



*Think Automation and beyond...*

**ø22mm HW1Z**

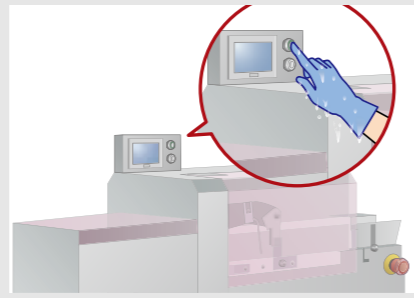
**Illuminated / Non-Illuminated Buzzer**



**IDEC CORPORATION**

**Solution example ① Waterproof equipment**

A buzzer is installed to detect errors but a waterproof buzzer is required when touched with wet hands.



**IDEC HW1Z series are**

**IP65 waterproof from the front of the panel**

Ideal for equipment requiring washdown.



Application examples

- Food and packaging
- Weigh scales



**Solution example ② Waterproof / Dustproof**

The buzzer must be installed in a control box to be protected from water and dust.



**IDEC HW1Z series have**

**waterproof construction**

Installing an optional terminal rubber boot upgrades the terminal's waterproof characteristics to IP54 without the need to use a rear enclosure.



Application examples

- Semi-outdoor (station platform, parking lot)
- Elevators



**Solution example ③ Downsizing of Equipment / Panels**

The depth of conventional buzzers are too long to mount into slim panels.



**IDEC HW1Z enables**

**downsizing of panels / equipment**

Short, 19.7 mm depth behind panel.  
Can be installed in tight places.



Application examples

- Machine tools
- Semiconductor
- Food and packaging



**Solution example ④ Safety measures in factories**

Safety measures are required on moving equipment such as AGVs and forklifts.



**IDEC HW1Z have**

**push-in terminals**

Push-in terminals allow easy wiring.  
No tightening of screw is required.



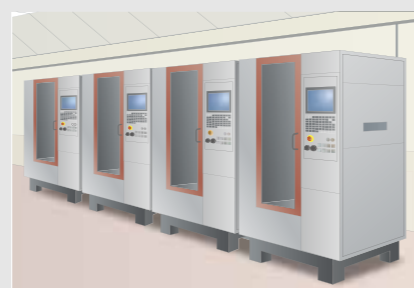
Application examples

- Material handling (AGV, forklift)



**Solution example ⑤ Locate equipment error**

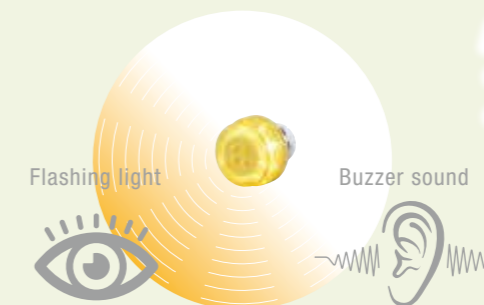
Buzzer sounds to alert an error but the production line has too many equipment making it difficult to locate the place of error.



**IDEC HW1Z series can**

**alert danger with sound and light**

Lamp and buzzer functions are integrated.  
Note) Illuminated buzzers only.




Application examples

- Semiconductor
- Production line

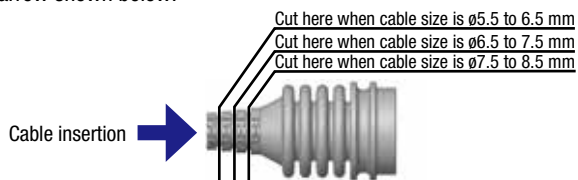


## Accessories

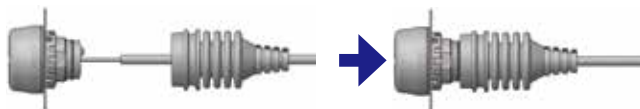
Shape	Material	Part No. (Ordering No.)	Package Quantity	Notes
Terminal Rubber Boot 	Nitril Rubber	HW9Z-CZ1	1	Applicable cable: ø4.5 to 8.5 mm Cut the end of rubber boot to fit the cable size (see dimensions). Weight: 10 g (approx.)

### Installing the terminal rubber boot

- Cut the end of terminal rubber boot to fit the cable size.
- Insert the cable into the terminal rubber boot in the direction of arrow shown below.



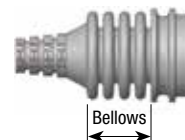
- Strip the insulation of the cable 30 mm from the end and wire as instructed in "Wiring".
- Install the terminal rubber boot as shown below.



- Cover part B with part A.

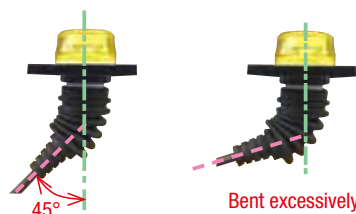


- Make sure that the bellows is 17 to 22 mm long.




### Note for terminal rubber boot

- Be sure to use bellows with an appropriate length. Otherwise, waterproof characteristics cannot be achieved.
- Maintain a cable angle of 45° maximum to the axis of the HW1Z, otherwise the terminal rubber boot may come off.



## Transformer

Transformer	Primary Voltage	Operating Voltage Range	Part No. (Ordering No.)	Package Quantity	Buzzer
	100/110V AC	100/110V AC ±10%	TWR512	1	HW1Z-2PQ4B HW1Z-F2PQ4B
	200/220V AC	200/220V AC ±10%	TWR522	1	

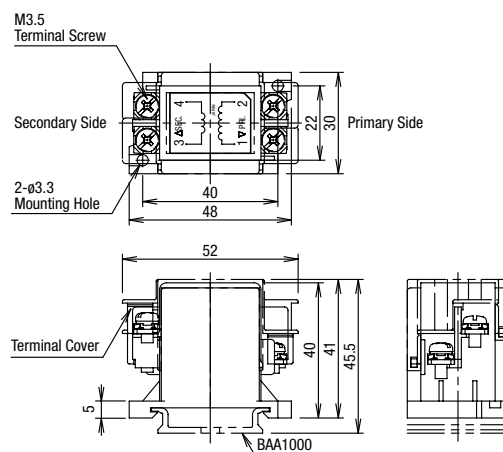
- Terminal cover (TWR-VL3) is supplied as standard.
- Sound and sound volume differs when used at DC voltage.

### Specifications



Part No.	TWR5□2
Operating Voltage	100/110V AC, 200/220V AC (50/60Hz)
Current Draw	2.4VA
Rated Insulation Voltage	600V
Insulation Resistance	100 MΩ minimum (500V DC megger)
Operating Temperature	-30 to +60°C (no freezing)
Storage Temperature	-40 to +80°C (no freezing)
Operating Humidity	35 to 85% RH (no condensation)
Vibration Resistance	Damage Limits: 30 Hz, amplitude 1.5 mm Operating extremes: 5 to 55 Hz, amplitude 0.5 mm
Shock Resistance	Damage limits: 1,000 m/s <sup>2</sup> Operating Extremes: 100 m/s <sup>2</sup>
Dielectric Strength	2,500V AC, 1 minute
Terminal Screw	M3.5
Applicable Wire	2 mm <sup>2</sup> maximum, 2 wires maximum
Weight (approx.)	87g

### Dimensions

All dimensions in mm.



# ø22mm HW1Z Illuminated / Non-Illuminated Buzzer

Shape	Part No. (Ordering No.)	Illumination Color	Sound	Package Quantity
	HW1Z-P1F2PQ4R	Red	Intermittent	1
	HW1Z-P1F2PQ4Y	Yellow		
	HW1Z-2PQ4B	—	Steady	1
	HW1Z-F2PQ4B	—	Intermittent	



• See website for details on approvals and standards.

## Specifications

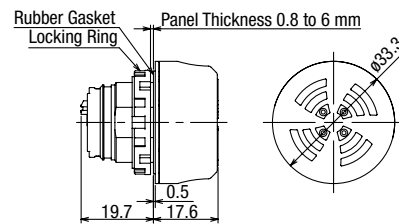
### Specifications and Ratings

Rated Insulation Voltage	30V	
Rated Voltage	12 to 24V DC	
Voltage Range	10.8 to 26.4V DC	
Rated Current (effective value)	Illuminated: 18mA (24V DC), 8mA (12V DC) Non-Illuminated (Steady sound): 9mA (24V DC), 4mA (12V DC) (Intermittent sound): 7mA (24V DC), 3mA (12V DC)	
Inrush Current	100mA maximum	
Buzzer	Sound Volume (of HW1Z itself) (at 25°C)	90dB min. at 0.1m (24VDC) 70dB min. at 1m (24V DC, equivalent value)
	Sound Frequency (at 25°C)	84dB min. at 0.1m (12V DC) 64dB min. at 1m (12VDC, equivalent value)
	Sound Type	Illuminated: Intermittent Non-Illuminated: Steady/Intermittent
	Intermittent Cycle (at 25°C)	105 cycles/minute approx. (1.75Hz approx.)
Illumination	Illumination Type	Flashing
	Flash Cycle (at 25°C)	105 cycles/minute approx. (1.75Hz approx.)
Operating Temperature	-20 to +50°C (no freezing)	
Operating Humidity	20% to 85% RH (no condensation)	
Storage Temperature	-30 to +80°C (no freezing)	
Insulation Resistance	100MΩ minimum (at 500V DC megger)	
Dielectric Strength	Between live and earthed metal parts: 1000V AC, 1 minute	
Vibration Resistance	Operation extremes: 5 to 55Hz, amplitude 0.5mm Damage limits: 5 to 55Hz, amplitude 0.5mm	
Shock Resistance	Operation extremes: 100 m/s <sup>2</sup> Damage limits: 1,000 m/s <sup>2</sup>	
Degree of Protection	Panel front: IP65 (IEC 60529) Terminal: IP40 (IEC 60529) IP54 (with terminal rubber boot) (IEC 60529)	
Terminal Style	Push-in Terminals	
Applicable Wire	Solid wire/ferrule (without sleeve): 0.2 to 1.5 mm <sup>2</sup> Ferrule (with sleeve): 0.2 to 0.75 mm <sup>2</sup>	
Weight (approx.)	17g	

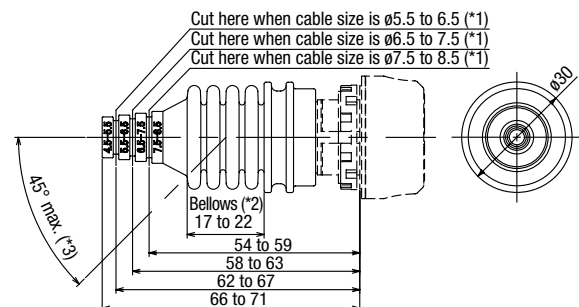
### Dimensions

All dimensions in mm.

#### Buzzer only



#### With terminal rubber boot

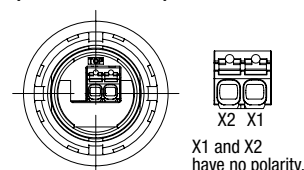


\*1: ø4.5-5.5 cable needs no cutting.

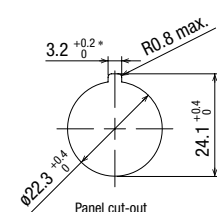
\*2: The bellows must be 17 to 22mm long after installing the terminal rubber boot.

\*3: Maintain a cable angle of 45° max. to the HW1Z axis.

### Terminal Arrangement (bottom view)



### Mounting Hole Layout



\*3.2 +0.2/0 hole is for anti-rotation.  
Not required when nameplate/anti-rotation is not used.

## ⚠ Safety Precautions

- Turn off the power to the HW1Z before installation, removal, wiring, maintenance, and inspection. Failure to turn power off may cause electrical shocks or fire hazard.
- For wiring, use wires of a proper gauge to meet the voltage and current requirements.
- Prevent metal fragments and pieces of wire from dropping inside when installing or wiring the HW1Z. Otherwise fire, failure, or malfunction may be caused.

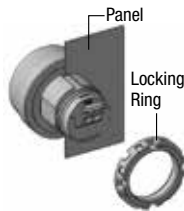
## Operating Instructions

### Panel Mounting

- Insert the HW1Z into the panel cut-out from the front, and tighten the locking ring from the back.

### Note for panel mounting

- Use the optional locking ring wrench (MW9Z-T1) to tighten the locking ring to a recommended tightening torque of 1.5 to 2.0 N-m.
- Do not use pliers and do not tighten excessively, otherwise the HW1Z may be damaged.



### Wiring

#### Solid wire

Strip the wire insulation 8 mm from the end and insert into the terminal. Make sure that the wire does not loosen.

#### Stranded wire with ferrule

Clamp a ferrule with a conductor wire length of 8mm and insert into the terminal. Make sure that the wire does not loosen.

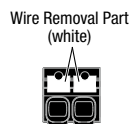
#### Recommended Ferrules

Phoenix Contact

Without sleeve	With sleeve
For 0.5mm <sup>2</sup> : A0,5-8	For 0.25mm <sup>2</sup> : A10,25-8YE
For 0.75mm <sup>2</sup> : A0,75-8	For 0.5mm <sup>2</sup> : A10,5-8WH
For 1.0mm <sup>2</sup> : A1-8	For 0.75mm <sup>2</sup> : A10,75-8GY

#### Stranded wire

Strip the wire insulation 8mm from the end and push in the wire removal part above the wire port using a small flat screwdriver. Release the wire removal part. Make sure that the wire does not loosen.



### Wire removal

Push in the white wire removal part above the wire ports using a small flat screw driver, and pull out the wire.

### Small flat screwdriver

Use a screwdriver (flat, 2.5mm-wide blade).

### Note for wiring

- Make sure that the terminal is not constantly pulled by the wire.
- Wiring must be performed in environments of -5 to +50°C.
- Do not damage the conductor wire when stripping the wire insulation.
- Do not use wires with bent or deformed conductors wires. Deformed wiring may cause failures such as strength degradation and overheating.
- Connect one wire per terminal. Connecting two wires to a terminal may cause loose wiring and strength degradation.
- Do not solder the conductor lines. Connecting soldered stranded wires may cause loose wiring and strength degradation.
- If a stranded wire has loose wires, twist the conductor wires before connection. However be careful not to twist too much.

### Operating Conditions

Do not use the HW1Z in the following locations.

- Exposure to direct sunlight
- Subject to corrosive or flammable gases

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