# **XXA18B1PM12**

Ultrasonic sensors XX, ultrasonic sensor cylindrical 90 deg M18, Sn=1 m, PNP, SYNC, connector M12



#### Main

Midili	
Range of product	Telemecanique Ultrasonic sensors XX
Sensor type	Ultrasonic sensor
Series name	General purpose
Sensor name	XXA
Sensor design	Cylindrical M18
Detection system	Diffuse (with 90° head)
[Sn] nominal sensing distance	1 M adjustable with remote teach push-button 1 m software with kit
Material	Metal
Type of output signal	Discrete
Discrete output function	1 NO or 1 NC programmable
Wiring technique	5-wire
Discrete output type	PNP
[Us] rated supply voltage	1224 V DC with reverse polarity protection
Electrical connection	Male connector M12 5 pins
[Sd] sensing range	0.1051 m
IP degree of protection	IP65 conforming to IEC 60529 IP67

#### Complementary

Complementary	
Enclosure material	Nickel plated brass
Front material	Epoxy Rubber Resin
Supply voltage limits	1030 V DC
Function available	With synchronisation mode Software configurable
[Sa] assured operating distance	0.1051 m (teach mode)
Maximum differential travel	4 mm
Blind zone	105 mm
Transmission frequency	200 kHz
Repeat accuracy	0.1 %
Deviation angle from 90° of object to be detected	-1010 °
Minimum size of detected object	Cylinder diameter 1 mm at 600 mm
Status LED	Output state: 1 LED (yellow) Echo state: 1 LED (green)
Current consumption	30 mA
Maximum switching current	100 mA with overload and short-circuit protection
Maximum voltage drop	2 V
Switching frequency	11 Hz
Setting-up	Teach mode Configurator software
Maximum delay first up	120 ms
Maximum delay response	45 ms
Maximum delay recovery	45 ms
Marking	CE
Threaded length	45 mm

Height	18 mm
Width	18 mm
Depth	79 mm
Net weight	0.055 kg

### Environment

Standards	IEC 60947-5-2	
	CSA C22.2 No 14	
	UL 508	
Product certifications	RCM[RETURN]cULus[RETURN]E2[RETURN]Ecolab	
Ambient air temperature for operation	-2570 °C	
Ambient air temperature for storage	-4080 °C	
Vibration resistance	+/-1 mm conforming to IEC 60068-2-6 (f = 1055 Hz)	
Shock resistance	30 gn in all 3 axes for 11 ms conforming to IEC 60068-2-27	
Resistance to electrostatic discharge	8 kV level 4 conforming to IEC 61000-4-2	
Resistance to electromagnetic fields	10 V/m level 3 conforming to IEC 61000-4-3	
Resistance to fast transients	1 kV level 3 conforming to IEC 61000-4-4	

# Packing Units

Unit Type of Package 1	PCE	
Number of Units in Package 1	1	
Package 1 Height	8.89 cm	
Package 1 Width	8.64 cm	
Package 1 Length	4.06 cm	
Package 1 Weight	0.08 kg	

#### Offer Sustainability

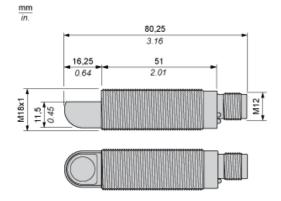
Sustainable offer status	Green Premium product	
Circularity Profile	No need of specific recycling operations	
California proposition 65  WARNING: This product can expose you to chemicals incluphthalate (DINP), which is known to the State of California to and Di-isodecyl phthalate (DIDP), which is known to the State to cause birth defects or other reproductive harm. For more www.P65Warnings.ca.gov		
For all Reach Rohs enquiries contact us at	sustainability@tesensors.com	



# Product data sheet Dimensions Drawings

# XXA18B1PM12

#### **Dimensions**

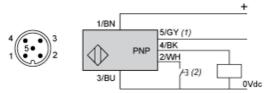


# Product data sheet Connections and Schema

# **XXA18B1PM12**

#### Connections

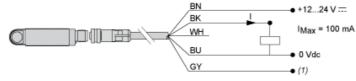
#### **Connector Wiring**



- (1): Synchronization
- (2): External setting pushbutton or XXZPB100 remote teach pushbutton.

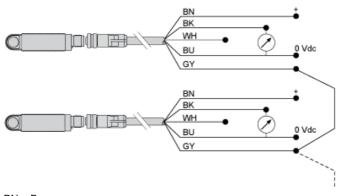
Pin number	Wire color	Description
1	BN: Brown	+1224VDC
2	WH: White	Input teach
3	BU: Blue	0 VDC
4	BK: Black	Output
5	GY: Grey	Synchronization

#### Wiring Scheme



(1): Synchronization

#### Wiring for the Synchronization Function (Side by Side Application)



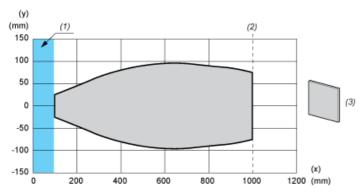
BN: Brown WH: White BU: Blue BK: Black GY: Grey

NB: To enable synchronization between several sensors, all of the wires of pin no.5 (Grey) must be electrically connected together. A maximum of 8 sensors can be synchronized. To enable "Multiplexer" function for the sensors, use the XX Configuration Software. Without synchronization or multiplexing, the sensors must be at least 50 cm away from each other in order to avoid mutual interference.

# **XXA18B1PM12**

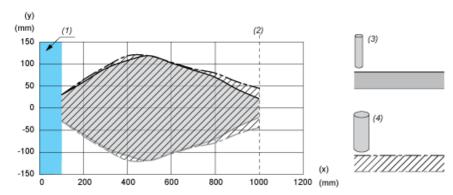
#### **Performance Curves**

#### Detection Curve with 100 x 100 mm / 3.94 x 3.94 in. Square Target



- (x) Target distance
- (y) Detection limit
- (1): Blind zone: 105 mm
- (2): Sn max.
- (3): 100 x 100 mm / 3.94 x 3.94 in. stainless steel plate

#### **Detection Curve with Round Bar**



- (x) Target distance
- (y) Detection limit
- (1): Blind zone: 105 mm
- (2): Sn max.
- (3): Ø 10 mm / 0.394 in. stainless steel cylinder
- (4): Ø 25 mm / 0.984 in. stainless steel cylinder

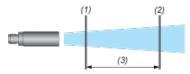
# Product data sheet

### **Technical Description**

# **XXA18B1PM12**

#### Operating Diagrams Settings with Teach Procedure

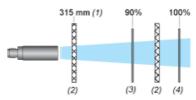
#### Window Mode



(1): Near limit(2): Far limit

(3): Sensing window

#### Reflex Mode



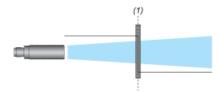
(1): In reflex mode, the position of the reflector must be at least 315 mm away from the sensor.

(2): Reflector

(3): Near limit

(4) Far limit

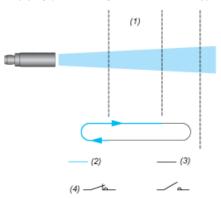
#### **Proximity Mode**



(1): Switch point

#### Pump/Hysteresis Mode

Emptying (stored in high threshold memory)



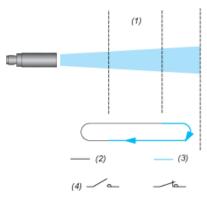
(1): Adjustable detection zone

(2): Output activated

(3): Output deactivated

(4) NO output

Filling (stored in low threshold memory)



- (1): Adjustable detection zone(2): Output activated(3): Output deactivated(4) NO output