PHOTOELECTRIC DEVICES FOR MEASUREMENT

DS1 series

AREAscan™ detection and measurement light grids with analogue output

- Position and dimension measurement
- 4 mm resolution and 1 ms response time
- 100 to 300 mm controlled height
- Operating distance up to 4 m
- PNP digital and 0-10 V analogue outputs
- Trimmer adjustment

NEW PERFORMANCES

The DS1 AREAscan™ series are compact multibeam light grids suitable for the detection and measurement of objects with different shapes and dimensions. Different models are available with 100, 150 and 300 mm controlled height, 4 mm resolution and operating distance reaching 4 m. The electronics is fully integrated and so no external drivers are required. The measurement value is supplied through the analogue 0-10 V output which is proportional to the number of interrupted beams. The PNP digital output is activated every time a beam between emitter and receiver is interrupted. The low response time, ranging from 1 to less than 3 ms, depending on the height and measurement resolution, allows installation also on fastest machines and processes. Versions with trimmer sensitivity adjustment available.

DS2 series

AREAscan™ detection and measurement light grids with serial interface

- Automatic material handling
- 6 or 25 mm resolution models
- 150 - 1650 mm controlled heights
- Operating distance up to 10 m
- PNP digital, 0-10 V analogue and RS485

NEW MODELS

The AREAscan™ light grids of the DS2 series covers controlled heights ranging from 15 to 165 cm, with 5 m operating distances for 6 mm resolution versions, or 10 m for 25 mm resolution versions. The measurement configuration can be set manually thanks to internal dip-switches, or using graphic interface from remote PC on the serial port. Once loaded the program on the flash memory, the device functions in the stand-alone mode. The serial interface transmits the measurement in a binary or ASCII code, the operating status control as well as the setting of the different baud-rate versions. The DS2 light arrays suits different height or dimensional measurement applications in general, in automatic material handling.

US series

Ultrasonic sensors

- Standard M18 or M30 tubular housing
- Axial or radial emission
- Digital NPN and PNP outputs
- 4-20 mA or 0-10 V analogue output
- High resolution

NEW PERFORMANCES

The M18 and M30 ultrasonic sensor line of the US series offers versions with axial or radial sonotrode emission for M18 versions and only radial for M30 versions, with either NPN/PNP digital or 4-20mA / 0-10V analogue outputs. The main features include a low 5 ms response time and high resolution reaching 0.5mm. The sensors can be set on one or more distance values using the Teach-in push-button, for the distance or presence control up to 2000 mm, with background and foreground suppression. The ultrasonic sensors detect all targets independently from transparency, colour and non-sound absorbing material type, in automatic packaging applications as well as in automotive and manufacturing industries in general.

S80 series
Laser distance sensors with T.O.F. and laser emission

- Class 2 visible red laser emission
- Direct proximity measurement up to 4 or 7 m
- 20 to 100 m retroreflex measurement
- High precision and measurement speed
- PNP/NPN, 4-20 mA outputs and RS485 serial

NEW PERFORMANCES

The S80 distance sensors are based on the 'time of flight' measurement between the emitting and receiving of class 2 laser pulses. The S80-Y0 and YL0 sensors function as direct proximity up to 4 m, or with scaled range up to 7 m, for object positioning or double threshold on long distance background suppression. The S80-Y1 and Y2 sensors, with operating distances reaching 20 or 100 m, function as retroreflex measuring the distance from a reflector mounted over the object to detect, for position applications in automatic warehouses or conveyor lines in general. Two NPN or PNP outputs that can be set on different distances are available. The measurement is supplied by the 4-20 mA analogue output, by the RS485 serial interface as well as by a 4-digit display present on the sensor panel.

S81 series
Cost effective distance sensor

- Class 2 visible red laser emission
- Plastic housing and optics
- Direct proximity measurement up to 4 m
- 2 PNP/NPN digital outputs
- 0-10V analogue output or alarm output

NEW SERIES

The S81 series is the cost effective line of distance measurement sensors. S81 is based on the 'time of flight' technology that guarantees high precision and measurement speed. S81 works as direct proximity up to 4 m for object positioning or long distance background suppression. The setup of the sensor is very quick thanks to two push-buttons, one for each digital output. The product is available in two different models: one offers an analogue output proportional to the result of the distance measurement, the other allows the user to receive an alarm signal according to the operating conditions of the lens. The S81-Y version has a scalable 0-10V analogue output that configures the minimum and maximum operating distance, and thus associating the minimum and maximum voltage. S81 series offers a competitive solution automatic warehouses, access control, wood industry and parking lot applications.

S62-Y series
High resolution distance sensor

- Operating range 80 ± 40 mm
- 50 µm resolution
- Linearity <0.1%
- Management of internal buffer memory
- 0.5x0.75mm spot at the focus distance

NEW MODELS

The new S62-Y series, based on optical triangulation technology, offers a very accurate distance measurement. The light emission is a Class 2 red laser and the receiver is based on a CCD component that guarantees a very high immunity to the typical reflections of shiny and not uniform objects. The S62-Y is especially suitable for very fast applications up to 1Khz. The result of the measurement is available thanks to the 4-20mA or 0-10V analogue output or the RS485 serial port. The serial protocol allows also a remote setting of the device via the PC based Graphic User Interface. Typical applications are in the wood industry for the verification of the worked products, metal working, positioning for assembly lines and pick-and-place.

PHOTOELECTRIC DEVICES FOR MEASUREMENT

Light arrays, line and ultrasonic sensors

SERIES		DS1	DS2
Light array *(controlled height)*		100…300 mm	150…1650 mm
Line sensor *(controlled height)*			
Ultrasonica sensor			
Resolution		4...10 mm	6/25 mm
Number of beams		16…48	21…231 (res=6mm) 18…36 (res=25mm)
Light emission		IR	IR
Response time		1...2.75 ms	5…90 ms
Serial interface			RS485
Setting		Trimmer	Dip-switches Graphic interface
Operating distance		0.15...0.8 m 0.15...2.1 m 0.2...4 m	0.3...5 m
Hysteresis			
TECHNICAL DATA			
Power supply	Vdc	24	24
	Vac		
	Vac/dc		
Output	PNP	•	•
	NPN		
	NPN/PNP		
	relay (triac)		
	other	0. . . 10 V	0. . . 10 V
Connection	cable		
	connector	M12 4-poles for TX / M12 5-poles for RX	M12 4-poles for TX / M12 8-poles for RX
	terminal block		
Approximate dimensions (mm)		20 x 41	35 x 40
Housing material		aluminium	aluminium
Mechanical protection		IP65	IP65




DS3	S65-Z	US18	US30
150…600 mm			
	150 mm		
	0.15 mm		
0.5/0.8 mm (crossed beams) 6 mm (parallel beams)		± 1 mm (2.5 ms) ± 0.5 mm (30 ms)	0.1 % distanza
24. . .96	1 (retroreflex)		
IR	IR		
3…12 ms (crossed beams) 23…92 ms (parallel beams)	3.8 ms		
	RS485		
Teach-in	Teach-in	Teach-in	Teach-in
0.2...2 m	200 mm	30 ... 300 mm	200 ... 1000 mm 300 ... 2000 mm
		0.7 mm	2 mm
24	10…30	10…30	10…30
•			
	•	•	•
0. . . 10 V	4…20mA	4…20mA / 0 ... 10 V	4…20mA / 0 ... 10 V
M12 4-poles for TX / M12 8-poles for RX	M12 8-poles	M12 5-poles	M12 5-poles
35 x 40	25 x 50 x 50	18x91 (axial) 18x95 (radial)	30 x 63.6 x 45
aluminium	ABS	Polyester	Polyester
IP65	IP67	IP67	IP67

Distance sensors

SERIES		S80-Y0	S80-YL0
Distance sensor		0.3. . . 4 m	0.3. . . 7 m
Digital resolution		0.9 mm	0.4 mm
Linearity		0.3 %	0.3 %
Switching frequency		100 Hz (Normal) 500 Hz (Fast)	100 Hz
Light emission		red Laser cl.2	red Laser cl.2
Response time		5 ms (Normal) 1 ms (Fast)	5 ms
Serial interface		RS485	RS485
Setting		Teach-in	Teach-in
Operating distance			
Hysteresis			
TECHNICAL DATA			
Power supply	Vdc	15. . . 30	15. . . 30
	Vac		
	Vac/dc		
Output	PNP	•	•
	NPN		
	NPN/PNP		
	relay (triac)		
	other	4...20 mA	4...20 mA
Connection	cable		
	connector	M12 8-poles	M12 8-poles
	terminal block		
Approximate dimensions (mm)		34 x 90 x 73	34 x 90 x 73
Housing material		aluminium	aluminium
Mechanical protection		IP67	IP67




S80-Y1	S80-Y2	S81	S62-Y
0.3. . . 20.3 m (on R80 reflector)	0.3. . . 100.3 m (on R80 reflector)	0.3...4 m	80 ± 40 mm
0.6 mm	6 mm	0.9 mm	< 50 µm
0.25 %	0.15 %		< 0.1%
100 Hz (Normal) 500 Hz (Fast)	100 Hz (Normal) 500 Hz (Fast)	80 Hz	1 KHz
red Laser cl.2	red Laser cl.2	red Laser cl.2	red Laser cl.2
5 ms (Normal) 1 ms (Fast)	5 ms (Normal) 1 ms (Fast)	6 ms	1 ms
RS485	RS485		RS485
Teach-in	Teach-in	Teach-in	Teach-in
		30 mm (M models)	
15. . . 30	15. . . 30	15...30	12...24
•	•	•	
		•	
4...20 mA	4...20 mA	0...10 V	0...10 V or 4...20 mA
M12 8-poles	M12 8-poles	M12 5-poles	M12 8-poles
34 x 90 x 73	34 x 90 x 73	58 x 31 x 31	18 x 50 x 50
aluminium	aluminium	ABS	ABS
IP67	IP67	IP67	IP67