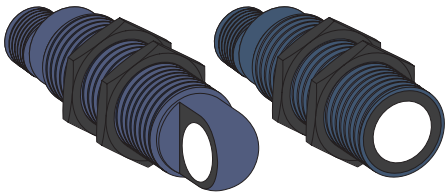
Ultrasonic Sensor M18 - Straight or 90° angled version

Plastic : XX●18P1●M12
Ni-plated Brass : XX●18B1●M12
Stainless steel : XX●18S1●M12



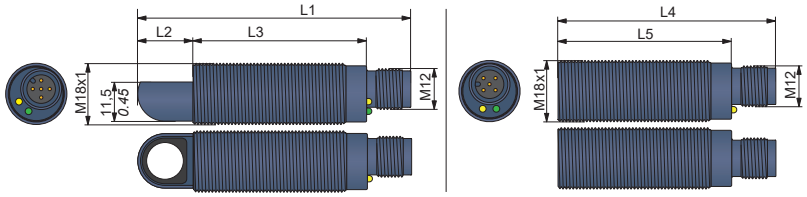
http://qr.tesensors.com/XX0003

LEDs



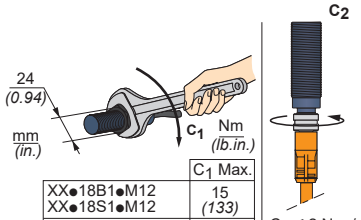
GN: Green (Echo status)
YE: Yellow (Output status)

Dimensions



mm (in.)	L1	L2	L3	L4	L5
XX●18B1●M12 XX●18S1●M12	80,25 (3.16)	16,25 (0.64)	51 (2.01)	64 (2.52)	51 (2.01)
XX●18P1●M12	80 (3.15)	16,9 (0.67)	50,6 (1.99)	64 (2.52)	52 (2.05)

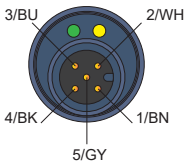
Tightening torque



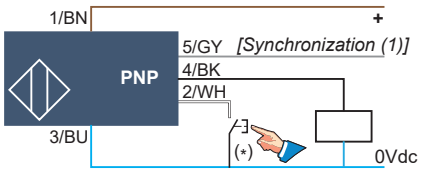
	C1 Max.
XX●18B1●M12 XX●18S1●M12	15 (133)
XX●18P1●M12	2 (17.7)

C2 ≤ 2 Nm / (17.7 lb.in.)

Connectors wiring

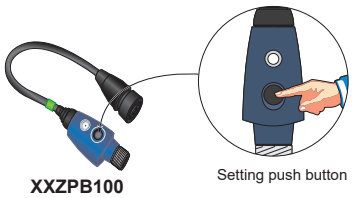


Pin Number	Wire Color	Description	
		XX.18.1.AM12	XX.18.1.VM12
①	BN: Brown	+12...24 Vdc	+14...24 Vdc
②	WH: White	Input teach	
③	BU: Blue	0 Vdc	
④	BK: Black	Output (PNP)	
⑤	GY: Grey	Synchronization	



(*): External setting push button or XXZPB100
Note: *(1): See synchronization section*

Wiring accessory

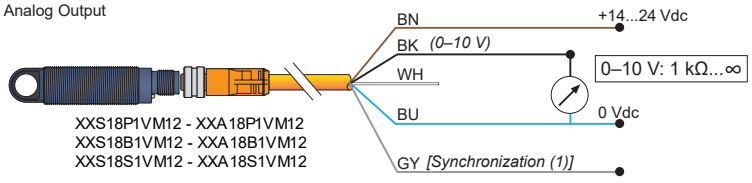


XXZPB100

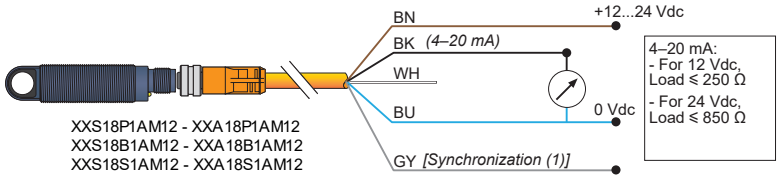
Setting push button

Wiring diagrams

Analog Output



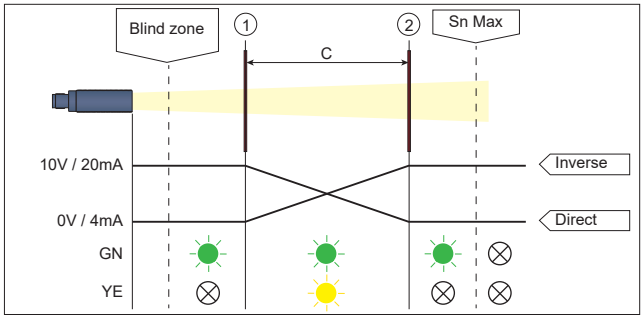
XXS18P1VM12 - XXA18P1VM12
XXS18B1VM12 - XXA18B1VM12
XXS18S1VM12 - XXA18S1VM12



XXS18P1AM12 - XXA18P1AM12
XXS18B1AM12 - XXA18B1AM12
XXS18S1AM12 - XXA18S1AM12

Note:
(1): See synchronization section.

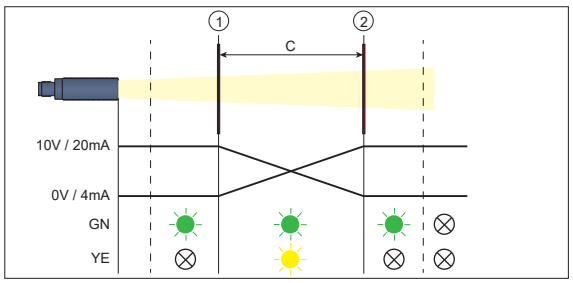
Operating diagram



① Near limit ② Far limit
GN: Green
YE: Yellow
C: Sensing window
OFF ON Flashing

Sensor setting for analog measurement

Ⓐ Near and far limits setting *(2)*



1	2	3
Push and hold the teach button and release it (between 3…6 seconds) when the green LED is steady. On releasing, the green LED will start flashing.	Position object at the near limit. Push and release the teach button quickly. Now the yellow LED will be steady and the green LED will continue flashing.	Position object at the far limit. Push and release the teach button quickly to return to normal operation *(3)*.

Note:
(2): The teaching order of the near and far limits can be interchanged.
(3): The sensor returns to the normal operating mode if the Teach is good.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

Do not use this product to detect objects within the deadband (blind zone) or outside the sensing window.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel.
No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

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Sensor setting with teach procedure

B Output mode Setting: Direct or inverse slope

1

Push and hold the teach button. (Between 6...9 seconds) Release when the yellow LED is steady. Both LEDs flash for approx. 2 seconds and the analog output slope switches from Inverse to Direct or from Direct to Inverse.

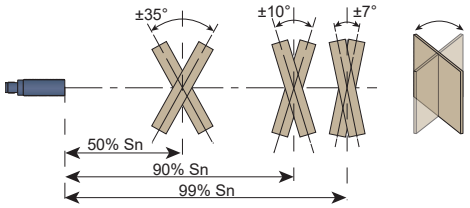
D Sensor reset *(4)*

1

Push and hold the teach button. (Between 9...15 seconds) Release when both the LEDs are flashing. The sensor is now reset to its default setting *(5)*.

Note:
(4): If this XX sensor is intended to be used as a replacement for an XXS● or XXA● sensor in your equipment, please read the following message - The original XX sensor may be configured using the XX configuration software. In this case, the software setting will become the default setting. Please confirm with the OEM, sensors vendor or Telemecanique sales representative while replacing the original XXS● or XXA● sensor of your equipment.
(5): Near limit, far limit, output slope are reset. By default the sensor is in full sensing range & direct slope.

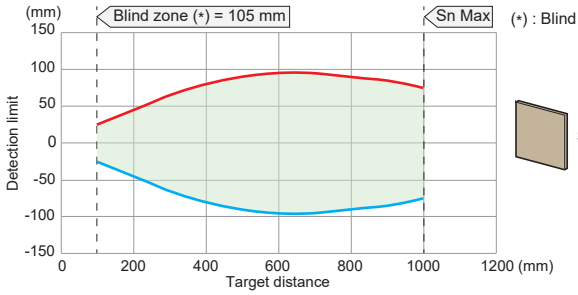
Tilt angle



100 x 100 mm / *3.94 x 3.94 in.*
Stainless steel plate

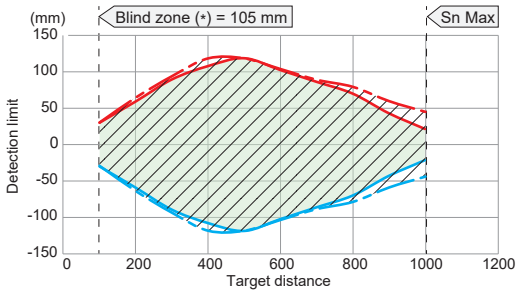
Detection curves for different objects

Detection curve with 100 x 100 mm square target



100 x 100 mm / *3.94 x 3.94 in.*
Stainless steel plate

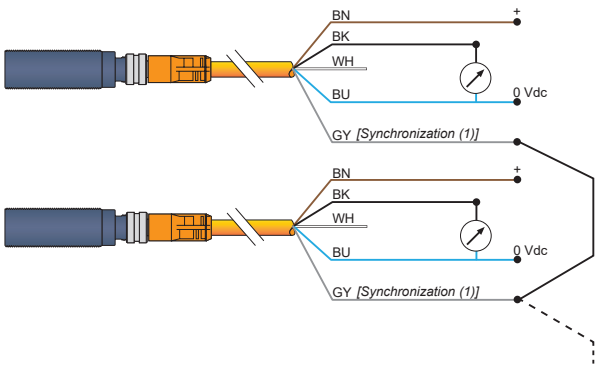
Detection curve with round bar



Ø 10 mm / *0.394 in.*
Stainless steel cylinder

Ø 25 mm / *0.984 in.*
Stainless steel cylinder

Synchronization (side by side application)



Synchronization operation
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.

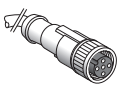
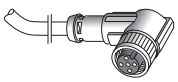
Connection with a PLC for synchronization
The sensors are synchronized when the pins no.5 are simultaneously driven by the rising edge of a pulse. More than 8 sensors can be synchronized by using PLC output.

NOTE (1): The pulse must be at a high level of 10 to 24 Vdc and a low level of 0 to 2Vdc. The period of the pulses must be at least 15 ms (cycle time of the sensor).

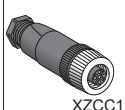
NOTE (2): When the pin no.5 is at low level or at high level, object sensing is suspended and the sensor output holds the last valid output state before suspension.

Cabling Accessories

Cables

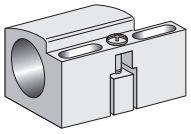
5-pin, 5-wire (for synchronization)	 XZCPV11V12L2 (2 m / *6.6 ft*) XZCPV11V12L5 (5 m / *16.4 ft*) XZCPV11V12L10 (10 m / *32.8 ft*)	 XZCPV12V12L2 (2 m / *6.6 ft*) XZCPV12V12L5 (5 m / *16.4 ft*) XZCPV12V12L10 (10 m / *32.8 ft*)
5-pin, 4-wire (no synchronization)	XZCP1141L2 (2 m / 6.6 ft) XZCP1141L5 (5 m / 16.4 ft) XZCP1141L10 (10 m / 32.8 ft)	XZCP1241L2 (2 m / 6.6 ft) XZCP1241L5 (5 m / 16.4 ft) XZCP1241L10 (10 m / 32.8 ft)

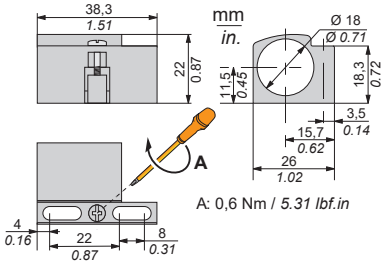
M12 connectors


XZCC12FDM50B


XZCC12FCM50B

Mounting accessory


XXZB118



A: 0,6 Nm / *5.31 lbf.in*

Recommended to use for sensor applications at operating temperatures -25 ... 0 °C *(-13...32 °F)*