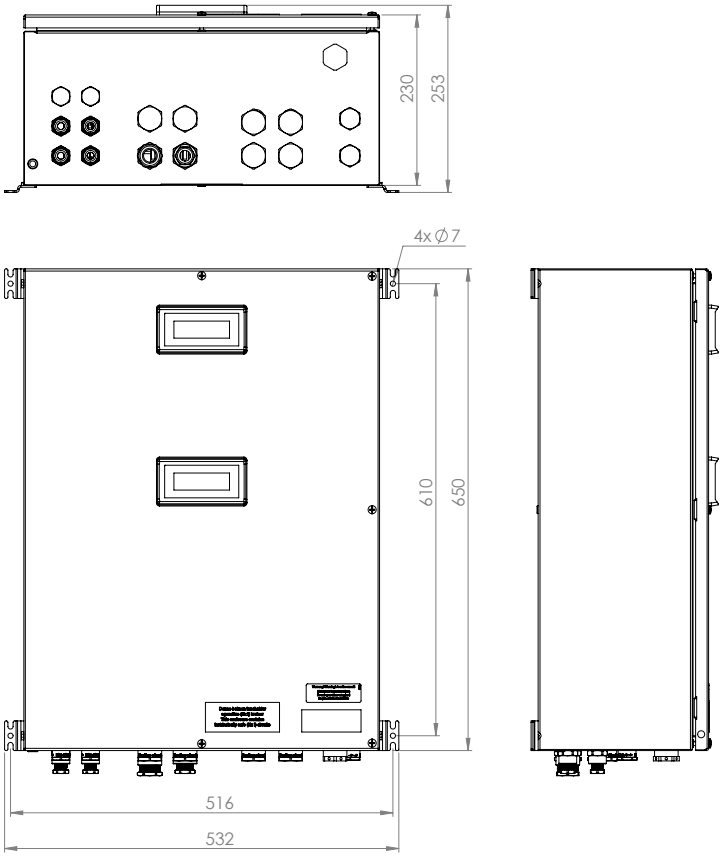
THERMOSTAT

TRANBERG ThermoConnect (TTC)
TTC/C/Double - Controller
TTC/CL/Double - Controller Limiter
USER MANUAL

Subject to change without prior notice TUM6638 REV. A 21.02.2020

IMPORTANT

Read this instruction carefully before installing the product



000A115446

R. Stahl Tranberg AS
E info@stahl-tranberg.com | stahl-tranberg.com
Main office: Strandsvingen 6 | N-4032 Stavanger | Norway | T +47 51 57 89 00 | F +47 51 57 89 50
Office Oslo: Luhrtoppen 2 | N-1470 Lørenskog | Norway | T +47 24 08 44 10

THERMOSTAT TRANBERG TTC Double Controller USER MANUAL

INTRODUCTION

Thank you for purchasing this product!
For installation, maintenance and assurance of a long life of this product, please follow this manual.

CONTENT IN BOX

The product is fully assembled, and ready for installation.

SAFETY PRECAUTIONS

Only qualified personel are allowed to perform installation and maintenance taskes to this equipment.
The junction box is equipped for termination of heat tracing and is ready for installation when leaving the production facilities of R. Stahl Tranberg AS. 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. 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.

MAINTENANCE/REPAIR/MODIFICATION

- 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 be 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.

If repair or overhaul is necessary this may only be done with Tranberg spare parts.

Modification of the JB or change of design are not permitted, exept for installing additional glands and terminals according to the approval of the JB.

APPROVAL

PTB 09ATEX1109

The double controller limiter meets the requirements of EN 60079-30-1. For applications installed in a hazardous area this means that the protective device shall de-energize the system to prevent exceeding the maximum permissible surface temperature. In case of an error by, or damage to the sensor, the heating system shall be de-energized before replacing the defective equipment. The protective device operates independently from the temperature controller.

INSTALLATION INSTRUCTIONS

Assembly of wall mounted type fig. 01

- Mount the thermostat junction box by at least 2 pcs. M6 bolts placed diagonally on a wall or proper supported rack.
- Remove dust protection or stopping plugs and install gland to be used. For holes not in use these must be inserted with stopping plugs. Only certified cable glands and blinds may be ised. Gland has to be chosen according to cable diameter used.
- Strap the transition unit to pipe with pipestraps.
- Assembly the flexible conduit according to the spesial gland. see fig. 2

Temperature sensor
The double controller & double controller limiter delivers up to 20 Ohm lead resistance compensation. Therefore any type of three wire DIN IEC 751 Class B PT100 resistance temperature devices can be used. Two temperature inputs are allocated to the temperature controller. The third is allocated for the temperature limiter

The sensor should be strapped in good thermal contact with the pipe or equipment. In addition to general mechanical protection, the sensor should be protected so that the thermal insulation cannot be tapped between the sensor and the heated surface. The sensor is normally fixed to pipe or object by use of aluminium tape. Other methods could be thermowells suitable for the application.

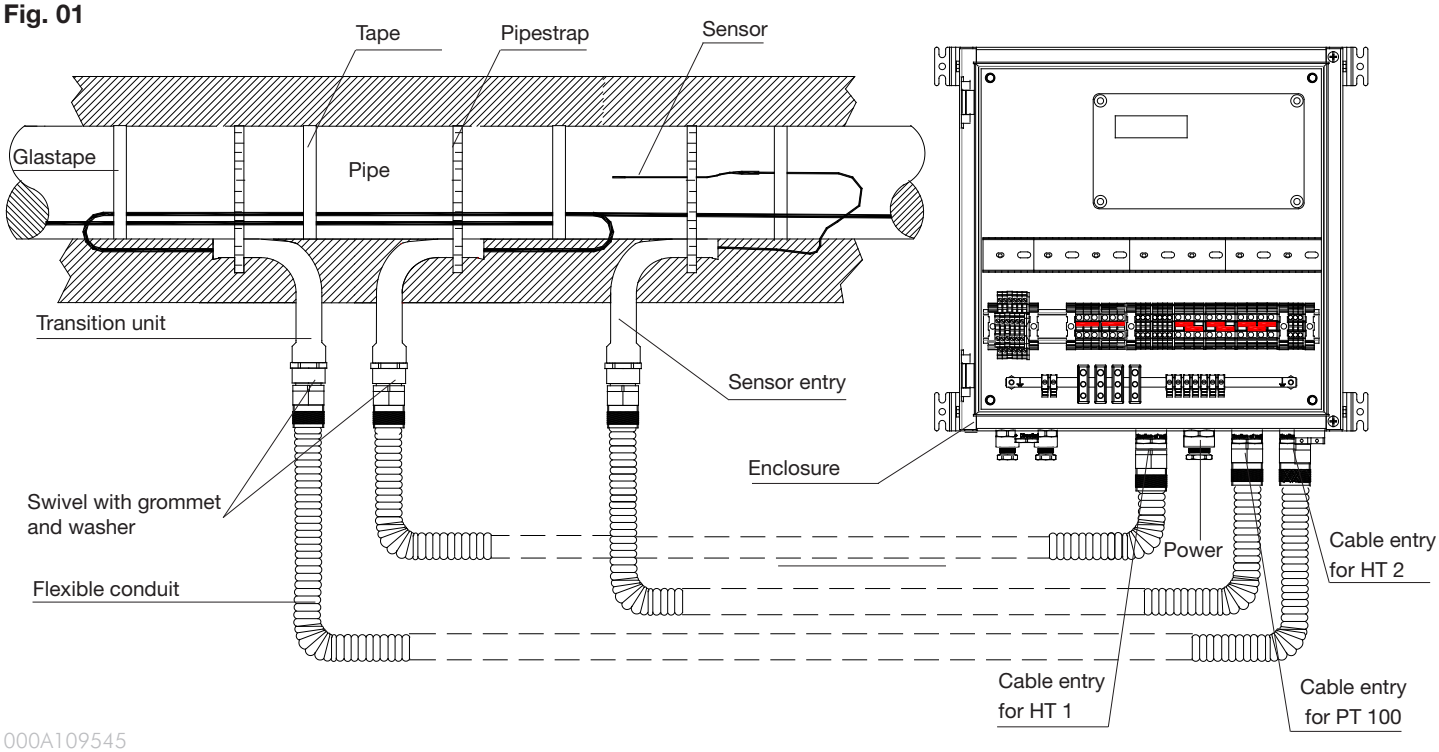
RTD connections
Sensor connections may be extended using a three core shielded or braided cable with a maximum length of up to 150m(3x1.5 mm^2 minimum required). The screen or braid of the extension cable is to be grounded at the JB end only.

Termination
In order to maintain the mode of protection, the conductors will have to be connected with special care. The isolation must reach up to the terminals and the conductor must not be damaged. Termination of heat cables must be according to cable specification given by supplier of these. Tighten all terminals, also those vacant. Reinstall lid and tight bolts firmly with suitable tool by hand force. Over tightening may impair the protection category.

Connection: See last page

Communication and networking.
Tranberg PlantConnect™ Software is a Scada system for control and monitoring of Tranberg thermal units.
The double controller & double controller limiter units can be networked to Tranberg PlantConnect™ Software via RS 485 serial interface.

Fig. 01



TECHNICAL DATA

Type designation:	Stahl 8150/5, part number 81502355 (controller) / 81502356 (Controller and limiter)
Ex-protection:	Ⓔx II 2 G Ex eb ib mb IIC T4 Gb
Voltage range:	100-254V AC +/-10%, 50/60Hz
Maximum load:	20A
Protection:	IP66
Material:	AISI 316L / EN 1.4404
Weight:	31 kg
Max. wire termination (with end sleeve):	
Power in:	Max. 6mm2
Heating cable (power out):	Max. 4mm2
Earth terminals:	Max. 10mm2
T_{amb} (Operation):	-40 to +45°C

Detail of flexible conduit

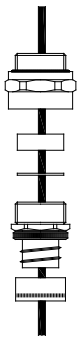
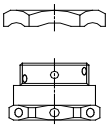


Fig. 02



Drainplug to be mounted at the lowest point

AREA OF USE FOR TTC/CL

Safety temperature limiters are required in all areas where thermal processes need to be prevented from overheating. In case of temperature upset they will put the system into a safe operating condition. The safety function will invoke in the event of a fault, when the permissible temperature limit is reached or in case a fault occurs (such as probe break, probe short-circuit, component failure, or supply failure) even when the process conditions are within the permissible temperature range.

In all these cases the equipment is immediately switched off. If the fault is no longer present, then the safety temperature function must be manually reset before the unit goes back to normal operation. The output of the unit will only be enabled when all conditions are safe; meaning that the temperature measured by the limiter RTD has dropped below the limiter set point and when there are no other faults being detected. In other words, the unit will only reset after the normal operating conditions have returned.

STAHL TRANBERG

R. Stahl Tranberg AS
E info@stahl-tranberg.com | stahl-tranberg.com
Main office: Strandsvingen 6 | N-4032 Stavanger | Norway | T +47 51 57 89 00 | F +47 51 57 89 50
Office Oslo: Luhrtoppen 2 | N-1470 Lørenskog | Norway | T +47 24 08 44 10