



## Ultrasonic sensors for high precision detection of clear and transparent objects

- Clear object detection, inspection on transparent or highly reflective film and liquid level measurement
- Standard M18 tubular and M18 right angle mounting
- 50...500 mm Background and Foreground Suppression
- Teach-in push button or remote input for distance range setting
- Auto-Window function
- Standard M12 4-pole connector and M12 5-pole connector
- PNP or NPN outputs for object detection and 0-10 V or 4-20 mA analog outputs for distance measure
- IP67, NEMA 6P-rated

### APPLICATIONS

- Packaging machines
- Beverage & Bottling
- Automotive assembling line



SENSORS

US18		
Tubular		30...300 mm Analog model resolution: 0,5 mm (SLOW mode), 1 mm (FAST mode)
Right angle		50...500 mm Repeatability: 0,7 mm
Power supply	Vdc	10...30 V (US18 tubular), 12...30 V (US18 right angle)
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/ PNP	▪
	relay	
	other	0...10 V, 4...20 mA Analog (US18 tubular)
Connection	cable	
	connector	▪
	pig-tail	
Housing material		Plastic
Mechanical protection		IP67, NEMA 6-P

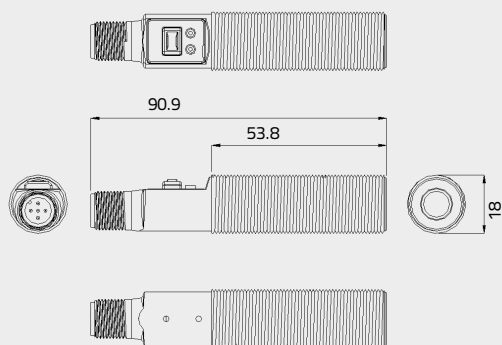
## TECHNICAL DATA

	US18-PA/PR-5-N03	US18-PL-5-N03
Operating distance	30...300 mm	50...500 mm
Housing Type	M18 tubular	M18 Right Angle
Power supply	10...30 Vdc	12...30 Vdc
Ripple		10% max.
Current consumption	65 mA max.	25 mA max.
Output current		100 mA max.
Output saturation voltage	1,6 V max.	3 V max.
Output	PNP and NPN 0...10 V or 4...20 mA analog output	PNP or NPN
Delay at powering		300 ms
Response time	8 ms (NPN/PNP) 2,5 ms (Analog out. FAST mode) 30 ms (Analog out. SLOW mode)	15 ms
Switching frequency	62,5 Hz (NPN/PNP) 200 Hz (Analog out. FAST mode) 16 Hz (Analog out. SLOW mode)	32 Hz
Repeatability	0,5 mm	0,7 mm
Indicators	yellow/green OUTPUT LED red POWER LED	red/green RANGE LED yellow/red OUTPUT LED
Setting	Teach-in push-button or remote input	
Ultrasonic emission frequency	300 kHz	
Minimum detection window	5 mm	
Operating temperature	-25...+55 °C	-20...+60 °C
Vibration	0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)	
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)	
Housing material	thermoplastic polyester	ABS
Protection class	IP67, NEMA 6-P rated	
Connections	M12 5-pole connector	M12 4-pole connector

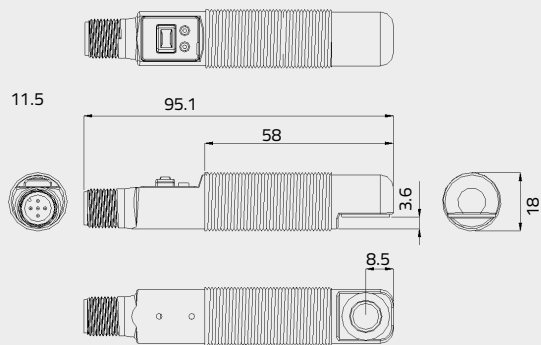
## DIMENSIONS

### M18 Tubular

#### AXIAL VERSION - US18 PA-5-N03-XX

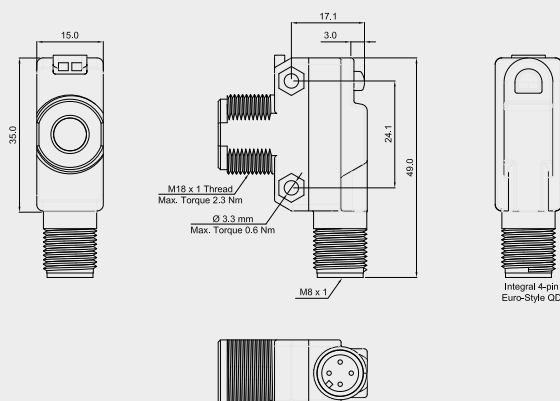


#### RADIAL VERSION - US18 PR-5-N03-XX



### M18 Right Angle

#### US18 PL-5-N03-NH/PH



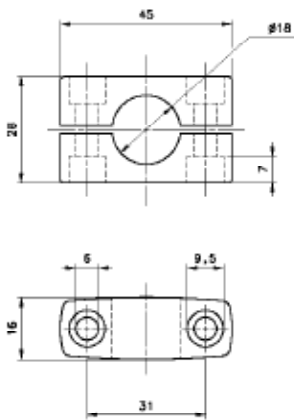
mm

## MODEL SELECTION AND ORDER INFORMATION

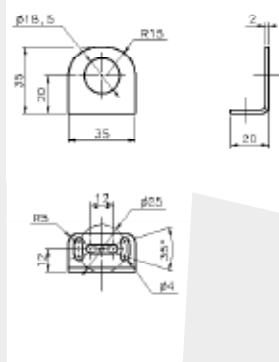
FUNCTION	HOUSING TYPE	OPERATING DISTANCE	OUTPUT	MODEL	ORDER No.
Foreground and Background suppression	M18 Tubular, axial	30...300 mm	NPN and PNP	US18-PA-5-N03-OH	95B040000
	M18 Tubular, radial		NPN and PNP	US18-PR-5-N03-OH	95B040010
	M18 Tubular, axial		4-20 mA Analog	US18-PA-5-N03-IH	95B040020
	M18 Tubular, radial		4-20 mA Analog	US18-PR-5-N03-IH	95B040030
	M18 Tubular, axial		0-10 V Analog	US18-PA-5-N03-VH	95B040040
	M18 Tubular, radial		0-10 V Analog	US18-PR-5-N03-VH	95B040050
	M18 Right angle mounting	50...500 mm	NPN	US18-PL-5-N03-NH	95B040140
			PNP	US18-PL-5-N03-PH	95B040150

## ACCESSORIES

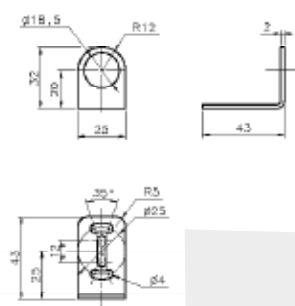
SP-40



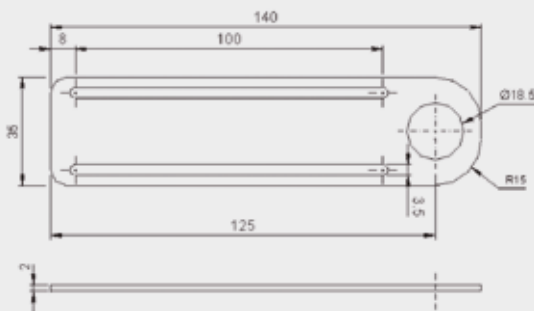
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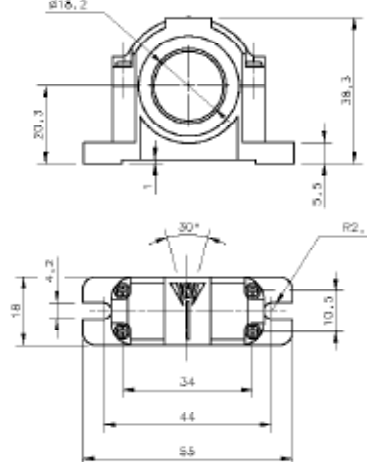
ST-5012



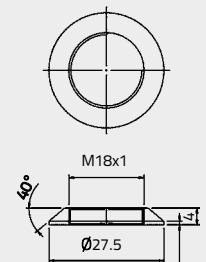
ST-5017



SWING-18



PLASTIC NUT



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