Handicapped toilet signal set
1510 UC- ... -101
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1 Notes on the instruction manual

Please read through this manual carefully and observe the information it contains. This will assist you in preventing injuries and damage to property, and ensure both reliable operation and a long service life for the device.

Please keep this manual in a safe place.

If you pass the device on, also pass on this manual along with it.

Busch-Jaeger accepts no liability for any failure to observe the instructions in this manual.

If you require additional information or have questions about the device, please contact Busch-Jaeger or visit our Internet site at:

www.BUSCH-JAEGER.com
2 Safety

The device has been constructed according to the latest valid regulations governing technology and is operationally reliable. It has been tested and left the factory in a technically safe and reliable state.

However, residual hazards remain. Read and adhere to the safety instructions to prevent hazards of this kind.

Busch-Jaeger accepts no liability for any failure to observe the safety instructions.

2.1 Information and symbols used

The following Instructions point to particular hazards involved in the use of the device or provide practical instructions:

**Danger**
Risk of death / serious damage to health
- The respective warning symbol in connection with the signal word "Danger" indicates an imminently threatening danger which leads to death or serious (irreversible) injuries.

**Warning**
Serious damage to health
- The respective warning symbol in connection with the signal word "Warning" indicates a threatening danger which can lead to death or serious (irreversible) injuries.

**Caution**
Damage to health
- The respective warning symbol in connection with the signal word "Caution" indicates a danger which can lead to minor (reversible) injuries.

**Attention**
Damage to property
- This symbol in connection with the signal word "Attention" indicates a situation which could cause damage to the product itself or to objects in its surroundings.

**NOTE**
This symbol in connection with the word "Note" indicates useful tips and recommendations for the efficient handling of the product.

This symbol alerts to electric voltage.
2.2 Intended use

The call set serves for setting up a call system in WCs for the handicapped according to DIN VDE 0834. The individual device inserts (see chapter 4.1 “Device overview” on page 9) are used for triggering and deactivating a call and for alerting a person.

2.3 Improper use

Each use not listed in Chapter 2.2 “Intended use” on page 5 is deemed improper use and can lead to personal injury and damage to property.

Busch-Jaeger is not liable for damages caused by use deemed contrary to the intended use of the device. The associated risk is borne exclusively by the user/operator.

The device is not intended for the following:
- Unauthorized structural changes
- Repairs
- Outdoor use
2.4 Target group / Qualifications of personnel

2.4.1 Operation

No special qualifications are needed to operate the device.

2.4.2 Installation, commissioning and maintenance

Installation, commissioning and maintenance of the device must only be carried out by trained and properly qualified electrical installers.

The electrical installer must have read and understood the manual and follow the instructions provided.

The electrical installer must adhere to the valid national regulations in his/her country governing the installation, functional test, repair and maintenance of electrical products.

The electrical installer must be familiar with and correctly apply the "five safety rules" (DIN VDE 0105, EN 50110):

1. Disconnect
2. Secure against being re-connected
3. Ensure there is no voltage
4. Connect to earth and short-circuit
5. Cover or barricade adjacent live parts

The call system must be installed by specialist staff according to DIN VDE 0834.
2.5 Safety instructions

**Danger - Electric voltage!**

Electric voltage! Risk of death and fire due to electric voltage of 100 … 240 V.
Dangerous currents flow through the body when coming into direct or indirect contact with live components. This can result in electric shock, burns or even death.

- Work on the 100 … 240 V supply system may only be performed by authorised and qualified electricians.
- Disconnect the mains power supply before installation / disassembly.
- Never use the device with damaged connecting cables.
- Do not open covers firmly bolted to the housing of the device.
- Use the device only in a technically faultless state.
- Do not make changes to or perform repairs on the device, on its components or its accessories.
- Keep the device away from water and wet surroundings.

**Caution! - Risk of damaging the device due to external factors!**

Moisture and contamination can damage the device.

- Protect the device against humidity, dirt and damage during transport, storage and operation.
3 Information on protection of the environment

3.1 Environment

Consider the protection of the environment!
Used electric and electronic devices must not be disposed of with domestic waste.
– The device contains valuable raw materials which can be recycled.
  Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.

The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU Directive 2012/19/EU WEEE and 2011/65/EU RoHS)
(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006).
4 Setup and function

4.1 Device overview

Alarm signalling insert

Power supply insert

Fig. 1: 1515 U-....-101

Fig. 2: 1518 U

Signal / cancel push-button insert

Fig. 3: 1520/1 UK-101

Note
A maximum of 8 alarm push-buttons can be operated jointly in the system.
4.2 Functions

A call can be triggered via the signal push-button insert in the room (1520/1 UK-101 / 1520/1 UKZ-101). The call signal is transmitted to the alarm signalling insert (1515 U-...-101). After triggering a call, the alarm signalling insert creates a permanent acoustic and visual signal. The person requiring assistance is additionally signalled via signal push-button integrated in the comforting light that the call has been triggered.

The call is ended by pressing the cancel button.

A night light has additionally been integrated in the signal/cancel push-button insert 1520/1 UKZ-101. This makes it possible for the person seeking assistance and the helper to locate the button as quickly as possible also in the dark.
### 4.3 Possible combinations

<table>
<thead>
<tr>
<th>Combination</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1510 UC- ... -101</td>
<td></td>
</tr>
<tr>
<td>1511 UC- ... -101</td>
<td>X</td>
</tr>
<tr>
<td>1539 U</td>
<td>X</td>
</tr>
<tr>
<td>1563 U-12</td>
<td>X</td>
</tr>
<tr>
<td>1561 U-101</td>
<td>X</td>
</tr>
<tr>
<td>1564 U-1X</td>
<td>X</td>
</tr>
<tr>
<td>1566 U</td>
<td>X</td>
</tr>
<tr>
<td>1520/1 UK-101</td>
<td>X</td>
</tr>
<tr>
<td>1520/1 UKZ-101</td>
<td>X</td>
</tr>
</tbody>
</table>
5 Connection, installation / mounting

Danger - Electric voltage!
Risk of death due to electrical voltage of 100 … 240 V during short-circuit in the low-voltage conduit.
- Low-voltage and 100 … 240 V conduits must not be installed together in a flush-mounted box!

5.1 Requirements for the electrician

Danger - Electric voltage!
Install the device only if you have the necessary electrical engineering knowledge and experience.
- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:
- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect
  2. Secure against being re-connected
  3. Ensure there is no voltage
  4. Connect to earth and short-circuit
  5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the type of supply network (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).
5.2 Mounting

**Caution! The device can sustain damage when coming into contact with hard objects!**
The plastic parts of the device are sensitive.
- Pull the attachment off only with your hands.
- Do not lever parts off with screwdrivers or similar hard objects.

The flush-mounted insert must only be installed in flush-mounted wall boxes according to DIN 49073-1, Part 1, or suitable surface-mounted housings.

**Recommended mounting heights**

<table>
<thead>
<tr>
<th>Insert Type</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal/cancel push-button</td>
<td>0.7 - 1.5 m height</td>
</tr>
<tr>
<td></td>
<td>In bathrooms at least 20 cm above the highest possible point of the shower head. The pull cord must also be reachable by a person lying on the floor.</td>
</tr>
<tr>
<td>Alarm signalling insert</td>
<td>1.5 - 2.2 m height</td>
</tr>
</tbody>
</table>

It is recommended to mount the cancel button insert directly next to the entrance door.

- If the device is already mounted or assembled, pull the attachment off the flush-mounted insert with the aid of the cover frame.
- Pull the attachment off only with your hands!
- Do not lever parts off with screwdrivers or similar hard objects. This will damage the device.
- When pulling off, first the resistance of the spring clamps must be overcome.

*Fig. 5: Wall mounting: pulling off the attachment - Example 1515 U-...-101*
Use the following steps to mount the device:

1. Connect the cables to the flush-mounted insert.
   - For the connection assignment, see chapter 5.3 “Electrical connection” on page 16.

![Fig. 6: Connecting the cables](image)

2. Bundle the wires of the mains cable (230 V) with the cable binders included in the scope of supply [b].
3. Feed the low-voltage line through the supplied insulating tube [a].

![Fig. 7: Fixing the cables](image)
4. Mount the flush-mounted insert in a flush-mounted box according to DIN 49073-1.

5. Fix the device in the flush-mounted box with screws.

6. Plug the attachment together with the cover frame onto the flush-mounted insert.
   - Ensure that the plug-in connection on the rear side does not get jammed.
   - If mounting is difficult, check whether a burr has formed at the lock-in openings of the flush-mounted insert and remove it.

The device is now mounted.
5.3 Electrical connection

**Note**
- The lines of the call system must not be installed in a multi-wire cable together with conductors which carry mains voltage.
- The lines of the call system must not be installed in an installation tube together with conductors which carry mains voltage.
- The lines of the call system may only be installed at a minimum distance of 30 cm to lines which carry mains voltage. In case of connections with a line length of < 10 meters, a minimum distance of 10 cm is sufficient.
- All standards applicable to security technology for the installation of electrical systems, as well as guidelines for wiring call systems in medical care facilities according to DIN EN 793 must be adhered to.
- All interfaces to other call systems conform to standard EN 60950-1.
- A maximum of 8 alarm push-buttons can be operated jointly in the system.

**Attention! - Failure of the call set at a power failure**
Use an uninterruptible power supply (UPS) to guarantee the function of the call set in case of a power failure.

Consider the following points when installing the line:
- Fireproof installation in escape routes
- Safe electrical insulation against systems with high voltage
- Prevention of faults caused by other systems
- Reliable wire connection
5.3.1 Cable cross-section

**Note**
The minimum cable cross-section is 0.6 mm. The power supply is still ensured in case of cable cross sections smaller than 0.6 mm.

**Nominal current for different cable cross-sections**

<table>
<thead>
<tr>
<th>Cable cross-section in mm²</th>
<th>Nominal current in A</th>
<th>Sustained short-circuit current</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>7.2</td>
</tr>
<tr>
<td>1.5</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>2.5</td>
<td>16</td>
<td>19.2</td>
</tr>
</tbody>
</table>

*Table 1: Nominal current for different cable cross-sections*

![Circuit diagram](image)

*Fig. 10: Circuit diagram*

- [1] Separate device installation box
- [2] Protective insulation
- [3] Power supply insert
- [4] Alarm signalling insert
- [5] Cancel button insert
- [6] Signal push-button insert with pull cord
- [7] Terminal resistor
6 Commissioning

Check the functions of all devices as follows:

1. Measure the operating voltage (see chapter 9 “Technical data” on page 22).
2. Press the signal push-button. / Pull at the pull cord of the signal push-button insert.
3. Check whether the comforting light is on in the signal push-button insert and the alarm signalling insert sends an acoustic and visual signal.
4. Press the cancel button to deactivate the call.
7 Operation

7.1 Triggering a call

There are two ways to trigger a call:

- Press the signal push-button in the 1520/1 UK-101.

Fig. 11: 1520/1 UK-101

- Pull at the pull cord or press the signal push-button of the 1520/1 UKZ-101.

Fig. 12: 1520/1 UKZ-101

The comforting light in the signal push-button insert signals to the person requiring assistance that the call has been triggered.

7.2 Call display

As soon as a call has been triggered, the alarm signalling insert creates an acoustic and visual signal to alert a helper.
7.3 Deactivating the call

The call is deactivated by pressing the cancel button.

Fig. 13: 1520/1 UK-101

Note
If a call has already been deactivated but assistance is still required, the call button must be pressed again.
8 Maintenance

8.1 Cleaning

Caution! - Risk of damaging the device!

- When spraying on cleaning agents, these can enter the device through crevices.
  - Do not spray cleaning agents directly onto the device.
- Aggressive cleaning agents can damage the surface of the device.
  - Never use caustic agents, abrasive agents or solvents.

Clean dirty devices with a soft dry cloth.
  - If this is insufficient, the cloth can be moistened slightly with a soap solution.
## 9 Technical data

<table>
<thead>
<tr>
<th>Designation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage:</td>
<td>230 V AC, ±10%, 50 Hz</td>
</tr>
<tr>
<td>Nominal current:</td>
<td>110 mA AC / 60 mA DC</td>
</tr>
<tr>
<td>Output voltage:</td>
<td>15 V AC (SELV)</td>
</tr>
<tr>
<td>Power loss:</td>
<td>2000 mW</td>
</tr>
<tr>
<td>Loop current:</td>
<td>5 mA</td>
</tr>
<tr>
<td>Tripping delay:</td>
<td>0.1 s</td>
</tr>
<tr>
<td>Sound frequency:</td>
<td>2300 Hz</td>
</tr>
<tr>
<td>Sound pressure level:</td>
<td>70 dB / 1 m</td>
</tr>
<tr>
<td>Temperature range:</td>
<td>0°C to +35°C</td>
</tr>
<tr>
<td>Storage temperature:</td>
<td>-10°C to +60°C</td>
</tr>
<tr>
<td>Protection type:</td>
<td>IP 20</td>
</tr>
<tr>
<td>Minimum cable cross-section</td>
<td>0.6 mm [1]</td>
</tr>
<tr>
<td>Interfaces to other call systems</td>
<td>According to EN 60950-1</td>
</tr>
</tbody>
</table>

**Switching contacts**

<table>
<thead>
<tr>
<th>Designation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normally open contact (potential-bound):</td>
<td>1 A, 30 VA / W</td>
</tr>
<tr>
<td>Change-over contact (floating)</td>
<td>40 V AC / 60 V DC, 30 VA / W</td>
</tr>
</tbody>
</table>

*Table 2: Technical data*

[1] The power supply is still ensured in case of cable cross sections smaller than 0.6 mm.
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