

Installation and Operating Instructions for EASYTRACE 2100

EC Type Test Certificate PTB 03 ATEX 1215 X



1 Application

The EASYTRACE Type 2100 control/ limiting unit is manufactured in accordance with Directive 94/ 9EC (ATEX 100a) and is designed for the temperature control and limitation of heat tracing cables.

EASYTRACE is supplied either with a connection cable or with a terminal section and has to be connected in series with a heating cable by the user.

2 Installation Instructions

The installation personnel must be fully qualified as "electrical technicians with additional knowledge of explosion protection and heat tracing techniques."

For the installation of a complete heating system, only heat tracing cables approved by the manufacturer (INTERTEC-HESS) must be used.

The heat tracing cable is required to have a specific nominal resistance of 2100 ohms/ kg (= 2.1 ohms/ m). Other values are not permitted.

On a pipe insulation, the heating cable must not be installed more than twice in parallel.

The pipe insulation must not exceed the equivalent of 40 mm glass wool.

The heat tracing cable may have a length ranging between 3 and 30 double metres.

The housing of the EASYTRACE control and limiting unit has to be installed in ambient air.

For mounting in hazardous dust areas, certified components must be used.

The connection cable of the trace heater must be properly installed and mechanically protected.

If the connection is installed in a hazardous area, the cable must be connected in a junction box that meets the requirements of one of the types of ignition protection mentioned in EN 50014 Section 1.2.

3 Technical Data

Rated voltage	Max. 250 V AC
Permissible operating voltage	Max. 275 V AC
Rated current (according to VDE 0298)	Max. 10 A
Ambient temperature range	-50 to + 50 °C
Maximum permissible operating temperature range, when operated at normal rating	-50 to + 80 °C
Installation position	Any
Switching capacity failure alarm	16 A / 250 V AC
Type of ignition protection for G (gases)	II 2 G EEx em II T4
Type of ignition protection for D (dust)	II 2 D IP65 130 °C

4 Installation

Take care not to bend or exert any load on the connection cable (suffix C).

EASYTRACE has to be electrically connected in series with the heat tracing cable with cold lead wires that is to be controlled, either in the integrated junction box (suffix J) or, in case of the EASYTRACE version with a cable (suffix C), in a separate junction box. In case of the EASYTRACE version with failure alarm contact (suffix AM), the additional wires are potential-free and can be wired as an alarm.

The housing of the EASYTRACE has to be installed in ambient air. It must not be insulated.

For the installation of the heat tracing cable, strictly follow the installation and operating instructions of the manufacturer.

5 Connection

The heating system must only be connected and secured in accordance with the label specifications "rated voltage" and "rated current":

Circuit breakers (characteristics B) suitable for up to 16 A can be used for short circuit and line protection.

Additionally, a ground terminal is necessary for the purpose of ensuring potential equalization.

A residual current operated device with a rated value of not more than 300 mA, preferably 50 mA, has to be installed.



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6 Routine Check Tests

The following check tests have to be carried out on the installed heating system:

- Visual inspection, to determine if the conditions mentioned under 2 are met.
- Insulation test with a test voltage of 1500 V to 2500 V. Before the insulation test starts, the controller must be by-passed to protect the electronics:

Type	Bridges over Terminals	
EASYTRACE ATEX...J	1/2	3/4
EASYTRACE ATEX...C	brown/blue	brown/blue

After the insulation test is completed, the voltage must be discharged with discharging resistors > 10 kOhm, so that the electronics will not be damaged by current surges.

7 Initial Operation

When the complete heating system, consisting of the control/limiter unit Type EASYTRACE...2100 and the heat tracing cable, is installed in compliance with the guidelines mentioned under points 4, 5 and 6, the heating system can be switched on.

8 Function Test

A function test only makes sense if the temperatures do not exceed approx. 15 °C, as with higher temperatures the controller will scarcely be active.

8.1 Current Measurement

A functioning controller, for the first four minutes after switching on, will remain current-free. Then it will start with short (and then longer) pulses in the heating circuit. They can be measured in a measuring range of 0.6 A to 3 A in the connection cable by using an ammeter. A defined current input in actual values cannot be measured due to the pulse group control.

8.2 Temperature Measurement

After approximately 60 minutes from switching on, the controller has reached a steady state. The temperature of the heating cable inside the insulation should then range between approx. 20 °C and 50 °C, depending on the insulation thickness and the outside temperature.

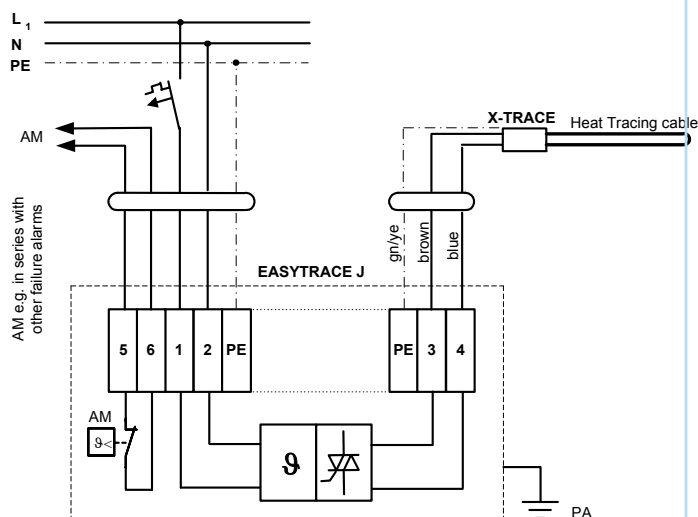
9 Maintenance

Performance and safety tests can be conducted at intervals to be determined by the operator in compliance with current regulations.

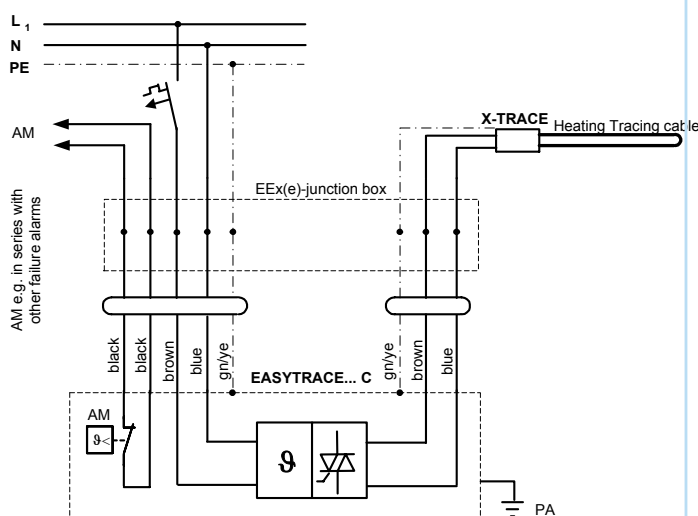
Only the manufacturer can do repair work.

10 Wiring Diagramme

10.1 EASYTRACE ... J



10.2 EASYTRACE ... C



Heating cables which are approved for use with EASYTRACE 2100 :

Following heating cables are approved for use together with the controller EASYTRACE 2100

Manufacturer	Type	Specific Resistance [Ohm / m]	Length in meter		Length in double meter	
			from	to	from	to
INTERTEC	KEx ...	2,1	6	40	3	20
INTERTEC	KVA...MiVA PFA	2,1	6	60	3	30
INTERTEC	KENEX...	2,1	6	60	3	30
INTERTEC	X-TRACE	2,1	6	60	3	30

Ingolstadt, Mittwoch, 18. Januar 2006



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