

Ultrasonic Proximity Sensors SPU

- ◆ Ultrasonic echo technology
- ◆ Non contact sensing of distance to different objects
- ◆ Sensing range - up to 8 meters
- ◆ Relay or linear output available
- ◆ Low price

The SPU cover a series of ultrasonic distance sensors distributed by COMECO and manufactured by NIVELCO. Their **operation principle** is based on measurement of time between emitting an ultrasonic pulse and receiving its echo. The SPU sensors can catch any object within its measuring range, that is in line with its centerline and has a perpendicular surface and good reflecting characteristics. They are fully temperature-compensated. A number of variants are available with **relay or analog outputs** and distance ranges **from 1 to 8 m**. There are two groups of sensors: SPUS (with relay output) are proximity switches and SPUT (with analog output) are distance transmitters. The operation principle allows measurement of **height, continuity, distance or presence of solid objects**. The SPU ultrasonic distance transmitters are irreplaceable when non-contact measurement to solid objects is needed, and they are indispensable in case of distance measuring to **explosive** or other special objects. In some limited occasions (absence of vapor, dust and waves) the SPU ultrasonic sensors can be also used for level measurement.



Technical specifications

Power supply

Supply voltage (U)	from 10.8 to 26.4 VDC
Consumption	see table below

Relay outputs

Output type	(SPUS models only) NPN or PNP
Switching possibilities	maximum 120 mA @ 30 VDC
Hysteresis	1% of span

Analog output

Current output	(SPUT models only) 0 to 5 mA
Current output (option)	4 to 20 mA
Line resistance	maximum 300 Ω
Voltage output	0 to 5 V
Line resistance	minimum 2 kΩ

Indication and adjusting

Indication	one color LED
Pre-set	multi-turn potentiometer

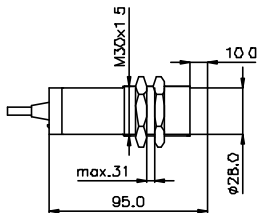
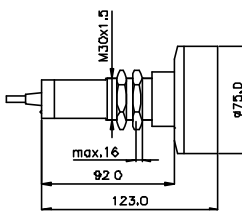
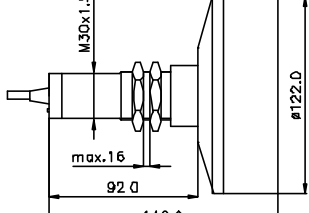
Environmental temperature

Operating temperature	-10 to 60 °C
Storage temperature	-40 to 80 °C
Temperature drift	0.03 %/K

Design and materials

Casing material	Nickel plated brass
Mounting	M30x1.5
Wiring	cabie or 4-pin connector
Weight (1, 3 or 8 meters)	200, 450 or 850 g
Protection class	IP-65

SP

Model	SPUS1	SPUT1	SPUS3	SPUT3	SPUS8	SPUT8
Parameter						
Range	from 200 to 1000 mm		from 300 to 3000 mm		from 500 to 8000 mm	
Ultrasound frequency	160 kHz		60 kHz		40 kHz	
Sonic cone	5°		5°		5°	
Repeatability	0.5% ± 2 mm		0.5% ± 6 mm		0.5% ± 5 mm	
Linearity	-	± 8 mm	-	± 25 mm	-	± 50 mm
Switching time	< 32 ms	-	< 95 ms	-	< 250 ms	-
Settling time	-	125 ms	-	375 ms	-	1000 ms

Ordering code



SPU* - G5.G10.G11 - #1

Code	Feature or option	Code values
*	Variant (range)	Relay output: S1 - 1m, S3 - 3m, S8 - 8m; Analog output: T1 - 1m, T3 - 3m, T8 - 8m
G5	Relay output (Omit at "T" - variants!)	E - NPN, F - PNP
G10	Relay action (Omit at "T" - variants!)	B - switch on distance > pre-set, C - switch on distance < pre-set
G11	Analog output (Omit at "S" - variants!)	B - 0...5 mA, F - 4...20 mA ⁽¹⁾ , I - 0...5 V
#1	Output connector	C - output connector mounted. Non conform to CE!

⁽¹⁾ Only with separate current converter. Please, contact COMECO!

For detailed instructions on order coding see chapter "ORDERING CODES"!