

dimensions **M30 x 1.5mm**
100 x 75 x 110mm

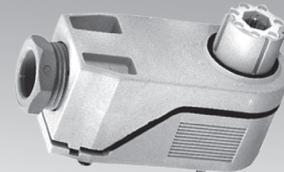
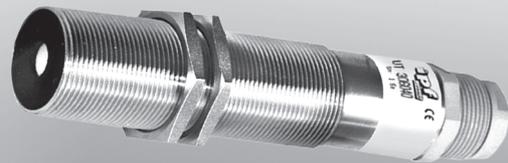
dif.reflection sensor sensing range **up to 1.5m**
amplifiers

sensor

- ✓ stainless steel sleeve
- ✓ system of protection IP65
- ✓ sensing range 1.5m or 3m
- ✓ cable length between sensor head and amplifier up to 10m
- ✓ short circuit and reverse polarity protection

amplifier

- ✓ mounting on standard rail
- ✓ adapted to the corresponding sensor head
- ✓ 2 settable digital switch-points plus analog voltage and current output
- ✓ display driver for 4-digit display



**analog and switching output
serial interface RS232**



description

The ultrasonic sensors from *ipf electronic* permit a contact-free position recognition. The distances are worked out in accordance with the echo propagation time process. In the process, the propagation time is temperature-compensated and over a large range of temperatures, enables ultrasonic reflecting objects of any color and material to be detected with a high level of precision. Due to the high sound frequency, the ultrasonic sensors are also insensitive to malfunction in rough, industrial environments. The sensor heads can be operated using the corresponding amplifiers. These devices feature current and voltage outputs which are proportional to distance, two fixed and two settable switch-points as well as data outputs for a 4-digit digital display.

The distance which is worked out is sent via the voltage and current output after a plausibility test, calculation of the sound velocity for the air temperature measured with the sensor as well as the establishment of the running mean. In addition, the processor compares the distance which has

been worked out with the set-points and switches the switching outputs correspondingly. From the display driver unit, the data can be fed to a 4-digit LCD display or further processed in any desired way. The 4-pin sliding switch determines the operational mode of the sensor. The device can be adapted to the application via the serial interface.

application examples

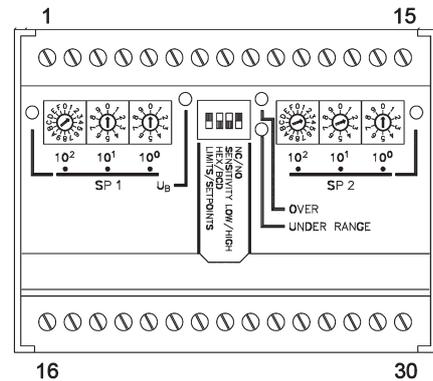
- ▶ measuring the filling level of various materials
- ▶ measuring heights, e.g. packaging units on conveyor belts or pallets
- ▶ measurement of distances related to materials which cannot be identified optically
- ▶ controlling the winding and unwinding of all types of film
- ▶ regulating the tension of materials by means of measuring the slack
- ▶ detecting thicknesses and diameters
- ▶ lengths and distance measurement systems

article-no.	UT306140	UV540000
version	dif. reflection sensors	amplifier
measuring range	150 ... 1500mm	-
TECHNICAL DATA		
detection range (S)	150 ... 1500mm	for UT306140
sonic cone angle	10°	-
output signal	-	2 x pnp, no / nc, 0 ... 10V DC, 4 ... 20mA
operating voltage	connection to amplifier	19 ... 30V DC
current consumption (w/o load)	≤ 20mA	≤ 110mA
output current (max. load)	-	2 x 100mA
voltage drop (max. load)	-	-
resolution	≤ 1mm	-
repeat accuracy	± 0.2%, but min. 1mm	-
linearity deviation	± 0.3%, or 2mm	-
carrier frequency	220kHz	-
sampling frequency	-	8Hz
display (signal)	-	2x yellow LED
display (operational mode)	-	green LED
display (no echo/too close)	-	red LED / red LED
switch-point setting	-	3x rotary switch
short-circuit protection	+	+
reverse polarity protection	+	+
design	M30x1.5	100x75x110mm
length (thread/complete)	90mm/153mm	-
housing material	stainless steel	plastic
temperature range	0 ... +70°C	0 ... +50°C
system of protection (EN 60529)	IP65	IP43
connection	connector	screw terminals
connection accessories	in scope of delivery	-
accessories	quick clip AY000061	-
	<p>UT306040</p> <p>cm</p> <p>30</p> <p>10</p> <p>0</p> <p>10</p> <p>30</p> <p>150</p> <p>1500</p> <p>mm</p> <p>■ accurate detection of a 100mm x 100mm object</p> <p>□ possible detection of a 100mm x 100mm object</p>	

connection

UV54000x

no.	description	function
P.W.S external power supply		
1	24V	power supply
2	GND	power supply
HEAD transmitting/receiving button		
3	24V	power supply for sensor
4	GND	power supply for sensor
5	STA	transmitting command
6	STO	echo feedback
7	SEN	receiving sensitivity
8	TEM	temperature signal
RM. CO. remote control		
9	GND	0V-line
10	HLD	transm. lock, synchronization
OUTPUT switching outputs		
11	GND	0V-line
12	ORA	over range, no echo
13	URA	under range, to close
14	SP1	switch-point 1
15	SP2	switch-point 2
ANALOG OUTPUT analog outputs		
16	U voltage output	0 ... 10V
17	GND	0V for voltage output
18	I current output	4 ... 20mA
19	GND	0V for current output
PRG serial interface		
20	TxD	serial data output
21	GND	0V for interface
22	RxD	serial data input
DIGIT. OUTPUT multiplex digital outputs		
23	10 ³	Dig 3 digitstrobe left MSD
24	10 ²	Dig 2 digitstrobe
25	10 ¹	Dig 1 digitstrobe
26	10 ⁰	Dig 0 digitstrobe right LSD
27	2 ³	D 3 data line
28	2 ²	D 2 data line
29	2 ¹	D 1 data line
30	2 ⁰	D 0 data line



ACCESSORIES

article-no.	description	notes
AY000061	quick clip 30, plastic	for design 30
AU000002	reflector 30, on level 90° (deflection angle)	for design 30
AU000003	reflector 30, focussing 90° (deflection angle)	for design 30

We will be pleased to introduce you to our high-quality ultrasonic program on request!

- ▶ ultrasonic barriers with transmitter and receiver
- ▶ one-piece ultrasonic sensors with interface for different sensing ranges
- ▶ ultrasonic sensors with teach-in function, 2 switching outputs and 1 analog output

This data sheet contains the standard versions only. Kindly request the availability of other output- and connection functions.

Warning: Never use these devices in applications where the safety of a person depends on their functionality.

You also find this data sheet, as well as contact details under www.ipf-electronic.com

notes

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