

# *Ultrasonic Sensors*

- *Transistor Output*
- *Analog Output*
- *Teach Mode - Pushbutton Programmable*
- *Windows Programmable*
- *Extended Sensing Range*



# Applications for Ultrasonic Sensors

**Diameter Measurement**

- Paper
- Metal working
- Aluminum
- Textile
- Plastics
- Packaging machines

**Parts Counting and Presence Detection**

- People
- Robots
- Food & Beverage
- Glass
- Solid objects
- Fluids
- Car wash
- Material handling

**Level Detection**

- Printing machines
- Food & Beverage
- Water treatment
- Chemical industry
- Analysis work
- Power plants

**Tension Control**

- Paper
- Metal working
- Aluminum
- Textile
- Plastics
- Packaging machines
- Chemical industry

**Height Measurement**

- Automotive industry
- Metal working
- Printing machines
- Package & Distribution
- Food & Beverage
- Bottle sorting
- Agriculture
- Robots
- Electronic industry
- Glass
- Material handling

## Basic and Wire Programmable - Transistor Output

### M12, M18, M30, 80x80 Transistor Output, NPN or PNP

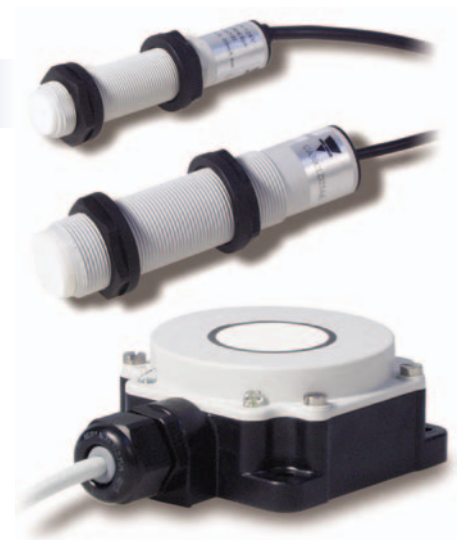


- 32 model numbers
- Microprocessor-controlled
- Excellent repeatability
- Detection range from 60 mm to 6m
- Integrated digital filter
- Sensitivity adjustment by potentiometer or wire
- Synchronization by wire
- One and two switching outputs
- Diffuse-reflective
- Through-scan detection
- DC Supply Voltage
- Load 100mA & 500mA
- IP65 / IP67
- M12: Plug versions
- M18: Cable or pig tail versions
- M30: Cable or plug versions
- 80 x 80: Plug versions

## Basic and Wire Programmable - Analog Output

### M18, M30, 80x80 Analog Output, 0-10 VDC or 4-20 mA

- 30 model numbers
- Microprocessor-controlled
- Excellent repeatability
- Detection range from 60 mm to 6m
- One analog output
- Synchronization output
- DC Supply Voltage
- 0-10 VDC or 4-20 mA output
- Linearity error < 0.3 % (0.5% for 80x80)
- IP65 / IP67
- Cable or plug versions
- M18, M30 and 80 x 80 housings



## Teach Mode - Pushbutton Programmable

### M30, Analog Output 0-10 VDC or 4-20 mA M30, Transistor Output PNP

- Microprocessor-controlled
- Excellent repeatability
- Detection range 1500, 2000 or 3500 mm
- 2 set points PNP, NO or NC
- Analog outputs (AK and AG types)
- Transistor output PNP (PO type)
- Positive or negative slope
- Supply 18-30 VDC
- Analog output 0-10 VDC or 4-20 mA or transistor PNP output
- Linearity error < 0.3 %
- IP67
- Plug versions

### Teach Mode



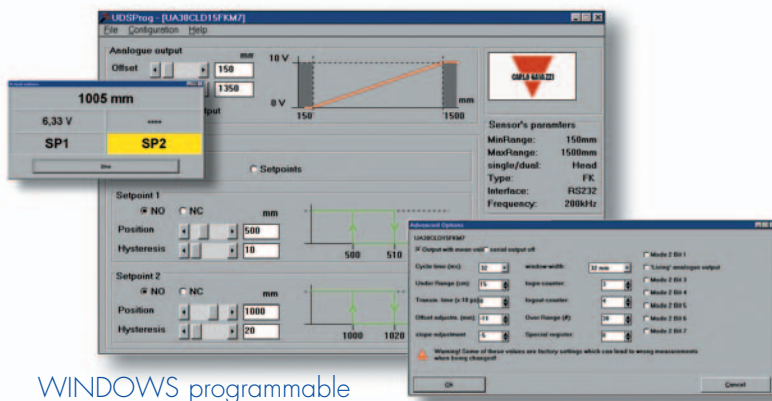
## Windows Programmable

### M30, RS 232

- Microprocessor-controlled
- Excellent repeatability
- Detection range 1500, 2000, 2500 mm
- Programmed parameters, see "Programmable Functions"
- Diffuse or through-scan settings



- Supply 18-30 VDC
- 2 set points PNP, 100 mA
- Analog output: 0-10 VDC or 4-20 mA
- Linearity  $\leq$  0.3 %
- IP67



WINDOWS programmable

### Programmable Functions

- Sensor address
- Analog output offset, range, positive or negative slope
- 2 set points - actual values in mm
- NO or NC settings
- Hysteresis
- Digital output, BCD or HEX
- Cycle time
- Over and under range detection
- Transmitting time
- Offset
- Slope

## Extended Sensing Range

### 80 x 80 mm Sensor Head for Separate Amplifier

- Microprocessor-controlled
- Excellent repeatability
- Detection range 8000 mm
- 2 set points
- Over range output
- Under range output
- Analog output 0-10 VDC
- Analog output 4-20 mA
- Digital output BCD or HEX
- Supply 18-30 VDC
- Square 80 mm housing
- Linearity error  $\leq$  0.5 %
- IP67 (sensor head)
- IP20 (amplifier)



# Model Number Selection - Ultrasonic Sensors

	Size	Output	Distance	Ordering key	
Basic	Diffuse Transistor Output	M18	NPN, Normally Open	100-600 mm	<b>UA18CLD06NOxx</b>
		M18	PNP, Normally Open	100-600 mm	<b>UA18CLD06POxx</b>
		M18	NPN, Normally Open	200-1500 mm	<b>UA18CLD15NOxx</b>
		M18	PNP, Normally Open	200-1500 mm	<b>UA18CLD15POxx</b>
		M30	NPN, Normally Open	300-2500 mm	<b>UA30CLD25NOxx</b>
		M30	PNP, Normally Open	300-2500 mm	<b>UA30CLD25POxx</b>
Basic	Diffuse Analog Output	M18	Analog, 0-10 VDC	100-600 mm	<b>UA18CLD06AKxx</b>
		M18	Analog, 0-10 VDC	200-1500 mm	<b>UA18CLD15AKxx</b>
		M30	Analog, 0-10 VDC	300-2500 mm	<b>UA30CLD25AKxx</b>
		M18	Analog, 4-20 mA	100-600 mm	<b>UA18CLD06AGxx</b>
		M18	Analog, 4-20 mA	200-1500 mm	<b>UA18CLD15AGxx</b>
		M30	Analog, 4-20 mA	300-2500 mm	<b>UA30CLD25AGxx</b>
Basic	Through Scan	M18	PNP, Normally Open	100-600 mm	<b>UA18CLS06POM1</b>
		M18	PNP, Normally Open	200-1500 mm	<b>UA18CLS15POM1</b>
		M30	PNP, Normally Open	300-2500 mm	<b>UA30CLS25POM1</b>
Programmable	Push Button	M30	Analog, 0-10 VDC	150-1500 mm	<b>UA30CLD15AKM1TI</b>
		M30	Analog, 0-10 VDC	250-2000 mm	<b>UA30CLD20AKM1TI</b>
		M30	Analog, 4-20 mA	250-2000 mm	<b>UA30CLD20AGM1TI</b>
		M30	PNP, Normally Open	250-2000 mm	<b>UA30CLD20POM1TI</b>
		M30	Analog, 0-10 VDC	350-3500 mm	<b>UA30CLD35AKM1TI</b>
		Wire Programmable	M12	PNP, Normally Open or Closed	25-200 mm
	M12		NPN, Normally Open or Closed	25-200 mm	<b>UA12CLD02NPM1TR</b>
	M18		2 x PNP, Normally Open or Closed	60-500 mm	<b>UA18CLD05PPxxTR</b>
	M18		2 x NPN, Normally Open or Closed	60-500 mm	<b>UA18CLD05NPxxTR</b>
	M18		2 x PNP, Normally Open or Closed	100-800 mm	<b>UA18CLD08PPxxTR</b>
	M18		2 x NPN, Normally Open or Closed	100-800 mm	<b>UA18CLD08NPxxTR</b>
	M18		2 x PNP, Normally Open or Closed	200-2000 mm	<b>UA18CLD20PPxxTR</b>
	M18		2 x NPN, Normally Open or Closed	200-2000 mm	<b>UA18CLD20NPxxTR</b>
	M30		2 x PNP, Normally Open or Closed	300-3500 mm	<b>UA30CLD35PPxxTR</b>
	M30		2 x NPN, Normally Open or Closed	300-3500 mm	<b>UA30CLD35NPxxTR</b>
	M18		Analog, 0-10 VDC	60-500 mm	<b>UA18CLD05AKxxTR</b>
	M18		Analog, 4-20 mA	60-500 mm	<b>UA18CLD05AGxxTR</b>
	M18	Analog, 0-10 VDC	100-800 mm	<b>UA18CLD08AKxxTR</b>	
M18	Analog, 4-20 mA	100-800 mm	<b>UA18CLD08AGxxTR</b>		
M18	Analog, 0-10 VDC	200-2000 mm	<b>UA18CLD20AKxxTR</b>		
M18	Analog, 4-20 mA	200-2000 mm	<b>UA18CLD20AGxxTR</b>		
M30	Analog, 0-10 VDC	300-3500 mm	<b>UA30CLD35AKxxTR</b>		
M30	Analog, 4-20 mA	300-3500 mm	<b>UA30CLD35AGxxTR</b>		
Windows	M30	Analog, 0-10 VDC	150-1500 mm	<b>UA30CLD15FKM7</b>	
	M30	Analog, 0-10VDC	250-2000 mm	<b>UA30CLD20FKM7</b>	
	M30	Analog, 0-10 VDC	350-3500 mm	<b>UA30CLD35FKM7</b>	
	M30	Analog, 4-20 mA	150-1500 mm	<b>UA30CLD15FGM7</b>	
	M30	Analog, 4-20 mA	250-2000 mm	<b>UA30CLD20FGM7</b>	
	M30	Analog, 4-20 mA	350-3500 mm	<b>UA30CLD35FGM7</b>	
Separate Amplifier	80 x 80	Remote Amplifier Amplifier for UC80. Outputs: 0-10 VDC, 4-20 mA, RS 232, 2x PNP NO/NC	800-8000 mm	<b>UC80CND80FSM1</b> <b>UCEU80-1</b>	

Ultrasonic Brochure 5/05

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