

VIEW INSIDE A BEHNKE DOOR INTERCOM

Technology



- 1 Module housing**
Fixing the modules in the front frame and holder for electronics housing
- 2 Electronic housing**
Printed board protected in the enclosed housing

- 3** 12 configuration buttons
- 4** "Phone on" button
- 5** Heating resistor
- 6** Earth/frame
- 7** Phone a/b
- 8** + / - 12 V (± 3 V)
- 9** Video signal output
- 10** Alarm input
- 11** Control contacts (two relays)
- 12** Cable entry

GENERAL FEATURES

- ▶ Analogue telephone electronics, can be connected directly to any a/b line.
- ▶ No additional power supply required (12 V= only required for special functions, e.g. for lighting, additional amplifier, etc.). Power supplied via a/b line with very low power consumption due to high quality electronic components
- ▶ Phone number storage without battery (EE prom), maintenance free
- ▶ Programmable by phone using DTMF and using the buttons on the printed board
- ▶ Remote maintenance possible
- ▶ Two control contacts (relays) with two activation codes per relay; fully configurable
- ▶ Optional full duplex mode or half-duplex mode (= voice controlled two-way communication with amplifier)
- ▶ Full duplex mode without additional power supply (normal operation)
- ▶ Voice-controlled two-way communication with built-in 1 W amplifier possible (12 V additional supply required). In the event of a power failure the electronics switches back to full duplex mode automatically
- ▶ Adjustable call duration (1 to 9 minutes or infinite)
- ▶ Dialling a stored phone number at the press of a button: Up to 8 buttons plus the button of the keypad are supported
- ▶ Accept call at the press of a button or automatically after the first ring
- ▶ Group call or redial: e.g. successive dialling of several phone numbers at the press of a button together with the "uncancellable call" function (ending the connection by pressing a button not allowed)
- ▶ Switch-on delay: activation pressure for first button press can be set to 0 to 9 seconds
- ▶ Adjustable loudspeaker volume
- ▶ Additional amplifier 1 W (already included in the basic electronics!) can be switched on/off and volume adjustable (12 V= required)
- ▶ Modular printed circuit board: Basic electronics with adapter board and main circuit board, electronic extension modules are simply plugged in, e.g. voice announcement, real time clock, display electronics, etc.

MECHANICAL FEATURES

- ▶ High-quality workmanship, metal housing
- ▶ Two-compartment housing (metal housing!): Electronics in the closed, moisture resistant housing with heating resistor; loudspeaker, buttons and microphone are moisture-insensitive (loudspeaker with plastic diaphragm, etc.)
- ▶ High-quality stainless steel buttons; IP 65
- ▶ Horizontal installation also possible
- ▶ Retrofit variants available
- ▶ Improved acoustics (greater syllable articulation)
- ▶ All components are pluggable
- ▶ Illuminated buttons also available
- ▶ 16 button keypad (keys 0 to 9, n, # and additional buttons)
- ▶ Loudspeaker with anti-vandalism protection
- ▶ Fly screen made of metal for loudspeaker and microphone; Protection against vandalism
- ▶ Integrated heater to prevent condensation (12 V= required)
- ▶ Passive ventilation system (air circulation in the housing and in the individual modules)
- ▶ Tamper-proof screws (optional)
- ▶ Foamed-in-place rubber seals
- ▶ Housing, stainless steel columns, protection against rain, cover panel, etc.
- ▶ Camera and display modules
- ▶ Supplementary modules (e.g. for card reader)

TELEPHONE FUNCTIONS IN DETAIL

1. TELEPHONE FUNCTIONS

Accept incoming calls

- ▶ Manual call acceptance at the press of a button
- ▶ Automatic call acceptance after the first detected ring
- ▶ Automatic call acceptance by means of code entry

Creating a stored phone number at the press of a button

- ▶ 8 buttons plus  button of the keypad
- ▶ Maximum phone number length: 20 digits
- ▶ Special symbol for pause, wait for dialling tone, * and #
- ▶ "(Sequential) group call" option: successive dialling of several phone numbers at the press of a button until acknowledged by any DTMF tone or connection with an emergency call control station or all numbers are dialled; if the "group call" option is activated, ending a connection by pressing a button is not allowed ("uncancellable call")
- ▶ Protection against interception

Dialling an individual phone number using the keypad

- ▶ Keypad activated by pressing the  button of the keypad

Dialling a speed dialling destination

- ▶ 100 speed dialling destinations
- ▶ Max. length of the phone numbers: six digits (changeable: then fewer speed dialling destinations)
- ▶ Special symbol for pause, wait for dialling tone, * and #
- ▶ Selection of the speed dialling destination via the  button of the keypad and by entering a two-digit code (00 to 99)

Connection options

- ▶ "Switch on delay" function: Actuation period for the first button press (for direct call buttons) settable between 0 and 9 seconds.
- ▶ "Call duration" option: Call duration unlimited or limited to 1 to 9 minutes.
- ▶ "Volume" option: Setting the volume of the loudspeaker
- ▶ "Additional amplifier" option: Switch the additional amplifier on or off (1 W) and set the volume for additional amplifier operation (isolated 12 V= required)

2. CONTROL FUNCTIONS

Manual triggering of the relay

- ▶ By entering an activation code during a connection or pressing the  button of the keypad (entry ended with #)
- ▶ Length of the activation code: one to four digits
- ▶ Two activation codes per relay
- ▶ Special symbols for activation code only apply to keypad or phone input
- ▶ Relay activation period: 1 to 30 sec.
- ▶ Activation of the relay: can be set via phone, keypad or both
- ▶ "Hang up after activation" option: after the activation period has expired the connection is ended automatically
- ▶ Relay 1: up to 101 codes possible

Automatic triggering of the relay

- ▶ During incoming, outgoing or incoming and outgoing connections
- ▶ At the beginning of incoming, outgoing or incoming and outgoing connections
- ▶ Activation period of the relay at the start of the connection: 1 to 30 sec.

Input

- ▶ "Alarm input" option: if the input is active a connection is set up with the emergency call control station and the occurrence of the alarm is reported
- ▶ "Info input" option: the status of the input is transmitted as information in case of connection to an emergency call control station
- ▶ Call triggered via alarm input

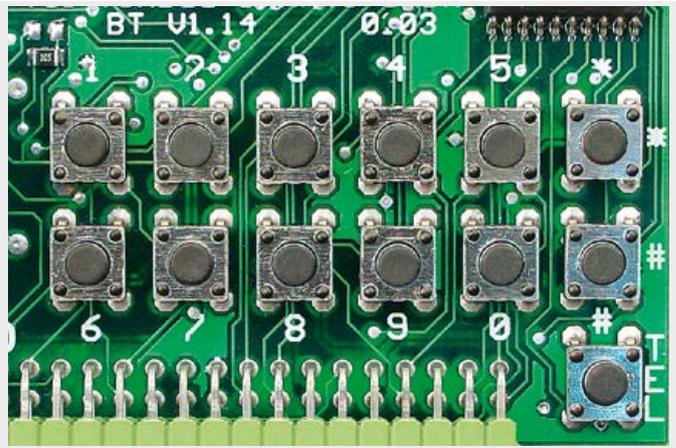
Control voltage (12 V=, 30 mA, switchable) to microphone-loudspeaker modules (only with separate electronics)

- ▶ Only available if connected to an external voltage supply of 12 V=
- ▶ External voltage can be switched through to the microphone - loudspeaker modules, the following modes are possible:
 - Inactive
 - Active at the start of outgoing connections for 1 to 30 sec. (e.g. to trigger a relay for a horn)
 - Active during outgoing connections (e.g. for implementing a visual acknowledgement that the emergency call has been recognised)
 - Active during incoming connections (e.g. to control anti-intercept measures)
 - Active during incoming and outgoing connections (e.g. for visual acknowledgement or triggering a relay for external devices such as cameras, ...)
 - Always active (e.g. as voltage supply for an illuminated call button)

3. CONFIGURATION AND DIALOGUE FUNCTIONS

Configuration via configuration steps

- ▶ Configuration via phone, keypad or internal buttons (optionally via phone only)
- ▶ Activation of configuration mode with * and four-digit security code (security code can be changed via configuration step)
- ▶ Structure of the configuration steps: two or three-digit configuration code, possible parameter and end with # button
- ▶ Exit configuration mode with the * button
- ▶ Automatic disconnection of the connection if no input made for 30 seconds in configuration mode
- ▶ "Reset" option: Delete the complete memory and setting the default values
- ▶ Adjustable keypad mode
- ▶ Adjustable relay mode
- ▶ Adjustable input mode
- ▶ Adjustable "12 V to microphone loudspeaker module" mode



Configuration keyboard at the electronics

Configuration via the control station system – communication with Behnke emergency call control station

- ▶ Identification transmitted on dialling an emergency call control station
- ▶ Dialog with Behnke emergency call control station (technical connection, programming, read out, testing)
- ▶ With separate electronics (20-0028, 20-0006): Changeover between several microphone-loudspeaker modules during the connection

4. OTHER PARAMETERS

- ▶ Dialling method: fixed, set to DTMF
- ▶ No dialling tone detection, but instead two second pause before dialling process (dialling tone detection only via special symbol in the phone number)

User instructions

Technical manuals and operating instructions for Behnke products are available at: www.behnke-online.de

A / B DOOR INTERCOM DEVICES – SERIES 20, 30, 40, 50

Connection type	▶ Analogue phone network, a/b interface
Power supply	▶ Via the a/b interface
Loop current	▶ 20-60 mA
Loop voltage	▶ 20-70 VDC
Additional supply	▶ 12 V= isolated +/- 3 V Attention: only required for lighting, camera, integrated heating, additional amplifier or 12 V= at MLMs (SELV, EN60950). Lift emergency phone: If required, UPS 20-9650 or rechargeable battery power supply unit 20-9501 or use existing emergency power supply in conjunction with DC/DC converter 20-9506
Phone	▶ Use Behnke mains adapter 20-9515 or other additional supply in conjunction with Behnke DC/DC converter; one Behnke intercom possible with each mains adapter
Additional supply on MLMs	▶ Lift emergency phone: maximum current load 30 mA per MLM
Termination	▶ Zr to TBR 21
Detected call signal	▶ Cannot be specified precisely, because dependent on the amplitude, frequency and duration of the call signal
Detected busy signal	▶ 395-475 Hz sinus
Detected busy signal duration	▶ Signals with 160-700 ms tone or 160-700 ms pause
Allowable cable length	▶ Each 8 m maximum (for MLM A, + MLM B, + MLM C, LS, MIC, T1 and T2) or maximum 25 m each (LS, MIC, T1 and T2, if no other MLM connected)
Number of direct call buttons	▶ Lift emergency phone: max. two ▶ Doorphone: max. 100 (Triphonie)
Number of phones	▶ Lift emergency phone: 3 (4): Connection for one phone each on, under and in the cabin (and integrated voice option in main device). Integrated additional amplifier for phone in the cabin and integrated voice option (if additional supply is connected)
Phone numbers	▶ 20 digits maximum
Dialling method	▶ DTMF, 50/50 ms (tone/pause)
Pause before dialling	▶ 4 sec
Call duration	▶ 1-9 minutes and "unlimited" (safety limit at approx. 8 h)
Relay control contacts	▶ Lift emergency phone: two relays
Relay remote control code	▶ Lift emergency phone: two codes with four digits each (per relay)
Relay switching period	▶ Lift emergency phone: 1-30 sec. in 1 sec. intervals
Door opener code	▶ Phone: two codes each with four digits maximum (each relay)
Door opener period	▶ Phone: 1-30 sec. in 1 sec. intervals
Door opener contacts	▶ Phone: two relays (two switching relays). additional supply on MLMs ▶ Phone: Maximum current load 30 mA per MLM
Relay switching power	▶ 60 VA, 24 W maximum: 0.5 A 120 V~ or 1 A 24V= (ohmic load)
Security code	▶ One to four digits
Programming	▶ Locally via keypad/integrated configuration keyboard ▶ Remote programming by means of DTMF phone ▶ Remotely programmable with Behnke emergency call control station
Tested to	▶ TBR 21 and EC 201121 (EU-wide network access) ▶ EN 55022, EN 55024 (electromagnetic compatibility) ▶ EN 60950 (Electrical safety)
Protection rating	▶ Corresponds to IP 54 ▶ Corresponds to IK 9