

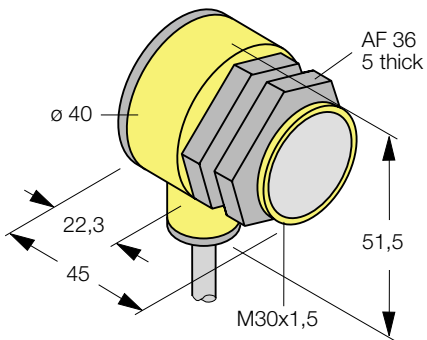


# Ultrasonic Sensors U-GAGE™ T30 series with analog and switching outputs

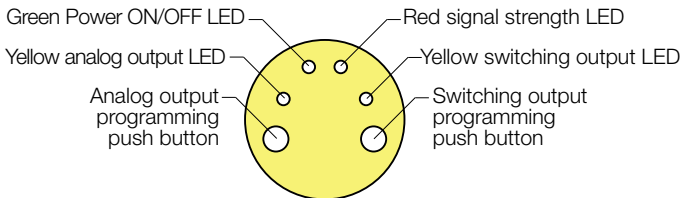
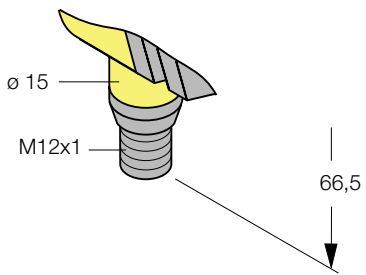


## Dimensions [mm]

### ● Cable



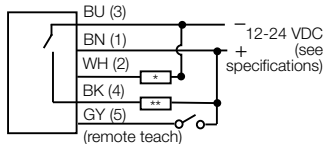
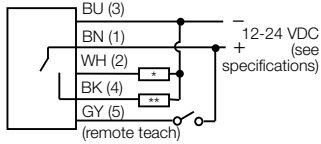
### ● Connector



## Wiring

pnp complementary

npn complementary



\* analog output : 4-20 mA or 0-10 VDC  
\*\* switching output : 100 mA maximum

<b>Supply voltage</b> $U_B$	12...24 VDC (current analog output models) 15...24 VDC (voltage analog output models)
Ripple $V_{pp}$ No load current	$\leq 10 \%$ $\leq 90 \text{ mA}$

**Protection** short-circuit  
reverse polarity

<b>Output</b>	npn, pnp selectable NC/NO
Transistor output	
Voltage output	0...10 VDC
Load current	$< 10 \text{ mA}$
Current output	4...20 mA
Load impedance	$= 1 \Omega \text{ to } R_{max} (***)$

<b>Sensing window, adjustable</b>	with Teach-in function (see table on next page)
Rated control element	100 x 100 mm
Repeat accuracy R	$\pm 0,25 \%$ of distance
Temperature drift	$\pm 0,2 \%$ of sensing distance / °C
Response time	
switching output "A"-models	50 ms
"B"-models	100 ms
analog output "A"-models	ca. 40 ms
"B"-models	ca. 80 ms

<b>Material housing</b>	PBT
Protection class (IEC 529/DIN 40050-9)	IP67
Temperature range	-20...+70 °C
Cable	2 m, PVC, 5 x 0,34 mm <sup>2</sup>
Connector	eurofast®

<b>Indicator LEDs</b>	
Yellow	target within sensing window
Green	power-on, RUN mode
Green flashing	discrete output overload
Red flashing	target within sensing window (frequency proportional to the received signal strength)

## Accessories

<b>Brackets</b>		
SMB30A	34 703 00	angle bracket
SMB30SC	30 525 21	swivel mount bracket
SMB30C	34 701 00	split clamp bracket
SMB1815SF	30 532 79	swivel mount bracket

<b>Connectors</b>		
RK4.5T-2	66 338 03	straight type
WK4.5T-2	66 600 02	right-angled type

$$(***) R_{max} (k\Omega) = \frac{V_{supply} - 7 V}{20 \text{ mA}}$$

# Ultrasonic Sensors

## U-GAGE™ T30 series with analog and switching outputs

Operating range	Frequency [kHz]	Supply voltage [VDC]	Switching output	Analog output	Response time per cycle [ms] <sup>1)</sup> switching output <sup>2)</sup> analog output	Connection	Type	Ident number
150 mm...1 m	228	12...24	pnp	4...20 mA	50 <sup>1)</sup> or 40 <sup>2)</sup>	cable	<b>T30UIPA</b>	30 559 74
150 mm...1 m	228	12...24	pnp	4...20 mA	50 <sup>1)</sup> or 40 <sup>2)</sup>	connector	<b>T30UIPAQ</b>	30 559 75
150 mm...1 m	228	12...24	nnp	4...20 mA	50 <sup>1)</sup> or 40 <sup>2)</sup>	cable	<b>T30UINA</b>	30 559 77
150 mm...1 m	228	12...24	nnp	4...20 mA	50 <sup>1)</sup> or 40 <sup>2)</sup>	connector	<b>T30UINAQ</b>	30 559 78
150 mm...1 m	228	15...24	pnp	0...10 VDC	50 <sup>1)</sup> or 40 <sup>2)</sup>	cable	<b>T30UUPA</b>	30 559 86
150 mm...1 m	228	15...24	pnp	0...10 VDC	50 <sup>1)</sup> or 40 <sup>2)</sup>	connector	<b>T30UUPAQ</b>	30 559 87
150 mm...1 m	228	15...24	nnp	0...10 VDC	50 <sup>1)</sup> or 40 <sup>2)</sup>	cable	<b>T30UUNA</b>	30 559 89
150 mm...1 m	228	15...24	nnp	0...10 VDC	50 <sup>1)</sup> or 40 <sup>2)</sup>	connector	<b>T30UUNAQ</b>	30 559 90
300 mm...2 m	128	12...24	pnp	4...20 mA	100 <sup>1)</sup> or 80 <sup>2)</sup>	cable	<b>T30UIPB</b>	30 559 80
300 mm...2 m	128	12...24	pnp	4...20 mA	100 <sup>1)</sup> or 80 <sup>2)</sup>	connector	<b>T30UIPBQ</b>	30 559 81
300 mm...2 m	128	12...24	nnp	4...20 mA	100 <sup>1)</sup> or 80 <sup>2)</sup>	cable	<b>T30UINB</b>	30 559 83
300 mm...2 m	128	12...24	nnp	4...20 mA	100 <sup>1)</sup> or 80 <sup>2)</sup>	connector	<b>T30UINBQ</b>	30 559 84
300 mm...2 m	128	15...24	pnp	0...10 VDC	100 <sup>1)</sup> or 80 <sup>2)</sup>	cable	<b>T30UUPB</b>	30 559 92
300 mm...2 m	128	15...24	pnp	0...10 VDC	100 <sup>1)</sup> or 80 <sup>2)</sup>	connector	<b>T30UUPBQ</b>	30 559 93
300 mm...2 m	128	15...24	nnp	0...10 VDC	100 <sup>1)</sup> or 80 <sup>2)</sup>	cable	<b>T30UUNB</b>	30 559 95
300 mm...2 m	128	15...24	nnp	0...10 VDC	100 <sup>1)</sup> or 80 <sup>2)</sup>	connector	<b>T30UUNBQ</b>	30 559 96

### Programming of either switching or analog output

#### Push button

#### Status indication

Step 1 Choose switching or analog programming push button and hold this button for approx. 2 s until green LED turns OFF.	green yellow red	LED OFF LED ON - indicates TEACH mode LED flashes in direct proportion to received signal strength when target is detected
Step 2 First limit (near or far) Place target at first limit and click push button less than 2 s.	green yellow red	LED OFF LED flashes (at 2 Hz) - indicates receiving first limit LED (ON shortly; then) flashes in direct proportion to the received signal strength
Step 3 Second limit (near or far) Place target at second limit and click push button less than 2 s.	green yellow red	LED first OFF; then glowing steadily to indicate RUN mode LED OFF LED ON shortly; then flashes in direct proportion to the received signal strength (RUN mode)
Step 4	Repeat for the other output if a second output is desired.	

### Programming of identical limits for both switching and analog outputs simultaneously

#### Push button

#### Status indication

Step 1 Push and hold for approx. 2 s either switching or analog programming push button until yellow LED turns ON; push and hold other push button until its yellow LED turns ON.	green yellow red	LED OFF both LEDs ON - indicating TEACH mode LED flashes in direct proportion to received signal strength when target is detected
Step 2 First limit (near or far) Place target at first limit and click either push button less than 2 s.	green yellow red	LED OFF both LEDs flash (at 2 Hz) - indicating receiving first limit LED (ON shortly; then) flashes in direct proportion to the received signal strength
Step 3 Second limit (near or far) Place target at second limit and click either push button less than 2 s.	green yellow red	LED first OFF; then glowing steadily to indicate RUN mode both LEDs ON if outputs conducting within window limits LED ON shortly; then flashes in direct proportion to the received signal strength (RUN mode)

NOTE: - If first and second limits are identical, the sensor will set automatically a 10 mm window centered around the taught position ( $\pm 5$  mm).  
- Remote programming is also possible

Subject to changes without notice • Edition 8.99 • P/N ED054H9A



**IMPORTANT SAFETY WARNING!** These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can result in either an energised or de-energised output condition. These products should not be used as sensing devices for personnel safety.