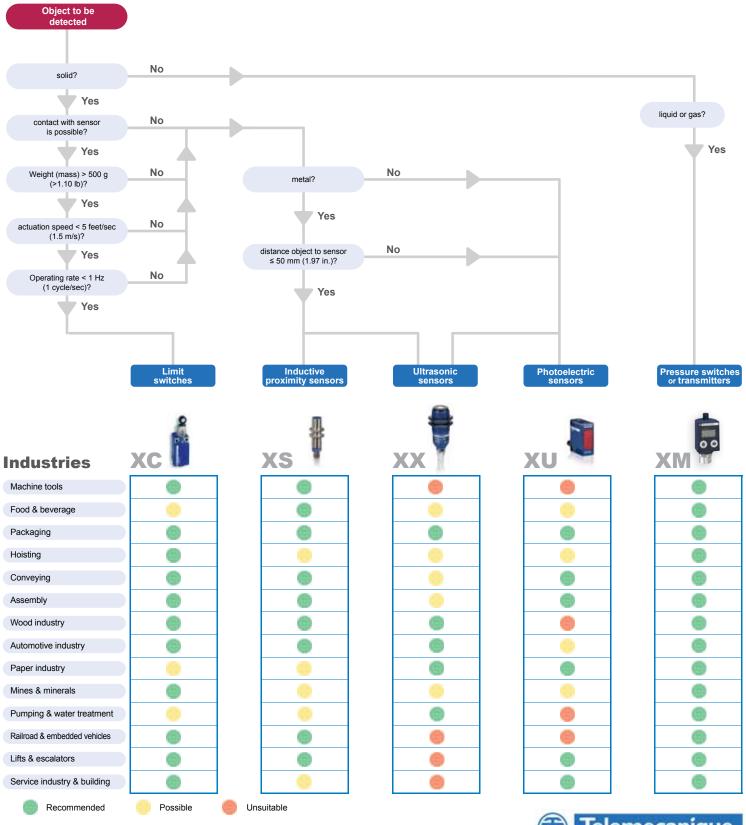
# OsiSense<sup>®</sup> Sensors

# Choose the right sensing solution





# XC Limit switches

- Detection of all solid objects by contact
  - Intuitive and easy to install
- Volt free and positive opening contact
- Head could be blocked with external materials (chips, sawdust )
- Slow actuation speed (<1.5 m/s)
- Low operating ratings limited to 1 cycle/second (~1Hz) or
- Mechanical contact may result in wear

- Detection of metals (Fe, Al, Cu, ...) without contact

High operating ratings, fast response time Excellent resistance to industrial environments

Detects only metal objects Short sensing distance -> 60 mm (2.36 in.)



XX Ultrasonic sensors

1 - Choose the body size

- Plastic

2 Choose the output signal & function

DC3 24 V NO

difficult to detect.

appropriate to the environment

-Requested sensing range

Detection of materials without contact (no touch) nsensitive to color, transparency and coefficient of reflection Very good resistance to industrial environments

Sensitive to high air flow, humidity or rapid changes of temperature Sound-absorptive materials and oddly-shaped objects may be

-Size of product (cylindrical or flat) and sensing range

Detection of objects without contact (no touch), opaque, shiny or transparent. Direct detection of objects(cases, pallet),

persons, vehicles (trolley, wagon) Long ranges detection - > 60 m (196.85 ft) High operating rate. Available with background suppression.

Not suitable for harsh environments: dirty, dusty Temperature range limitations nterference between photocells must be avoided.



1 - Choose the family

XM Pressure switches and transmitters

appropriate to the application.

with contacts

If response time is not critical, consider

Electromechanical pressure switch

Electronic pressure sensor with solid-

according to the load compatibility (contactor, PLC)

state or analog output

If response time is critical or you need to monitor pressure, consider

Contact C/0, DC3-wire, PNP, NPN, DC NO or NC, analog, or 3 or

Detection of fluids in contact with air, water, hydraulic oils, and some corrosive fluids from -14.5 to 8,700 PSI (-1 to 600 bar) Discrete or analog output used to control or monitor pressure or vacuum thresholds in a hydraulic or pneumatic circuit. Not suitable for detecting solid objects

# 1 - Choose the body



# 2 - Choose a head

according to the object to be detected Detection movement type:

- Linear
- Rotary
- Multidirectional Plunger
- Spring rod or cat whiskers

# 3 - Choose the contact

according to the automation function to achieve Snap action or slow break, 2, 3 or 4 contacts; NO, NC.



# 4 - Choose the electrical connection

according to facility standards or machine requirements. M12 connector or screw clamp terminal with different tapped cable

# 1 - Choose the body size

XS Proximity sensors

- appropriate to the environment: - Requested sensing range
- Size of product (diameter, length) and sensing range





# 2 - Choose the output type

according to the load compatibility (contactor, PLC...) DC3 wires 24V PNP, NPN, DC or AC/DC 2 wires 24-240V.
DC3 24 V AC/DC 24...240 V DC2 24 V





Detection of

pieces (cams.

machine internal

end stop, gears)

according to facility standards or machine requirements. Cable, connector (M8, M12 in DC, 1/2 in AC/DC), screw clamp terminals.

# 4 - Choose the output signal & function

according to the automation function to achieve Discrete (NO, NC, NO+NC)..



# 3 Choose the output type

according to the load compatibility (contactor, PLC...) DC 3-wires PNP, NPN, or DC ... Analog 3 or 4-wires.

according to the automation function to achieve

NPN 💠

discrete (NO, NC, NO+NC).....or analog (0-10V, 4-20mA)

DC4 24 V

NPN NO → NC

# 4 Choose the electrical connection

according to facility standards or machine requirements.. cable, connector (M8 or M12)

# 1 - Choose the body / the system

XU Photoelectric sensors

appropriate to the environment and requested accuracy of detection. Find a balance between location to install with access to the object (one or two sides), type of object, sensing distance and accuracy of detection desired.

2	>	
	7	

		XUB	XUM	XUK	XUX	
Size	ØxL	Ø18x46	-	-	-	
(mm)	LxHxP	-	11x33x20	18x50x50	30x92x71	
Sensin	g range,	15 (49.21)	15 (49.21)	30 (98.42)	40 (131.23)	Thru beam
m (in.)		4 (13.12)	5 (16.40)	7 (22.97)	14 (45.93)	Reflex
		0.6 (1.97)	1 (3.28)	1 (3.28)	2.1 (6.89)	Diffuse

# 2 - Choose the output type

according to the load compatibility (contactor, PLC...) DC3 wires 24V PNP, NPN, AC/DC 5 wires relay 24-240V







according to facility standards or machine requirements Cable, connector (M8, M12), screw clamp terminals (XUX)

# 4 - Choose the output signal & function

according to the automation function to achieve Discrete (NO, NC, NO+NC)

# M12 connector, Packard Metri-Pack, DIN43650A or screw clamp

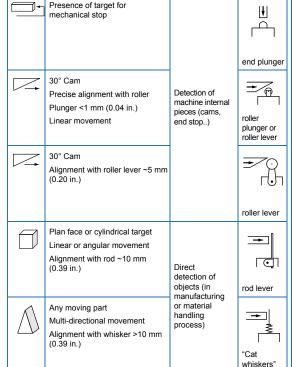
2 - choose the output type

terminals with a tapped cable entry

# 4 - Choose the fluid connection

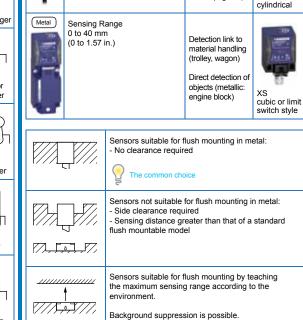
according to facility standards or machine requirements... 1/4" NPT female, G 1/4 BSP female..

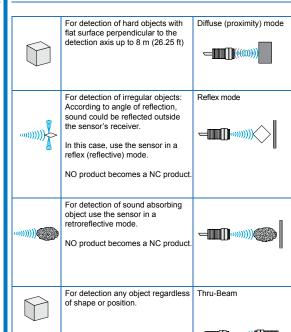
# Details

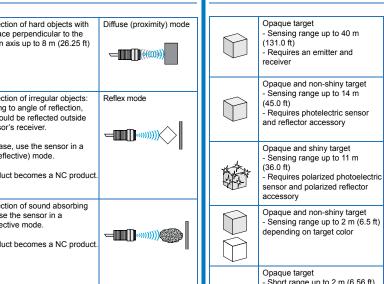


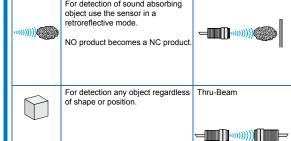
Sensors with a connector

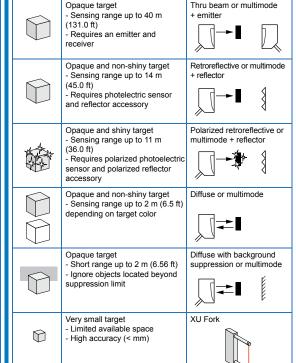
# Sensing Range Metal 0 to 20 mm (0 to 0.79 in.) ( Metal ) Sensing Range 0 to 40 mm (0 to 1.57 in.)









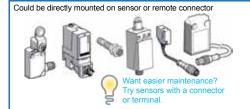


de	<b>↑</b> PH	Detection of thresholds with no response time constraints Fixed or adjustable differential -14.5 to 7,250 PSI (-1 to 500 bar)	XMLA/B	
or	PB	Detection of thresholds requiring quick response time Adjustable differential -14.5 to 8,700 PSI (-1 to 600 bar)	XMLR ZMLP	•
	signal	Transmission of continuous pressure variation with adjustment -14.5 to 8,700 PSI (-1 to 600 bar)		
	Pression Plage de fonctionnement	Transmission of continuous pressure variation without adjustment	XMLG -14.5 to 8,700 PSI (-1 to 600 bar)	
de			XMLK 0 to 300 PSI (0 to 25 bar)	
			XMLP 0 to 10,000 PSI (0 to 600 bar)	-

# **Electrical connections**

Sensors with a cable or terminal





ifferent times of connectors are evallable. They want for function number of views aims of connec

Different types of connectors are available. They vary for function, number of wires, size of sensor, facility standards or machine requirements.				
<b>M8</b> 3 or 4-pin in DC	1 3	2 4 3	1/2" 3-pin in AC or AC/DC	2
<b>M12</b> 4 or 5-pin in DC	1 3	4 5 1 2	<b>DIN</b> connector in hydraulic	[1 O 2]

## Choose a female connector or female pre-wired connector

Selected Choose in table sensors For limit switches and pressure switches M12 4-pin M12 4-pin Connector: screw clamp M12 5-pin M12 5-pin DIN DIN Pre-wired connector 2, 5 or 10m connector connector

# For i

or inductive sensors		For photoelectric sensors			For ultrasonic sensors		
Selected sensor	Choose in the table	Selected sensor	Choose in the table		Selected sensor	Choose in the table	
XSM8	M8 3-pin	XUM8	M8 4-pin		XXM8	M8 3-pin	
XSM12	M12 4-pin	XUM12	M12 4-pin		XXM8	M8 4-pin	
XSU20	1/2" 3-pin	XURM8	M8 3-pin		XX 4-pin	M12 4-pin	



Be sure to follow the instruction sheet for

# **Applications**

For more complex sensing needs, refer to **www.tesensors.com**, the Sensors Quick Look Catalog or the Sensors General Catalog for information relative to the sensors described below.

# XC for special applications

One of the most comprehensive offering of special limit switches dedicated to severe environments and heavy duty service. Mainly for: hoisting, handling, mining, minerals and metals and other harsh environmental constraints (foundry, welding and automotive industries etc...)

Severe duty for hoisting and material handling applications

Specifically designed products for belt shift monitoring

Cross Limit Switches - Dedicated products for overhead cranes and block hoists for end of travel control

Robust Mill & Foundry Switch

# Safety detection

complemented by a range of safety light curtains and safety mats for dangerous machines in industrials segments. Example: packaging, handling, robotics, machines tools, presses, automotive market.

Detection of gates or cover openings

Guard switches with mechanical actuator

Rotary lever and spindle-operated guard switches for hinge guards

Coded magnetic guard switches

Detection of operators in free access zone

Safety light curtains

One of the most comprehensive offerings of industrial safety switches on the market,

# XS for special applications

One of the most comprehensive offerings of inductive sensors for general purpose as well as assembly machines, robotics, machine-tools, machining, packaging, materials handling, conveying and food and beverage industry.

Rotation control, ferrous/non-ferrous detection

Plastic case sensors for double insulation and chemical environment compliance

Miniature cylindrical format plain, smooth barrel 4 mm and 6.5 mm or M5 for assembly applications

Stainless steel and plastic housings for dedicated food & beverage applications

Capacitive sensors XT range for detection of insulating or conductive materials

The information and dimensions in this catalog are provided for the convenience of our customers. While this information is believed to be accurate, Schneider Electric reserves the right to make updates and changes without prior notification and assumes no liability for any errors or ommissions.

# XU for special applications

A dedicated offering of application specific products for packaging, handling, assembly, conveying, food & beverage, complete the general purpose offer.			
Detection of transparent materials	1600		
Mark readers, luminescence sensors, color sensors			
Label detection	- 111		
Laser technology sensors			

# XG RFID inductive identification system

With OsiSense XG, discover a complete RFID system comprised of 13.56 MHz smart antennas, electronic tags and network connection accessories. OsiSense XG simplifies access to tag data with automatic adaptation to the protocol and speed of the network used (Ethernet IP, ModbusTCP/IP, Modbus RTU, Uni-Telway and Profibus DP). With a broad line of RFID tags and accessories, OsiSense XG is the ideal choice for manufacturing track, trace and control applications.

manufacturing track, trace and control applications.			
	Compact stations with integrated controller and antenna, now with integrated Ethernet IP and Modbus TCP/IP.		
	13.56 MHz electronic tags	•	
	Portable RFID terminal and network connection boxes		

# Interfaces and I/Os

Simplify machine architectures by connecting the sensors and actuators distributed throughout your machines via fieldbus or AS-Interface.			
IP67 distributed I/O, optimized block Interface modules, plastic enclosure			
IP67 distributed I/O, modular system interface modules			
Advantys™ AS- Interface IP20 and IP67 cabling system			

# www.tesensors.com

NOTE: Sensors described in this catalog with the exception of the safety detection products are designed to be used for standard industrial presence sensing applications.

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www.tesensors.us