

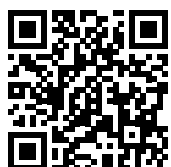
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Electrics for Rolling Stock

**PAD10, PAD20,
PAD30, PAD40**

Passenger alarm devices
for rail vehicles

Catalogue F105.en



More information
schaltbau.com

Passenger alarm devices for rail vehicles PAD10, PAD20*, PAD30, PAD40 series

Safety first: Schaltbau passenger alarm devices 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 passenger alarm devices 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
- PAD10, PAD30, PAD40: 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
- PAD20*, PAD40: optional manual reset (lock and key)
- Special designs upon request

Applications

PAD series

With their conspicuous, rugged design, these Passenger alarm device 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.



PAD10: Designed for lintel mounting, e.g. under the lintel of a carriage door and in passenger spaces

PAD20*: Designed for wall mounting e.g. in vestibules, passenger spaces and train manager's compartments

PAD30: Designed for wall mounting, e.g. in vestibules, passenger spaces and train manager's compartments

PAD40: Designed for wall mounting, e.g. in vestibules, passenger spaces and train manager's compartments

i PAD20: Only for spare parts requirements / no new projects

Standards

PAD series

- **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

PAD series

Series	Standard	PAD10	PAD20*	PAD30	PAD40
Mechanical data					
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		---	---	---	•
Switching elements					
Snap-action switch: Number of max., type		2x S870	2x S870	2x S870	3x S870 2x S826
Contact material: Silver / Gold		•/•	•/•	•/•	•/• •/•
Other data					
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


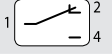






* PAD20: Only for spare parts requirements / no new projects

** 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)	•	•
Electrical specifications		
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

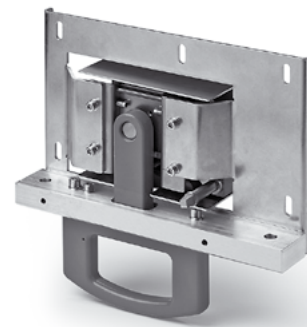
F2090/2311/0 | Subject to change

PAD10 Lintel mount passenger alarm devices

PAD10 series

The PAD10 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

PAD10 series

Example: **PAD10 M3 R1 S5 B0**

<p>Series PAD10 Lintel mount passenger alarm devices</p> <p>Mounting M3 Studs</p> <p>Reset elements R1 Square key R2 Triangular wrench key, USA R3 Triangular wrench key 6.5, CNOMO Type 1</p> <p>Switching element S5 2x snap-action switch S870 gold contacts, flat tabs S7 2x snap-action switch S870 silver contacts, flat tabs</p>	<p>Special design None Manual reset SR</p> <p>Lettering / Colour No lettering / handle red, RAL3020 (standard) B0</p>
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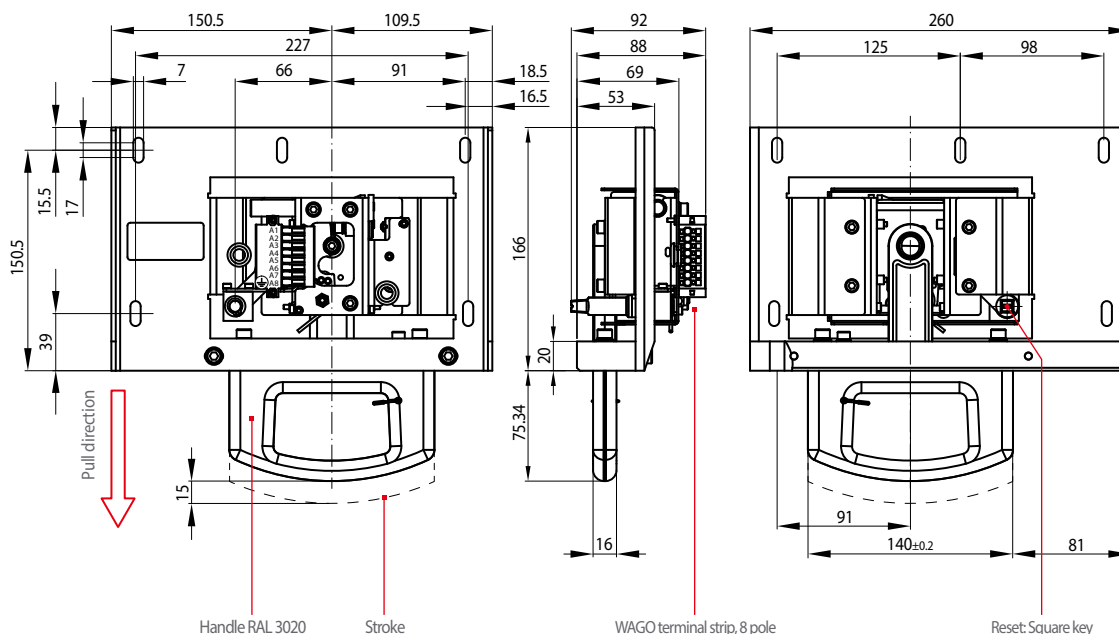
Note:
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Special variant:
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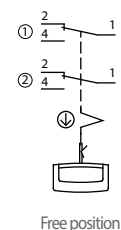
Specifications

PAD10 series

• 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

PAD20 Passenger alarm devices for LRVs [only for spare parts requirements / no new projects]

PAD20 series

The PAD20 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 [only for spare parts requirements / no new projects]

PAD20 series

Example: **PAD20 M2 R1 S5 B0**

<p>Series</p> <p>PAD20 Wall mount emergency bray handle</p> <p>Mounting</p> <p>M2 Studs</p> <p>Reset elements</p> <p>R1 Square key R2 Triangular wrench key, USA R3 Triangular wrench key 6.5, CNOMO Type 1</p> <p>Switching elements</p> <p>S5 2x snap-action switch S870 gold contacts, flat tabs S7 2x snap-action switch S870 silver contacts, flat tabs</p>	<p>Lettering / Colour</p> <p>No lettering / handle black/red B0</p>
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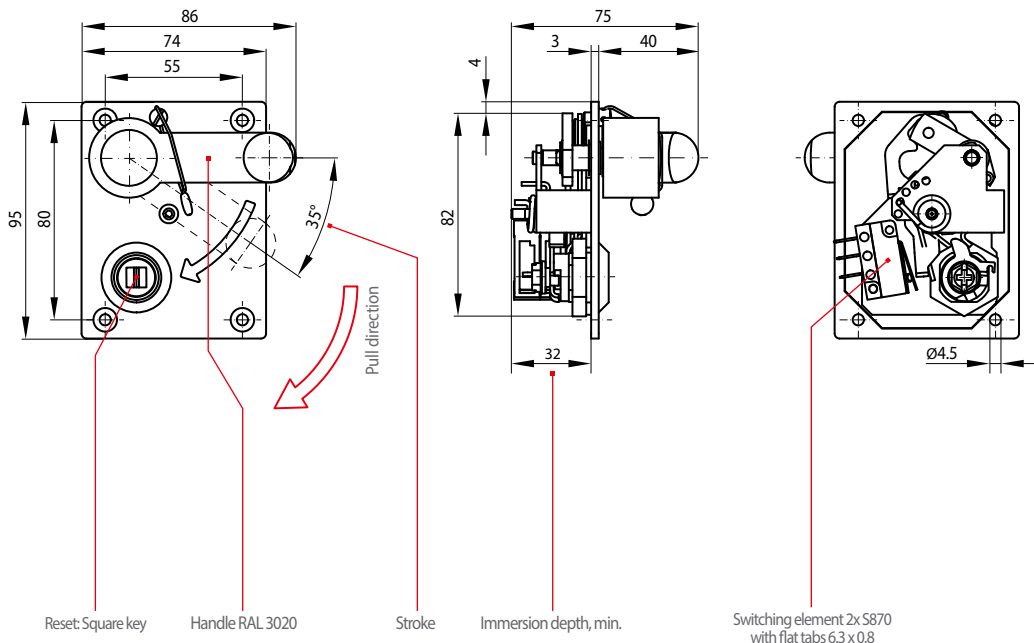
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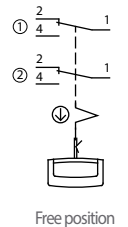
Specifications [only for spare parts requirements / no new projects]

PAD20 series

• **Dimension diagram**



• **Circuit diagram**

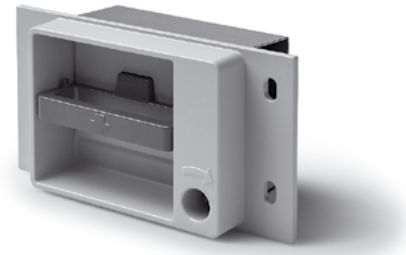


PAD30 Wall mount passenger alarm devices

PAD30 series

The PAD30 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

PAD30 series

Example: **PAD30 M3 R1 S5 B0**

<p>Series</p> <p>PAD30 Wall mount passenger alarm devices</p> <p>Mounting</p> <p>M3 Studs</p> <p>Reset elements</p> <p>R1 Square key R2 Triangular wrench key, USA R3 Triangular wrench key 6.5, CNOMO Type 1</p> <p>Switching elements</p> <p>S5 2x snap-action switch S870 gold contacts, flat tabs S7 2x snap-action switch S870 silver contacts, flat tabs</p>	<p>Special design</p> <p>None Manual reset SR</p> <p>Colour handle / housing</p> <p>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</p>
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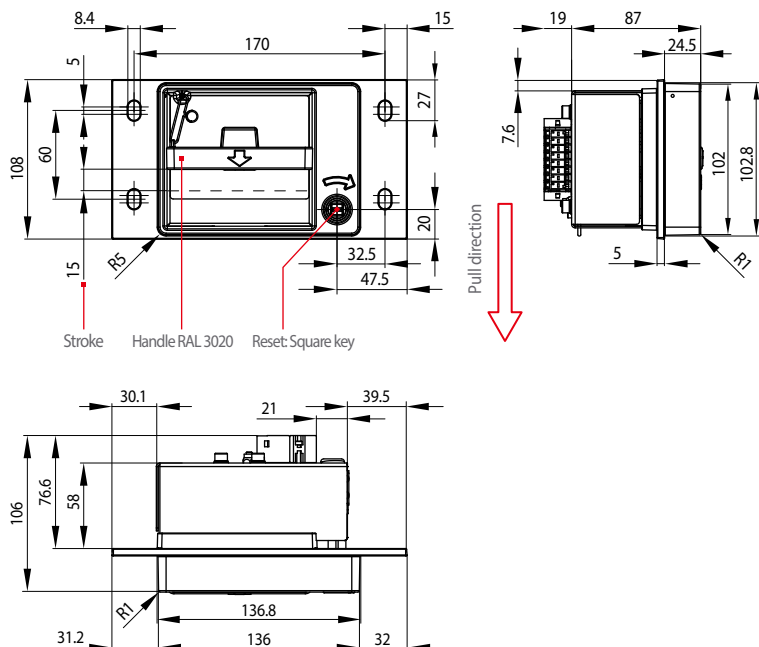
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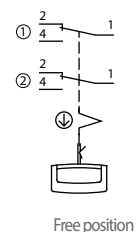
Specifications

PAD30 series

• **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

PAD40 Wall mount passenger alarm devices

PAD40 series

The PAD40 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

PAD40 series

Example: **PAD40 M1 R1 S5 B0**

Series

PAD40 Wall mount passenger alarm devices

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 SR
- Manual reset RC
- Remote controlled reset

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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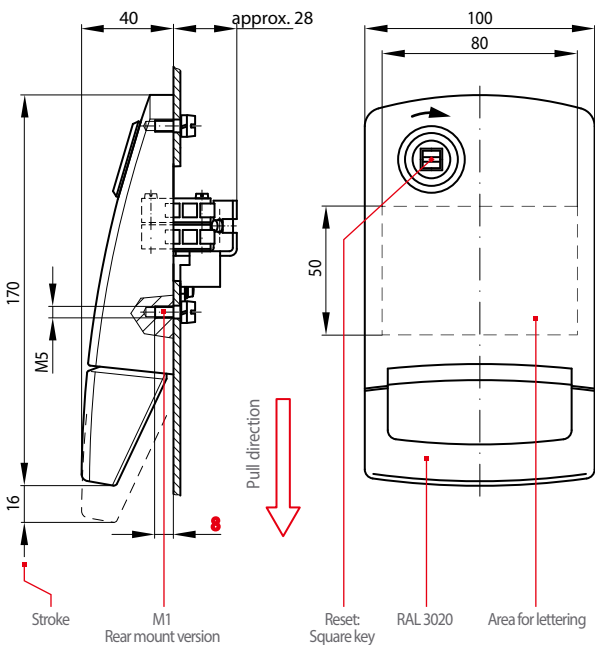
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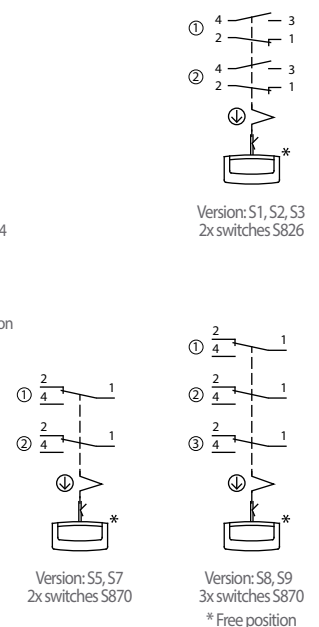
Specifications

PAD40 series

Dimension diagram



Circuit diagram



Schaltbau GmbH

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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
- Snap-action switch made of robust polyetherimide (PEI)
- Snap-action switch with two galvanically isolated contact bridges
- Special switches to suit customer requirements

Contactors Emergency disconnect switches

- 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