

The standard series are based on the highest piezo technology and are considered to be the most robust series for industrial applications.

The standard buzzers use a bent edge membrane, which is fixed and glued into the housing, guaranteeing shock, dust and waterproof operations. The different standard models cover a very wide range of applications, offering functions such as continuous, intermittent, sweep and warbler, with a sound output over 100 dB(A).



All standard products are manufactured to meet various mounting methods, such as PCB or panel mounting and are therefore equipped with either pins or fast-on terminals. The standard series include military models, extra loud types, as well as models operating at very low voltage consumption

The SW 535 B has a warbling tone with a special sound effect for warning and alerting signalling devices. These buzzers are also used as a warning device with discrimination against the existing background noise.

## ADVANTAGES

- extremely high sound pressure level with a very clear and penetrating sound output
- solid state shock proof buzzer. Dust and waterproof, rated to IP67
- PCB and panel mounting; pin or fast-on terminals
- very high reliability
- low power consumption
- wide operating supply range
- wide temperature range

## APPLICATIONS

- alarms
- industrial enunciator equipment
- monitoring and test equipment
- medical equipment
- military equipment
- trucks and automobiles, boats and airplanes
- signalling & process control equipment
- fire detectors etc.
- etc.

**SPECIFICATIONS**

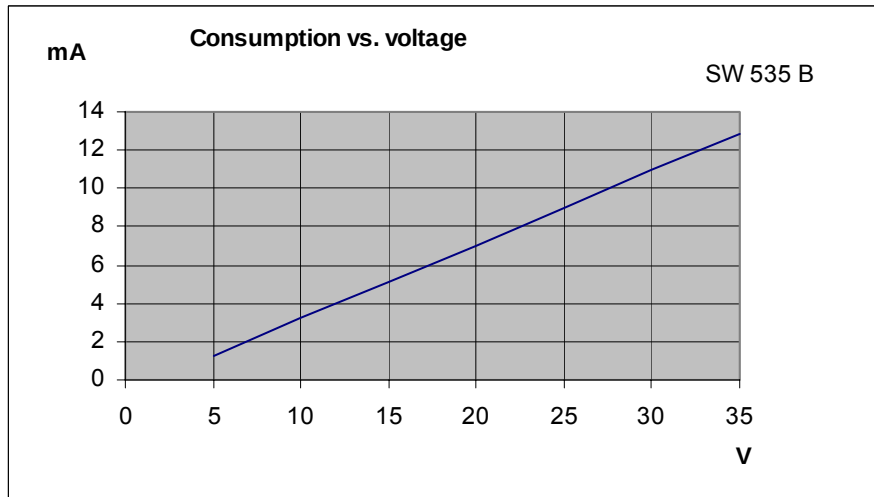
| Model    | Function | Operating voltage |         | Frequency (±15%) Hz | Pulse rate Hz | Operating current mA |           | Sound pressure dB(A) * |
|----------|----------|-------------------|---------|---------------------|---------------|----------------------|-----------|------------------------|
|          |          | min Vdc           | Max Vdc |                     |               | At V min.            | At V max. |                        |
| SW 535 B | warbler  | 5                 | 35      | 3500                | -             | 1.3                  | 10.6      | 87                     |

\*All measurements are made at 1 meter, at 12V, in free air at 21°C  
The weight of the standard buzzers varies from 13 g to 24 g

|                         |                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature   | -35°C to +75°C                                                                                                                                                                                                                                                                                                                                   |
| Storage temperature     | -40°C to +85°C                                                                                                                                                                                                                                                                                                                                   |
| Life time (at 21°C)     | See expected life time curve in addendum                                                                                                                                                                                                                                                                                                         |
| Case material           | ABS (UL rating: 94 HB)                                                                                                                                                                                                                                                                                                                           |
| Standard colour of case | Grey                                                                                                                                                                                                                                                                                                                                             |
| Terminal material       | Tinned brass for both pin terminals and fast-on terminals                                                                                                                                                                                                                                                                                        |
| Supply voltage          | The standard buzzers are not damaged by reverse voltage connection                                                                                                                                                                                                                                                                               |
| Mounting                | PC-board: by soldering the terminals. Front panel mounting: the buzzers can be mounted in panels up to 14 mm thickness<br>They are locked with a locking pin (diameter 1mm) and secured to the panel with a plastic nut.<br>Foresee a hole of diameter 32 mm (1.14").<br>Maximum torque on plastic nut: 6 Nm<br>The step of the thread is 1.5 mm |

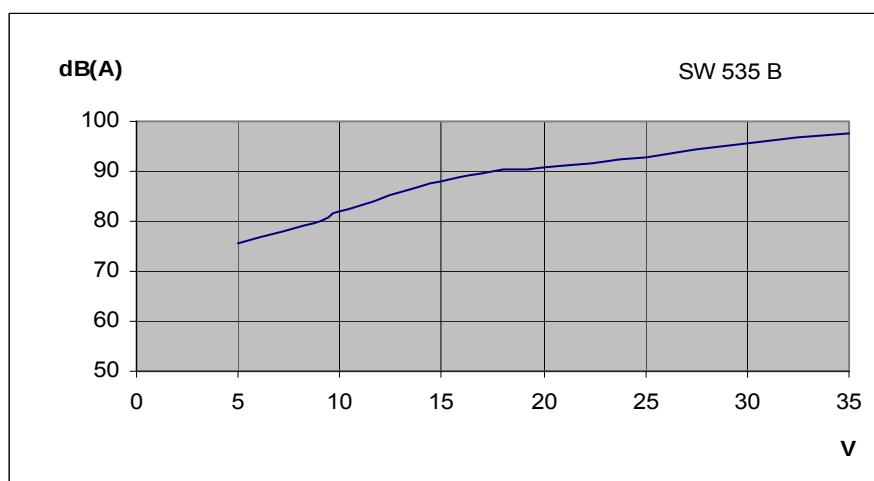
**ELECTRICAL PARAMETERS**

**Current consumption vs. Voltage:**



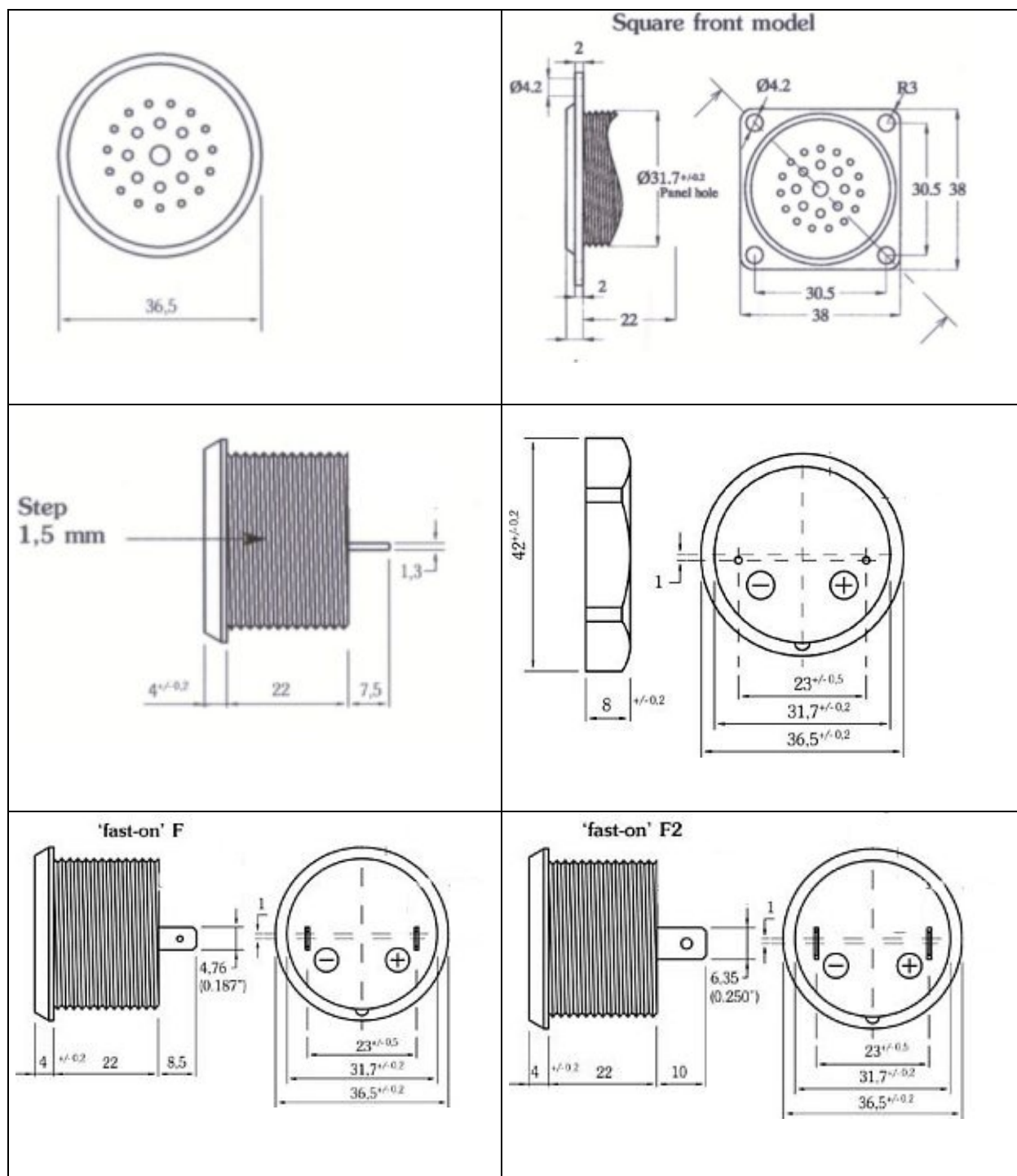
All measurements are made at 1 meter in free air at 21°C.

**Sound pressure level vs. Voltage:**



All measurements are made at 1 meter in free air at 21°C.

**DIMENSIONS**



**PRODUCT CODIFICATION**

| <b>S</b> | <b>W</b>        | <b>5</b>                 | <b>35</b>               | <b>B</b>            | <b>F**</b><br><b>F2</b>                           | <b>M***</b><br><b>S</b><br><b>MS</b>                                      |
|----------|-----------------|--------------------------|-------------------------|---------------------|---------------------------------------------------|---------------------------------------------------------------------------|
| Sonitron |                 | Min.<br>Voltage<br>(Vdc) | Max<br>Voltage<br>(Vdc) | B: freq.<br>3500 Hz | Fast-on<br>terminals<br>F: 4.76 mm<br>F2: 6.35 mm | M: military<br>S: square<br>front<br>MS: military<br>&<br>Square<br>front |
|          | ↓<br>W: warbler |                          |                         |                     |                                                   |                                                                           |

- F\*\*** If the part number of the buzzer is without any terminal specifications, the model is standard delivered with round pins, diameter 1.5 mm. The fast -on terminals are available in two dimensions: F= 4.76 mm (0.187 inch) or F2 = 6,35 mm (0.250 Inch).
- M\*\*\*** Military norm MIL STD 202

**LIST OF AVAILABLE PRODUCT TYPES**

The standard series offer the following models:

SW 535 B  
SW 535 B-F  
SW 535 B-F2  
SW 535 B-F-M  
SW 535 B-F2-M  
SW 535 B-S  
SW 535 B-F-S  
SW 535 B-F2-S  
SW 535 B-F-MS  
SW 535 B-F2-MS

## MILITARY MODELS

All standard models can be delivered in a military version. All military models have flame retardant ABS housings in olive green and fast-on terminals.

The military models guarantee a quality superior to the classic models. On top of the standard specifications, the military models are tested as follows:

| Test             | Method MIL STD202 | Test conditions      |
|------------------|-------------------|----------------------|
| Thermal Shock    | 107               | A                    |
| Humidity         | 103               | B                    |
| Salt Spray       | 101               | A                    |
| Shock            | 213 B             | H                    |
| Vibration        | 201 A             | none                 |
| Thermal strength | 211               | A (10 Lbs, 2 cycles) |

## MODELS ON REQUEST

The standard buzzers can be modified upon request in order to deliver a product, meeting the requirements of the customer's application.

- Upon special request all standard models are also available in GREY, BLACK or GREEN (khaki). Please add GREY, BLACK or GREEN to the part number if the required colour is different from the one specified as standard.
- For applications under aggressive humid conditions, models containing a piezo element covered with a protective coating are available. Add ACR to the part number.
- The protective coating gives a complementary assurance against smog; all standard models are perfectly waterproof (IP67) without the mentioned coating.
- Different pin terminal lengths, straight or bent can be custom manufactured.
- The frequency, indicated in the present catalogue, has an accuracy of +/- 15%. Standard buzzers with an improved frequency accuracy (up to +/- 2%) are available upon special customer request.