

Weatherproof telephone

# **INDUTEL** **INDUTELLEO**



Operating manual



## Note

Please read the operating manual carefully before installing the device.  
Please check the contents of the box for completeness.

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## General operation

1. The InduTel can be operated in the analogue, public telephone network and connected to analogue terminals of branch exchanges.
2. The telephone has a receiver accommodation with a magnetic contact as hook switch. To disconnect an existing connection, the receiver must be replaced. For disconnecting an existing connection, all you need to do is press the disconnect key on the keypad.
3. When programming the settings, the receiver must be off the hook. You enter programming mode by simultaneously pressing the asterisk and the pound sign key.
4. If a procedure has been completed successfully, you will hear an acknowledgement signal. An error tone informs you of any operating mistakes.
5. Should more than 2 minutes pass before you start dialling, the exchange may cut off the power supply. The dial tone can no longer be heard. In this case you should put the receiver back on the hook and wait approximately 2 seconds before you lift it again. Programming sessions that have been started, but have not been completed, must be repeated.
6. When you receive a call, the InduTel rings with the volume and melody you have selected.
7. Entering your personal identification number (PIN) you may partly or completely restrict functions and settings. Forgetting your PIN can be compared to losing a key. If you have forgotten your PIN, please contact our technical support service.

## As-delivered condition

### Telephone presetting

Dialling procedure	Dual-tone multifrequency (DTMF), signal duration 90 ms
Signalling key function (R key)	Flash 120 ms
AKZ automatic pause	none
Pause following AKZ	3 seconds
Last number redial memory	Empty
Restrictions	Programming restricted
Amplified listening in receiver	Two levels (6 dB / 12 dB)
PIN	0000
Ringing melody	7
Ringing volume	6 = max
Receiver volume	1 = min, default value

Using the programming options, you may reset this as-delivered condition at any time. The PIN will not be altered by resetting.

## Mounting and installation

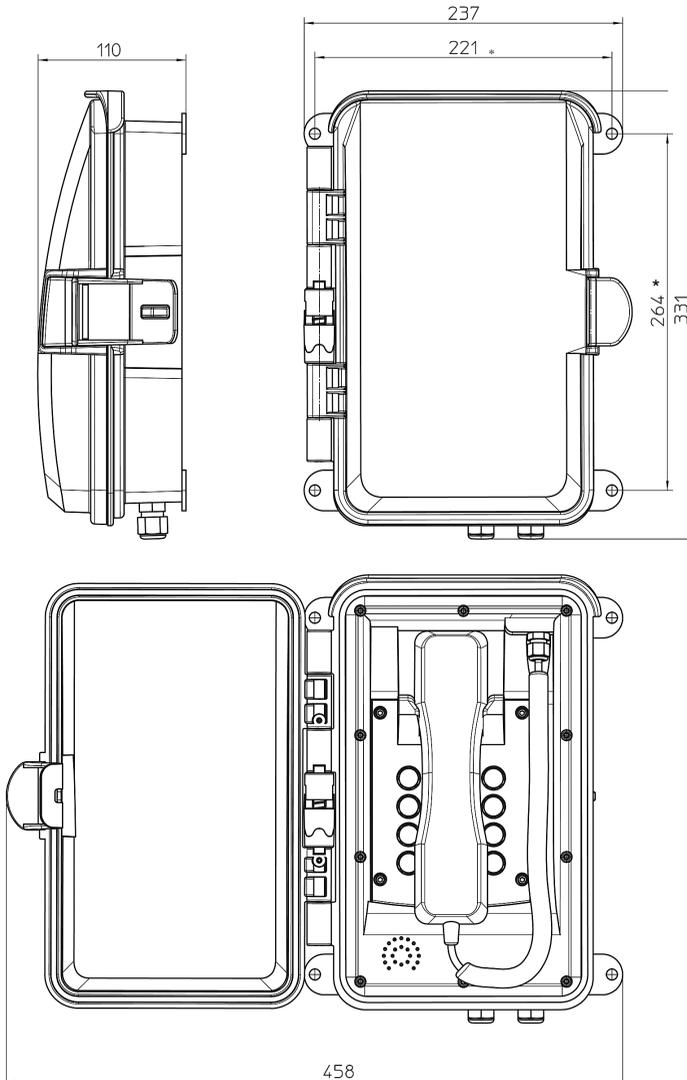
### Wall mounting

Mount the brackets on the telephone with two screws each. To do this, use the provided countersunk screws M5 x 8 mm. Fasten the telephone on the wall using four screws (up to max. size Ø 8 mm). Remove the keypad plate and the handset, pull the telephone line through the cable gland and connect it with terminal TCP/La – TCP/Lb (TCP: Terminal Connection Point).

Use cables with a sheath diameter of 5 to 9 mm only, otherwise the IP 66 degree of protection can not be guaranteed.

Plug the ribbon cable onto the pin contact strip of the keypad plate.  
Tighten the keypad plate using four screws.

\* Drilling dimensions



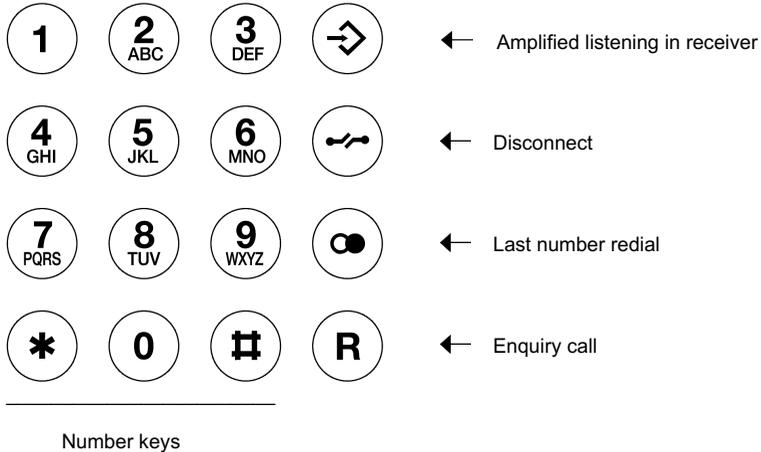
### Connection of a secondary sounder

The second cable gland is provided for the connection of a secondary sounder. Remove the keypad plate and remove the sealing element from the cable gland. Lay the cable through the cable gland and connect it to terminals W and W1. Secure the cable using the cable gland. Check that the cable diameter corresponds to the dimensions of the cable gland; otherwise the IP degree of protection will not be reached. After all the connections are made, fasten the keypad plate securely again, using four screws.

# Operation and programming

## Controls

### Version with keypad



### Version without keypad (ZB)

Device-internal programming keypad (12 keys)

1	2	3
4	5	6
7	8	9
*	0	#

## Operation

### Occupy line (Make/answer a call)

When you pick up the receiver, you may answer a call or dial a business contact.

### Amplified listening in receiver

Press the  key to increase the receiver volume during a call. Depending on the presetting, the volume is increased in one or two steps. Pressing the  key one more time reduces the volume to the previous level.

## Make a call

Dial the desired number by using the number keys. When using the dialling procedure Pulse dialling, the asterisk and pound sign keys have no function.

## Last number redial

By pressing the last number redial key, the last entered number is automatically dialled when you lift the receiver.

## Disconnect

To end a call and start a new call immediately afterwards, there is no need to put the receiver down, just press the disconnect key. When disconnecting, the old call ends, and after a short while you hear the dial tone. You may now enter the number for the new call.

## Enquiry call (dual-tone multifrequency only)

If the telephone is connected to a private branch, you may press the enquiry key R in order to establish a connection with another subscriber, who is also connected to the private branch. By pressing this key a second time, you will be connected with the first subscriber again.

## Programming



**In order to program the telephone, you have to allow modifications of the settings.**

### Allow settings modifications

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press the # and 0 keys consecutively.
- Enter PIN (in the as-delivered condition: 0000)
- Press the  key, to allow settings modifications.
- Replace the receiver.



### Restrict settings modifications

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press the # and 1 keys consecutively.
- Enter the PIN
- Press the  key, to disable settings modifications.
- Replace the receiver.



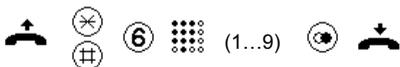
## Adjust ringing volume

- Press the \* and # keys simultaneously.
- Press key 5 (the ringing sound is played back with the selected volume setting).
- Set the desired volume using the keys 1 to 6.
- Press the  key to store the selected volume.
- Replace the receiver.



## Adjust the ringing melody

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 6 (the set melody is played back)
- Set the desired melody using the keys 1 to 9.
- Press the  key to store the selected melody.
- Replace the receiver.



## Amplified listening in receiver, setting the levels

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 2.
- Set the code for the desired number of levels, or steps.
- Press the  key to store the setting.
- Replace the receiver.

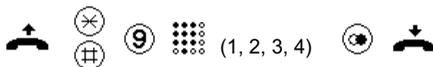
Code / Key	Amplified listening in receiver, levels	Bemerkung
1	1 level, 6 dB	
2	2 levels, 6 dB, 12 dB	As-delivered condition



## Set dialling procedure

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 9.
- Enter the code for the desired dialling procedure.
- Press the  key to store the selected dialling procedure.
- Replace the receiver.

Code / Key	Dialling procedure	Comment
1	Dual-tone multifrequency (DTMF), unlimited tone duration	The DTMF tone is being generated as long as the associated key is being pressed
2	Dual-tone multifrequency (DTMF), tone duration 90 ms	As-delivered condition
3	Pulse dialling (PD), 1.5 : 1	
4	Pulse dialling (PD), 2 : 1	



### Enter AKZ automatic pause

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 0.
- Enter the AKZ automatic pause (a digit or the R key,\* and # not allowed)
- Press the key to store the entered AKZ automatic pause.
- Replace the receiver.



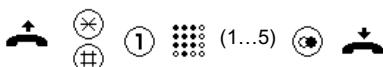
### Delete AKZ automatic pause

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 0.
- Press the # key.
- Press the key to delete.
- Replace the receiver.



### Program the pause following the AKZ automatic pause

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 1.
- Press a key from 1 to 5 (the key number corresponds to the duration in seconds)
- Press the key to store the entered duration of the pause.
- Replace the receiver.



## Program the Enquiry Key (flash time)

For dual-tone multifrequency only. Pressing the enquiry key briefly interrupts the loop to the private branch exchange (flash) to enable an enquiry to another private branch connection. The flash time is programmable.

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 8.
- Enter the code for the desired flash time.
- Press the  key to store the selected flash time.
- Replace the receiver.

Code / Key	Flash time	Comment
1	80 ms	
2	120 ms	as-delivered condition
3	600 ms	



## Restore to as-delivered condition

- Lift the receiver.
- Press the \* and # keys simultaneously.
- Press key 3.
- Press the  key to reset the as-delivered condition.
- Replace the receiver.



Upon „Resetting to the as-delivered condition“ the PIN is **not** reset to 0000.

## Change Personal Identification Number (PIN)

- Hörer abnehmen  
Lift the receiver.
- Press the \* and # keys simultaneously.
- Press the # and 2 keys consecutively.
- Enter the old PIN.
- Enter new PIN.
- Repeat new PIN.
- Press the  key to store the new PIN.
- Replace the receiver.



## Signalling tones during programming

<b>Tone</b>	<b>Number</b>	<b>Significance</b>
Acknowledgement tone	1 long tone	Completion of a correctly performed procedure.
Error tone	4 short tones	An error occurred within a procedure. The procedure is cancelled.
PIN tone	1 short tone sequence	Prompt to enter the PIN.

## Optical call indication (only InduTel LED)

In case of an incoming call the handset holder starts blinking (red).

## Version without keypad (ZB)

### Operation

#### Seize (Make / answer a call) and dialling

Receive a call by lifting the handset. If you want to make a call, lift the handset. The private branch exchange then automatically establishes a connection.

#### Optionally

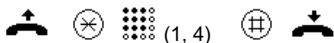
If you have a telephone with a built-in programming keypad, you may program a speed code dialling number. When the handset is lifted, this programmed number is then dialled automatically. This operating mode is set using the programming keypad.

### Programming using the device-internal 12-key programming keypad

#### Setting operating mode

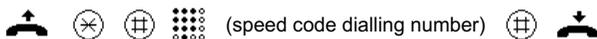
- Lift the handset.
- Press the \* key.
- Enter the operating mode code.
- Press the # key to store the selected operating mode.
- Replace the handset.

Code / Key	Operating mode	Comment
1	Normal telephone, dialling by private branch exchange	As-delivered condition
4	Automatic speed dialling	



#### Enter speed code dialling number

- Lift the handset.
- Press the \* key.
- Press the # key.
- Enter speed code dialling number
- Press the # key to store the speed code dialling number.
- Replace the handset.



#### Adjust ringing volume

- Lift the handset.
- Press the \* key.
- Press key 5 (the ringing sound is played back with the selected volume setting).
- Set the desired volume using the keys 1 to 6.
- Press the # key to store the selected volume.
- Replace the handset.



## Adjust the ringing melody

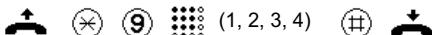
- Lift the handset.
- Press the \* key.
- Press key 6 (the set melody is played back)
- Set the desired melody using the keys 1 to 9.
- Press the # key to store the selected melody.
- Replace the handset.



## Set dialling mode

- Lift the handset.
- Press the \* key.
- Press key 9.
- Enter the code for the desired dialling mode.
- Press the # key to store the selected dialling mode.
- Replace the handset.

Code / Key	Dialling mode	Comment
1	Dual-tone multifrequency (DTMF), unlimited tone duration	The DTMF tone is being generated as long as the associated key is being pressed.
2	Dual-tone multifrequency (DTMF), tone duration 90 ms	As-delivered condition
3	Pulse dialling (PD), 1.5:1	
4	Pulse dialling (PD), 2:1	



## Restore to as-delivered condition

- Lift the handset.
- Press the \* key.
- Press key 3.
- Press the # key to reset the as-delivered condition.
- Replace the handset.



## Signalling tones during programming

Tone	Number	Significance
Acknowledgement tone	1 long tone	Completion of a correctly performed procedure.
Error tone	4 short tones	An error occurred within a procedure. The procedure is cancelled.

## General information

### Service

You have bought a modern FHF product subject to meticulous quality control. If any questions regarding the telephone, or malfunctions should occur – even after the guarantee has expired – please contact FHF. Please have the type denomination and product number (to be found on the nameplate) ready.

### Care and maintenance

The telephone is maintenance-free. Still, if the operating area is highly contaminated by dust, fat, oil etc., the device should be cleaned from time to time. Use a moist cloth to dust off the receiver and the device.

Warning! Never use sharp objects for cleaning. Do not use other polishing or abrasive substances.

**Movable parts of the housing may NOT (!) be covered by lubricants like oil, grease etc.!**

### Warnings and security information

This device is a weatherproof telephone especially designed for use in rugged industrial environments. Please note the following warnings and security information:

1. The IP 66 degree of protection can only be guaranteed if the housing is closed.
2. The telephone is a Protective Class II device and may only be connected to and operated at the voltage it was designed for. Make sure the connections are in perfect order. The connecting cable must be laid in a manner not to cause a tripping hazard.
3. The telephone may only be operated at the given ambient conditions (see also under "Technical Specifications"). Adverse ambient conditions, as for instance too high or too low ambient temperatures are not allowed, due to increased risk of an electronic parts breakdown.
4. Make sure the telephone, the connecting cable, etc. are not damaged. If the telephone is damaged, it may not be operated.
5. While the telephone is in operation please follow all relevant legal and professional regulations, the accident prevention regulations of the Employers' Liability Insurance Association, and laws and regulations governing the use and connection of electric devices.
6. In case of repairs, use only original spare parts. Replace such parts according to professional standards. Other spare parts may cause damage. The guarantee is rendered invalid.
7. Before the telephone is repaired or replaced, it must be disconnected from the power supply. If the maintenance or repair of a live device cannot be avoided, this must be done by authorised personnel only.
8. Do not damage the covers keeping the housing tight when mounting or demounting the device.
9. Take into consideration the required operating position.
10. This product is subject to technical improvements without prior notice.

## Technical Specifications

Connection data:	
Supply voltage	24...66 Vdc
Supply current	19... 100 mA
Ringing alternating current	30...90 Vac
Ringing frequency	16.. 68 Hz
Sounder input impedance	≥ 6.0 kΩ at 25 Hz ≥ 3.5 kΩ at 50 Hz
Enquiry key (flash)	only for DTMF 80 ms, 120 ms, 600 ms
Dialling procedure	
DTMF	Frequencies according to ITU-T Q.23 Tone duration unlimited or 90 ms
PD	Pulse/Pause ratio 1.5:1 (60/40 ms) or 2:1 (66.7/33.3 ms)
Ringing volume	when the housing cover is open Approx. 90 dB(A) at 1 m distance when the housing cover is closed Approx. 65 dB(A) at 1 m distance
Housing	
Height x Width x Depth	330 x 237 x 110 mm
Weight (Telephone incl. telephone bracket)	2.3 kg
Operating utilization position	Vertical wall mounting
Receiver	
Mouthpiece	Electret-foil microphone
Receiver inset	dynamic receiver
Connections	Single- or multiwired up to 2.5 mm <sup>2</sup>
Labelling	
Power cable	TCP/La – TCP/Lb (TCP: Terminal Connection Point)
Secondary Sounder	W – W1
Ambient operating temp.	-45°C...+55°C
Transport and storage temp.	-50°C...+70°C
Degree of protection acc. to IEC60529	IP 66
Cable gland	2x M16 x 1.5
for cable diameters	5 ÷ 9 mm

## EC Declaration of Conformity

FHF Funke + Huster Fernsig GmbH declares that the telephone InduTel is in compliance with the basic demands and other relevant provisions of Directive 1999/5/EU (R&TTE).

This telephone is designed to be connected to public telecommunications exchanges and private branch exchanges, and complies with the basic demands according to EU Directive 1999/5/EG (Radio and Telecommunications Terminal Equipment, R&TTE).

If you experience problems during operation, please contact FHF technical support.



### EMC-Directive

The device complies with the requirements of the new EMC-directive 2004/108/EC, the low voltage directive 2006/95/EC and the R&TTE directive 1999/5/EC.

The conformity with the above directives is confirmed by the CE sign.



Electric and electronic devices carrying this symbol may contain substances harmful to people and the environment. Therefore, it must not be disposed of together with unsorted municipal waste (household rubbish). In order to protect the environment please use public collecting points for the disposal of electric and electronic devices carrying this symbol.

Subject to alterations  
or errors



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