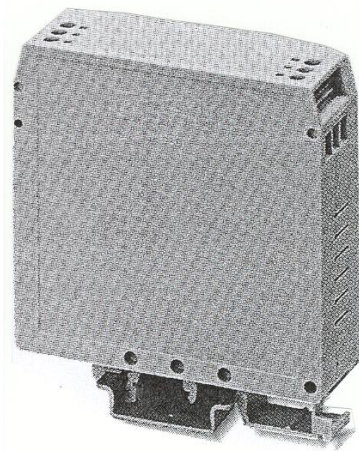


Telephone coupler type iKT2

Ordering data

Designation	Type	Item no.
Telephone coupler	iKT2	118 810 01 AX



- **i/i Coupler for telephone circuits**
- **Connection for a telephone of type iVT2 for shaft telephone applications, suitable for star or line-type connection of shaft telephones**

Functions:

- **Electrical isolation i/i**
- **High-impedance loop current sink for LF signals**
- **Transmission of ringing, dial and voice signals**
- **Type of protection: I M1 EEx ia I**

Application

The telephone coupler iKT2 is used in environments susceptible to firedamp. Its design conforms to protection type EEx ia I, category I M1.

A telephone of type iVT2 equipped with a control program suitable for the "shaft telephone" application is connected to the primary side of the telephone coupler. The secondary side of the iKT2 is connected in parallel with the secondary sides of other telephone couplers iKT2, thus enabling to configure a shaft telephone system of star or line topology with up to 12 subscribers.

Primary and secondary side of the telephone coupler iKT2 are electrically isolated from each other.

The telephone coupler fulfils the following tasks:

- Electrically isolated transmission of ringing signals generated by an iVT2 (300Hz)
- Take in the loop assignment current emitted by an activated iVT2

- Electrically isolated transmission of dialling information (MF dialling) and voice signals.

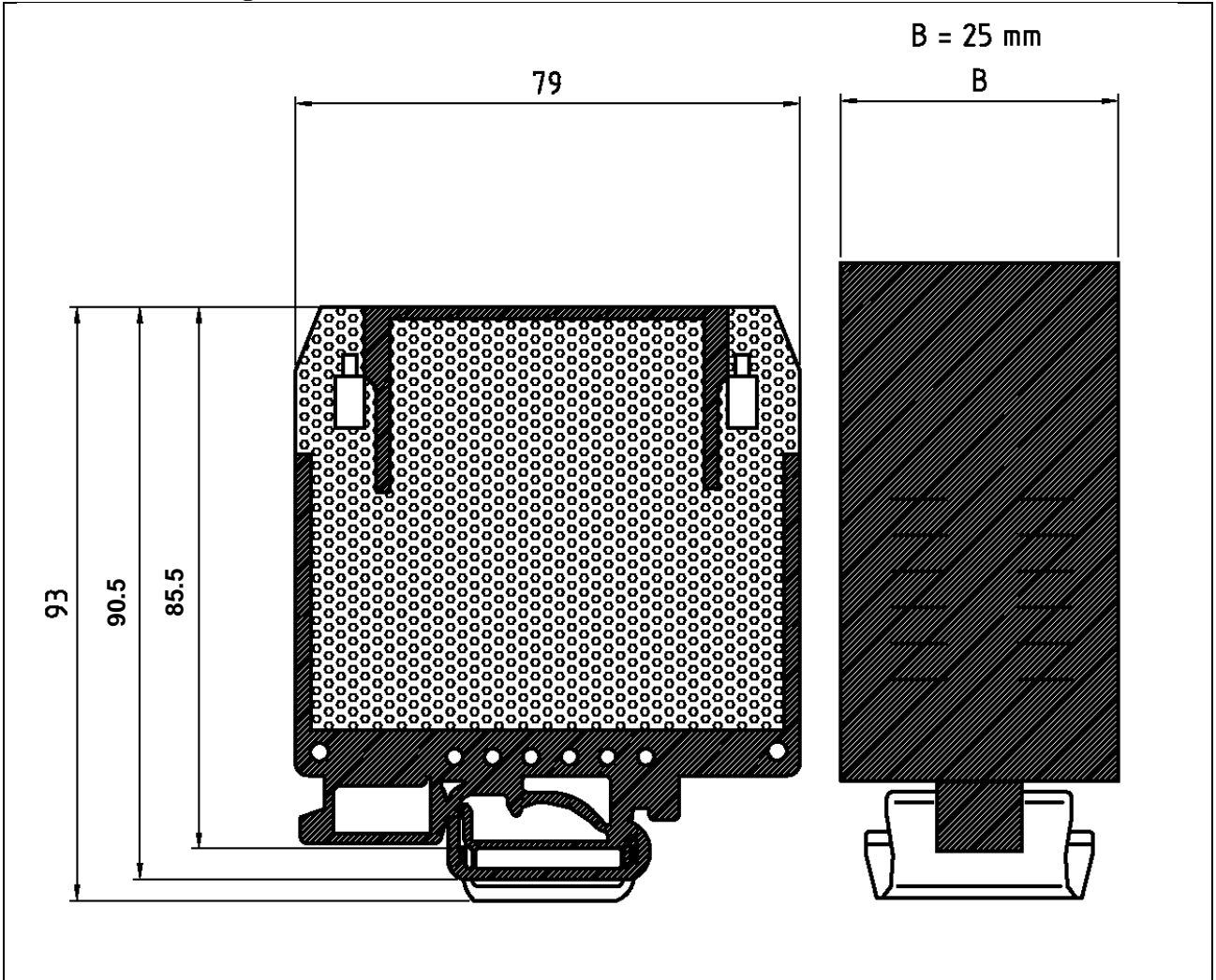
The iKT2 does not need a power supply of its own, as the module basically functions as a transmitter and has a passive structure.

The connections on the primary and the secondary side are electrically isolated from each other. Connection of subscriber and connecting cables is independent from polarity.

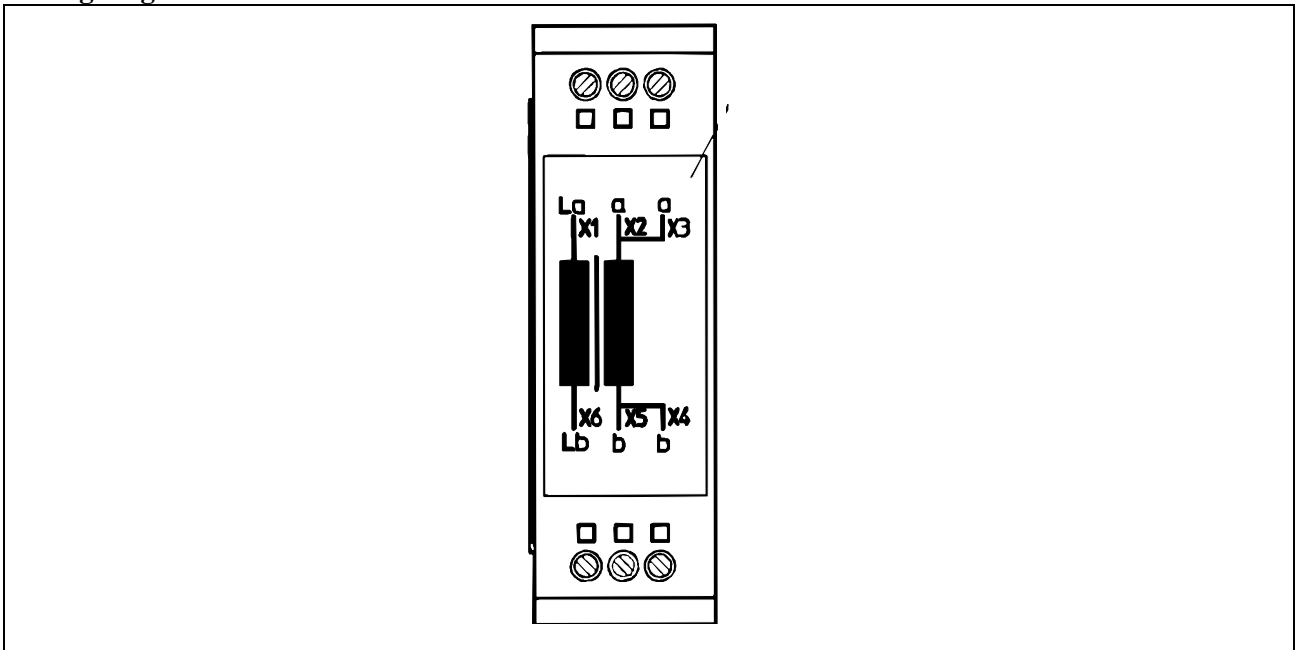
Configuration

The electronic modules of the telephone coupler iKT2 are installed in an electronic housing appropriate for mounting on a 35mm DIN top-hat rail. The electronic housing is fitted with screw terminals to connect the connecting cable to the telephone iVT2 as well as to connect the secondary sides of the telephone couplers iKT2 among each other.

Dimensional drawing iKT2



Wiring diagram iKT2



Installation and mounting

The telephone coupler iKT2 has to be installed in an enclosure which ensures at least an IP54 degree of protection conforming to EN 60529.

The internal wiring (in this enclosure) has to be configured as per section 6.4.11 and 7.6.e of EN50020:1994.

Connecting terminals or plug connectors for the intrinsically safe circuits have to be arranged as per section 6.3.1 and/or 6.3.2 of EN50020.

The interconnection with other equipment must be certified separately.

Commissioning and settings

Prior to the commissioning, the fastening of the module, the installation and the related cables and connections shall be checked.


Maintenance

Prior to the commissioning, the fastening of the module, the installation and the related cables and connection shall be checked.

Disposal

The telephone coupler iKT2 is maintenance-free and does not contain any parts requiring maintenance.

Technical data iKT2

Designation Type	Telephone coupler iKT2
Parameters	
Primary circuit (terminals X1 and X6)	
Max. input voltage U_i	10.5 V (300 Hz to 3.4 kHz)
Max. internal capacitance C_i	2.7 μ F
Max. internal inductance L_i	must be considered separately
Secondary circuit (terminals X2/X3 – X4/X5)	
Max. input voltage U_i	2.2 V (300 Hz to 3.4 kHz)
Max. output current I_i	100 mA
Max. internal capacitance C_i	negligible
Max. internal inductance L_i	must be considered separately
Max. internal capacitance C_0	Only possible to determine in conjunction with the devices and components to be connected.
Max. external inductance L_0	Only possible to determine in conjunction with the devices and components to be connected.
Ambient temperature range	-20° C to +55° C
Other technical data	
Signal transmission X1, X6 \leftrightarrow X2/X3, X4/X5	
Frequency range	300 Hz to 3.4 kHz
Nominal level	-6 dBm = 385mV at 600 Ω
Insertion attenuation of the iKT2	< 2 dB
Primary circuit X1, X6	
Loop current	1.7 mA _{DC}
Nominal voltage	5 V _{DC}
Operating mode	Continuous operation
Service position	at choice
Temperature range	
- operation	- 20 to + 55°C
- storage	- 25 to + 70°C
- transport	- 25 to + 70°C
Weight	0.15 kg
Dimensions	79 x 25 x 85.5 mm (L x W x D)
Test and approval	
- type of protection	I M1 EEx ia I
- approval	DMT 02 ATEX E 151 U
Marking	
The nameplate is marked as follows:	
Company	FHF Bergbautechnik 42551 Velbert
Type	iKT2  I M1 EEx ia I DMT 02 ATEX E 151 U 0158 -20 \leq T _a \leq +55°C

Warning and Safety Advice

<p>The apparatus is a flameproof device of safety-class group I. Prior to assembly, commissioning or inserting of a battery, please pay particular attention to the following warning and safety advice:</p>
<p>The interconnection with other electric equipment must be separately certified.</p>
<p>The apparatus is to be connected and installed in accordance with the specified installation instructions by qualified personnel, taking into account the protection type indicated.</p>
<p>The telephone coupler iKT2 has to be installed in an enclosure which ensures at least an IP54 degree of protection conforming to EN 60529. The internal wiring (in this enclosure) has to be configured as per section 6.4.11 and 7.6.e of EN50020:1994. Connecting terminals or plug connectors for the intrinsically safe circuits have to be arranged as per section 6.3.1 and/or 6.3.2 of EN50020. The interconnection with other equipment must be certified separately.</p>
<p>The device may only be connected and operated with the specified voltage.</p>
<p>Make sure the housing is not damaged. Do not operate faulty devices, shut them off immediately.</p>
<p>If the device is operated in an industrial installation, the rules for the prevention of accidents for electrical installations and equipment of the association of the industrial employer's social insurance against occupational accidents shall be observed.</p>
<p>The device may only be operated under the specified ambient conditions. Unfavourable ambient conditions may damage the appliance, possibly jeopardising the user's life as a result. Unfavourable ambient conditions may be:</p> <ul style="list-style-type: none"> • moisture, dust (observe type of protection) • air humidity too high (> 75% rel., condensing) • inflammable gases, vapours, solvents not covered by the protection class of the device. • ambient temperatures too high (>+55°C) • ambient temperatures too low (<-20°C).
<p>The ambient temperature specified for the device may not be exceeded or failed to be reached during operation, storage and transport.</p>
<p>Replace faulty components only by the appropriate genuine spare parts.</p>
<p>The extension and the installation of further parts is not permitted.</p>
<p>Repair work may only be realised by the manufacturer or by a person authorized by the manufacturer. Subsequently, a new routine test for the device must be carried out.</p>
<p>Make sure the device is protected against damage during transport, storage and when not in use.</p>
<p>Attention: Disregarding the above points will nullify the explosion protection. The device then represents a danger to the life of the operator and may cause a hazardous atmosphere to explode.</p>

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