

sonic 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.

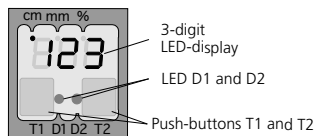


Fig. 1: TouchControl

Different repetition rates can be assigned to the sensors by using several SyncBox1. Therefore one of two available **Offsets** has to be activated. This prevents interaction of single sensors or sensor-groups that should not allow synchronization. It

can be useful e.g. when mounted on a mobile unit.

Level at Control-Input	Offset
Input Off	0
+U _B	A1
-U _B	A2

Fig. 2: voltage level

Installation

Connect the sync/com connection on the ultrasonic sensors with the sync output of the SyncBox1 (80 sensors max per output).

Pin	Function	Colour
1	+U _B	brown
3	-U _B	blue
2	Sync-Output 1	black
4	Sync-Output 2	white
5	Control	grey

Fig. 3: Pin assignment with view onto sensor plug and colour coding of the microsonic connection cable

Synchronization

Adjust the settings as shown in Fig. 3

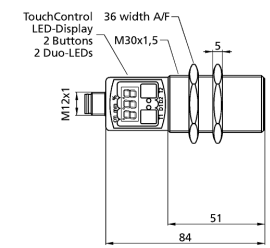
The SyncBox1 must be adjusted to the sensor range of the ultrasonic sensors connected. If sensors with different ranges are to be synchronised, the settings of the sensor with the widest range must be selected.

Sensor Range	SyncBox Setting
mic+25/...	25
mic+35/...	35
mic+130/...	130
mic+340/...	340
mic+600/...	600

Fig. 4: SyncBox Setting in Dependency of Sensor Range

Technical Data

Operating Voltage U_B	10 - 30 V DC, reverse polarity
Voltage ripple	±10 %
No-load current consumption	< 50 mA
Housing	brass sleeve, nickel-plated, plastic parts: PBT
Class of protection to EN 60 529	IP 65
Type of connection	5-pin M-12 initiator plug
Controls	2 Push-Button (TouchControl)
Indicators	3-digit LED-display, 2 threecolor-LEDs
Programmable	Ja, with TouchControl
Operating temperature	-25°C to +70°C
Storage temperature	-40°C to +85°C
Weight	150 g
Synceonisation output	2 x pnp, U _B -2 V, I _{max} = 2 x 200 mA
Time delay before availability	< 300 ms
Norm conformity	EN 60947-5-2
Order no.	SyncBox1

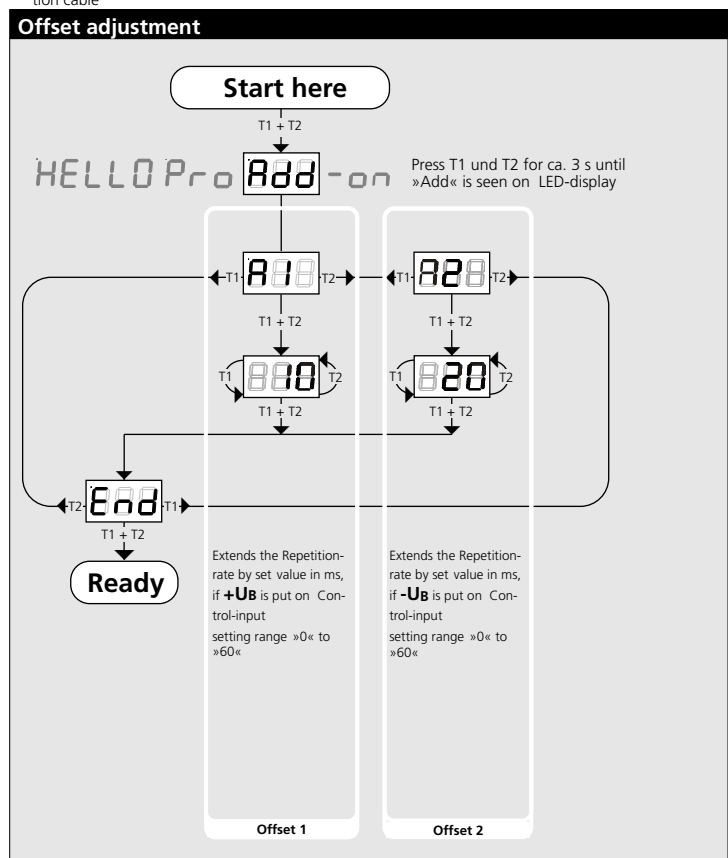
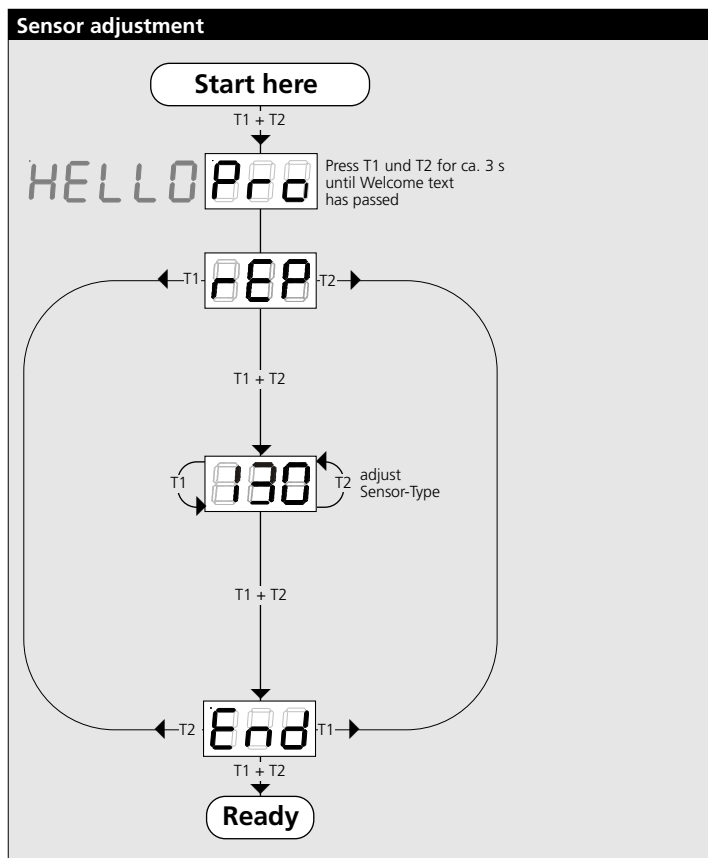


Operating Instructions SyncBox1

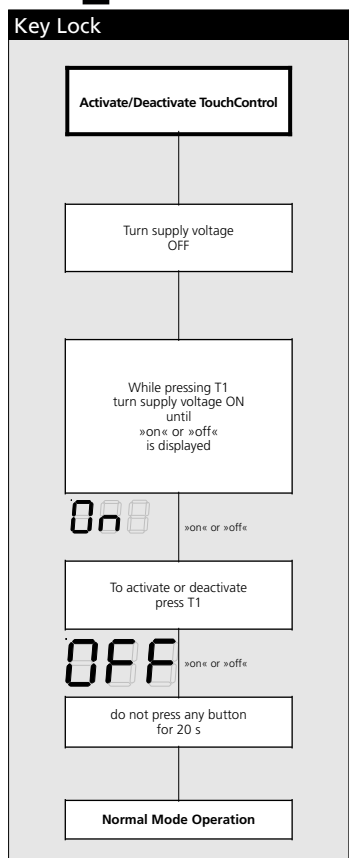
Unit for synchronisation of ultrasonic sensors

Product Description

The SyncBox1 allows external synchronisation of up to 160 micro-



CE 2014/30/EU



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 10 ms
- Offset 2 set at 20 ms

Maintenance

The SyncBox1 is maintenance-free.

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«).