microsonic

Extract from our online catalogue:

wms-130/RT

Current to: 2023-11-13

The wms sensors are designed for use in microprocessor controllers with signal evaluation performed by the customer.

HIGHLIGHTS

› Trigger input › for control of the ultrasonic transmitter

› Echo output › for customer-provided evaluation in the controller

BASICS

› 1 echo output › with a load up to 10 mA

› 5 detection ranges with a measurement range of 30 mm to 8 m

› 0.36 mm resolution

› 10–30 V operating voltage

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Description

The wms sensors

require connection to the customer's own control and signal evaluation equipment.

wms - the inexpensive alternative

to a self-contained sensor when the sensor must be controlled by the customer's system. A microprocessor control is normally required for this.
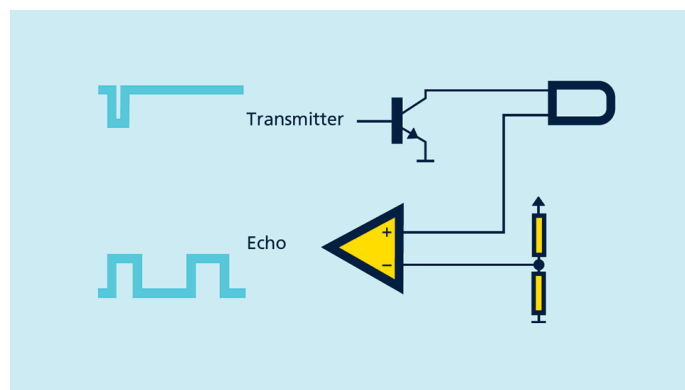
The "transmitter" signal input

briefly has to be set to $-U_B$ by the control unit via an open-collector circuit. As a result, an the wms sensor emits a sound pulse for the time of this signal.

The "echo" signal output

subsequently transmits all echo signals received depending on their duration as 1 bit values (echo yes/no). This takes between 8 and 65 ms depending on the type of sensor. The positive-switched (pnp) output can be loaded with 10 mA. The computation of the distance and subsequent processing is carried out in the customer's control system.
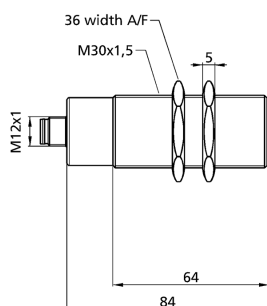
Our project engineers

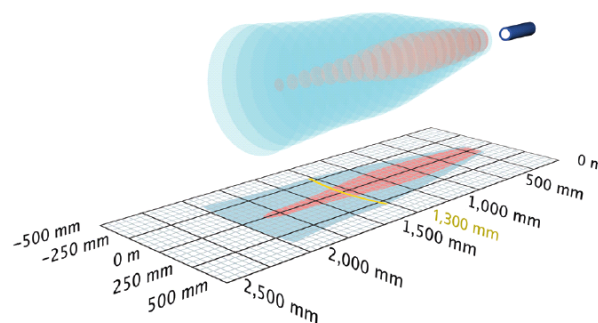will be happy to assist you in integrating a wms sensor into your control system.

Triggering a wms sensor from the customer's control system

wms-130/RT

scale drawing

36 width A/F
M30x1,5
5
M12x1
64
84

detection zone

0 m
500 mm
1,000 mm
1,300 mm
1,500 mm
2,000 mm
-500 mm
-250 mm
0 m
250 mm
500 mm
2,500 mm

echo output

2,000 mm

measuring range	200 - 2.000 mm
design	cylindrical M30
operating mode	sensor for evaluators

ultrasonic-specific

means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
maximum range	2,000 mm
reproducibility	± 0.15 %
accuracy	temperature drift 0.17 %/K

electrical data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	± 10 %
no-load current consumption	≤ 30 mA
type of connection	4-pin M12 initiator plug

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outputs

output 1	signal output echo pnp: I_{max} = 10 mA (signal output echo)

inputs

|	
recommended transmitted pulse length	150 µs
recommended measuring cycle time	20 ms
description	controlled by open collector (npn), $I_C \geq$ 3 mA, $U_{CE} \geq$ 30 V
input 1	signal input - transmitter

housing

material	brass sleeve, nickel-plated, plastic parts, PBT
ultrasonic transducer	polyurethane foam, epoxy resin with glass contents
class of protection to EN 60529	IP 65
operating temperature	-25°C to +70°C
storage temperature	-40°C to +85°C
weight	200 g
further versions	stainless steel cable connection (on request)

technical features/characteristics

controls	no
scope for settings	no
Synchronisation	yes
multiplex	yes
indicators	no

pin assignment
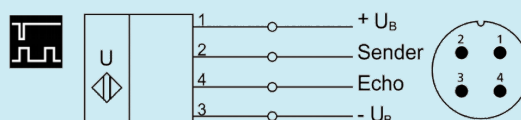
order no.	**wms-130/RT**

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