User guide

DOORTEL 4 MD
DOORTEL 4 AV
DOORTEL 4 ES
DOORTEL 4 BG

Doorstation with telephone line
interface for the connection
to telephone systems
Version with up to 4 bell buttons

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Contents

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Description

The doorstation with telephone line interface **DOORTEL** 4 can be connected to standard analogue T/R extension lines of any PABX. The unit is delivered in four different versions: the BG version for installation behind existing panels, the MD version with a designer aluminium case, the AV version with a vandal proofed aluminum panel and the ES version with a stainless steel casing. All versions can have up to four bell chime button. The ES Version has only three button in his standard version.

The connection of the doorstation to the telephone switch is done using two wires. Further a 12 Vac power supply is needed for the door opener and the illumination lamp in the doorstation. For this another two wires are necessary. We suggest in any case to provide an illumination of the doorstation as the lamps heat will ensure that the condensing water formation and a too low operating temperature can be prevented. Please take care that in some extrem enviroment situations the unit might need an add on heating element. The device is deliverd with microphone and loudspeaker. The volume of the loudspeaker and the microphone can be regulated.

The unit is activated using the bell buttons. Herefore a galvanic, powerless contact is needed. Please take care that the activation LED will be lit only when the device is busy. After the closing of one of the buttons contact the device will size the line, the red LED will be lit, and the programmed telephone number is dialed using the selected mode: rotary dial or DTMF. The telephone numer is programmed using a DTMF dial procedure. The digits 0 to 9 and the special DTMF code * and # can be programmed as part of the telephone number. Using the same DTMF dial procedure also all other programmations are done. Only the setting for the dial mode, the hardware timer and the auto answer are done using jumpers on the board.

If needed the **DOORTEL 4** doorstation with telephone line interface can also be called. As soon as the first call signal is recognized the unit will answer the call. After this an acknowledge tone is sent to the caller.

During the connection using a DTMF dial pad telephone a door opener contact can be activated dialing the "7". With the digit "8" a second optional contact can be activated. The contacts are activated for a programmed time. And the end of this time the connection is terminated automatically. This function can be deactivated using the programming functions.

The connection will be terminated as soon as a busy tone is surley detected. The **DOORTEL 4** can be released, without opening the door, dialing the DTMF digit "3" during the connection. If the called party doesn't answer the unit will drop the connection after 7 ringback tones. For the enhanced security the unit has also a hardware timer. This will ensure that the connection is terminated in any case after the time out. The time out can be set to 1, 2 or 4 minutes using jumper which can be find inside the unit.
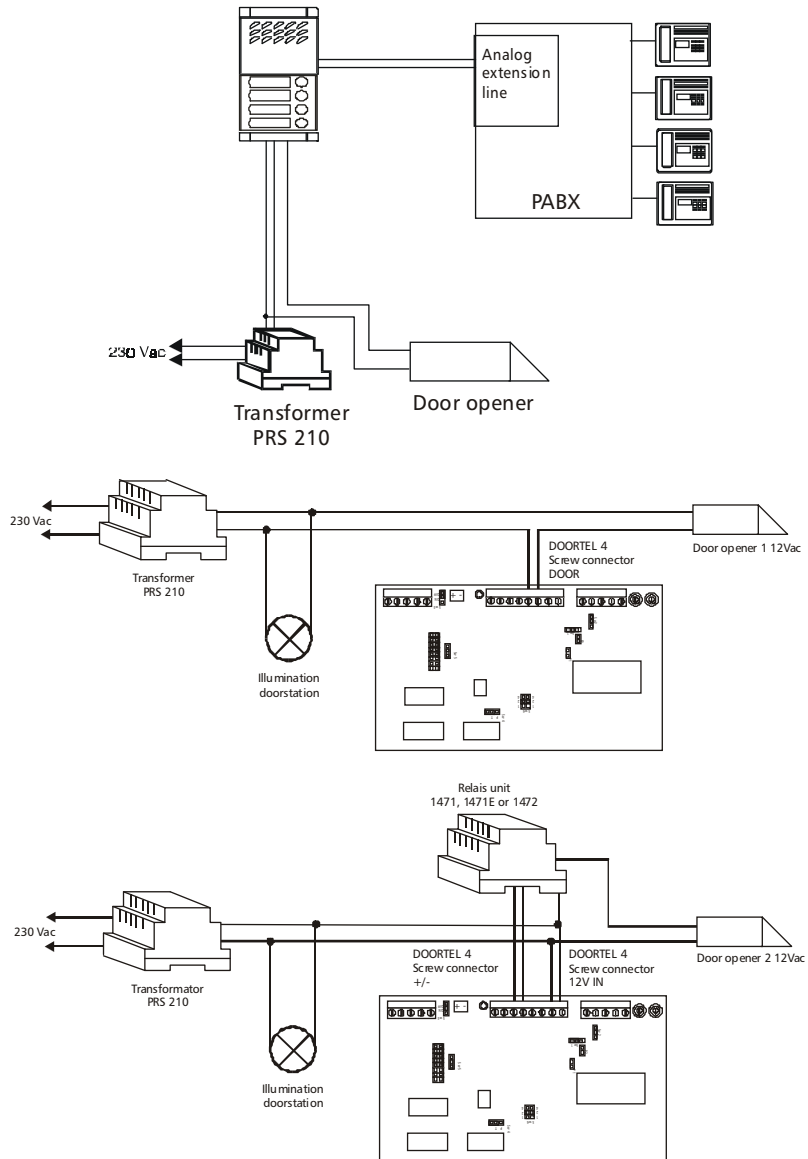
The optional second contact, which is installed externally to the unit, can be

programmed also for an automatic mode. Is this case the contact is activated as soon the line is sized, for all the seizure time, or just for the duration of 2 seconds. Herewith videocameras, or similar devices, can be activated together with the unit. For the second contact a relais unit **1471**, **1471E** or **1472** has to be installed. Furthermore the unit has to be powered with a 12 Vac/dc supply.

Features

- Up to four bell buttons. Each button can be programmed with a 1 to 5 digit long number dial
- Programmation using DTMF tones
- Programmable contact activation time
- Settable auto answer function
- High quality handsfree speach controlled unit
- Tone detection
- Volume regulation for loudspeaker and microphone
- With DTMF dial controlled door opener contact
- Optional external second relais (1471, 1471E or 1472) for the comand of videocameras or a similar devices
- Line disconnect with DTMF dial
- Automatic line disconnect after door opening (programmable)
- Connection to any PABX T/R analogue extension line
- DTMF or rotary dial selectable
- Programmable time out timer
- External LED connectable

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Connection diagram

Analog extension line

PABX

230 Vac

Transformer PRS 210

Door opener

230 Vac

Transformer PRS 210

Illumination doorstation

DOORTEL 4 Screw connector DOOR

Door opener 1 12Vac

Relais unit 1471, 1471E or 1472

230 Vac

Transformator PRS 210

Illumination doorstation

DOORTEL 4 Screw connector +/-

DOORTEL 4 Screw connector 12V IN

Door opener 2 12Vac

View of the DOORTEL 4 electronic board. Connections.

Volume microphone

Volume loudspeaker

Output 12Vdc (12Vdc/GND)

Connection loudspeaker (SPK/GND)

Connection microphone (MIC(+)/8V(-))

Common input bell buttons

Button 4

Button 3

Button 2

Button 1

Programm enable ON/OFF

Connector external LED

LED indicator

Analogue telephone line (T/R)

Connection external contact 2

Connection contact 1

Input 12 Vac/dc power supply (optional)

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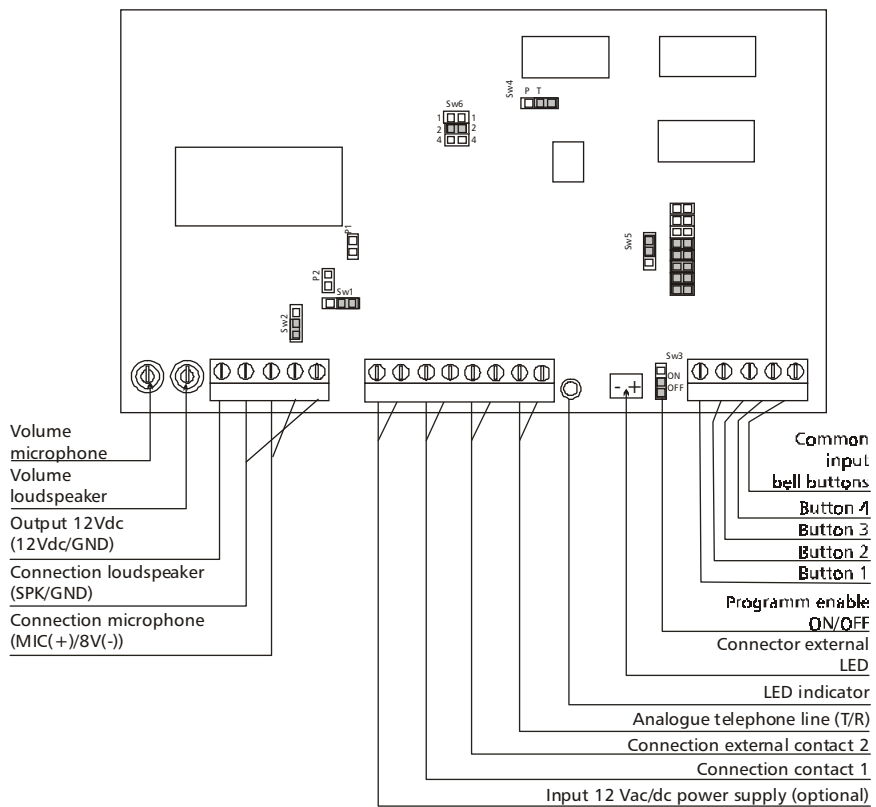
View of the DOORTEL 4 electronic board. Jumpers.

Sw3 Programming mode ON/OFF
(Default OFF)

Sw5 Auto answer ON/OFF
(Default ON)

Sw4 Dial mode rotary (P) or DTMF (T)
(Defaul DTMF (T))

Sw6 Hardware Timer 1, 2 or 4 minutes
(Default 2 minutes)

Sw1,2 and P1,2 Doormaster/Doortel selection jumpers (factory set)
(Default Doortel)
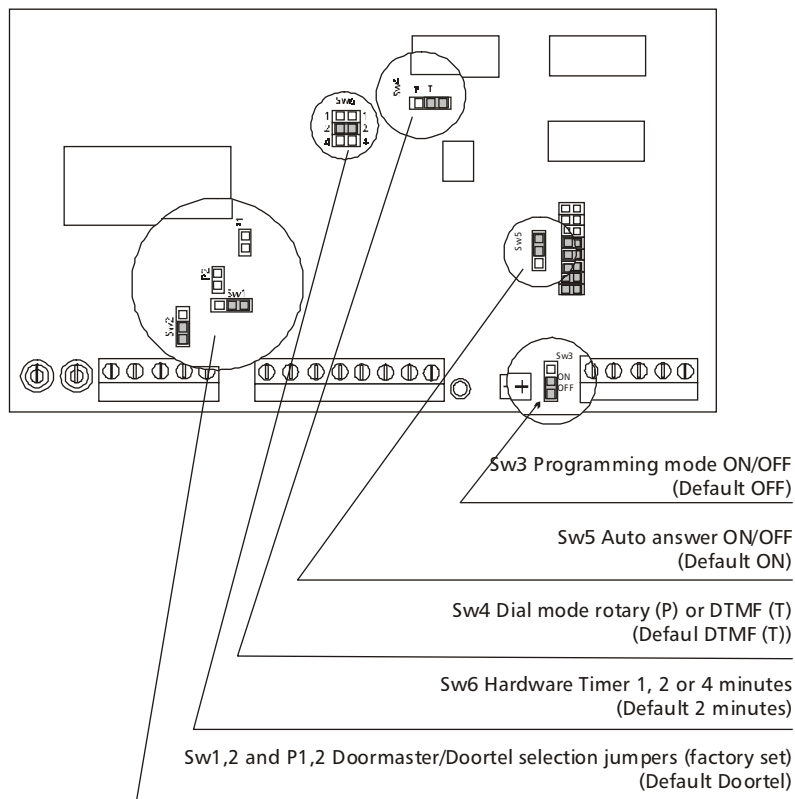
Installation

Depending on the delivered version install the **DOORTEL 4** doorstation as required. With flush mounting versions the front plate and the installed electronic board should be take off during the installation operations of the box. For the MD Version also for the wall mounting version the front plate and the installed electronic board should be dismounted for the installing operations. With the AV and ES version you can separate the complete unit with front panel, back box and electronic board from the wall mounting case. In this case you don't need to dismount the electronic board. With the AV version with flush mounting installation do not forget to apply the delivered fitting strip to the front panel.

With the BG version for installation behind existing panels, install the electronic board in his case or letter box. **Please take care that a too large distance between board and microphone can reduce the voice quality of the unit.** The bell button contacts are to be connected powerless. With the installation of the loadspeaker and the microphone please take care that enough acoustic separation between the two item is granted. Especially the backward generated sound waves from the loadspeaker should not get outside the case or reach the microphone. If the delivered installation holders for microphone and loadspeaker are used, this should not be a problem.

If possible use different cables to connect the telephone line and the AC power supply for the lamp and door opener. This will reduce the possibility to have "humming" noises on the connection. After the installation and cabling using the in this documentation provided connection diagram, the number to be dialled has to be programmed.Before starting with the programming procedure the program enable jumper SW3 has to be set on ON. Further also the dial mode jumper SW 4 has to be set on T (for tone dial) and the jumper SW 5 for the auto answer has to be set on active. Both this last two setting are foreseen as default from the factory. Now call the unit using a telephone with an DTMF dial pad. Follow the programming procedure as described in the next pages. This items can be programmed on the device:

- Program and delete the dial number for each bell button;
- Activation time for the contact 1 and 2;
- Automatic call termination after contact activation ON/OFF;
- Manual or automatic function for the contact 2;
- Pulsed (2 seconds) or continous activation of contact 2 with automatic function.

After the programmation of the telephone numbers you should select the appropiate dial mode for your PABX (jumper SW4, default is DTMF). Further also the auto answer function (jumper SW5, default ON) and the hardware timer (jumper SW6, default 2 minutes) should be set as required. The unit is now ready to work. You should set up a connection with the door unit. A regulation of the sending and receiving volume may be necessary. To do this you should use the regulators placed on the **DOORTEL 4** doorstation. Please take care to regulate VERY carefully. If this is done by two people it might be helpful. **If the loudspeaker will send only "broken" tones, or it has a too**

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low volume, changing the volume of the microphone on the DOORTEL 4 may help. **With a very loud external enviroment the unit may be have difficulties detecting the busy tone**. This may happen also with tone which are not within the values as indicated in the technical specification at the end of this document. In this case you should use always the dial of the digit "3" to terminate the connection.

Please take care that if you need the external power supply the used transformer should have **an open circuit voltage of no more then 15 Vpp**. We suggest the use of our transformer PRS 210.

Please note that only **one door opener with 40 Vpp and 2 A** can be connected to the build in relais of the unit. If you need to drive more door openers or if you need an higher voltage or current you should use an external relais. We suggest the use of our relais 1471.

Furthermore please consider this for the installation:

- If you are using digital sets or featurephones on your PABX please take care that these are enabled to send DTMF tones also after an incoming call. You need this to open the door.

How to program a dial number

1) Using a telephone with a DTMF dial pad **call** the doorstation using the **internal telephone number** of the extension line where the DOORTEL 4 is connected to
2) The DOORTEL 4 doorstation will answer automatically and send **three short acknowledge tones**
3) **Dial** now the programming code * **# 1**
3) You wiil hear **three short acknowledge tones**
4) **Dial** now **[telephone number, max. 5 digits (*,#,1 -0)] **[bell button (1 to 4)]**
5) You wiil hear **three short acknowledge tones**
6) Repeat this procedur until all desired numbers are programmed or changed
7) **Dial** now the **code 3** to terminate the connection with the DOORTEL 4 doorstation
or
8) You can also go on with the programmation dial **another programming code**
Please note:
- The bell buttons can be programmed and change also one at time

How to delete a dial number

1) Using a telephone with a DTMF dial pad **call** the doorstation using the **internal telephone number** of the extension line where the DOORTEL 4 is connected to
2) The DOORTEL 4 doorstation will answer automatically and send **three short acknowledge tones**
3) **Dial** now the programming code * **# 6**
3) You wiil hear **three short acknowledge tones**
4) **Dial** now *[bell button (1 to 4)]**
5) You wiil hear **three short acknowledge tones**
6) Repeat this procedur until all desired numbers are deleted
7) **Dial** now the **code 3** to terminate the connection with the DOORTEL 4 doorstation
or
8) You can also go on with the programmation dial **another programming code**
Please note:
- The bell buttons can be programmed and change also one at time

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How to program the activation time for the contact 1 and 2

1) Using a telephone with a DTMF dial pad **call** the doorstation using the **internal telephone number** of the extension line where the DOORTEL 4 is connected to
2) The DOORTEL 4 doorstation will answer automatically and send **three short acknowledge tones**
3) **Dial** now the programming code *** # 2**
3) You wiil hear **three short acknowledge tones**
4) **Dial** now **[the desired activation time in seconds (1 to 9)]**. Programming the time 0 will deactivate the contacts. (Default is 5 seconds)
5) You wiil hear **three short acknowledge tones**
6) **Dial** now the **code 3** to terminate the connection with the DOORTEL 4 doorstation
or
7) You can also go on with the programmation dial **another programming code**
Please note:
- The programmed time is one for both contacts (Contact 2 is optional)
- The here programmed activation time for the conatct 2 is only valid for the manual mode. With automatic mode there is a fixed activation time.

How to program the auto disconnect after door opening

1) Using a telephone with a DTMF dial pad **call** the doorstation using the **internal telephone number** of the extension line where the DOORTEL 4 is connected to
2) The DOORTEL 4 doorstation will answer automatically and send **three short acknowledge tones**
3) **Dial** now the programming code *** # 3**
3) You wiil hear **three short acknowledge tones**
4) **Dial** now **[auto disconnect ON(1) or OFF (0)]**
5) You wiil hear **three short acknowledge tones**
6) **Dial** now the **code 3** to terminate the connection with the DOORTEL 4 doorstation
or
7) You can also go on with the programmation dial **another programming code**
Please note:
- If this feature is activated the unti will disconnect the line automatically after opening the door

How to program the manual/automatic mode of the contact 2

1) Using a telephone with a DTMF dial pad **call** the doorstation using the **internal telephone number** of the extension line where the DOORTEL 4 is connected to
2) The DOORTEL 4 doorstation will answer automatically and send **three short acknowledge tones**
3) **Dial** now the programming code * **# 4**
3) You wiil hear **three short acknowledge tones**
4) **Dial** now **[for manual mode (0) or automatic mode (1)]**
5) You wiil hear **three short acknowledge tones**
6) **Dial** now the **code 3** to terminate the connection with the DOORTEL 4 doorstation
or
7) You can also go on with the programmation dial **another programming code**
Please note:
- The optional contact 2 can be set for manual or automatic mode. With manual mode the contact 2 will be activated for the programmed activation time dialing the code 8. With automatic mode the contact 2 will be automatically activated with every line seizure.

How to program the pulsed or continuos activation of the contact 2

1) Using a telephone with a DTMF dial pad **call** the doorstation using the **internal telephone number** of the extension line where the DOORTEL 4 is connected to
2) The DOORTEL 4 doorstation will answer automatically and send **three short acknowledge tones**
3) **Dial** now the programming code * **# 5**
3) You wiil hear **three short acknowledge tones**
4) **Dial** now **[for continuos mode (0) or for pulsed mode (1)]**
5) Sie erhalten **drei kurze Bestätigungstöne**
6) **Dial** now the **code 3** to terminate the connection with the DOORTEL 4 doorstation
or
7) You can also go on with the programmation dial **another programming code**
Please note:
- The optional contact can be programmed, if the automatic activation mode is enabled, for a pulsed or conitnuos activation. With continuos activation the contact will be closed for all the line seizure time. With pulsed activation the contact will be closed for 2 seconds with every new line seizure.

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How to use

Call from outside
- The visitor presses one **bell button**
- The line is sized and the programmed
 number is dialed
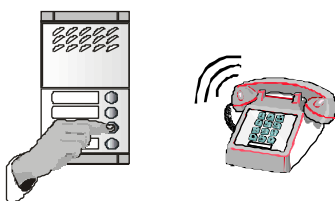
- The extension is called
- On the doorspeaker the visitor can hear a
  ringback tone
- If you are busy or you can't answer within
  seven calls the line will be automaticaly
  dropped
- As soon as you answers the call you can talk
  to the visitor at the door

- At the end of the conversation **press** the key
  7 (contact 1) or **8** (contact 2) to open the
  door. The opener will be activated for a
  programmed time between 1 and 9
  seconds. After this time the connection to
  the doorstation will be terminated.
OR
- **Press** the key **3** to terminate the call
  without opening the door
- **Hang up** the handset

Call from inside
- You want to call the doorstation without a
  call being set from outside
- Lift the handset and **dial the telephone
  number of the doorstation**
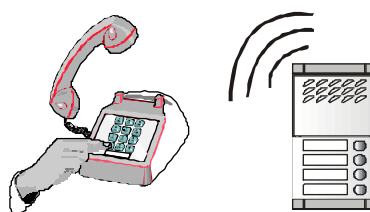
- The doorstation is called and will answer the
  call automaticaly
- The doorspeaker is activated and you **can
  talk to the visitor**

- At the end of the conversation **press** the key
  7 (contact 1) or **8** (contact 2) to open the
  door. The opener will be activated for a
  programmed time between 1 and 9
  seconds. After this time the connection to
  the doorstation will be terminated.
OR
- **Press** the key **3** to terminate the call
  without opening the door
- **Hang up** the handset

Technical data

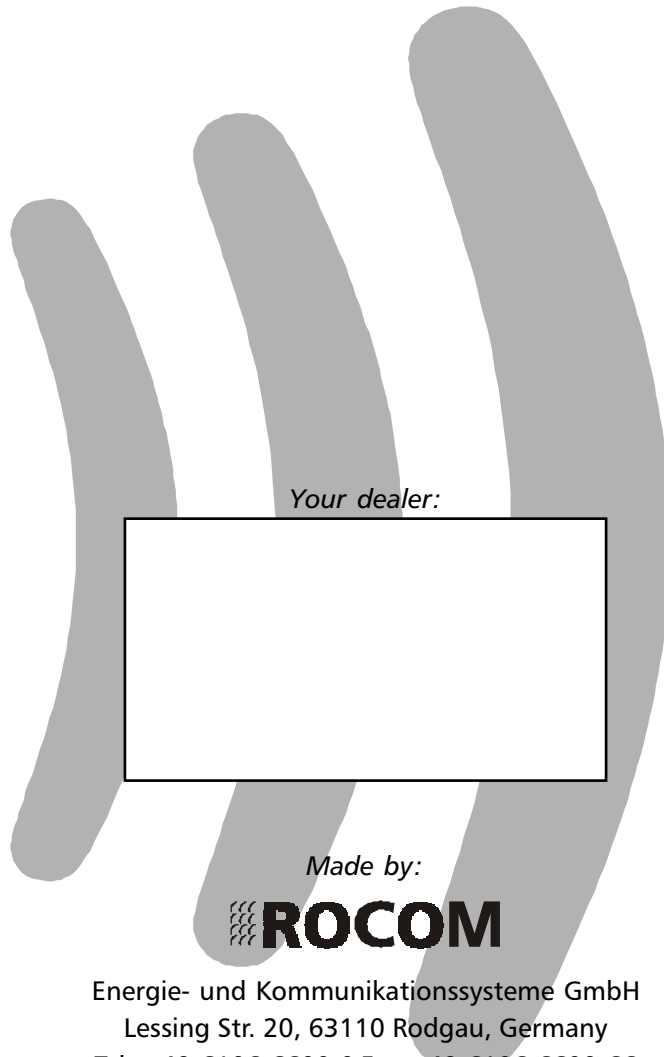|	
Power supply	from telephone line
Telephone line voltage	min. 24 Vdc, max. 60 Vdc
Voltage insertion drop on T/R	10 V +/- 5% at 25 mA
Current consumption	off hook: min. 18 mA
	stand-by: 2 μA
Telephone line impedance	600 Ohm
Dial mode	rotary dial, DTMF selectable
Rotary dial	impulse frequency: 10 Hz
	dial pause: 820 ms
	impulse duration: 60 ms
	impulse pause: 40 ms
	open line resistance: > 300 KOhm
DTMF dial	standard DTMF
	Tone duration: 70 ms
	Tone pause: 70 ms
Tone recognition	detectable tone frequency: 390 to 480 Hz
	detectable ringback tone: tone duration from 770 to 1100 ms. Release after 7/8 tones
	detectable long busy tone: tone duration from 170 to 550 ms. Release after 5/6 tones
	detectable short busy tone: tone duration from 70 to 150 ms. Release after 10/11 tones
Dooropener	Contact 1: DTMF digit "7"
	Contact 2: DTMF digit "8" (optional)
	Min. detectable DTMF tone duration: 45 to 50 ms
	Max. contact load: 40 Vpp, 2 A
	Closure duration: 1 to 9 second programmable
Time out	1, 2 or 4 minutes selectable
Enviromental themperature	0° to 45° C
EMC	EN 60555-2
	EN 55022
	EN 50082-1
Security	EN 60950
Dimensions	**DOORTEL 4 MD** Frontplate: 124 x 213 x 19
	Installation box: 124 x 213 x 55
	Wall mounting case: 151 x 232 x 80
	DOORTEL 4 AV Frontplate: 100 x 316 x 4
	Installation box: 90 x 305 x 55
	Wall mounting case: 105 x 326 x 62
	DOORTEL 4 ES Frontplate: 123 x 215 x 14
	Installation box: 115 x 207 x 45
	Wall mounting case: 142 x 232 x 90
	DOORTEL 4 BG Electronic board: 82 x 150 x 25
	Loudspeaker holder: 75 x 75 x 28

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Programmation overview

Call/answer

DIAL NUMBERS
*(Telephone no.. max. 5 digits)
NEXT PROGRAMMATION OR DIAL NUMBER

DELET DIAL NUMBERS
(Bell button 1-4)
NEXT PROGRAMMATION OR DIAL NUMBER
(Rell button 1-4)

ACTIVATION TIME CONTACT 1 AND 2
(Time in seconds), (Contacts deactivated)
NEXT PROGRAMMATION

AUTO DISCONNECT AFTER ACTIVATION CONTACT 1 OR 2
(OV), (OFF)
NEXT PROGRAMMATION

MANUAL OR AUTOMATIC MODE CONTACT 2
(AUTOMATIC), (MANUAL)
NEXT PROGRAMMATION

PULSED OR CONTINUOS ACTIVATION CONTACT 2
(PULSED), (CONTINUOS)
NEXT PROGRAMMATION

END AND HANG UP

* Please note!
As part of the telephone number also the special codes * and # can be used. But only as first digit.

Press a dial button
You here one of the following tones:
3 Tones: input OK, programming OK
6 Tones: programming error
9 Tones: memory failure

Your dealer:

Made by:

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