SCHALTBAU

Connect · Contact · Control

4

Electrics for rolling stock

JA222, JA224B, JA226B

Electronic buzzers
for automatic train
control systems

Catalogue F210.en

more information here:
schaltbau-gmbh.com

Electronic buzzers, JA222, JA224B, JA226B Series

Electronic buzzers for automatic train protection systems

JA222 Series: Electronic buzzers in the driver's cabin of railway vehicles are an integral part of the intermittent automatic train-running control and the driver's safety device (DSD) respectively. This includes the proven JA222. The rugged device boasts of a dynamic loudspeaker and 4 levels for setting the volume and two levels for adjusting the sound frequencies.

Features:

- Electroacoustic transducer for intermittent automatic train-running control and DSD
- Wide range of supply voltage levels from 16.8 to 150 V DC
- 4 adjustable volume levels
- 2 frequency settings

JA224B / JA226B Series: With this electronic buzzer Schaltbau integrates up to nine different warning tones for country-specific automatic train protection systems in one device. For this reason the buzzer is especially suitable for multisystem railway vehicles in cross-border traffic throughout Europe.

Features:

- JA224B Transducer for up to 9 different tones, SSAS2 approved, Test input (all warning tones reduced in volume)
- JA226B Transducer for up to 10 different tones
- 2 modes of operation:
  - Prioritized: tones prioritized
  - Prioritized/mixed: tones 1 ... 3 prioritized, all others of minor priority (4 ... 10) mixed
- 16 different volume settings
- Customized tones from memory card
- All inputs optically isolated against each other as well as against the supply voltage

Ordering code

Series JA222, JA224B, JA226B

JA222 Series, Electronic buzzer with dynamic speaker

- **JA222D:** Selectable frequencies, 340 / 550 Hz
- **JA222F:** Selectable frequencies, 400 / 900 Hz
- **JA222I:** Frequency 3,000 Hz, default

JA224B Series, Electronic transducer for up to 9 different tones / voice

- **JA224B-24:** SSAS2 compliant, Un 24 V DC *1
- **JA224B-36:** SSAS2 compliant, Un 36 V DC *1
- **JA224B-24-MW:** Same as JA224B-24, with mounting brackets
- **JA224B-36-MW:** Same as JA224B-36, with mounting brackets

JA226B Series, Electronic transducer for up to 10 different tones / voice

- **JA226B-24:** Standard design, Un 24 V DC *1
- **JA226B-24-MW:** Same as JA226B-24, with mounting brackets

Specifications

Series JA222, JA224B, JA226B

Series	JA222	JA224B	JA226B
Nominal voltage U_n Tolerance	24 ... 110 V DC -30 % / +40 %	24 V DC, 36 V DC (110 V DC upon request) -30 % / +25 %	24 V DC -30 % / +25 %
Inputs Number of Voltage U_i	 --- ---	 9 24 V DC, 36 V DC	 10 24 V DC
Rated operating current I_e	250 mA max. at U_n = 24 V DC 100 mA max. at U_n = 110 V DC	500 mA at U_n = 24 V DC	500 mA at U_n = 24 V DC
Sound level (1 m distance, $U_{n\,max}$) Tolerance	85 / 95 / 100 / 110 dB(A) ± 10 %	80 ... 110 dB(A) ± 10 %	80 ... 110 dB(A) ± 10 %
Frequency Tolerance Test input	340 / 550 Hz – 400 / 900 Hz – 3.000 Hz ± 15 % ---	9 selectable tones, also voice *2 --- ●	10 selectable tones, also voice *2 --- ---
Speaker internal/ Output external	● / ---	● / ● 8 Ω, 10 Watt *2	
Housing Dimensions (Ø x T / x H x T) Sound outlet Weight Material, Colour	 Ø 125 x 80 Ø 80 1 kg PBT, fibre glass reinforced, black	 181 x 131 x 53 Ø 80 1.15 kg Stainless steel, silver	
Mounting orientation	Sound outlet preferably facing front	Any, for indoor use only *2	
Vibration / Shock	EN 61373	EN 61373	
IP rating (IEC 60529 IP code)	IP20	IP20	
Temperature range	-25 °C up to +70 °C	-25 °C up to +70 °C	
Applicable standards	EN 50155, EN 50121-3-2	EN 50128 SSAS-2, EN 50155, EN50121-3-2	EN 50155, EN 50121-3-2

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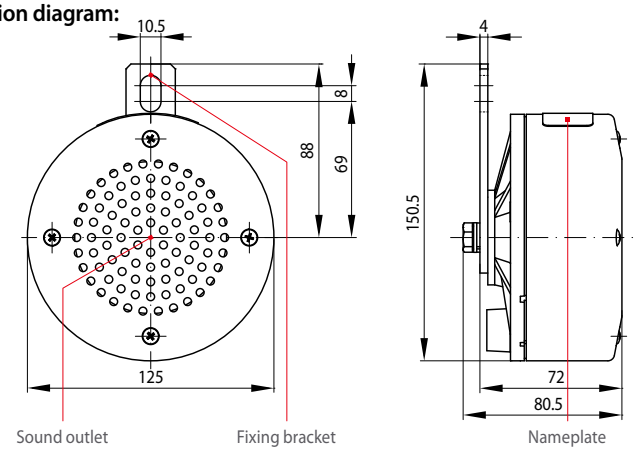
*1 customized tones and fixed mode of operation supplied by Schaltbau

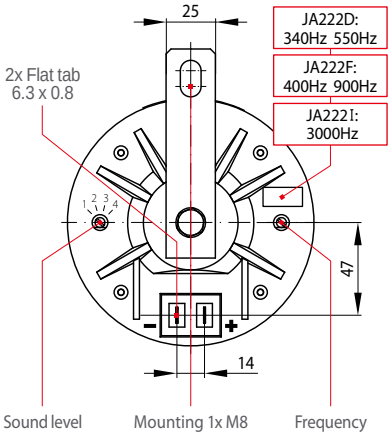
*2 Optional : Weather-proof horn speaker for outdoor use

JA222 Dimensions, Mounting, Configuration — Series JA222

Dimension diagram:



Mounting:



Configuration:

Sound level settings: By means of switch on the rear left side

Sound level	1	2	3	4
L_1 = 85 dB(A)	■	○	○	○
L_2 = 95 dB(A)	○	●	○	○
L_3 = 100 dB(A)	○	○	●	○
L_4 = 110 dB(A)	○	○	○	●

● *Switch ON* ○ *Switch OFF* ■ *Factory default*

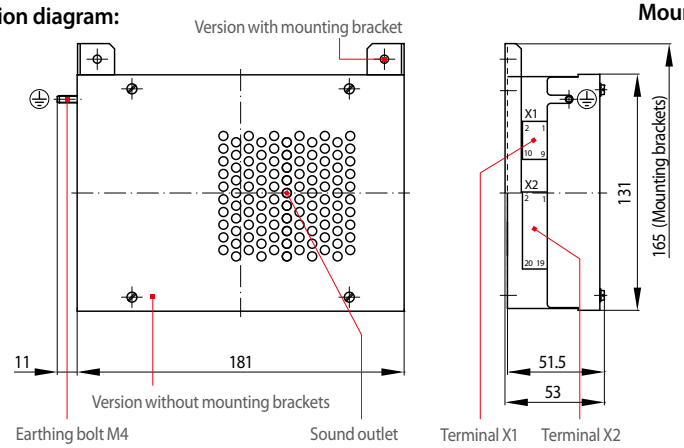
Frequency settings: By means of switch on the rear right side

Series	Country	Frequency		1	2
JA222D	Germany	f_{ATC}	= 340 Hz	■	○
		f_{DSD}	= 550 Hz	○	●
JA222F	France	f_{ATC}	= 400 Hz	■	○
		f_{DSD}	= 900 Hz	○	●
JA222I	Italy	$f_{ATC/DSD}$	= 3 kHz	■	---

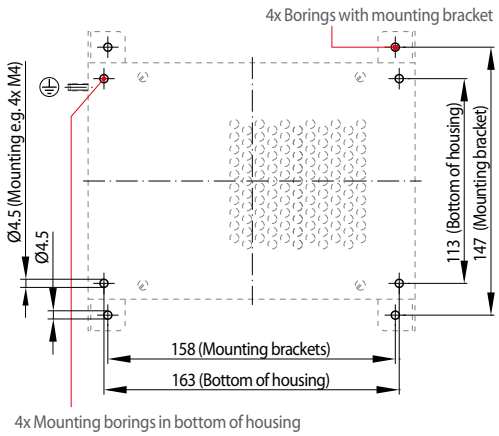
ATC for automatic train control *DSD for driver's safety device*
● *Switch ON* ○ *Switch OFF* ■ *Factory default*

JA224B, JA226B Dimensions, Mounting, Operation, Configuration — Series JA224B, JA226B

Dimension diagram:



Mounting:



Mode of operation:

A control circuit connected with the buzzer allows the user to select an audio signal and then the selected tone is emitted from the SD card where it is stored. There are 16 levels for setting the volume to adjust it to the particular installation.

- JA224B modes of operation *3:
  - Prioritized: A tone of minor priority is superseded by one of higher priority. The highest priority is assigned to input 1 and the lowest to input 9.
  - Prioritized/Mixed: Inputs 1 ... 3 are prioritized. Selected tones at inputs 4 ... 9 are mixed internally and being of minor priority are superseded by the ones at inputs 1 ... 3.
- JA226B modes of operation *3:
  - Software based according to customer specifications, no limits of configuration

Female connectors X1 and X2:

Two female connectors are included in the delivery for electrical connection:

- X1 8 pole: Power supply, diagnosis, external speaker
- X2 20 pole: Control inputs of tones

Connector pin assignment:

	U_n	GND	Diag ok	Diag error
X1	1	3	5	7
	2	4	6	8
	NC	Speaker +	Speaker −	Diag com

	JA226B Tone JA224B Tone	1+ 1+	2+ 2+	3+ 3+	4+ 4+	5+ 5+	6+ 6+	7+ 7+	8+ 8+	9+ 9+	10+ Test+
X2		1	3	5	7	9	11	13	15	17	19
		2	4	6	8	10	12	14	16	18	20
	JA224B Tone JA226B Tone	1− 1−	2− 2−	3− 3−	4− 4−	5− 5−	6− 6−	7− 7−	8− 8−	9− 9−	Test− 10−

*3 *Memory card with customized tones and fixed mode of operation supplied by Schaltbau. Data storage medium is a flash card (SD card).*

Note: The female connectors are fitted with cage clamps for wire gauges up to 1.0 mm² (16 AWG; 1974 Mils) max.

Schaltbau GmbH

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

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with compliments:

RoHS 2011/65/EC

Schaltbau GmbH manufactures in compliance with RoHS.

IRIS Certification

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

Schaltbau GmbH ISO 14001 certified since 2002

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

Schaltbau GmbH ISO 9001 certified since 1994

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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