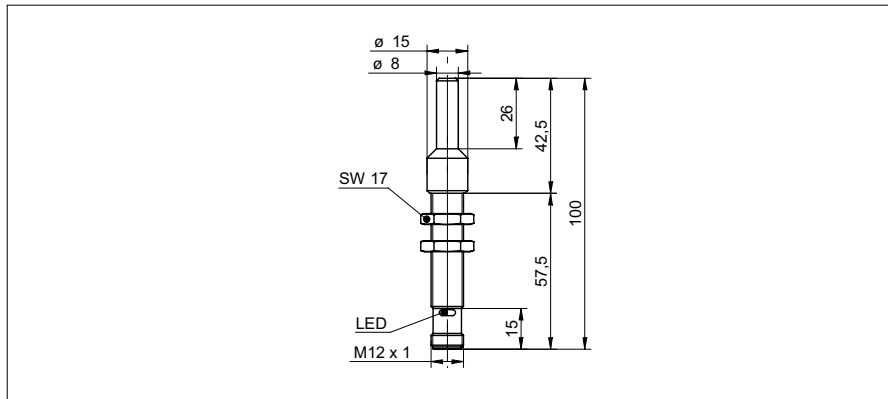


## URAM 12 (with beam columnator, Highspeed)

### Ultrasonic retro-reflective sensors

**sample drawing**

**general data**

special type	Highspeed
scanning range sd	0 ... 40 mm
reflector position Sde	10 ... 40 mm
adjusting range reflector (operating range)	$\pm 2,5 \% Sde$
adjusting range reflector (limit range)	$\pm 5 \% Sde$
repeat accuracy	< 1,5 mm
temperature drift	< 2 % Sde
response time ton	< 1,5 ms
release time toff	< 1,5 ms
switching frequency	< 200 Hz
sonic frequency	380 kHz
adjustment	external Teach-in
alignment aid	target indication flashing
output indicator	LED green

**electrical data**

voltage supply range +Vs	12 ... 30 VDC
current consumption max. (no load)	35 mA
output current	< 200 mA
voltage drop Vd	< 2 VDC
residual ripple	< 10 % Vs
short circuit protection	yes
reverse polarity protection	yes

**mechanical data**

type	cylindrical threaded
housing material	brass nickel plated
width / diameter	12 mm
height / length	100 mm
connection types	connector M12

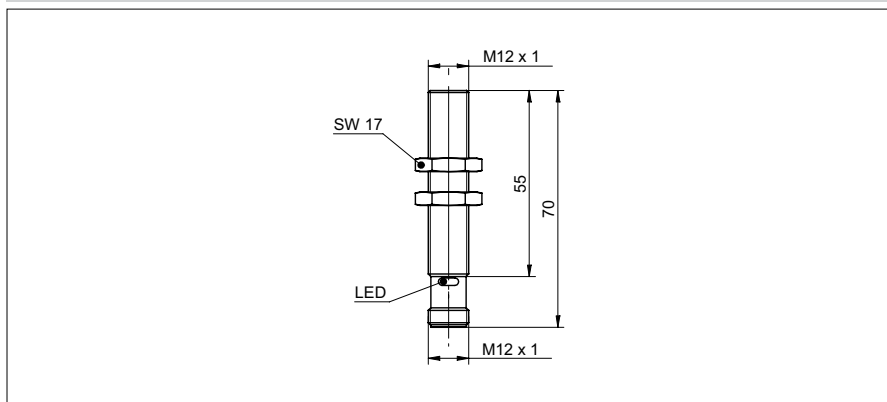
**ambient conditions**

operating temperature	-10 ... +60 °C
protection class	IP 67

**sample picture**


## URAM 12 (with beam columnator, Highspeed) Ultrasonic retro-reflective sensors

order reference	output circuit
URAM 12N8910/S14OD	NPN make function (NO) / break function (NC)
URAM 12P8910/S14OD	PNP make function (NO) / break function (NC)

**Ultrasonic retro-reflective sensors**
**URAM 12 (Sde = 70 mm, Highspeed)**
**sample drawing**

**general data**

special type	Highspeed
scanning range sd	0 ... 70 mm
reflector position Sde	40 ... 70 mm
adjusting range reflector (operating range)	$\pm 2,5 \% Sde$
adjusting range reflector (limit range)	$\pm 5 \% Sde$
repeat accuracy	< 1,5 mm
temperature drift	< 2 % Sde
response time ton	< 1,5 ms
release time toff	< 1,5 ms
switching frequency	< 200 Hz
sonic frequency	380 kHz
adjustment	external Teach-in
alignment aid	target indication flashing
output indicator	LED green

**electrical data**

voltage supply range +Vs	12 ... 30 VDC
current consumption max. (no load)	35 mA
output current	< 200 mA
voltage drop Vd	< 2 VDC
residual ripple	< 10 % Vs
short circuit protection	yes
reverse polarity protection	yes

**mechanical data**

type	cylindrical threaded
housing material	brass nickel plated
width / diameter	12 mm
height / length	70 mm
connection types	connector M12

**ambient conditions**

operating temperature	-10 ... +60 °C
protection class	IP 67

**sample picture**


**Ultrasonic retro-reflective sensors****URAM 12 (Sde = 70 mm, Highspeed)**

<b>order reference</b>	<b>output circuit</b>
<b>URAM 12N8910/S140</b>	NPN make function (NO) / break function (NC)
<b>URAM 12P8910/S140</b>	PNP make function (NO) / break function (NC)