

## Voice Buzzers

# B7VA Series

## INSTRUCTION MANUAL

TCD220043AD

**Autonics**

Thank you for choosing our Autonics product.

**Read and understand the instruction manual and manual thoroughly before using the product.**

**For your safety, read and follow the below safety considerations before using. For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.**

Keep this instruction manual in a place where you can find easily.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Follow Autonics website for the latest information.

### Safety Considerations

- Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

**⚠ Warning** Failure to follow instructions may result in serious injury or death.

**01. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.) Failure to follow this instruction may result in explosion or fire.

**02. Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.**

Failure to follow this instruction may result in explosion or fire.

**03. Check 'Connections' before wiring.**

Failure to follow this instruction may result in fire.

**04. Do not connect, repair, or inspect the unit while connected to a power source.**

Failure to follow this instruction may result in fire or electric shock.

**05. Do not use this product close to the ears.**

Failure to follow this instruction may result in personal injury.

**06. Do not disassemble or modify the unit.**

Failure to follow this instruction may result in fire.

**⚠ Caution** Failure to follow instructions may result in injury or product damage.

**01. This unit shall not be used outdoors.**

Failure to follow this instruction may result in shortening the life cycle of the product.

**02. Use the unit within the rated specifications.**

Failure to follow this instruction may result in fire or product damage.

**03. When connecting the power input, use AWG 22-16 (0.30 to 1.25 mm<sup>2</sup>) cable or over and tighten the terminal screw with a tightening torque of 0.4 to 0.6 N·m.**

Failure to follow this instruction may result in fire or malfunction due to contact failure.

**04. For wiring the product, do not pull the wiring excessively or apply excessive force.**

Failure to follow this instruction may result in product damage or malfunction.

**05. Use a dry cloth to clean the unit, and do not use water or organic solvent.**

Failure to follow this instruction may result in fire or electric shock.

**06. Keep the product away from metal chip, dust, and wire residue which flow into the unit.**

Failure to follow this instruction may result in fire or product damage.

### Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- The power supply should be insulated and limited voltage/current or Class 2, SELV Power supply device.
- Keep away from high voltage lines or power lines to prevent inductive noise. When installing the power line and input signal line closely, use a line filter or varistor at the power line and a shielded wire at the input signal line. Do not use this product near the equipment which generates strong magnetic force or high-frequency noise.
- This unit may be used in the following environments.
  - Indoors (in the environment condition rated in 'Specifications')
  - Altitude max. 2,000 m
  - Pollution degree 2
  - Installation category II

### Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.

**B7VA - ① ② ③ - ④**

#### ① Channels

8: 8 channels

#### ② Case color

K: Black

#### ③ Power supply

D: 12 - 24 VDC

#### ④ Memory

No mark: Internal memory  
E: External memory

### Product Components

- Product × 1
- Instruction manual × 1
- Micro SD card × 1 (external memory type)

### Sold Separately

- Micro SD card: BSD-16G

### Software

Download the installation file and the manuals from the Autonics website.

#### ■ DAQMaster

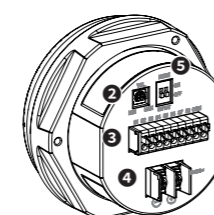
It is the comprehensive device management program for Autonics' products, providing parameter setting, monitoring and data management.

### Unit Descriptions

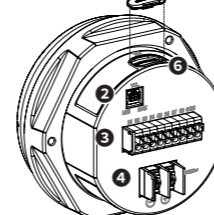
#### ■ Front part



#### ■ Rear part



Internal memory type



External memory type

#### ① Status indicator

LED color	LED status	Description
Green	ON (●)	• The product is turned on. • The file transfer is completed from the micro SD card. <sup>01)</sup>
	Flashing (●) <sup>01)</sup>	• The file is being transferred from the micro SD card.
Orange	ON (●) <sup>01)</sup>	• An error occurred during the micro SD card file transfer. • No audio source exists in the sound channel.
	Flashing (●) <sup>01)</sup>	• The audio is being played.

01) Only for the external memory type

#### ② Volume control switch (VOL.)

You can adjust the volume of the buzzer.

#### ③ Sound terminal

COM : It is the common terminal for selecting the sound. When wiring, connect to 12 - 24 VDC≐ for NPN input and connect to the GND for PNP input.  
S1 to S8 : It is the signal input terminal for selecting the sound.

#### ④ Supply power terminal

⊕ : It is the terminal for supplying power (12 - 24 VDC≐).  
⊖ : It is the terminal for grounding (GND).

#### ⑤ Playback count setting switch (MODE)

REPEAT : You can set the single play or loop play.

#### ⑥ Micro SD card slot

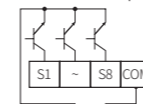
It is the space for inserting the micro SD card.

### Connections

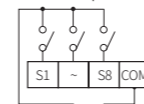
**⚠ Be sure not to supply the power to the sound terminals (S1 to S8). Otherwise, it may result in the circuit damage or malfunction of the product.**

#### ■ Example: NPN input wiring

- Non-contact input
- Contact input



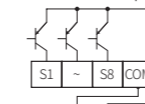
12 - 24 VDC≐



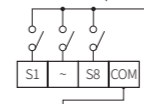
12 - 24 VDC≐

#### ■ Example: PNP input wiring

- Non-contact input
- Contact input



12 - 24 VDC≐



12 - 24 VDC≐

#### ■ Sound setting

- When connecting to the desired sound terminal, refer to the 'wiring example' and 'crimp terminal specifications.'
- In the case of the external memory type, the sounds may vary depending on your sound configuration.

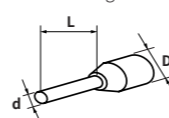
Terminals	Sounds	Terminals	Sounds
S1	Police siren sound	S5	Alarm sound
S2	Fire alarm	S6	Doorbell ring
S3	Ambulance sound	S7	Ringtone 1
S4	Warning sound	S8	Ringtone 2

### Crimp Terminal Specifications

#### ■ Crimp terminal for the sound terminals

Refer to the table below to use a suitable ferrules terminal.

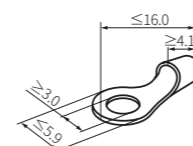
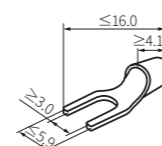
- The wire range: AWG24-16



L	d	D
8 mm	Ø1.1	Ø2.5
10 mm	Ø1.3	Ø3.2
	Ø1.6	Ø3.4
	Ø1.7	Ø3.6

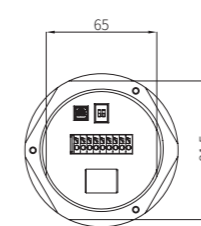
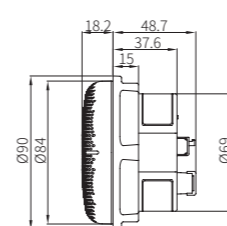
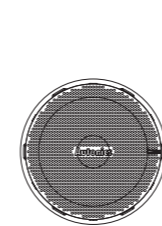
#### ■ Crimp terminal for the supply power terminals

- Fork crimp terminal (mm)
- Round crimp terminal (mm)



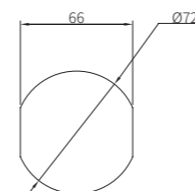
### Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
- This dimensions shows the internal memory type.

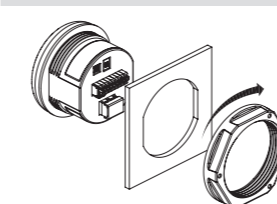


#### ■ Panel cut-out

- The panel thickness for installation: ≤ 6 mm



### Installation



- Firstly, make a hole with reference to the panel cut-out.
- Insert the buzzer into the hole, and wheel the nut clockwise(CW) to firmly fix it.
  - The nut tightening torque: 5 to 6 N·m

### Supported Functions

#### ■ Volume control

You can adjust the sound volume of buzzer using the Volume control switch. Be sure not to turn the switch with excessive force to prevent product damage.

- The range of operating torque: 2 to 20 mN

Switch settings	Descriptions
	• Turn the volume up : Turn the switch clockwise(CW) using the cross-head screwdriver.
	• Turn the volume down <sup>01)</sup> : Turn the switch counterclockwise(CCW) using the cross-head screwdriver.

01) The MIN point does not play muted sound.

#### ■ Sound playback count setting (internal memory type)

You can set the playback count using the REPEAT switch.

- Be sure to input sound signals or supply power again to apply the settings.

Switch settings	1	2	The range of sound terminals <sup>01)</sup>	
			S1 to S4	S5 to S8
	ON	ON	Loop play (factory settings)	Single play
	ON	OFF	Loop play	Single play
	OFF	ON	Single play	Loop play
	OFF	OFF	Single play	

01) The playback count setting is applied to only wired terminals in this range.

#### ■ Import audio sources (external memory type)

##### Before the begin

- Prepare a micro SD card with the playlist (.BIN file) saved. For detailed information on sound configuration for external memory type, refer to the 'DAQMaster User Manual.'
- For micro SD card recognition, supply power to the buzzer and ensure that no signal is input to the sound terminal during this process.

##### Move the micro SD card file to the buzzer

- Open the micro SD card slot cover.
- Insert the micro SD card into the micro SD card slot, aligning it with the indicated direction. (An alert sound will play once when the micro SD card is inserted.)
- When the micro SD card file transfer starts, the green LED on the status indicator will flash. Do not power off the buzzer or remove the micro SD card at this time, as it can damage the audio sources due to file transfer errors. (If an error occurs, you will hear a short beep four times and the orange LED will light up.)
- When the micro SD card file transfer is complete, a completion alert sound will play once. The transferred audio file will be saved, while the previous audio file will be deleted.
- After removing the micro SD card, close the micro SD card slot cover.

### Specifications

Type	Internal memory	External memory	
Model	B7VA-8KD	B7VA-8KD-E	
Sound pressure	≤ 90 ± 10% dB (distance at 1 m)		
Signal input method	Compatible with NPN and PNP inputs		
Audio sources <sup>01)</sup>	Alarm: 8 types	Alarm: 8 types (factory settings)	
Alarms	Sound 1	Police siren sound	DAQMaster : Playlist configuration supported - No. of files: ≤ 128 - Storage size: ≤ 4 MB
	Sound 2	Fire alarm	
	Sound 3	Ambulance sound	
	Sound 4	Warning sound	
	Sound 5	Alarm sound	
	Sound 6	Doorbell ring	
	Sound 7	Ringtone 1	
	Sound 8	Ringtone 2	
Audio file format	MPEG-1 Audio Layer III (MP3), Waveform Audio Format (WAV) <sup>02)</sup>		
Memory card	micro SD (SDHC) <sup>03)</sup>		
SD card format type	FAT32		
Indicator	Status indicator: Green / Orange LED		
Certification	CE	CE	
Unit weight (packaged)	≈ 255 g (≈ 323 g)	≈ 255 g (≈ 325 g)	

01) You can download the 8 types of alarm sounds from our website. For external memory type, changing the audio sources will delete the provided built-in sounds.

02) The WAV file is converted to the MP3 file in DAQMaster.

03) Be sure to use the included micro SD card (BSD-16G). Otherwise, we cannot guarantee the product's performance.

Power supply	12 - 24 VDC≐
Power consumption	7.2 W
Insulation resistance	≥ 1,000 MΩ (500VDC≐ megger)
Dielectric strength	Between the charging part and the case: 500 VAC~ 50 / 60 Hz for 1 min
Vibration	1.5 mm amplitude at frequency 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Ambient temperature	-10 to 55 °C, Storage: -20 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85%RH, Storage: 35 to 85%RH (no freezing or condensation)
Protection ratings	IP65 (Front part, IEC standard)
Material	Front cover: ABS, Body: PA6