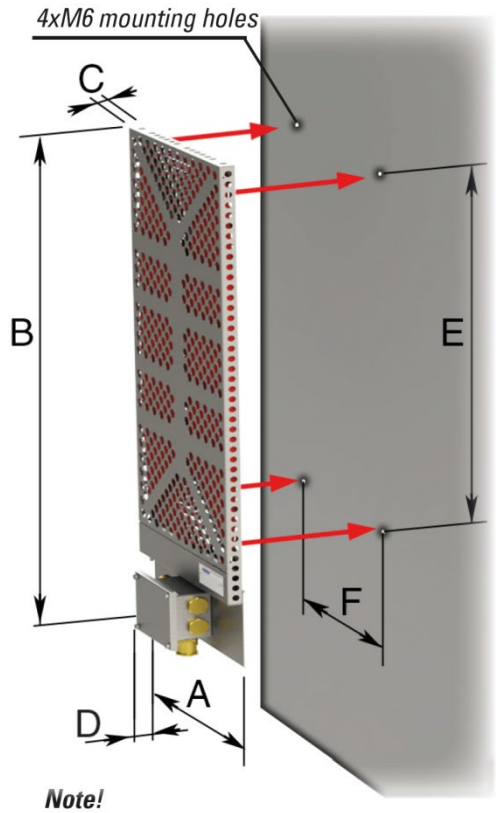
Incorrect mounting and installation may lead to ignition of an explosive atmosphere, risk of falling objects, risk for electric shock and risk for equipment malfunction. In turn, this can lead to severe damage and/or injuries. The integrated silicone cable is susceptible to mechanical damage and shall be protected in all phases (transport, storage, installation and operation). Observe “Special conditions for safe use”.

Mounting

The TEF 9209 enclosure heater shall be mounted on a flat and sturdy surface. Mounting is done with 4x M6 screws. The mounting shall be done to ensure that any foreseen load, vibrations, shock or similar do not impose a risk of mechanical failure or loosening of screws.

For detailed mounting dimensions, see the respective datasheet for each model and type.

Mounting dimensions		
Body size	E	F
A	190	160
B	440	200
C	590	240
D	760	320
Sandwich heaters		
D	760	397



Note!

Never install the heater with junction box facing upwards.

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Electrical connections

NOTICE
See “Special conditions for safe use”

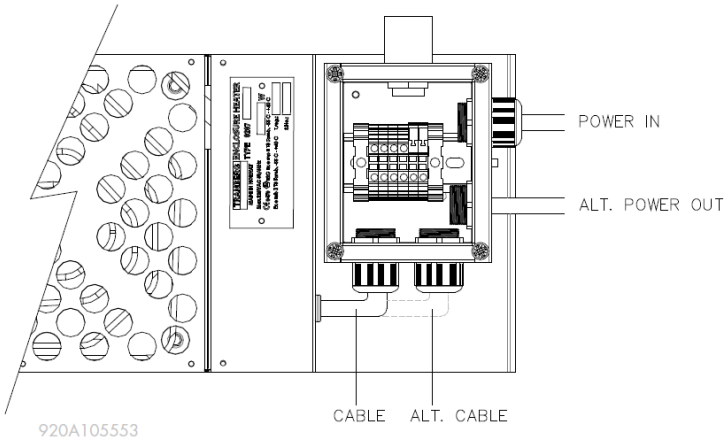
Electrical connections shall only be performed by trained personnel according to the relevant regulations. Special care shall be taken to ensure proper connection of the wires. The insulation shall reach all the way to the connection point, and no strands shall be loose. Ferrules are recommended.

The supply circuit shall be protected according to EN/IEC 60079-30-1. The flying lead cable shall be terminated in a manner suitable for the hazardous area classification (e.g. in an Ex e junction box).

Power terminals are 6mm², and the PE terminal is 10mm² max. Min. 2,5mm² cables are recommended.

Enclosure heaters with a junction box are delivered with 1 pc. cable gland for cables Ø11.1-20mm.

Bonding to earth.



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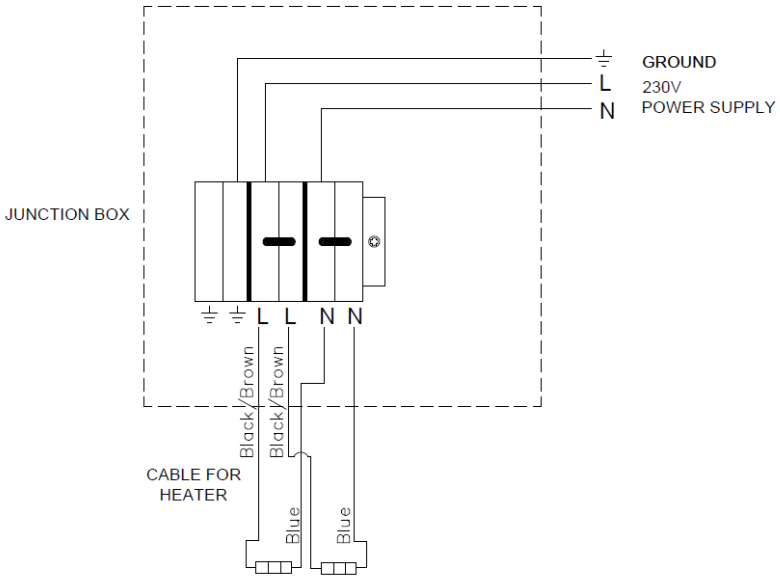

Commissioning

During commissioning, an insulation resistance test of max 2550V DC is recommended. For critical applications, a thermostat function test is recommended. Verification of temperatures inside enclosures is strongly recommended.

Operation

To save energy, ensure a long lifetime of the enclosure heaters, and to prevent over-heating of enclosures and components, the heater should be switched off when heating is not needed. This could be done with a thermostat, manually or based on seasonal variations.

Regular visual inspections, earth-fault- or insulation resistance measurements shall be performed. Inspections shall be carried out according to IEC/EN 60079-17 or other relevant standards.

Maintenance and cleaning

As stated above, regular inspections and maintenance shall be performed according to IEC/EN 60079-17 or equivalent.

Clean only with a damp cloth, and mild detergents. Do not use running water. 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.

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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

- ATEX: CML 22 ATEX 3623X
- UKEX: CML 22 UKEX 3624X
- IECEx: IECEx CML 22.0096X

The certificates are issued in based on the following standards:

ATEX / UKEX:	**IECEx:**
EN IEC 60079-0:2018	IEC 60079-0:2017 Ed. 7.0
EN IEC 60079-7:2015/A1:2018	IEC 60079-7:2017 Ed. 5.1
EN 60079-18:2015/A1:2017	IEC 60079-18:2017 Ed. 4.1
EN 60079-30-1:2017	IEC/IEEE 60079-30-1:2015 Ed. 1.0

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R. Stahl Tranberg declaration of Conformity:

EU DoC: Document no. TDC3359

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 responsibilité,*

that the product: *dass das Produkt:* *que le produit:*	TEF 920x Enclosure heaters
Type(s), *Typ(en), type(s):*	**9202**** / 9207**** / 9208**** / 9209******

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)*
2014/34/EU **ATEX Directive** *2014/34/EU* *ATEX-Richtlinie* *2014/34/UE* *Directive ATEX* (OJ L 96, 29.3.2014, p. 309–356)	EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018 EN 60079-18:2015/A1:2017 EN 60079-30-1:2017
***Marking,** kennzeichnung, marquage:*	**II 2 G Ex 60079-30-1 IIC T* Gb** **II 2 G Ex 60079-30-1 eb IIC T* Gb** **II 2 G Ex 60079-30-1 eb mb IIC T* Gb** *** T4 or T3 depending on model** CE 0470
EU Type Examination Certificate: *EU-Baumusterprüfbescheinigung:* *Attestation d'examen CE/UE de type:*	CML 22 ATEX 3623X
2014/35/EU: **Low Voltage Directive** *2014/35/EU* *Niederspannungsrichtlinie* *2014/35/UE:* *Directive Basse Tension*	***N/A***
2014/30/EU **EMC Directive** *2014/30/EU* *EMV-Richtlinie* *2014/30/UE* *Directive CEM* (OJ L 96, 29.3.2014, p. 79–106)	***Not applicable according to article 2, paragraph 2.***
2011/65/EU **RoHS Directive** *2011/65/EU* *RoHS-Richtlinie* *2011/65/UE* *Directive RoHS* (OJ L 174, 01.07.2011, p. 88–110)	EN 63000:2018
The technical documentation for this equipment is retained at the following address *Die technische Dokumentation für dieses Gerät wird unter folgender Adresse aufbewahrt* *La documentation technique de cet équipement est conservée à l'adresse suivante*	R. Stahl Tranberg AS, Strandsvingen 6, 4032 Stavanger, Norway.

Stavanger, 2023-05-16
Place and date
Ort und Datum
Lieu et date

Appfjell, Tor Arne
Certification / Ex resp.

Document No.: TDC5848 – Rev. F – Rev. Date 2023-05-16 – Original date: 03.05.2017 Page 1 of 1

UK DoC: Document no. TDC7382

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UK Declaration of Conformity

STAHL TRANBERG

R. Stahl Tranberg AS • Strandsvingen 6 • 4032 Stavanger • Norway
declares in its sole responsibility,

that the product:	TEF 920x Enclosure heaters
Type(s), *Typ(en), type(s):*	**9202**** / 9207**** / 9208**** / 9209****

is in conformity with the requirements of the following regulations and standards.

Regulations:	*Standard(s)*
Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, SI 2016 No. 1107 as amended by the Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019 No. 696	EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018 EN 60079-18:2015/A1:2017 EN 60079-30-1:2017
Marking, *kennzeichnung, marquage:*	**II 2 G Ex 60079-30-1 IIC T* Gb** **II 2 G Ex 60079-30-1 eb IIC T* Gb** **II 2 G Ex 60079-30-1 eb mb IIC T* Gb** *** T4 or T3 depending on model** UKCA 8501
UK Type Examination Certificate:	CML 22 UKEX 3624X
Electrical Equipment Regulations (Safety) 2016, S.I. 2016 No. 1101 as amended by the Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019 No. 696	N/A
Electromagnetic Compatibility Regulations 2016, S.I. 2016 No. 1091 as amended by the Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019 No. 696	Not applicable according to article 2, paragraph 2.
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, S.I. 2012 No. 3022 with amendments	EN 63000:2018
The technical documentation for this equipment is retained at the following address	R. Stahl Tranberg AS, Strandsvingen 6, 4032 Stavanger, Norway.

Stavanger, 2023-05-16
Place and date

Appfjell, Tor Arne
Certification / Ex resp.

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