

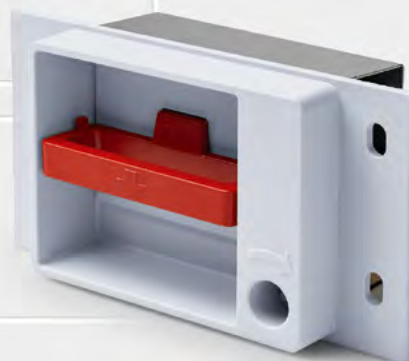
# 4

## Electrics for Rolling Stock

Series  
NBS10, NBS20,  
NBS30, NBS40

Emergency brake handles

Catalogue F105.en



Mehr Informationen hier:  
[schaltbau-gmbh.de](http://schaltbau-gmbh.de)

## 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.

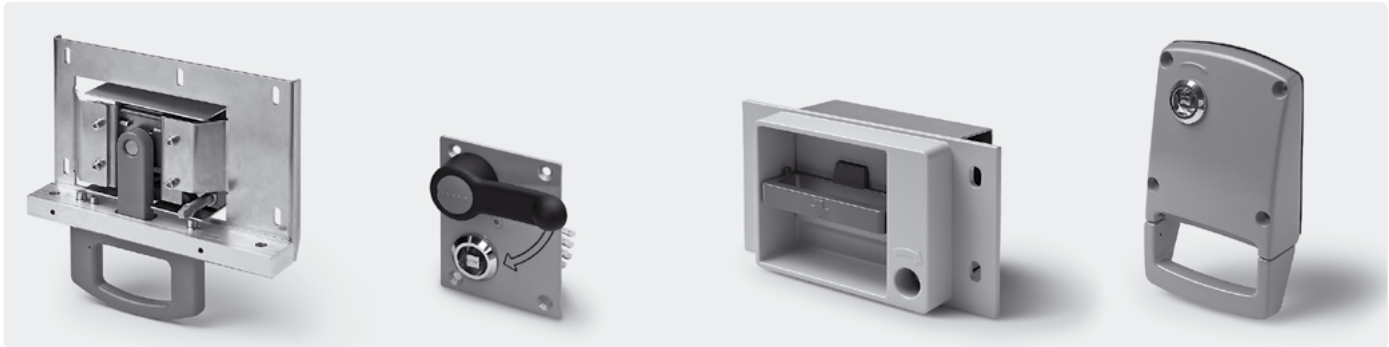
### Features

- 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

Series NBS

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

Series NBS

- **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


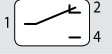




Series	Standard	NBS10	NBS20	NBS30	NBS40
<b>Mechanical data</b>					
Design life		> 1,000 operations	> 1,000 operations	> 1,000 operations	> 1,000 operations
Actuation stroke		approx. 15 mm downwards	approx. 35° clockwise	approx. 15 mm downwards	16 mm downwards
Actuation direction					
Actuation force (not lead sealed)	DIN EN 16334	65 ... 120 N	60 ... 90 N*	65 ... 120 N	65 ... 120 N
Lead sealed		•	•	•	•
Reset element					
DB square key		•	•	•	•
Triangular wrench key, USA		---	---	---	•
Triangular wrench key 6.5 CNOMO Type 1		---	---	---	•
Spring reset		• (optional)	•	• (optional)	• (optional)
Remote reset, optional		---	---	---	electromagnetic
Momentary switch		---	---	---	•
<b>Switching elements</b>					
Snap-action switch: Number of max., type		2x S870	2x S870	2x S870	3x S870 2x S826
Contact material: Silver / Gold		•/•	•/•	•/•	•/• •/•
<b>Other data</b>					
Material					
Housing		Aluminium	Aluminium	AL die cast, Aluminium	AL die cast
Handle		AL die cast	Polyamide	AL die cast	AL die cast
IP rating					
Front panel, not operated	EN 60529	IP42	IP42	IP42	IP42
Rear panel		IP00	IP00	IP00	IP00
Shock, Vibration	DIN EN 61373	Category 1, Class B	Category 1, Class B	Category 1, Class B	Category 1, Class B
Mounting orientation		Lintel mount: Handle pointing downwards	Wall mount: Handle pointing to the right	Wall mount: Handle pointing downwards	Wall mount: Handle pointing downwards
Ambient conditions					
Ambient temperature range $T_a$			-40° C ... +70° C		
Storage temperature range $T_L$			-40° C ... +70° C		
Weight		2 kg	0.3 kg	1.4 kg	0.65 kg



\* 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.

Snap-action switches	S826	S870
Contact configuration	Form Zb SPDT	SPDT
Circuit diagram		
Positive opening operation		
Wiping contacts	•	•
Contact material		
Silver (Ag90Ni10)	•	•
Gold (AuNi3Ag26)	•	•
<b>Electrical specifications</b>		
Nominal voltage $U_n$	150 V	150 V
Rated insulation voltage $U_i$	250 V	250 V
Conventional thermal current $I_{th}$ ** at $T_u = 85^\circ C$	10 A	3 A
Utilization category	AC-15 230 V / 1 A DC-13 110 V / 0.5 A	AC-15 230 V / 1.5 A DC-13 60 V / 0.5 A
IP rating (IEC 60529 IP code)		
Contacts	IP40	IP40 / IP67
Terminals	IP00	IP00 / IP67
Detailed information	 Catalogue D26	 Catalogue D70



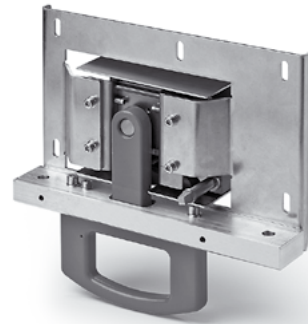
\*\* Data for gold contacts on request

Subject to change

## 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

Series NBS10

Example: **NBS10 M3 R1 S5 B0**

<b>Series</b>	NBS10 Lintel mount emergency brake handle	<b>Special design</b>	None Manual reset SR
<b>Mounting</b>	M3 Studs	<b>Lettering / Colour</b>	B0
<b>Reset elements</b>	R1 Square key R2 Triangular wrench key, USA R3 Triangular wrench key 6.5, CNOMO Type 1	No lettering / handle red, RAL3020 (standard)	
<b>Switching element</b>	S5 2x snap-action switch S870 gold contacts, flat tabs S7 2x snap-action switch S870 silver contacts, flat tabs		

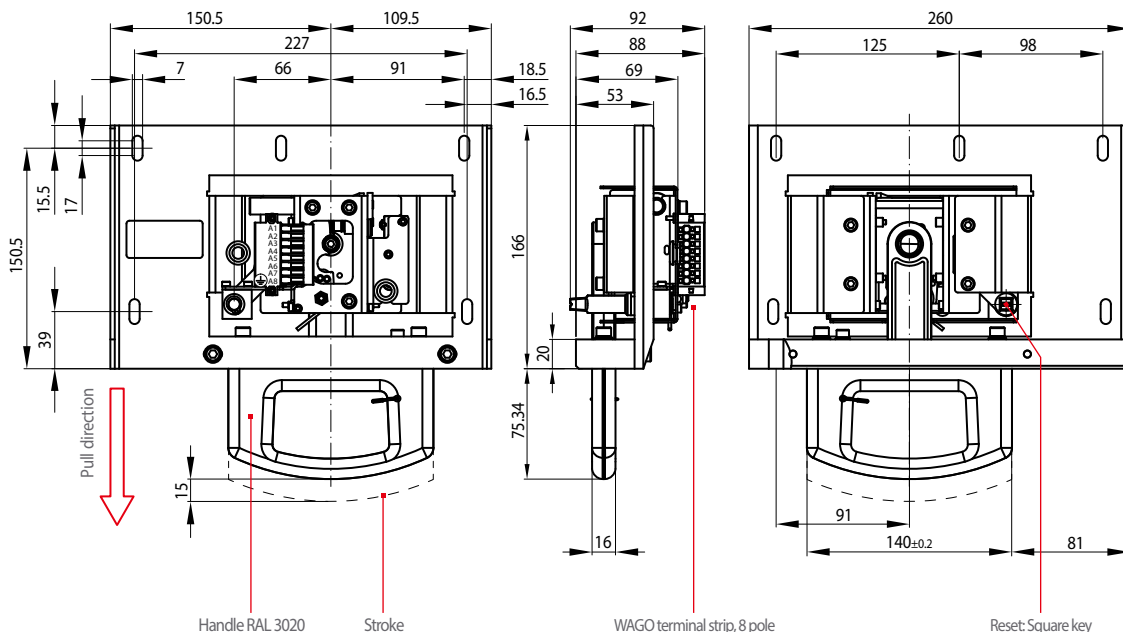
**Note:**  
This catalogue shows only stock items. For some variants minimum quantities apply. Please ask for the conditions.

**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.

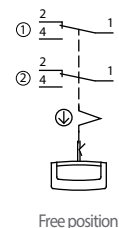
## Specifications

Series NBS10

### • Dimension diagram



### • Circuit diagram



### • Identification WAGO terminal strip, 8 pole

- A1: Switch ① - 1
- A2: Switch ① - 2
- A3: Switch ① - 4
- A4: Switch ② - 1
- A5: Switch ② - 2
- A6: Switch ② - 4
- A7: ---
- A8: PE

## 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

Series NBS20

Example: **NBS20 M2 R1 S5 B0**

### Series

NBS20 Wall mount emergency bray handle

### Lettering / Colour

No lettering / handle black/red

B0

### Mounting

M2 Studs

### Reset elements

R1 Square key  
 R2 Triangular wrench key, USA  
 R3 Triangular wrench key 6.5, CNOMO Type 1

### Switching elements

S5 2x snap-action switch S870  
 gold contacts, flat tabs  
 S7 2x snap-action switch S870  
 silver contacts, flat tabs



### Note:

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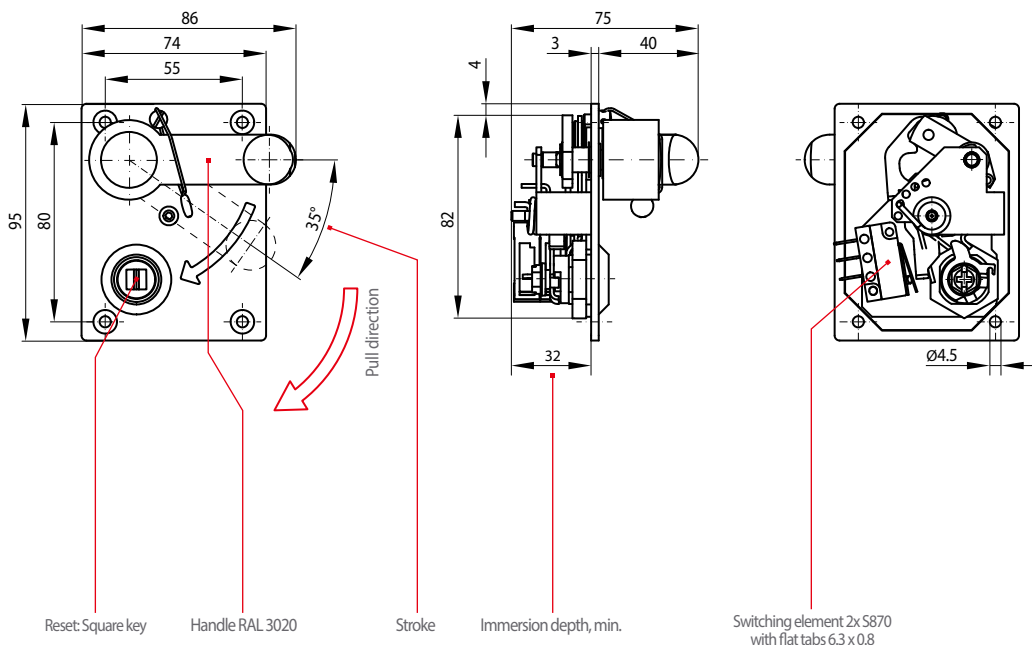
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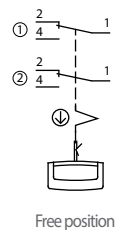
## Specifications

Series NBS20

### • Dimension diagram



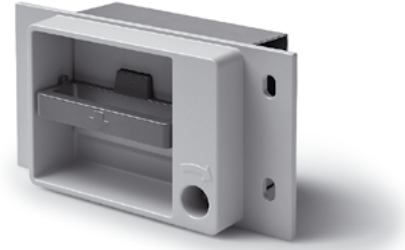
### • Circuit diagram



## 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

Series NBS

Example: **NBS30 M3 R1 S5 B0**

**Series**  
NBS30 Wall mount emergency brake handle

**Mounting**  
M3 Studs

**Reset elements**  
R1 Square key  
R2 Triangular wrench key, USA  
R3 Triangular wrench key 6.5, CNOMO Type 1

**Switching elements**  
S5 2x snap-action switch S870 gold contacts, flat tabs  
S7 2x snap-action switch S870 silver contacts, flat tabs

### Special design

None  
Manual reset SR

### Colour handle / housing

Handle red, RAL3020 / housing light brown B0  
Handle red, RAL3020 / housing grey aluminium RAL9007 B1  
Handle red, RAL3020 / housing cool white NCS S1005-R80B B2  
Handle red, RAL3020 / housing light grey NCS S1000-N B3



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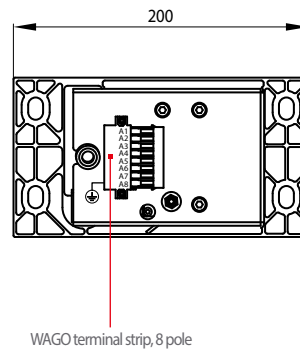
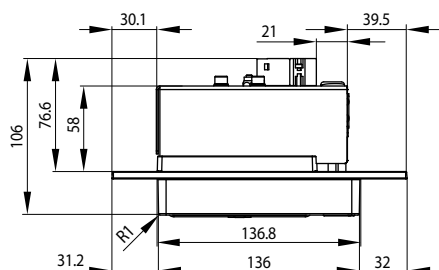
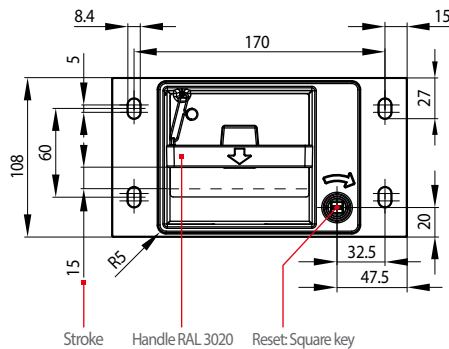
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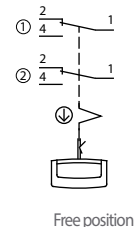
## Specifications

Series NBS30

### • Dimension diagram



### • Circuit diagram



### • Identification WAGO terminal strip, 8 pole

- A1: Switch ① - 1
- A2: Switch ① - 2
- A3: Switch ① - 4
- A4: Switch ② - 1
- A5: Switch ② - 2
- A6: Switch ② - 4
- A7: —
- A8: PE

## NBS40 Wall mount emergency brake handle

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

Series NBS

Example: **NBS40 M1 R1 S5 B0**

### 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

None  
 Manual reset SR  
 Remote controlled reset RC

### 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



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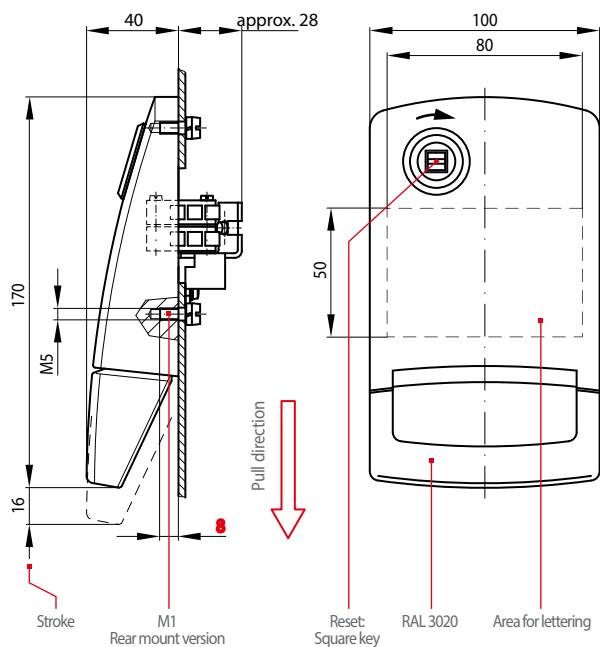
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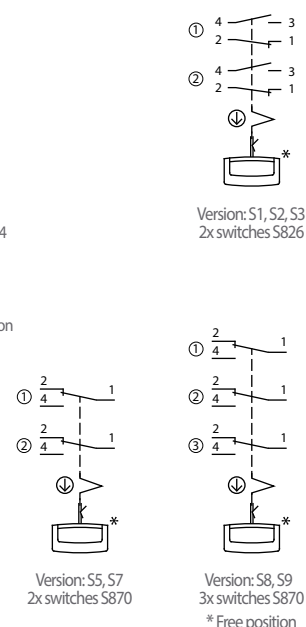
## Specifications

Series NBS40

### • Dimension diagram



### • Circuit diagram



# Schaltbau GmbH

For detailed information on our products and services visit our website – or give us a call!

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with compliments:



Schaltbau GmbH manufactures in compliance with RoHS.



The production facilities of Schaltbau GmbH have been IRIS certified since 2008.



Certified to DIN EN ISO 14001 since 2002. For the most recent certificate visit our website.



Certified to DIN EN ISO 9001 since 1994. For the most recent certificate visit our website.

## 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

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For updated product information visit [www.schaltbau-gmbh.com](http://www.schaltbau-gmbh.com).

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