TTC Trusted Wireless Repeater

TEF 8150 2350

TRANBERG STAHL
THE STRONGEST LINK.

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R. STAHL TRANBERG AS
Main office | Strandsvingen 6 | N-4032 Stavanger, Norway | T +47 51 57 89 00 | E info.no-st@r-stahl.com | stahl-tranberg.com
Oslo office | Luhrtoppen 2 | N-1470 Lørenskog, Norway | T +47 24 08 44 10 | E info.no-os@r-stahl.com | stahl-tranberg.com

Installation and operating manual

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R. STAHL TRANBERG AS
Main office | Strandsvingen 6 | N-4032 Stavanger, Norway | T +47 51 57 89 00 | E info.no-st@r-stahl.com | stahl-tranberg.com
Oslo office | Luhrtoppen 2 | N-1470 Lørenskog, Norway | T +47 24 08 44 10 | E info.no-os@r-stahl.com | stahl-tranberg.com

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
Do not open when energized.

- CE
- PTB 09 ATEX 1109
- II 2 G Ex db eb mb [ia Ga] IIC T5Gb

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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 supply circuit shall include an electrical protection device in conformity with EN 60079-30-1 cl. 4.3.
- Follow the instructions given in this IOM

Technical data

Property	Value	Value
Explosion protection	Ex eb/Eb mb	
Input voltage and frequency	100V-240AC 1,1 - 0,38A	50/60Hz
Input current	Model specific	
Ingress protection	IP66	
Communication	Modbus\Trusted Wireless	
Weight	8kg	
Size	W 300mm x H 400mm x 230mm	
Terminals	UT 4	
Entries/Cable glands	2 M25, 3 M20	
Housing material	AISI 316L / EN 1.4404	
Other materials	Polymer, Silicone, Brass	

Product description

The Tranberg Thermo Connect(TTC) Trusted Wireless Repeater consist of a power supply and Trusted Wireless module inside stainless steel housing. There is connection for antenna cable and Modbus signal to TTC Thermostat.
The 8150 2350 TTC Trusted Wireless Repeater supports all TTC thermostats.

Modbus values can be accessed according to the Modbus map document TTD6512.

For the Trusted wireless setup the topology must be configured with proprietary Phoenix Contact software. The configuration is then downloaded to each Trusted Wireless module.

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 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. 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 TTC WHART Repeater 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.

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.

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.

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Operation

To establish Modbus data transfer from TTC Thermostat to TTC Trusted Wireless connect Modbus cable from TTC Thermostat to TTC Trusted Wireless X2:1 (positive) and X2:2(negative). See wiring diagram of the specific TTC Thermostat for Modbus connection.

Connect antenna cable to Type N antenna barrier.

For the Trusted wireless setup the topology must be configured with proprietary Phoenix Contact software. This software specifies the role of each node and enables the mesh network functionality. The configuration is then downloaded to each Trusted Wireless module.

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Trusted Wireless Information

Key Facts Trusted Wireless	
Network structure	Mesh network 1 master up to 249 slaves
Standard	Proprietary by Phoenix Contact
Transmission method	Frequency hopping (FHSS)
Application	Low/medium data rate, large networks, best for infrastructure application
Frequency	2,4Ghz
Latency time (typical)	0,1 – > 2 s, depending on the OTA data rate / network structure
Distance (best case)*	<= 5 km (2,4 GHz)

** Distance specified is best case. Distance will be affected by: line of sight, type of antenna used and the configured data rate.*

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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.

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

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