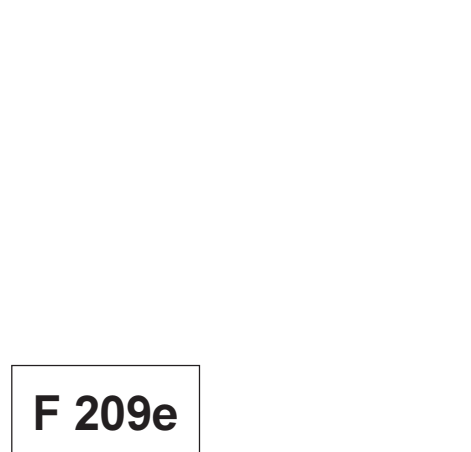
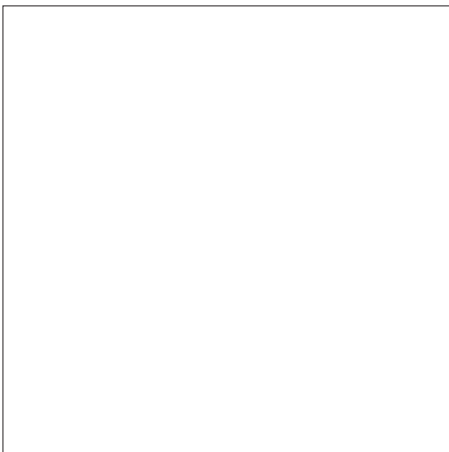
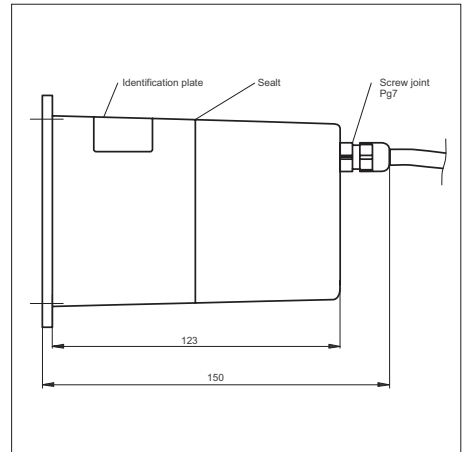
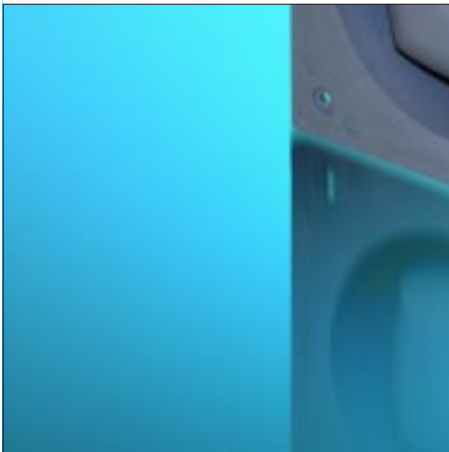
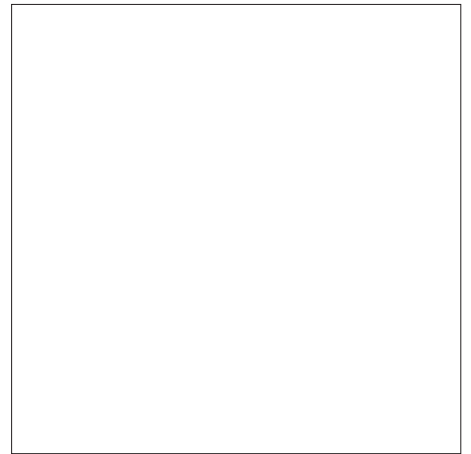


## Weatherproof Buzzer JA 222 WD



**F 209e**

## Weatherproof buzzer JA 222 WD for outdoor applications

The weatherproof buzzer JA 222 WD is used as warning device in railbound vehicles and offers the following special features:

- weatherproof housing for outdoor installation, protection degree IP 65.
- universal supply voltage range 16,8..150 V, DC or AC voltage, independent on polarity.
- 4 volume settings
- constant volume, temperature-independent
- 4 pitches, adjustable inside and outside.

The device comes complete with a 10-pole cable; together with a conductor system it allows the pitch to be adjusted from the outside. A potential-separated "buzzer ok" signal is available as relay output.

The weatherproof buzzer meets all requirements to protection degree IP 65.



### Electrical Interface

Designation	Colour	Internal terminal
Supply voltage 1	red	ST2-1
Supply voltage 2	blue	ST2-2
Ground wire / Cable screen	cable mesh	ST2-3
External frequency 340 Hz	white	ST2-4
External frequency 400 Hz	yellow	ST2-5
External frequency 550 Hz	rose	ST2-6
External frequency 900 Hz	violet	ST2-7
External return frequency	brown	ST2-8
Relay output 1, buzzer = ok	grey	ST2-9
Relay output 2, buzzer = ok	black	ST2-10

Cable, length: 1.0 meter



### Technical Data

#### Electrical Data:

Rated operating voltage	$U_n = 24V \approx \dots 120V \approx$ , unipolar
min. operating voltage	$U_{min} = 16,8 V \approx$
max. operating voltage	$U_{max} = 150,0 V \approx$
Rated operating current	$I_n = 60 \text{ mA}$

#### Pitch:

Ext. frequency	S1-1	
Frequency 1*	S1-2	$f_1 = 340 \text{ Hz}$
Frequency 2	S1-3	$f_2 = 400 \text{ Hz}$
Frequency 3	S1-4	$f_3 = 550 \text{ Hz}$
Frequency 4	S1-5	$f_4 = 900 \text{ Hz}$

#### Sound Level:

Volume 1*	S1-6	$L_1 = 86 \text{ dB(A)} \pm 10 \%$
Volume 2	S1-7	$L_2 = 94 \text{ dB(A)} \pm 10 \%$
Volume 3	S1-8	$L_3 = 102 \text{ dB(A)} \pm 10 \%$
Volume 4	S1-9	$L_4 = 110 \text{ dB(A)} \pm 10 \%$

#### Further Data:

Dimensions (L x H x W)	121 mm x 121 mm x 150 mm
Sound opening	$\varnothing 92.0 \text{ mm}$
Weight	1.5 kg
Material	Polyamide (PA)
Colour	grey
Installation	Preferably in vertical position although water will flow off in any position
Protection degree	IP 65
Temperature range	$-25^\circ\text{C} \dots +70^\circ\text{C}$

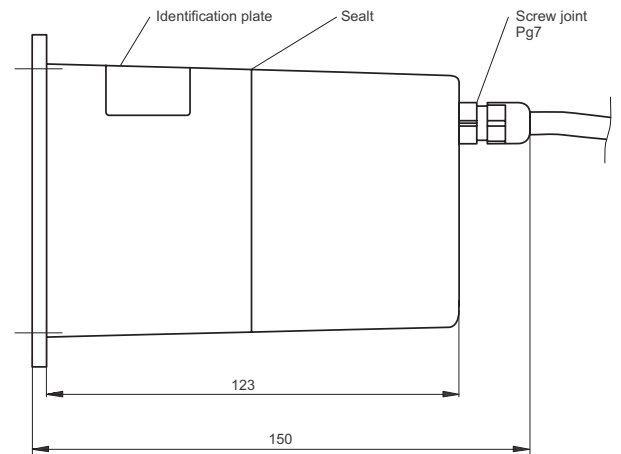
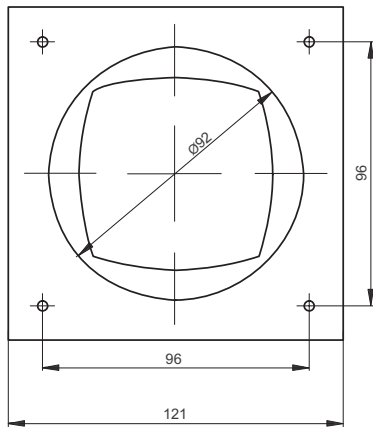
#### Approval:

Approved by German Railways since May 1997

#### Ordering Information:

JA222 WD P/N 1-1726-830 709

## Device Outline



Dimensions in mm

## Configuration      Mechanical Assembly

The electronic buzzer is provided with the following adjustments:

- Sound level:  $L_4 = 110 \text{ dB(A)}$
- Frequency:  $f_{\text{intern}} = 340 \text{ Hz}$

### Changing the adjustment:

- Remove screws and cover.

### ● Sound level adjustment:

Adjust sound level by help switches S1-6 to S1-9.

Switch S1-	1	2	3	4	5	6	7	8	9	
$L_1 = 86 \text{ dB(A)}$						●	○	○	○	
$L_2 = 94 \text{ dB(A)}$	see internal frequency adjustment					○	●	○	○	
$L_3 = 102 \text{ dB(A)}$						○	○	●	○	
$L_4 = 110 \text{ dB(A)}$						○	○	○	●	○
						○	○	○	○	●*

● Switch ON      ○ Switch OFF      \* Preset

### ● Internal frequency adjustment:

Pitch is adjusted by switches S1-1 to S1-5.

Switch S1-	1	2	3	4	5	6	7	8	9
$f_{\text{intern}} = 340 \text{ Hz}$	○	●*	○	○	○	see sound level adjustment			
$f_{\text{intern}} = 400 \text{ Hz}$	○	○	●	○	○				
$f_{\text{intern}} = 550 \text{ Hz}$	○	○	○	●	○				
$f_{\text{intern}} = 900 \text{ Hz}$	○	○	○	○	●				

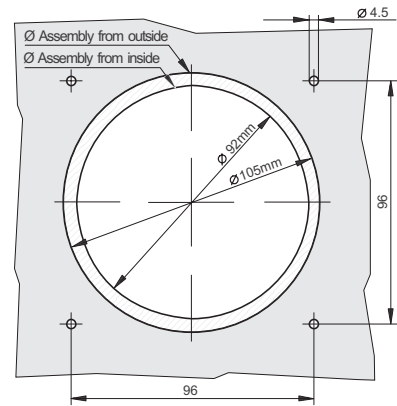
● Switch ON      ○ Switch OFF      \* Preset

### ● External frequency adjustment:

By setting switch S1-1 and applying a control voltage  $U_{\text{st}} = +24 \text{ V}$  to one of the four control cables (ST2-4 to ST2-7), the frequency can be adjusted externally. Control cable ST2-8 serves as common return (reference voltage level).

Switch S1-	1	2	3	4	5	6	7	8	9
$f_{\text{ext.,ST2-4}} = 340\text{Hz}$	●	○	○	○	○	see sound level adjustment			
$f_{\text{ext.,ST2-5}} = 400\text{Hz}$	●	○	○	○	○				
$f_{\text{ext.,ST2-6}} = 550\text{Hz}$	●	○	○	○	○				
$f_{\text{ext.,ST2-7}} = 900\text{Hz}$	●	○	○	○	○				

● Switch ON      ○ Switch OFF



### Assembly:

Assembly is done by four M4 screws.

### Assembly from outside:

The diameter for the housing cut-out is 105 mm.

### Assembly from inside:

The diameter for the housing cut-out is 92 mm (as for sound opening).



**Application:** Operative range in driver's cabs

## Electrical Components and Systems for Railway and Industrial Applications

<b>Connectors</b>	<ul style="list-style-type: none"> <li>● Industry-standard connectors</li> <li>● Special connectors for communication technology (MIL-connectors)</li> <li>● Connectors for railway technology including UIC connectors</li> <li>● Special connectors per customer requirements</li> </ul>
<b>Switchgear</b>	<ul style="list-style-type: none"> <li>● Single and multipole DC contactors</li> <li>● High-voltage AC/DC contactors</li> <li>● Contactors for battery powered vehicles and power supplies</li> <li>● Contactors for railway applications</li> <li>● Special devices per customer requirements</li> </ul>
<b>Switching Elements</b>	<ul style="list-style-type: none"> <li>● Snap-action switches with direct opening action</li> <li>● Snap-action switches with self-cleaning contacts</li> <li>● Switching elements with high breaking capacity</li> <li>● Control and safety switches</li> <li>● DC emergency break switches</li> <li>● Special switches per customer requirements</li> </ul>
<b>Control and Signal Devices</b>	<ul style="list-style-type: none"> <li>● Master controllers and reversers for railway applications</li> <li>● Toggle switches</li> <li>● Hand-operated and foot switches for railway applications (Dead Man's Device)</li> <li>● Emergency brake handle</li> </ul>
<b>Systems and Components for Railway Technology</b>	<ul style="list-style-type: none"> <li>● Power supply plants for passenger coaches</li> <li>● Battery chargers for locomotives and restaurant cars</li> <li>● High-voltage equipment for single and multi-voltage operation</li> <li>● Heaters</li> <li>● Projecting performance for passenger coaches</li> <li>● Projecting performance for diesel MUs</li> <li>● Electrical drives with magnetic drive technology</li> <li>● Special devices per customer requirements</li> </ul>