Series
NBS10, NBS20, NBS30, NBS40
Emergency brake handles
Catalogue F105.en
**Emergency brake handles** NBS10, NBS20, NBS30, NBS40 Series

Safety first: Schaltbau emergency brake handles ensure trouble-free operation

Schaltbau electric emergency brake handles can be found in rail vehicles all over the world. Their design and conspicuous outward appearance is a quick reference point for the passenger even in a stress situation. High-quality switching elements characterised by positive opening operation, wiping, self-cleaning contacts, and high shock and vibration resistance guarantee years of uninterrupted operation.

Also available are options for a manual reset of the device: With one turn of the key the pulled handle will automatically move back to its original position. Schaltbau emergency brake handles meet the design requirements of DIN EN 16334 and fully comply with the provisions for installation of braking equipment and emergency brake operations in vehicles used for the carriage of persons.

### Features
- Ergonomical design, conspicuous outward appearance
- NBS10, NBS30, NBS40: aluminium die cast handle, rugged, durable
- Finish: semi-gloss varnish, resistant to acids and chemicals
- All handles can be lead sealed
- All switching elements featuring positive opening operation, gold or silver contacts
- NBS20, NBS40: optional manual reset (lock and key)
- Special designs upon request

### Applications
With their conspicuous, rugged design, these emergency brake handles are not only suitable for rail vehicles running in commuter and main-line rail service, but also for industrial applications like escalators and passenger conveyors.

- **NBS10**: Designed for lintel mounting, e.g. under the lintel of a carriage door and in passenger spaces
- **NBS20**: Designed for wall mounting, e.g. in vestibules, passenger spaces and train manager’s compartments
- **NBS30**: Designed for wall mounting, e.g. in vestibules, passenger spaces and train manager’s compartments
- **NBS40**: Designed for wall mounting, e.g. in vestibules, passenger spaces and train manager’s compartments

### Standards
- **DIN EN 16334:2014-12** Railway applications – Passenger Alarm System – System requirements
- **DIN EN 61373:2011-04** Railway applications – Rolling stock equipment – Shock and vibration tests
## Specifications

### Series NBS

<table>
<thead>
<tr>
<th>Series</th>
<th>Standard</th>
<th>NBS10</th>
<th>NBS20</th>
<th>NBS30</th>
<th>NBS40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanical data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design life</td>
<td></td>
<td>&gt; 1,000 operations</td>
<td>&gt; 1,000 operations</td>
<td>&gt; 1,000 operations</td>
<td>&gt; 1,000 operations</td>
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<tr>
<td>Actuation stroke</td>
<td>approx. 15 mm downwards</td>
<td>approx. 15 mm downwards</td>
<td>approx. 15 mm downwards</td>
<td>16 mm downwards</td>
<td></td>
</tr>
<tr>
<td>Actuation direction</td>
<td></td>
<td>approx. 35° clockwise</td>
<td>approx. 35° clockwise</td>
<td>approx. 35° clockwise</td>
<td>approx. 35° clockwise</td>
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<tr>
<td>Actuation force (not lead sealed)</td>
<td>DIN EN 16334</td>
<td>65 ... 120 N</td>
<td>60 ... 90 N *</td>
<td>65 ... 120 N</td>
<td>65 ... 120 N</td>
</tr>
<tr>
<td>Lead sealed</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Reset element</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>DB square key</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Triangular wrench key, USA</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Triangular wrench key 6.5 CNOMO Type 1</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Spring reset</td>
<td></td>
<td>* (optional)</td>
<td>* (optional)</td>
<td>* (optional)</td>
<td>* (optional)</td>
</tr>
<tr>
<td>Remote reset, optional</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Momentary switch</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td><strong>Switching elements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap-action switch: Number of max., type</td>
<td></td>
<td>2x S870</td>
<td>2x S870</td>
<td>2x S870</td>
<td>3x S870</td>
</tr>
<tr>
<td>Contact material: Silver / Gold</td>
<td></td>
<td>/ /</td>
<td>/ /</td>
<td>/ /</td>
<td>/ /</td>
</tr>
<tr>
<td><strong>Other data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td></td>
<td>Aluminium</td>
<td>Aluminium</td>
<td>AL die cast, Aluminium</td>
<td>AL die cast</td>
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<tr>
<td>Housing</td>
<td></td>
<td>AL die cast</td>
<td>Polyamide</td>
<td>AL die cast</td>
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<tr>
<td>Handle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP rating</td>
<td></td>
<td>EN 60529</td>
<td>IP42</td>
<td>IP40</td>
<td>IP42</td>
</tr>
<tr>
<td>Front panel, not operated</td>
<td></td>
<td>IP00</td>
<td>IP00</td>
<td>IP00</td>
<td>IP00</td>
</tr>
<tr>
<td>Rear panel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock, Vibration</td>
<td></td>
<td>Category 1, Class B</td>
<td>Category 1, Class B</td>
<td>Category 1, Class B</td>
<td>Category 1, Class B</td>
</tr>
<tr>
<td>Mounting orientation</td>
<td></td>
<td>Lintel mount: Handle pointing downwards</td>
<td>Wall mount: Handle pointing to the right</td>
<td>Wall mount: Handle pointing downwards</td>
<td>Wall mount: Handle pointing downwards</td>
</tr>
<tr>
<td>Ambient conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature range T_a</td>
<td></td>
<td>-40° C ... +70° C</td>
<td>-40° C ... +70° C</td>
<td>-40° C ... +70° C</td>
<td>-40° C ... +70° C</td>
</tr>
<tr>
<td>Storage temperature range T_L</td>
<td></td>
<td>-40° C ... +70° C</td>
<td>-40° C ... +70° C</td>
<td>-40° C ... +70° C</td>
<td>-40° C ... +70° C</td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td>2 kg</td>
<td>0.3 kg</td>
<td>1.4 kg</td>
<td>0.65 kg</td>
</tr>
</tbody>
</table>

* Force measured at lever end, not conform to DIN EN 16334

### Switching elements with positive opening operation

Schaltbau snap-action switches with positive opening operation are designed for applications requiring the highest standards of safety and reliability. The switches are capable of switching both load and control circuits with the highest accuracy and safety.

<table>
<thead>
<tr>
<th>Snap-action switches</th>
<th>S826</th>
<th>S870</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact configuration</strong></td>
<td>Form Zb SPDT</td>
<td>SPDT</td>
</tr>
<tr>
<td><strong>Circuit diagram</strong></td>
<td><img src="#" alt="Circuit Diagram" /></td>
<td><img src="#" alt="Circuit Diagram" /></td>
</tr>
<tr>
<td><strong>Positive opening operation</strong></td>
<td><img src="#" alt="Positive Opening" /></td>
<td><img src="#" alt="Positive Opening" /></td>
</tr>
<tr>
<td><strong>Wiping contacts</strong></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td><strong>Contact material</strong></td>
<td>Silver (Ag90Ni10)</td>
<td>Gold (AuNi3Ag26)</td>
</tr>
<tr>
<td><strong>Electrical specifications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage U_n</td>
<td>150 V</td>
<td>150 V</td>
</tr>
<tr>
<td>Rated insulation voltage U_t</td>
<td>250 V</td>
<td>250 V</td>
</tr>
<tr>
<td>Conventional thermal current I_n, ** at T_a = 85° C</td>
<td>10 A</td>
<td>3 A</td>
</tr>
<tr>
<td>Utilization category</td>
<td>AC-15 230 V / 1 A</td>
<td>AC-15 230 V / 1.5 A</td>
</tr>
<tr>
<td>DC-13 110 V / 0.5 A</td>
<td>DC-13 60 V / 0.5 A</td>
<td></td>
</tr>
<tr>
<td><strong>IP rating (IEC 60529 IP code)</strong></td>
<td>Contacts</td>
<td>Terminals</td>
</tr>
<tr>
<td>IP40</td>
<td>IP00</td>
<td>IP40 / IP67</td>
</tr>
<tr>
<td>IP00 / IP67</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Detailed information **

- Catalogue D26
- Catalogue D70

** SCHALTBau **
NBS10 Lintel mount emergency brake handle

The NBS10 is a lintel mount device designed for use e.g. under the lintel of a carriage door and in passenger spaces.

- Ergonomic lintel mount design
- Aluminium die cast handle, rugged, durable
- Finish: semi-gloss varnish, resistant to acids and chemicals
- Handle can be lead sealed
- Manual reset, optional
- 2 switching elements featuring positive opening operation and gold or silver contacts

Ordering code

Example: NBS10 M3 R1 S5 B0

<table>
<thead>
<tr>
<th>Series</th>
<th>NBS10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td>M3</td>
</tr>
<tr>
<td>Reset elements</td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>Square key</td>
</tr>
<tr>
<td>R2</td>
<td>Triangular wrench key, USA</td>
</tr>
<tr>
<td>R3</td>
<td>Triangular wrench key 6.5, CNOMO Type 1</td>
</tr>
<tr>
<td>Switching element</td>
<td>S5</td>
</tr>
<tr>
<td>S7</td>
<td>2x snap-action switch S870 gold contacts, flat tabs</td>
</tr>
</tbody>
</table>

Special design

- None
- Manual reset

Lettering / Colour

- No lettering / handle red, RAL3020 (standard)
- B0

Note:

This catalogue shows only stock items. For some variants minimum quantities apply. Please ask for the conditions.

Special variant:

If you need a special variant of the device, please do not hesitate to contact us. Maybe the type of emergency brake handle you are looking for is among our many special designs. If not, we can also supply customized designs. In this case minimum quantities apply.

Specifications

- Dimension diagram

Circuit diagram

Identification

WAGO terminal strip, 8 pole

A1: Switch ① – 1
A2: Switch ① – 2
A3: Switch ① – 4
A4: Switch ① – 1
A5: Switch ① – 2
A6: Switch ① – 4
A7: ---
Alt: PE

Subject to change
NBS20 Emergency brake handle for LRVs

The NBS20 is a wall mount device especially designed for use in light rail vehicles (LRVs).

- Wall mount device
- For use in light rail vehicles, not conform to DIN EN 16334
- Front plate aluminium, handle polyamide
- Finish: semi-gloss varnish, resistant to acids and chemicals
- Handle can be lead sealed
- Manual reset
- 2 switching elements featuring positive opening operation and gold or silver contacts

Ordering code

Example: **NBS20 M2 R1 S5 B0**

<table>
<thead>
<tr>
<th>Series</th>
<th>Wall mount emergency brake handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2</td>
<td>Studs</td>
</tr>
<tr>
<td>R1</td>
<td>Square key</td>
</tr>
<tr>
<td>R2</td>
<td>Triangular wrench key, USA</td>
</tr>
<tr>
<td>R3</td>
<td>Triangular wrench key 6.5, CNOMO Type 1</td>
</tr>
<tr>
<td>S5</td>
<td>2x snap-action switch S870, gold contacts, flat tabs</td>
</tr>
<tr>
<td>S7</td>
<td>2x snap-action switch S870, silver contacts, flat tabs</td>
</tr>
</tbody>
</table>

Lettering / Colour

- No lettering / handle black/red
- B0

Note:
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Special variant:
If you need a special variant of the device, please do not hesitate to contact us. Maybe the type of emergency brake handle you are looking for is among our many special designs. If not, we can also supply customized designs. In this case minimum quantities apply.

Specifications

- Dimension diagram
- Circuit diagram

- Subject to change
NBS30 Wall mount emergency brake handle

The NBS30 is a wall mount device designed for use e.g. in vestibules, passenger spaces and train manager’s compartments.

- Ergonomic wall mount design
- Aluminium die cast handle, rugged, durable
- Finish: semi-gloss varnish, resistant to acids and chemicals
- Handle can be lead sealed
- Manual reset, optional
- 2 switching elements featuring positive opening operation and gold or silver contacts

Ordering code

<table>
<thead>
<tr>
<th>Series</th>
<th>Wall mount emergency brake handle</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBS30</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Studs</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Reset elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
</tr>
<tr>
<td>R2</td>
</tr>
<tr>
<td>R3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Switching elements</th>
</tr>
</thead>
</table>
| S5 | 2x snap-action switch S870  
gold contacts, flat tabs |
| S7 | 2x snap-action switch S870  
silver contacts, flat tabs |

Special design

- Manual reset: SR

Colour handle / housing

- Handle red, RAL3020 / housing light brown
- Handle red, RAL3020 / housing grey aluminium RAL9007
- Handle red, RAL3020 / housing cool white NCS S1005-R80B
- Handle red, RAL3020 / housing light grey NCS S1000-N

Special variant:

If you need a special variant of the device, please do not hesitate to contact us. Maybe the type of emergency brake handle you are looking for is among our many special designs. If not, we can also supply customized designs. In this case minimum quantities apply.

Note:

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Specifications

- Dimension diagram

Dimensions in mm / Subject to change

- Circuit diagram

- Identification

WAGO terminal strip, 8 pole

A1: Switch  1
A2: Switch  2
A3: Switch  3
A4: Switch  4
A5: Switch  1
A6: Switch  2
A7:  4
All: PE
The NBS40 is a wall mount device designed for use e.g. in vestibules, passenger spaces and train manager’s compartments.

- Rugged wall mount device, ergonomic design, housing made of aluminium die cast, device can be sealed with a lead tab
- Supplied with or without lettering
- Available as rear-mounted versions without visible fasteners or front-mounted versions with 4 visible M5 screws
- Manual reset, optional
- Remote reset for driverless or automatic train operation: remote reset of pulled handle, optional LED status display (green/red)
- Fitted with 3 switching elements max. (S826 or S870) with gold or silver contacts

### Ordering code

**Example:** NBS40 M1 R1 S5 B0

<table>
<thead>
<tr>
<th>Series</th>
<th>Wall mount emergency brake handle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mounting</strong></td>
<td>Rear mounting, Front mounting</td>
</tr>
<tr>
<td><strong>Reset elements</strong></td>
<td>R0 Momentary version, no reset element, R1 Square key, R2 Triangular wrench key, USA, R3 Triangular wrench key 6.5, CNOMO Type 1</td>
</tr>
<tr>
<td><strong>Switching elements (snap switches)</strong></td>
<td>S1 2x S826: gold contacts, M3 screws with spring washer, S2 2x S826: silver contacts, M3 screws with spring washer, S3 2x S826: gold contacts, M3 screws with saddle clamp, S5 2x S870: gold contacts, flat tabs 6.3 x 0.8, S7 2x S870: silver contacts, flat tabs 6.3 x 0.8, S8 3x S870: silver contacts, flat tabs 6.3 x 0.8, S9 3x S870: gold contacts, flat tabs 6.3 x 0.8</td>
</tr>
</tbody>
</table>

### Special design

<table>
<thead>
<tr>
<th>None</th>
<th>Manual reset</th>
<th>Remote controlled reset</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR</td>
<td>RC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lettering / Colour</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No lettering / handle red, RAL3020 (standard)</td>
<td>B0</td>
</tr>
<tr>
<td>German / handle red, RAL3020</td>
<td>B1</td>
</tr>
<tr>
<td>Turkish / handle red, RAL3020</td>
<td>B2</td>
</tr>
<tr>
<td>Hungarian / handle red, RAL3020</td>
<td>B3</td>
</tr>
<tr>
<td>Polish / handle red, RAL3020</td>
<td>B4</td>
</tr>
</tbody>
</table>

### Specifications

**Note:**

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**Special variant:**

If you need a special variant of the device, please do not hesitate to contact us. Maybe the type of emergency brake handle you are looking for is among our many special designs. If not, we can also supply customized designs. In this case minimum quantities apply.

**Ordering code**

- **Series NBS**
  - **Series NBS40** Wall mount emergency brake handle
  - **Mounting** M1 Rear mounting, M2 Front mounting
  - **Reset elements** R0 Momentary version, no reset element, R1 Square key, R2 Triangular wrench key, USA, R3 Triangular wrench key 6.5, CNOMO Type 1
  - **Switching elements (snap switches)** S1 2x S826: gold contacts, M3 screws with spring washer, S2 2x S826: silver contacts, M3 screws with spring washer, S3 2x S826: gold contacts, M3 screws with saddle clamp, S5 2x S870: gold contacts, flat tabs 6.3 x 0.8, S7 2x S870: silver contacts, flat tabs 6.3 x 0.8, S8 3x S870: silver contacts, flat tabs 6.3 x 0.8, S9 3x S870: gold contacts, flat tabs 6.3 x 0.8

**Special design**

<table>
<thead>
<tr>
<th>None</th>
<th>Manual reset</th>
<th>Remote controlled reset</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR</td>
<td>RC</td>
<td></td>
</tr>
</tbody>
</table>

**Lettering / Colour**

- No lettering / handle red, RAL3020 (standard) | B0 |
- German / handle red, RAL3020 | B1 |
- Turkish / handle red, RAL3020 | B2 |
- Hungarian / handle red, RAL3020 | B3 |
- Polish / handle red, RAL3020 | B4 |

### Circuit diagram

- **Dimension diagram**
  - **100** approx. 28
  - **84 x 2**
  - **4x ø 5.5**
  - **Switch 1**
  - **Switch 2**
  - **Earthing terminal M4**
  - **Terminal identification**
  - **Outline rear view**
  - **Version S1, S2, S3**
  - **2x switches S826**
  - **Version S5, S7**
  - **2x switches S870**
  - **Version S8, S9**
  - **3x switches S870**
  - *** Free position**

### Specifications

- **Dimension diagram**
  - **100** approx. 28
  - **84 x 2**
  - **4x ø 5.5**
  - **Switch 1**
  - **Switch 2**
  - **Earthing terminal M4**
  - **Terminal identification**
  - **Outline rear view**
  - **Version S1, S2, S3**
  - **2x switches S826**
  - **Version S5, S7**
  - **2x switches S870**
  - **Version S8, S9**
  - **3x switches S870**
  - *** Free position**

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**Ordering code**

- **Series NBS**
  - **Series NBS40** Wall mount emergency brake handle
  - **Mounting** M1 Rear mounting, M2 Front mounting
  - **Reset elements** R0 Momentary version, no reset element, R1 Square key, R2 Triangular wrench key, USA, R3 Triangular wrench key 6.5, CNOMO Type 1
  - **Switching elements (snap switches)** S1 2x S826: gold contacts, M3 screws with spring washer, S2 2x S826: silver contacts, M3 screws with spring washer, S3 2x S826: gold contacts, M3 screws with saddle clamp, S5 2x S870: gold contacts, flat tabs 6.3 x 0.8, S7 2x S870: silver contacts, flat tabs 6.3 x 0.8, S8 3x S870: silver contacts, flat tabs 6.3 x 0.8, S9 3x S870: gold contacts, flat tabs 6.3 x 0.8

**Special design**

<table>
<thead>
<tr>
<th>None</th>
<th>Manual reset</th>
<th>Remote controlled reset</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR</td>
<td>RC</td>
<td></td>
</tr>
</tbody>
</table>

**Lettering / Colour**

- No lettering / handle red, RAL3020 (standard) | B0 |
- German / handle red, RAL3020 | B1 |
- Turkish / handle red, RAL3020 | B2 |
- Hungarian / handle red, RAL3020 | B3 |
- Polish / handle red, RAL3020 | B4 |

**Note:**

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**Special variant:**

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Electrical Components and Systems for Railway Engineering and Industrial Applications

Connectors
- Connectors manufactured to industry standards
- Connectors to suit the special requirements of communications engineering (MIL connectors)
- Charging connectors for battery-powered machines and systems
- Connectors for railway engineering, including UIC connectors
- Special connectors to suit customer requirements

Snap-action switches
- Snap-action switches with positive opening operation
- Snap-action switches with self-cleaning contacts
- Enabling switches
- Special switches to suit customer requirements

Contactors
- Single and multi-pole DC contactors
- High-voltage AC/DC contactors
- Contactors for battery powered vehicles and power supplies
- Contactors for railway applications
- Terminal bolts and fuse holders
- DC emergency disconnect switches
- Special contactors to suit customer requirements

Electrics for rolling stock
- Equipment for driver's cab
- Equipment for passenger use
- High-voltage switchgear
- High-voltage heaters
- High-voltage roof equipment
- Equipment for electric brakes
- Design and engineering of train electrics to customer requirements

We reserve the right to make technical alterations without prior notice.
For updated product information visit www.schaltbau-gmbh.com.
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