Explosion proof VoIP-telephone

ExResistTel IP2

Operating instructions

FUNKE+HUSTER·FERNSIG

FHF BA 9711 03/13

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☞ **Note**

Please read the operating manual carefully before installing the telephone.

This is only a manual for the explosion proof version. The most important mounting and installation instructions are part of this document. For the complete configuration and operating of all features as well as the description of the special versions the knowledge of the complete manual is necessary.

The complete manual is attached on the CD.

Please check the contents of the box for completeness. ☜

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Contents

1 General

The telephone ExResistTel IP2 is an explosion proof version of the weatherproof telephone ResistTel IP2 / IP152 with all its features. The operating manual is still valid, with the addition of the following items.

1.1 Operation

The telephone type ExResistTel IP2 will be used as stationary telephone in areas, which may be put to risk by explosive gas or dust atmosphere and make is necessary to use devices of the device group II of the device class 2G and 2D. According to regulations the general purpose of the telephone is hanging vertically on a wall or hanging vertically on a mounting plate.

1.2 Description

The telephone type ExResistTel IP2 is realized according to the following type of protection:

- Type of ignition protection: Ex e [ib] mb IIC T4 Gb
- Type of ignition protection: Ex tb [ib] IIIC T135°C Db
- Degree of protection of enclosure: IP66
- Working environment temperature range: -40 °C ≤ Tu ≤ +60 °C

The telephone type ExResistTel IP2 is designed for connecting to the Ethernet according to IEEE802.3.

The telephone has to be included into the potential equalisation either with the internal earth connecting bolt of the metal plate or with the external earth connecting bolt at the housing (see examples of connection). The potential equalisation must exist inside and outside of the explosion at risk area.

The telephone supports the connection of an intrinsically safe headset.

The headset is not part of this telephone. To connect the intrinsically safe headset the plug mounted on the left side of the housing has to be replaced be an acceptable explosion protected cable gland.

Note

The installation prescribed in the regulations according to IEC/EN 60079-14 and the national installation regulations have to be respected.

1.3 Construction

1.3.1 Housing

The telephone type ExResistTel IP2 has a non coloured housing made of an electrostatic conductive pressed basic material and a stainless steel keypad. Optionally the housing can be coloured with an electrostatic conductive colour.

In the front plate of the keypad is a display cut-out closed with a viewing glass.

The housing consists of a box-shaped bottom part with a tray for inserting the electronic and a curved top cover with a keypad.

The top cover will be pressed with four screws to the upper part with in between a revolving seal and generates the intrinsically safe as well as the non-intrinsically safe terminal compartment. In the tray is a grouting cup with the embedded electronic.

1.3.2 Configuration Plug Connector

A 6 pin plug connector sticks out of the grouting tray inside the telephone (14).

The configuration plug connector will be used by the manufacturer of the telephone type ExResistTel IP2 for configuration only and must not be connected.

The programming by the installer is not allowed.

1.3.3 Intrinsically Safe Keypad Connection

An intrinsically safe 14-terminal ribbon cable with a female plug will be carried out of the grouting tray inside the telephone.

The female plug has to be plugged to the 14 pin plug connector in the upper part of the housing securely, before the telephone will be screwed down.

1.4 Electrical Characteristic Parameter

1.4.1 Power Supply DC (not intrinsically safe)

Terminal no.: 16, 17

U_n = DC 19.2 … 52.8 V

U_m = DC 53 V

I_{sc} = 100 A

For this connection cables with a transversal section of 1.5 mm² to 4 mm² are allowed to be used only.

1.4.2 Power Supply PoE according to IEEE 802.3 af (not intrinsically safe)

Terminal no.: 11, 12, 14, 15

U_n = DC 24 … 48 V

U_m = DC 57 V

I_{sc} = 100 A

For the LAN connection it is only allowed to use cables of the type CAT5e or higher. To observe the EMC rules with netting shielded cables have to be used.

☞	**Note** Using a power supply via PoE it is only allowed to use the unused data cable pairs of a 10/100 Mbit/s Ethernet cable for the power.	☞

1.4.3 LAN Interface 10/100 BASE-TX according to IEEE 802.3 (not intrinsically safe)

Terminal no.: 8, 9, 10, 13

U_n = ±2.5 V (10 BASE-TX)

respectively

U_n = ±1 V (100 BASE-TX)

U_m = ±7 V

U_m = DC 57 V

For the LAN connection it is only allowed to use cables of the type CAT5e or higher. To observe the EMC rules with netting shielded cables have to be used.

1.4.4 Potential-free Relay Contacts (not intrinsically safe)

Terminal no.: 18, 20 respectively no.: 21, 23

- U_{max} = AC 250 V

  I_{max} = 5 A

  P_{max} = 100 VA

  For this connection cables with a transversal section of 1.5 mm² to 4 mm² are allowed to be used only.

- U_{max} = DC 230 V

  I_{max} = 0.5 A

  P_{max} = 100 W

  For this connection cables with a transversal section of 0.75 mm² to 4 mm² are allowed to be used only.

- U_{max} = DC 50 V

  I_{max} = 1 A

  For this connection cables with a transversal section of 0.75 mm² to 4 mm² are allowed to be used only.

- U_{max} = DC 30 V

  I_{max} = 5 A

  P_{max} = 100 W

  For this connection cables with a transversal section of 1.5 mm² to 4 mm² are allowed to be used only.

The terminals no. 19 and 22 according to the connection plan are not used and must not be connected.

1.4.5 Cable Shield

The cable shield of the LAN cable respectively the earth lead of the DC power cable have to be connected to the terminals no. 6 respectively no. 7. The cable shield of the LAN cable must be isolated according to the respective installation regulations. The standard IEC/EN 60079-14 must be respected.

The conductive shield of the network cable has to be handled in the following way:

- The cable coating of the network cable has to be striped.
- The single conductor and the cable screen have to be separated.
- The cable screen has to be drilled to a common conductor. When indicated existing screen foils and auxiliary wires have to be removed.
- Suitable isolating tube has to be pushed over the drilled cable screen. The total length should not be longer than necessary for a secure arrangement of the wiring.
- The bare end of the drilled cable shield may be connected directly (The terminals are approved for connecting flexible wires) or otherwise connected with a mounted end sleeve for strands.
- Advantageously these cable works should be done before inserting the cable into the housing.

The preinstalled cable connection between terminal no. 5 and internal earth connecting bolt of the metal plate is security relevant and must not be interrupted.

Caution

The air and the creepage distance at the terminals must not be reduced by the kind of connection of the wires at these connection terminals.

1.4.6 Configuration Plug Connector

The 6 pin configuration plug connector must not be connected.

1.4.7 Intrinsically Safe Headset

Terminal no.: 1, 2, 3, 4

U_o = 16.4 V

I_o = 220 mA

P_o = 450 mW

C_o = 424 nF

L_o/R_o = 78 µH/Ω

The headset type MT53H79B-56 according NEMKO 02ATEX059X respects the necessary connection requirements and can be used. The connection with other headsets must be checked according the respective installation rules. The standard IEC/EN 60079-25 must be respected.

1.4.8 Internal and External Earth and Potential Equalisation Connecting Bolt PA

For this connection cables with a transversal section of 4 mm² to 6 mm² can be used.

1.4.9 Voltaic Isolation

The supply DC, the supply PoE, the LAN interface and the intrinsically safe headset are safety voltaic separated up a voltage of 250 V_{eff}.

1.4.10 Voltaic Isolation of the Relay Contacts

The two potential free relay contacts are safety voltaic separated against each other up to a voltage of 440 V_{eff}.

2 Commissioning

For operation and commissioning, the application of standard IEEE 802.3 is compulsory.

The ExResistTel IP2 telephone must be connected to a LAN (Local Area Network) connection. The telephone can be powered with PoE (Power over Ethernet). In this case the power supply must use the free cable pairs. Using the phantom power supply is not possible and not allowed.

Alternatively the telephone connected with an external DC power supply (19.2 V – 52.8 V, 12.95 W).

2.1 Mounting

The telephone must be installed on a plane surface in vertical operating position only. Loosen the cover screws and detach the upper part of the telephone (1). If the optional accessory headset is being employed, attach the bracket using two screws to the rear panel of the lower part of the telephone. (With the accessories named before, the bracket and screws are in the scope of delivery. With all accessories a cable gland is delivered.) Put four screws, having a head diameter of 10 to 13 mm into the holes (20) and attach the lower part of the telephone (3) to the wall or to a holder.

Guide the telephone wire through the cable screw cap (4) and place it on the terminals. Only wires having a sheath diameter of 5.5 to 13 mm should be used because otherwise the IP66 housing protection standard is not guaranteed.

Prior to assembly, check cover seal for tightness. Using the plug connector (7), plug the ribbon cable onto the pin contact strip (8) in the upper part of the housing. Attach the upper part of the telephone and fasten it to the lower part of the telephone with the four cover screws (2). Upon disassembly of optional accessories, suited sealing plugs must be used to close the resulting openings.

In this telephone connected cords may have hazardous voltages.

To ensure that no water gets into the enclosure it is essential that no gaskets are damaged during installation. The ingress of water can cause accessible parts of the telephone to become live.

For mounting of the cable screw caps only dedicated toys are allowed.

The cable screw caps are useful for fixed mounted cables only.

The locking torque of the upper part screws is 1.2 …1.5 Nm.

Installation and connection must be carried out by competent personnel familiar with electrical and network installations.

2.1.1 Cable Screw Caps

The preinstalled cable screw caps (4) of the explosion proof telephones have the following properties:

certificate	IECEx PTB 05.0004 X, PTB 99 ATEX 3128 or equivalent
operating temperature	-40 °C to +70 °C
thread diameter	Ø M20 x 1.5
type of ignition protection	Ex e II
type of protection	IP66
cable diameter	Ø 5.5 mm to Ø 13 mm
locking torque coupling ring cable	2.5 Nm to 3.5 Nm

2.1.2 Inside View of Telephone upper Part

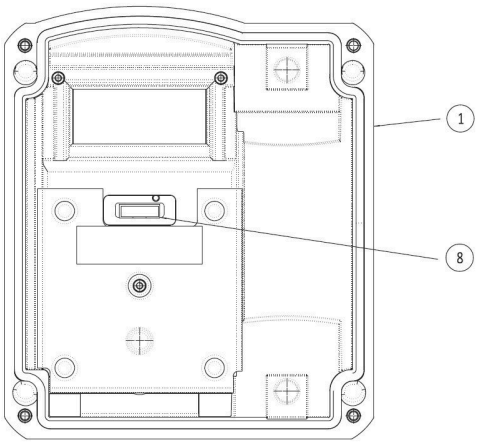

Figure 1: Inside View of upper Part Telephone ExResistTel IP2

2.1.3 Inside View of Telephone lower Part

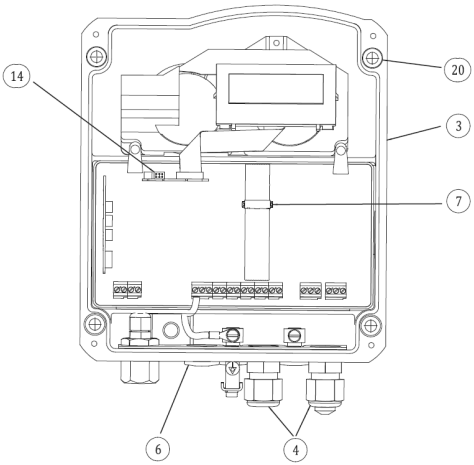

Figure 2: Inside View of lower Part Telephone ExResistTel IP2

2.1.4 Drilling Diagram

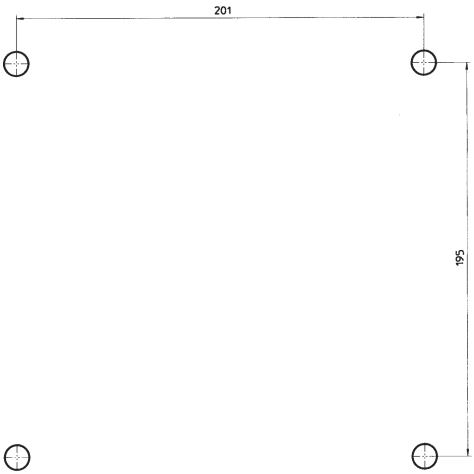

Figure 3: Drilling Diagram Wall Mounting

The diameter of the drilled hole is dependent on the screw employed (screw diameter max. 8 mm) and the type of supporting base material (steel, wood, concrete, plasterboard etc.) and must be chosen accordingly.

2.1.5 Connecting Plan

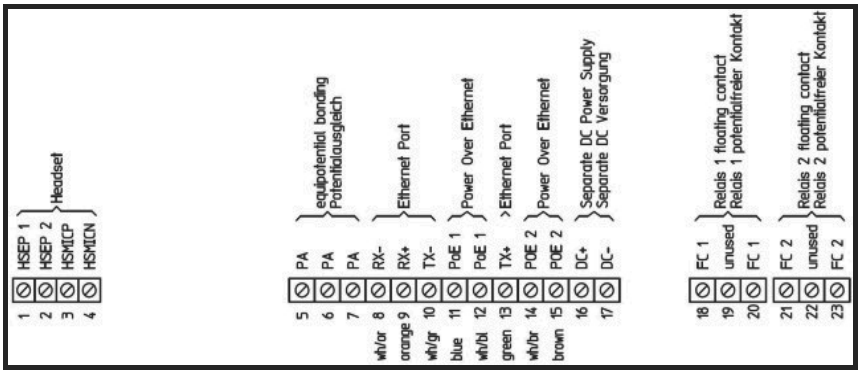

Figure 4: Terminals of the Explosion Proof VoIP Telephone ExResistTel IP2

2.1.6 Connection Potential Equalisation

The terminals 5 – 7 are available for the potential equalisation. The terminal 5 is reserved fort he connection of the printed board with the potential equalisation bolt.

2.1.7 Ethernet Connection

At the terminals 8 – 15 the Ethernet cable inclusive PoE can be connected. The assignment is as follows:

terminal	description
8	Rx –
9	Rx +
10	Tx –
11	PoE1
12	PoE1
13	Tx +
14	PoE2
15	PoE2

Table 1: Ethernet Connection of the ExResistTel IP2

PoE will be supported with the unused pairs of data lines of a 10/100 Mbit/s Ethernet connection only. The polarity will be recognised by the phone automatically.

If the Ethernet interface of the VoIP telephone is configured to the auto or auto-mdi mode, the Rx and Tx pairs can be exchanged, because the telephone recognizes in these cases receive and transmit automatically.

2.1.8 External Power Supply Connection

An external power supply can be connected to the terminals 16 (+) and 17 (-). The external voltage DC 24 … 48 V will be necessary.

If an external power supply is in use, the LAN connection must not be connected to PoE.

2.1.9 Relay Connection

The telephone has two relays with each a single switch at its proposal.

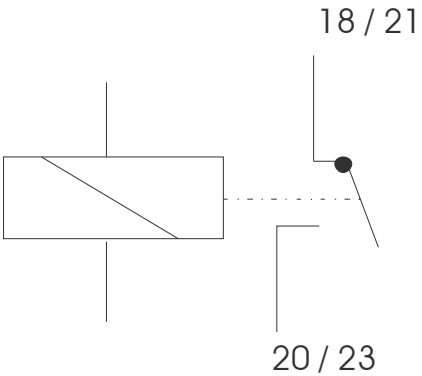

Figure 5: Terminal Assignment Relays of the Explosion proof VoIP Telephone ExResistTel IP2 (Exposition: Relay not active)

terminal	description
18 (relay 1)	base contact relay 1
19 (relay 1)	not used
20 (relay 1)	switching contact relay 1
21 (relay 2)	base contact relay 2
22 (relay 2)	not used
23 (relay 2)	switching contact relay 2

Table 2: Terminals of the Relays of the Explosion proof VoIP Telephone ExResistTel IP2

The terminals of the relays are below a cover to be protected against random

touching. The terminals must be protected again carefully with the cover after connecting.

2.2 Setup

The configuration of the ExResistTel IP2 follows as described in the operating manual of the normal ResistTel IP2 / IP152. The manual can be found on the CD attached to the telephone.

2.3 Operating Position

The telephone may be mounted hanging vertically on a wall or hanging vertically on a mounting plate.

3 Information

3.1 Service

The telephone contains no serviceable parts.

3.2 Care and Maintenance

The telephone is maintenance-free. Still, if the operating area is highly contaminated by dust, fat, oil etc., the telephone should be cleaned from time to time.

The telephone may only be cleaned using a damp cloth in order to avoid electrostatic charging.

Never use sharp objects for cleaning.

During maintenance, check accessible seals for function, e.g. regarding possible damage or positioning. If the seals are damaged, operating the telephone is not allowed. Damaged seals must be replaced.

3.3 Disposal

The complete telephone should be disposed of as electronic waste. When the telephone is disassembled, plastics, metals and electronics components are to be disposed of separately. In every single case the national requirements and regulations for waste disposal must be observed.

3.4 Warning and Security Instructions

This telephone is an explosion proof and weatherproof telephone especially for use in a harsh industrial environment.

The following warning and security instructions must be respected:

- The telephone is build up in protection class I and must be connected and used with the required voltages only. The connection cable has to be mounted without risk of stumbling.
- Is must be paid attention that the telephone, the connection cable, etc. must not be damaged. In a damaged state the use of the telephone is not allowed.
- For using the telephone the laws and the industrial regulations, the accident prevention, respectively the electrical regulations must be respected.

- For repairing only original exchange parts are allowed, which have to be changed professional. Other exchange parts may cause damages and the warranty will be lost.

- The required general purpose has to be respected. The telephone must be mounted on a closed rear panel in vertical mode.

- A magnetic field with disturbing frequencies can adjust a disturbance of the acoustic quality. Pay attention to an acceptable installing place.

- For opening the telephone must be free of power.

- In opened state of the telephone dust must not attain into the telephone.

- For the impermeability of the housing necessary gasket respectively the protective cover at the upper part must not be damaged during mounting or dismounting.

- After repairing of the telephone for use in dust environment, the repaired parts have to be tested again.

- The speech speed hopper of the handset consists out of a not electrical conductive plastic material. It may be charging with high air speed dangerously. A cleaning of the speech speed hopper with pressed air is not allowed.

- Changes of the product for technical improvement are possible without announcement before.

- The configuration conductor will be used for configuration by the manufacturer exclusively and must not be connected. Programming by the installer is not allowed.

- The telephone has to be included into the potential equalisation either with the internal earth connecting bolt of the metal plate or with the external earth connecting bolt at the housing (see examples of connection). The potential equalisation must exist inside and outside of the explosion at risk area. The potential equalisation is necessary to support the explosion protection.

Caution

The telephone is suitable for use in Group II, Category 2G and 2D or non-hazardous locations only.

WARNING – EXPLOSION HAZARD

Do not disconnect the telephone unless power has been removed or the area is known to be non-hazardous.

WARNING – EXPLOSION HAZARD

Substitution of any components may impair suitability for Group II, Category 2G and 2D.

- The telephone may be operated solely under the stated ambient conditions. Unfavourable ambient conditions can lead to damage of the telephone and thus present a potential danger for the user.

  Such unfavourable ambient conditions are:

  - Humidity of air too high (>75% rel., condensing)
  - Moisture and dust (pay attention to the degree of protection)
  - Flammable gases, vapours and solvents not covered by the type of protection for the telephone.
  - Too high ambient temperatures (> +60°C).
  - Too low ambient temperatures (< -40°C).

- During operation of the telephone the temperature must not exceed nor fall below the prescribed range of ambient temperatures. It is not allowed to operate the telephone with an additional cover.

- Make sure the wiring is voltage-free upon connecting or disconnecting the wires in the terminal room.

- If electrical connections must be carried through in the hazardous area, the enclosure must be opened and closed as follows:
    - Remove voltage from the telephone.
    - Loosen the fastening screws from the upper case.
    - Remove the upper case and unfasten the keypad cable.
    - Make the connections while the telephone is open.
    - When the work is done, plug the keypad back on, and place the upper case back on the lower part of the telephone.

  Make sure the seal is correctly positioned and in perfect working order. Then tighten the fastening screws in a diagonal pattern.

- Only blind plugs and cable glands as prescribed by the manufacturer may be used.

Should these points not be observed, the explosion protection of the telephone cannot be guaranteed. The telephone then poses a potential threat to the user's life and can cause the ignition of an explosive atmosphere.

3.5 Requirements

There are no requirements.

3.6 Type Label

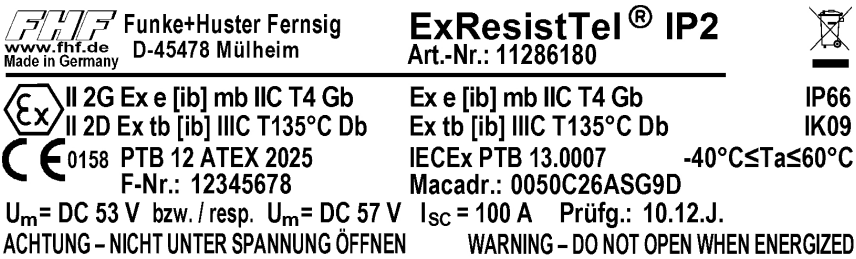

Figure 6: Type Label ExResistTel IP2

4 Declarations and Approvals

4.1 EC Type Examination Certificate ExResistTel IP2

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

PTB

(1) **EC-TYPE-EXAMINATION CERTIFICATE**

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 12 ATEX 2025

(4)	Equipment:	Telephone, type ExResistTel IP2
(5)	Manufacturer:	FHF Funke + Huster Fernsig GmbH
(6)	Address:	Gewerbeallee 15-19, 45478 Mülheim a.d. Ruhr, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report PTB Ex 12-20363.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2009 **EN 60079-7:2007** **EN 60079-11:2012**
EN 60079-18:2009 **EN 60079-31:2009**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex **II 2 G Ex e [ib] mb IIC T4 Gb**
II 2 D Ex tb [ib] IIIC T135 °C Db

ZSEx10100e.dotm

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, January 24, 2013

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt.
In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig • GERMANY

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 12 ATEX 2025

(13) # SCHEDULE

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 12 ATEX 2025**

(15) Description of equipment

The telephone, type ExResistTel IP2 is used for voice transmission via Ethernet according to the VoIP mode (IEEE802.3). It is applied as stationary equipment in potentially explosive gas or dust atmospheres. The intended operating position of the telephone is vertically suspended on a wall.

The permissible range of the ambient temperature is -40 °C up to +60 °C.

Electrical data

Supply, DC (terminals 16 & 17)	non-intrinsically safe U_n = 19.2 ... 52.8 VDC safety-related maximum voltage: U_m = 53 VDC
Supply, PoE (terminals 11, 12, 14 &. 15)	non-intrinsically safe U_n = 24 ... 48 VDC safety-related maximum voltage: U_m = 57 VDC
LAN (terminals 8, 9, 10 & 13)	non-intrinsically safe U_n = ± 2,5 V (signal 10 BASE-TX) or U_n = ± 1 V (signal 100 BASE-TX) safety-related maximum voltage: U_m = ± 7 V (signal) U_m = 57 V DC (offset)
LAN cable shield	for terminals refer to operating instructions manual
Relay 1 and 2 (terminals 18 & 19 or 21 & 23)	non-intrinsically safe U_n = up to 250 VAC or up to 230 VDC I_{max} = up to 5 A for permissible maximum values refer to operating instructions manual) safety-related maximum voltage: U_m = 250 V

Physikalisch-Technische Bundesanstalt

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SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 12 ATEX 2025

Optional headset (terminals 1, 2, 3 & 4)	type of protection Intrinsic Safety Ex ib IIC, only for connection to passive circuits Maximum values: U_o = 16.4 V I_o = 220 mA P_o = 450 mW the maximum permissible external capacitance C_o is 424 nF, the maximum permissible external L/R-ratio is 78 μH/Ω the circuit is electrically connected to ground

The equipment is infallibly connected to the local equipotential bonding system.

(16) Test report PTB Ex 12-20363

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, January 24, 2013

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

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4.2 IECEx Certificate of Conformity ExResistTel IP2

The IECEx certificate of conformity can be seen in the internet at the link:

http://iecex.iec.ch/iecex/iecexweb.nsf/421ce8815c53a3afc1257a1e00576486/a1c67f45a48322ebc1257b18004520b2?OpenDocument

4.3 Declaration of Conformity ExResistTel IP2

EG-KONFORMITÄTSERKLÄRUNG
EC DECLARATION OF CONFORMITY
DECLARATION CE DE CONFORMITE
DECLARACIÓN DE CONFORMIDAD CE

Bezeichnung des Erzeugnisses: / Designation of Product:
Désignation du produit : / Designación del producto:

- **Telefon**
- **Telephone**
- **Téléphone**
- **Teléfono**

Gerätetyp oder Typenbezeichnung der Einzelkomponenten:
Equipment Type or Type Designation of Individual Component:
Modèle d'appareil ou désignation de modèle des composants :
Tipo de aparato o designación del tipo de los componentes individuales:

- **ExResistTel IP2**

Einschlägige EG-Richtlinie(n): / Relevant EC Directive(s):
Directive(s) CE en vigueur : / Directiva(s) CE pertinente(s):

94/9/EG: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen
94/9/EC: Equipment and protective systems intended for use in potentially explosive atmospheres
94/9/CE: Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles
94/9/CE: Aparatos y sistemas de protección para uso en atmósferas potencialmente explosivas

Angewandte harmonisierte Normen, insbesondere:
The following harmonised standards have been applied:
Normes harmonisées appliquées, notamment :
Normas armonizadas aplicadas, especialmente:

EN 60079-0:2009
EN 60079-7:2007
EN 60079-11:2012
EN 60079-18:2009
EN 60079-31:2009

EG-Baumusterprüfbescheinigung: / EC-Type Examination Certificate:
Attestation d'examen CE de type : / Certificado de examen CE:

PTB 12 ATEX 2025

Benannte Stelle für die Überwachung:
Notified body of inspection:
Organisme notifié de contrôle:
Organismo encargado del examen:

Kennnummer:
Inspection number: /
Numéro d'identification : /
Número de examen:

0102

- Hiermit erklären wir, dass das Erzeugnis aufgrund seiner Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der(n) genannten EG-Richtlinie(n) entspricht.
  Bei einer nicht mit uns abgestimmten Änderung des Erzeugnisses verliert diese Erklärung ihre Gültigkeit.
- We herewith declare that the product, based on its development and type as well as on the specific design we have brought into circulation, conforms to the relevant basic safety and health requirements of the mentioned EC Directive(s).
  This declaration shall become invalid if any modification we have not authorised is made to the product.
- Nous attestons, par le présent document, que le produit a été conçu et fabriqué, quant au modèle mis en circulation par nos services, conformément aux exigences fondamentales de sécurité et de santé en vigueur de la ou des directives CE citées.
  En cas de modification du produit non convenue avec nos services, la présente déclaration perd sa validité.
- Por la presente declaramos que el producto satisface por su diseño y tipo constructivo así como en la versión comercializada por nosotros los requisitos de seguridad y salud fundamentales y pertinentes de la(s) directiva(s) CE indicada(s).
  En caso de una modificación del producto no acordada con nosotros, la presente declaración pierde su validez.

Diese Erklärung wird verantwortlich für den Hersteller / Importeur · This declaration is made on behalf of the manufacturer / importer · La présente déclaration, dont le fabricant / importateur ci-après assume la responsabilité · Esta declaración es formulada en forma responsable para el fabricante / importador

FHF Funke + Huster Fernsig GmbH
Gewerbeallee 15-19
45478 Mülheim an der Ruhr
Deutschland · Germany · Allemagne · Alemania

abgegeben durch · by the authorised signatory · est déposée par · por

Schwengers, Jörg
Name, Vorname / Surname, forename / nom, prénom / apellido y nombre

Geschäftsführung / Managing Director / Direction / Gerencia
Stellung im Betrieb des Herstellers / Position in manufacturer's company / fonction dans l'entreprise du fabricant / puesto en la empresa del fabricante

Mülheim an der Ruhr
Ort / Place / ville / Lugar

26.02.13
Datum / Date / date / fecha

Rechtsgültige Unterschrift / Legally binding signature / signature légale / Firma válida

EG-KONFORMITÄTSERKLÄRUNG
EC DECLARATION OF CONFORMITY
DECLARATION CE DE CONFORMITE
DECLARACIÓN DE CONFORMIDAD CE

Bezeichnung des Erzeugnisses: / Designation of Product:
Désignation du produit : / Designación del producto:

- **Telefon**
- **Telephone**
- **Téléphone**
- **Teléfono**

Gerätetyp oder Typenbezeichnung der Einzelkomponenten:
Equipment Type or Type Designation of Individual Component:
Modèle d'appareil ou désignation de modèle des composants :
Tipo de aparato o designación del tipo de los componentes individuales:

- **ExResistTel IP2**

Einschlägige EG-Richtlinie(n): / Relevant EC Directive(s):
Directive(s) CE en vigueur : / Directiva(s) CE pertinente(s):

EMV Richtlinie	**2004/108/EG**	**EMC Directive**	**2004/108/CE**
NSR Richtlinie	**2006/95/EG**	**LV Directive**	**2006/95/EC**
R&TTE Richtlinie	**1999/5/EG**	**R&TTE Directive**	**1999/5/EC**
Directive CEM	**2004/108/CE**	**Directiva CEM**	**2004/108/CE**
Directive BT	**2006/95/CE**	**Directiva de baja tensión**	**2006/95/CE**
Directive R&TTE	**1999/5/CE**	**Directiva R y TTE**	**1999/5/CE**

Angewandte harmonisierte Normen, insbesondere:
The following harmonised standards have been applied:
Normes harmonisées appliquées, notamment :
Normas armonizadas aplicadas, especialmente:

EN 55016-2-3:2006
EN 55022:2010
EN 55024:2010

EN 60529:1991
EN 60950-1:2006/A12:2011
EN 60950-22:2006

EN 61000-6-1:2007
EN 61000-6-2:2005
EN 61000-6-3:2007+A1:2011
EN 61000-6-4:2007+A1:2011

Angewandte nationale Normen und technische Spezifikationen; insbesondere:
The following national standards and technical specifications have been applied:
Normes nationales appliquées et spécifications techniques, notamment :
Normas nacionales y especificaciones técnicas aplicadas, especialmente:

DIN EN 61000-4-2:2009
DIN EN 61000-4-3:2006+A1:2008+A2:2010
DIN EN 61000-4-4:2004+A1:2010
DIN EN 61000-4-5:2006
DIN EN 61000-4-6:2009

ETSI ETS 300019-2-4:2003

ETSI TBR 8 Corr 2001

- Hiermit erklären wir, dass das Erzeugnis aufgrund seiner Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der(n) genannten EG-Richtlinie(n) entspricht.
  Bei einer nicht mit uns abgestimmten Änderung des Erzeugnisses verliert diese Erklärung ihre Gültigkeit.
- We herewith declare that the product, based on its development and type as well as on the specific design we have brought into circulation, conforms to the relevant basic safety and health requirements of the mentioned EC Directive(s).
  This declaration shall become invalid if any modification we have not authorised is made to the product.
- Nous attestons, par le présent document, que le produit a été conçu et fabriqué, quant au modèle mis en circulation par nos services, conformément aux exigences fondamentales de sécurité et de santé en vigueur de la ou des directives CE citées.
  En cas de modification du produit non convenue avec nos services, la présente déclaration perd sa validité.
- Por la presente declaramos que el producto satisface por su diseño y tipo constructivo así como en la versión comercializada por nosotros los requisitos de seguridad y salud fundamentales y pertinentes de la(s) directiva(s) CE indicada(s).
  En caso de una modificación del producto no acordada con nosotros, la presente declaración pierde su validez.

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5 Technical Data

Connection data	
Power supply	Power over Ethernet refer to IEEE 802.3af or external power supply
Voltage PoE	48V DC (Min. 44V, Max. 57V). The power has to be transmitted at 10/100 Mbit/s Ethernet connections only with the unused pairs of data lines.
PoE	Class 0
Voltage external power supply	19.2 V – 52.8 V DC
Power requirement	12.95 W
Switching power of the relays	250 V, 5 A, 100 VA AC 230 V, 0.5 A, 100 W DC 50 V, 1 A, DC 30 V, 5 A, 100 W DC
Connection Ethernet	Terminals (10/100 Mbit/s)
Ringing volume	Max. 95 dB(A) in 1 m distance
Housing	
Material	Glass-fibre reinforced polyester
(Height x Width x Depth) without cable screw caps and without earth bolt	267 x 225 x 132 mm
Weight	ca. 6.0 kg
Display	• 182 x 64 pixel • Field of view ca. 78 mm x 26 mm
Keypad	• Metal keypad with ice protection • 21 keys with ABC marking
Hook switch	Reed contact without mechanical switch
Operation general purpose	Vertical wall mounting. The telephone must be mounted on a closed rear panel.
Handset	
Mouthpiece	Electret-foil microphone
Receiver inset	Dynamic receiver inset with magnetic field generator
Sling holder	Integrated adjustable sling holder
Handset cable	Armed court

Environment conditions	
Operation environment	-40°C…+60°C
Transport and storage temperature	-40°C…+80°C according to EN/IEC60721
Air humidity	75 %
Conformities	
Degree of protection of enclosure	IP66 according to EN/IEC 60529
Degree of protection against external mechanical impacts	IK09 according to EN/IEC 62262
Declaration of Conformity	Directive 1999/5/EG (R&TTE) Directive 2004/108/EG (EMC) Directive 2006/95/EG (low voltage) Directive 94/9/EC (ATEX)
Restriction of Hazardous Substances (RoHS)	Directive 2011/65/EG
Waste Electrical and Electronic Equipment (WEEE)	Directive 2012/19/EG EAR registration no.: DE 58023377
EC Type Examination Certificate	PTB 12 ATEX 2025
Marking	II 2 G Ex e [ib] mb IIC T4 Gb II 2 D Ex tb [ib] IIIC T135°C Db
IECEx Certificate of Conformity	IECEx PTB 13.0007
Marking	Ex e [ib] mb IIC T4 Gb Ex tb [ib] IIIC T135°C Db
Employed standards (extracts)	• IEC/EN 60079-0 • IEC/EN 60079-7 • IEC/EN 60079-11 • IEC/EN 60079-14 • IEC/EN 60079-18 • IEC/EN 60079-31 • IEC/EN 60529 • IEC/EN 60721 • IEC/EN 60950-1 • IEC/EN 60950-22 • IEC/EN 61000-6 • IEC/EN 62262
User interface	
Web-interface (administration)	English
Telephone (user menu)	16 languages adjustable

Subject to alterations
or errors

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