

- 2 Relays
- Serial interface
- Temperature compensated
- Watchdog
- Reverse polarity protection
- Programmable

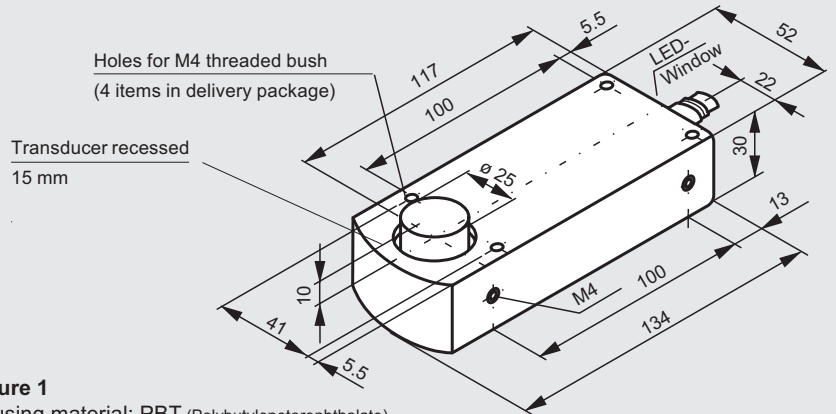


Figure 1
Housing material: PBT (Polybutyleneterephthalate)

The sensor can be configured appropriate to the application via the RS 232 interface, using an extensive instruction block.

Basic sensor setting:

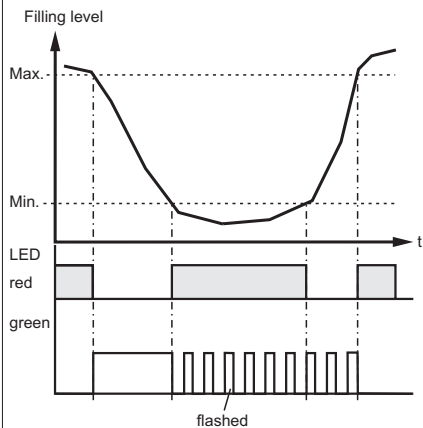
with the instructions OM, SD1/ SD2, NEF

- Relay 1 N.C.
- Relay 2 N.C.
- Switch point, relay 1 70 mm
- Switch point, relay 2 500 mm

Error case (Sensor reverts to safe condition)
Relay 1 = OFF
Relay 2 = OFF

- Hysteresis, relay 1 10 %
- Hysteresis, relay 2 2 %

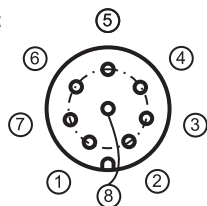
Function diagram



Connection:

Miniature round plug connector
Fa. Lumberg RSF 8

Male pinout



- 1 white - Relay 1
- 2 brown - +U_B
- 3 green - RXD
- 4 yellow - Relay 2
- 5 grey - TXD
- 6 pink - free
- 7 blue - -U_B
- 8 shielding

Detection range:	45 mm ... 500 mm figure 1
Layout:	Transceiver, 2 relays, serial interface
Order code:	UC 500-F43-2KR2-V17-Y50388
Performance data:	<ul style="list-style-type: none"> Detection range 45 mm ... 500 mm Standard test plate (min. flat area) 100 mm x 100 mm Near range (no detection) 45 mm Sonic beam divergence angle approx. 5° at 3dB Transducer frequency approx. 380 kHz Minimum response time [EM,NONE] 2 Measur'mt.cycles (≤ 20 ms normal oper'n; CCT=1) Resp. time/default [EM,MXN,5,2] 6 Measur'mt.cycles (≤ 60 ms normal oper'n; CCT = 1) Response time/dynamic [EM,DYN] 3 Measur'mt.cycles (≤ 30 ms normal oper'n; CCT = 1) Repeatability ≤ 0.1 % Resolution 0.17 mm Temperature error ≤ 2 %, with internal temperature compensation
Electrical Data:	<ul style="list-style-type: none"> Operating voltage U_B 10 V DC ... 30 V DC Ripple ± 10 %ss, U_B=33 V No-load power consumption P_L ≤ 0.7 W Power consumption ≤ 2 W (all relays set) EMC satisfies EN 60947-5-2
Switch output 1, 2	2 relays, relay root internally +U _B ; change-over cont.
contact material	silver-palladium, gold plated
maximum switching voltage	60 V DC, 125 V AC ind. load not allowed
maximum switching current	2 A
switching power	30 W DC, 60 W AC
limiting continuous current	1 A
electrical life	3x10 ⁵ switching cycles at 1 A, 28 V
mechanical life	10 ⁷ switching cycles
RS232 interface	9600 baud, 1 start bit, 1 stop bit, no parity
interface cable	length of interface cable to DIN 66259 part 2
Transmit data TD,	5 V ... 15 V low level
Receive data RD	-5 V ... -15 V high level
Indicators (red and green LED's)	see function diagram
Mechanical data:	<ul style="list-style-type: none"> housing dimensions 134 mm x 52 mm x 30 mm operating temperature 248 Kelvin ... 343 Kelvin (25 °C ... +70 °C) storage temperature 233 Kelvin ... 358 Kelvin (-40 °C ... +85 °C) protection class to DIN 40 050 IP 65 permissible shock and vibration loading b ≤ 30 g, T ≤ 11 ms f ≤ 55 Hz, a ≤ 1 mm connection type 8 pin circular plug connector, Fa. Lumberg RSF 8

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RS232 Command (brief overview)

Command	Meaning	Parameter	Zugriff
VS0	V elocity of S ound at 0°C	Velocity of sound 0° C VS0 in [cm/s] {10000...60000}	read and set
VS	V elocity of S ound	Current velocity of sound VS in [cm/s]	read
TO	T emperature O ffset	TO in [0.1K]	read and set
TEM	TEM perature	TEM in [0.1K]	read and adapting TO
REF	REF erence measurement	Distance REF in [mm] {0...800}	adaptation VS0
SD1	S witching D istance 1	Relay 1 SD1 in [mm] {40...800}	read and set
SD2	S witching D istance 2	Relay 2 SD2 in [mm] {40...800}	read and set
SH1	S witching H ysteresis 1	Hysteresis Relay 1 in [%] {0...15}	read and set
SH2	S witching H ysteresis 2	Hysteresis Relay 2 in [%] {0...15}	read and set
BR	B lind R ange	Distance in [mm] {0...600}	read and set
CBT	C onstant B urst T ime	Burst length in [µs] {0,1,2,3}	read and set
CCT	C onstant C ycle T ime	Time in [ms] {0...1000}	read and set
FTO	F ilter T ime O ut	Number of measurements to be filtered without echo {0...255}	read and set
EM	E valuation M ethod	Method of evaluation { 0=NONE; PT1[.f,p,c]; MXN[.m,n]; DYN[.p] }	read and set
CON	C ONServative filter	Counter wave as the number! {0...255}	read and set
OM	O utput M ode	OM coded [N.C. =1, N.O.=0]	read and set
FSF	F ail S afe F unction	Error function type z.B. FSF,11,35 {0,1,2}, [error current in 0.1 mA]	read and set
MD	M aster D evice	Functions as master {0=NONE},AD,RD,RT,SS,ADB,RDB,RTB }	read and set
NEF	N o E cho F ailure	Response if no echo {0,1}	read and set
AD	A bsolute D istance	Distance in [mm]	read
RT	R un T ime	Echo run time in machine cycles [1mz = 1.085µs]	read
SS1	S witching S tate 1	SS1 binary [0 : inactive, 1 active] (independent OM)	read
SS2	S witching S tate 2	SS2 binary [0 : inactive, 1 active] (independent OM)	read
ADB	A bsolute D istance B inary	Distance in [mm] nicht als ASCII	read
RTB	R un T ime B inary	Echo run time in machine cycles [1mz = 1.085µs] nicht als ASCII	read
ER	E cho R eceived	ER binary [0/1]	read
VER	VER sion	Version string : 028A	read
ID	ID entification	ID string : P&F UC500-F43-2KR2-V17...	read
DAT	DAT e	Date string : Date: 09/13/99 Time: 08:15:10	read
ST	ST atus	Status in form of hexadecimal string	read
RST	ReSeT	Performs the Reset function	command
DEF	DEF ault settings	Reset to default settings	command
SUC	S to R e U s E r C onfiguration	Save all settings	command
RUC	R ecall U s E r C onfiguration	Resets to saved configurations	command