**Operating Instructions**

**SyncBox1**

Unit for synchronisation of ultrasonic sensors

**Product Description**

The SyncBox1 allows external synchronisation of up to 160 microsonic ultrasonic-sensors of the mic+ family. With two push-buttons and a three-digit LED-display (TouchControl) the SyncBox1 is adjustable to five available ranges.

**Operating Instructions**

**SyncBox1**

**Unit for synchronisation of ultrasonic sensors**

**Product Description**

The SyncBox1 allows external synchronisation of up to 160 microsonic ultrasonic sensors. It can be useful e.g. when mounted on a mobile unit.

**Level at Control-Input**

<table>
<thead>
<tr>
<th>Input Offset</th>
<th>Offset 1</th>
<th>Offset 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>+UB</td>
<td>A1</td>
<td></td>
</tr>
<tr>
<td>-UB</td>
<td>A2</td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 2:** Voltage level

**Installation**

- Connect the sync/com connection and colour coding of the microsonic connection cable to the sensors max per output.

**Fig. 4:** SyncBox Setting in Dependency of Sensor Range

**Technical Data**

- **Operating Voltage UB**: 10 - 30 V DC, reverse polarity
- **Voltage ripple**: ±10 %
- **No-load current consumption**: < 50 mA
- **Class of protection to EN 60 529**: IP 66
- **Housing**: brass sleeve, nickel-plated, plastic parts: PBT
- **Type of connection**: 5-pin M-12 initiator plug
- **Indicators**: 3-digit LED-display, 2 three-color-LEDs
- **Programmable**: 2 Push-Button (TouchControl)
- **Operating temperature**: -25°C to +70°C
- **Storage temperature**: -40°C to +85°C
- **Weight**: 150 g
- **Synceonisation output**: 2 x pnp, UB-2 V, Imax = 2 x 200 mA
- **Time delay before availability**: < 300 ms
- **Norm conformity**: EN-60947-5-2
- **Order no.**: SyncBox1

**Repetition Rate Setting**

- **Determine the repetition rate according to the table.**

One of the chosen Offsets can be reached through the voltage level at control input (see »Offset adjustment»).

**Factory Setting**

- **SensorType to mic+130/...**
- **Offset 1 set at 20 ms**
- **Offset 2 set at 10 ms**

**Notes**

- In the normal operating mode, LEDs show the state of Control-Input.
- LEDs light up green: Offset inactive
- LEDs light up yellow: Offset 1 active
- LEDS light up red: Offset 2 active
- TouchControl can be deactivated (see »Key Lock & Factory Setting»).
- SyncBox1 can be put back to Factory Setting (see »Key Lock and Factory Setting»).