

# OsiSense<sup>®</sup> XMLK Pressure sensors for pump applications





1065

1500

ATTENTION  
MANIPULATION INTERDITE  
SANS PERMIS  
PALLI

# The ideal choice for water distribution

Water is a precious commodity. Conserving it protects the environment and sustains life.

The new range of **OsiSense® XMLK** pressure sensors provides a high degree of accuracy for controlling water pressure in your pumping applications. Used in conjunction with Altivar® adjustable speed drives, XMLK sensors help you optimize motor efficiency and reduce the energy consumption of your pumps.

## > Increase your profits

A particularly economical product

## > A simple-to-use product

With multiple advantages

## > A tested and validated solution

Used in conjunction with an adjustable speed drive



**33%**

of the world population  
will be affected by the  
decline in drinking  
water by 2025

## Contents

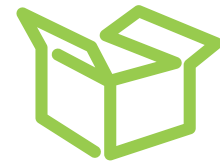
Customer benefits .....	2 and 3
<b>OsiSense XMLK pressure sensors</b>	
Introduction .....	4
Specifications .....	5
Selection .....	6 to 10
Wiring diagrams .....	10
Dimensions .....	11

Make the most of your energy<sup>SM</sup>



# Increase your profits

**OsiSense XMLK** pressure sensors are economical products well suited to **pump manufacturers** for simple pumping applications. Using proven technology, these pressure sensors offer high performance and lower energy consumption. They are available in bulk, making unpacking easier and reducing packaging disposal.

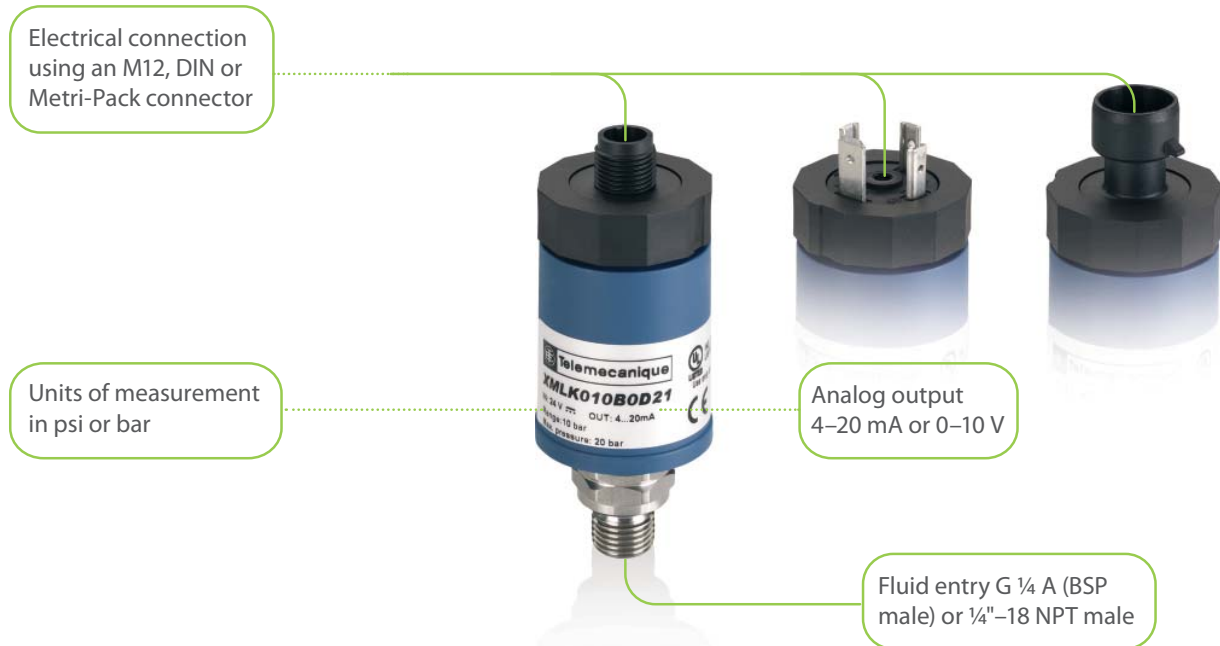


**75%**

less packaging for environmental friendliness and to make life easier.

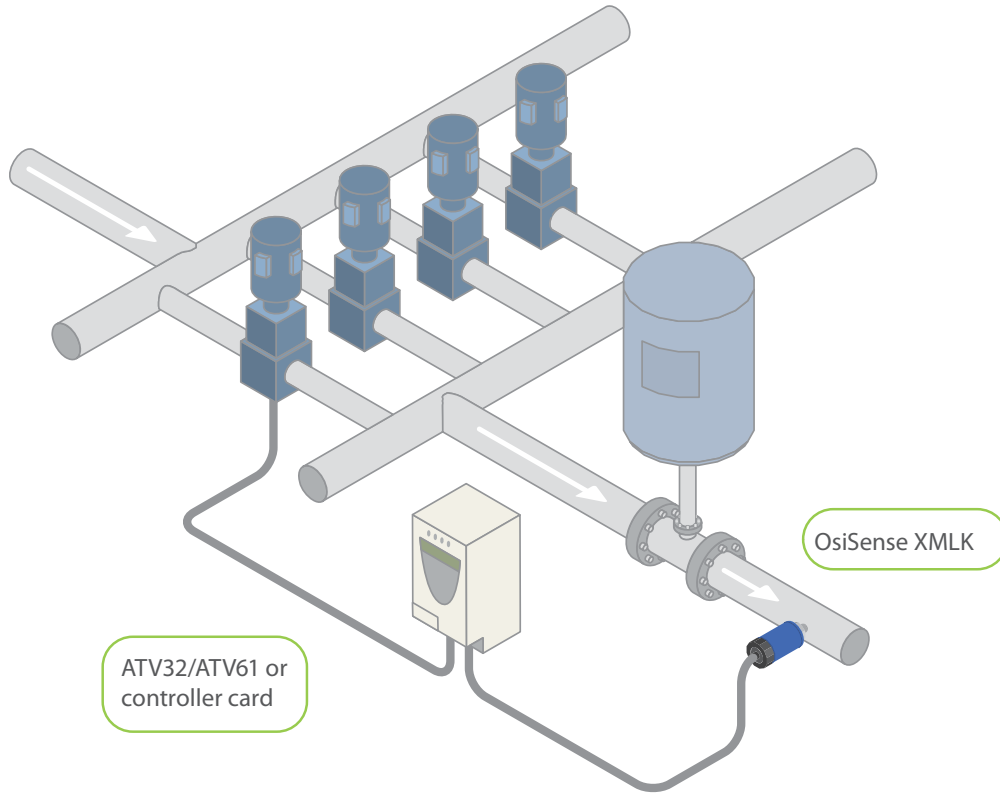
## A simple-to-use product with multiple advantages

8 sizes available: 6/10/16/25 bar or 100/150/200/300 psi



# A tested and validated solution

Used in conjunction with Altivar adjustable speed drives, the **OsiSense XMLK** pressure sensor enables constant control of pressure within the network regardless of the flow rate. It provides information in real-time and enables the drive to control an entire installation.



**100%**

Available throughout the world

## > Globally available range



XMLK range

- > Economical offer
- > Compactness
- > Simplicity



XMLG range

- > High precision
- > Metal body
- > Pressure controlled 0–600 bar



XMLF range

- > Display screen
- > Adjustable differential



9012G range

- > Robust offer specifically for industrial control circuits
- > Pressure switches with adjustable thresholds



XMLA/XMLB range

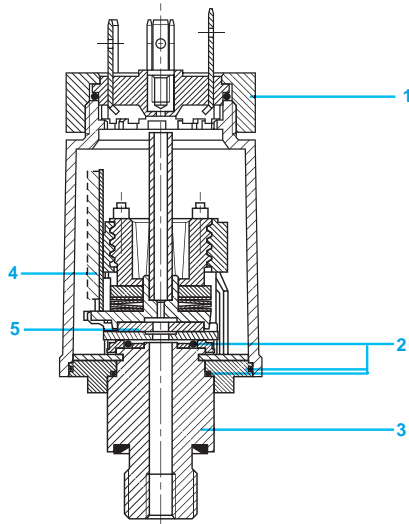
- > Robust offer specifically for industrial applications
- > Pressure switches with adjustable thresholds

Find all these pressure sensors on [www.sesensors.com](http://www.sesensors.com).

# Electronic pressure sensors

OsiSense XM

For control circuits, type XMLK



## Introduction

Type XMLK pressure transmitters are characterized by their ceramic pressure-measuring cell. Deformation, caused by pressure, changes the resistance of the resistors of a Wheatstone bridge silk-screened on the ceramic. The change in resistance is then processed by the integrated electronics to provide an analog output signal.

- 1 Electrical connection: for example, DIN EN 175301-803-A connector
- 2 Seals
- 3 Threaded fluid connection
- 4 Hybrid electronics
- 5 Ceramic measuring cell

## Functions

XMLK pressure transmitters have an analog output, 4–20 mA or 0–10 V, which is proportional to the measuring range.

These compact products are available with various types of electrical connectors and fluid connections.

Standard versions are available calibrated in both bar and psi. The bulk packaging alternative offers an excellent price/performance ratio. XMLK electronic pressure sensors are designed for simple pumping applications and are well suited for pump equipment manufacturers.

Environmental Specifications			
Conformity to standards			CE IEC/EN 60947-1, IEC/EN 60947-5-1 EN 50081-1, EN 50082-2, EN 61000-6-2
Product certifications			UL: File E97729, CCN NKPZ CSA: File 240515, Class 3211-03
Rated supply voltage		V	24 V ...
Voltage limits			4–20 mA: 8–33 V ... 0–10 V: 16.2–33 V ...
Current consumption			4–20 mA: < 20 mA 0–10 V: < 6 mA
Output signal			4–20 mA, 0–10 V
Protective treatment			Standard version "TC"
Ambient air temperature		For operation	°C (°F) 0 to + 80 (32 to 176)
		For storage	°C (°F) –25 to + 85 (13 to 185)
Fluids or products controlled			Air, fresh water (0 to + 80 °C / 32 to 176 °F)
Component materials in contact with fluid			Steel, type AISI 303 (stainless steel) nitrile (NBR)
Operating position			All positions
Vibration resistance			20 gn (9–2000 Hz) conforming to IEC 60068-2-6
Shock resistance			25 gn (half sine wave 11 ms) conforming to IEC 60068-2-27
Resistance to electromagnetic interference		Electrostatic discharges	Standard EN 61000-4-2, 8 kV in air, 6 kV on contact
		Radiated electromagnetic fields	Standard EN 61000-4-3, >10 V/m, 80–1000 MHz
		Fast transients	Standard EN 61000-4-4, 2 kV
		Surges	Standard EN 61000-4-5, 500 V 12 Ω, 1 kV 42 Ω
		Conducted disturbances, induced by radio frequency fields	Standard EN 61000-4-6, 10 V 0.15–80 MHz
		Magnetic fields	Standard EN 61000-4-8, 30 A/m, 50 Hz
Electrical protection			Protected against reverse polarity and load short-circuit. For use on Class 2 circuit.
Rated impulse withstand voltage		kV	0.5
Degree of protection			IP 65 conforming to IEC/EN 60529, NEMA 4
Output response time		ms	< 2
Repeat accuracy			± 0.3% of the measuring range
Precision (resolution)			Combined sum of linearity, hysteresis, and repeat accuracy <± 0.5% of the measuring range
			Setting tolerance of zero point and measuring range limit < ± 1% of the measuring range
Drift		Of the zero point	< ± 0.04% of the measuring range/°K
		Of the sensitivity	< ± 0.03% of the measuring range/°K
Service life		Operating cycles	> 10 million (varies based on application and environment)
Fluid connection			G 1/4 A (male) conforming to ISO 7, or 1/4"-18 NPT male
Electrical connection			Connector, either M12, DIN 43650A (DIN EN 175301-803-A) or Packard® Metri-Pack

Interpretation of the catalog number									
Note: Use this table only to interpret the catalog number. Some combinations are not available.									
XMLK	100			P	2	D	2	3	TQ
Units without display	Rated pressure			Unit of pressure	O-Ring	Electrical connection	Output	Fluid connection	Bulk pack
36 mm (1.42 in.) diameter	Code	psi	bar						
	006		0–6	B: bar	2: NBR (Nitrile)	C: DIN 43650A	2: Analog, 4–20 mA	1: G 1/4 A (male)	
	010		0–10	P: psi		D: M12	7: Analog, 0–10 V	3: 1/4"-18 NPT (male)	
	010		0–16			P: Packard Metri-Pack			
	025		0–25						
	100	0–100							
	150	0–150							
	200	0–200							
300	0–300								

# Electronic pressure sensors

## OsiSense XM

Pressure transmitters type XMLK, bar version

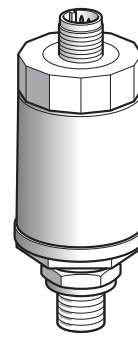
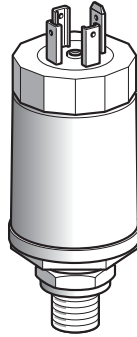
With analog output 4–20 mA

Sizes 0 to 25 bar (0 to 362 psi)

### Pressure transmitters type XMLK, bar version, DIN 43650A connector or M12 connector <sup>(1)</sup>

DIN 43650A connector

M12 connector



Pressure range	0–6 bar (0–87 psi)	0–10 bar (0–145 psi)	0–16 bar (0–232 psi)	0–25 bar (0–362.5 psi)
----------------	--------------------	----------------------	----------------------	------------------------

### Selection

#### Pressure transmitters XMLK, DIN 43650A connector

Sold in packs of:	1	XMLK006B2C21	XMLK010B2C21	XMLK016B2C21	XMLK025B2C21
	bulk <sup>(2)</sup>	XMLK006B2C21TQ	XMLK010B2C21TQ	XMLK016B2C21TQ	XMLK025B2C21TQ

#### Pressure transmitters XMLK, M12 connector

Sold in packs of:	1	XMLK006B2D21	XMLK010B2D21	XMLK016B2D21	XMLK025B2D21
	bulk <sup>(2)</sup>	XMLK006B2D21TQ	XMLK010B2D21TQ	XMLK016B2D21TQ	XMLK025B2D21TQ

Fluid connection <sup>(3)</sup>	G 1/4 A (male)			
Weight, kg (lb)	0.110 (.25)	0.110 (.25)	0.110 (.25)	0.110 (.25)

### Additional specifications not shown under general specifications

Rated supply voltage	24 V $\overline{\text{---}}$			
Voltage limits	8–33 V $\overline{\text{---}}$			
Output <sup>(4)</sup>	4–20 mA, 2-wire technique			
Current consumption	< 20 mA			
Maximum permissible accidental pressure	12 bar (174 psi)	20 bar (290 psi)	32 bar (464 psi)	50 bar (725 psi)
Destruction pressure	18 bar (261 psi)	30 bar (435 psi)	48 bar (696 psi)	75 bar (1087.5 psi)
Electrical connection	DIN 43650A connector	EN 175301-803-A (male). For suitable female connector see accessories on page 10.		
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories on page 10.		

<sup>(1)</sup> For other types of electrical connections, consult the Sensor Competency Center.

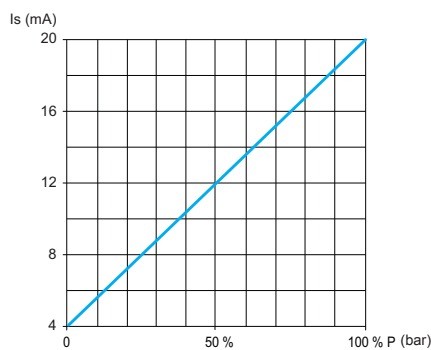
<sup>(2)</sup> Sold in lots of 25, minimum quantity 50.

<sup>(3)</sup> For other types of fluid connections, consult the Sensor Competency Center.

<sup>(4)</sup> For other types of output, consult the Sensor Competency Center.

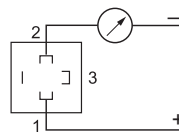
### Output curve

XMLK0●●B2●21

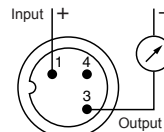


### Connector wiring: 2-wire technique (4–20 mA)

DIN



M12



## Electronic pressure sensors

OsiSense XM

Pressure transmitters type XMLK, bar version

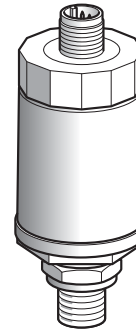
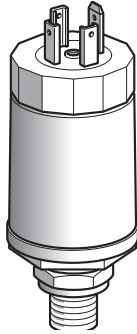
With analog output 0–10 V

Sizes 0 to 25 bar (0 to 362 psi)

### Pressure transmitters type XMLK, bar version, DIN 43650A connector or M12 connector (1)

DIN 43650A connector

M12 connector



Pressure range	0–6 bar (0–87 psi)	0–10 bar (0–145 psi)	0–16 bar (0–232 psi)	0–25 bar (0–362.5 psi)
----------------	--------------------	----------------------	----------------------	------------------------

#### Selection

##### Pressure transmitters XMLK, DIN 43650A connector

Sold in packs of:	1	XMLK006B2C71	XMLK010B2C71	XMLK016B2C71	XMLK025B2C71
	bulk (2)	XMLK006B2C71TQ	XMLK010B2C71TQ	XMLK016B2C71TQ	XMLK025B2C71TQ

##### Pressure transmitters XMLK, M12 connector

Sold in packs of:	1	XMLK006B2D71	XMLK010B2D71	XMLK016B2D71	XMLK025B2D71
	bulk (2)	XMLK006B2D71TQ	XMLK010B2D71TQ	XMLK016B2D71TQ	XMLK025B2D71TQ

Fluid connection (3)	G 1/4 A (male)			
Weight, kg (lb)	0.110 (.25)	0.110 (.25)	0.110 (.25)	0.110 (.25)

#### Additional specifications not shown under general specifications

Rated supply voltage	24 V $\pm$			
Voltage limits	16.2–33 V $\pm$			
Output (4)	0–10 V, 3-wire technique			
Current consumption	< 6 mA			
Maximum permissible accidental pressure	12 bar (174 psi)	20 bar (290 psi)	32 bar (464 psi)	50 bar (725 psi)
Destruction pressure	18 bar (261 psi)	30 bar (435 psi)	48 bar (696 psi)	75 bar (1087.5 psi)
Electrical connection	DIN 43650A connector	EN 175301-803-A (male). For suitable female connector see accessories on page 10.		
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories on page 10.		

(1) For other types of electrical connections, consult the Sensor Competency Center.

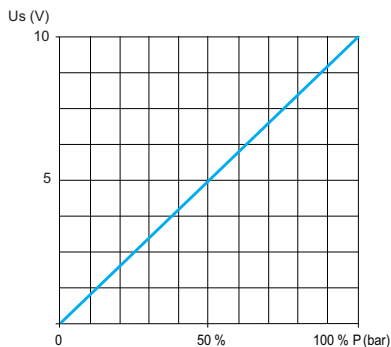
(2) Sold in lots of 25, minimum quantity 50.

(3) For other types of fluid connections, consult the Sensor Competency Center.

(4) For other types of output, consult the Sensor Competency Center.

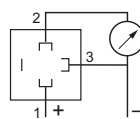
#### Output curve

XMLK0●●B2●71

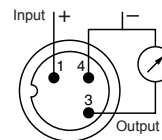


#### Connector wiring: 3-wire technique (0–10 V)

DIN



M12



# Electronic pressure sensors

## OsiSense XM

Pressure transmitters type XMLK, psi version

With analog output 4–20 mA

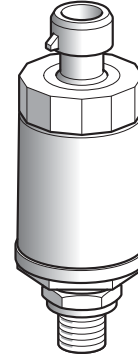
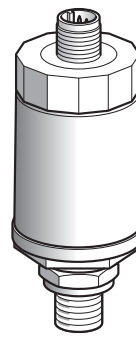
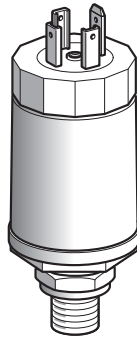
Sizes 0 to 300 psi (0 to 20.7 bar)

### Pressure transmitters type XMLK, psi version, DIN 43650A, M12 or Packard connector <sup>(1)</sup>

DIN 43650A connector

M12 connector

Packard connector



Pressure range	0–100 psi (0–6.9 bar)	0–150 psi (0–10.3 bar)	0–200 psi (0–13.8 bar)	0–300 psi (0–20.7 bar)
----------------	-----------------------	------------------------	------------------------	------------------------

#### Selection

##### Pressure transmitters XMLK, DIN 43650A connector

Sold in packs of:	1	XMLK100P2C23	XMLK150P2C23	XMLK200P2C23	XMLK300P2C23
	bulk <sup>(2)</sup>	XMLK100P2C23TQ	XMLK150P2C23TQ	XMLK200P2C23TQ	XMLK300P2C23TQ

##### Pressure transmitters XMLK, M12 connector

Sold in packs of:	1	XMLK100P2D23	XMLK150P2D23	XMLK200P2D23	XMLK300P2D23
	bulk <sup>(2)</sup>	XMLK100P2D23TQ	XMLK150P2D23TQ	XMLK200P2D23TQ	XMLK300P2D23TQ

##### Pressure transmitters XMLK, Packard connector

Sold in packs of:	1	XMLK100P2P23	XMLK150P2P23	XMLK200P2P23	XMLK300P2P23
	bulk <sup>(2)</sup>	XMLK100P2P23TQ	XMLK150P2P23TQ	XMLK200P2P23TQ	XMLK300P2P23TQ

Fluid connection <sup>(3)</sup>	1/4"-18 NPT male
---------------------------------	------------------

Weight, kg (lb)	0.110 (.25)	0.110 (.25)	0.110 (.25)	0.110 (.25)
-----------------	-------------	-------------	-------------	-------------

#### Additional specifications not shown under general specifications

Rated supply voltage	24 V $\overline{\text{---}}$			
Voltage limits	8–33 V $\overline{\text{---}}$			
Output <sup>(4)</sup>	4–20 mA, 2-wire technique			
Current consumption	< 20 mA			
Maximum permissible accidental pressure	200 psi (13.8 bar)	300 psi (20.7 bar)	400 psi (27.5 bar)	600 psi (41 bar)
Destruction pressure	300 psi (20.7 bar)	450 psi (31 bar)	600 psi (41 bar)	900 psi (62 bar)
Electrical connection	DIN 43650A connector	EN 175301-803-A (male). For suitable female connector see accessories on page 10		
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories on page 10.		
	Packard connector	3-pin Delphi® (Packard) Metri-Pack 150 series.		

<sup>(1)</sup> For other types of electrical connections, consult the Sensor Competency Center.

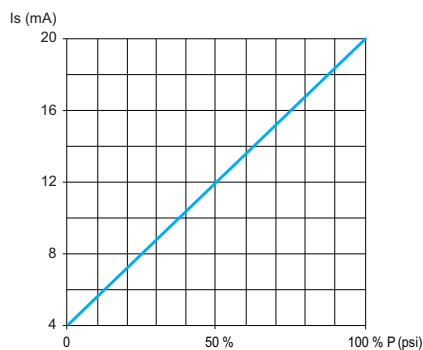
<sup>(2)</sup> Sold in lots of 25, minimum quantity 50.

<sup>(3)</sup> For other types of fluid connections, consult the Sensor Competency Center.

<sup>(4)</sup> For other types of output, consult the Sensor Competency Center.

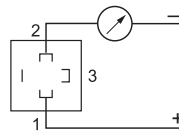
#### Output curve

XMLK1●●P2●23

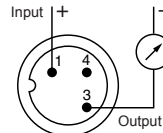


Connector wiring: 2-wire technique (4–20 mA)

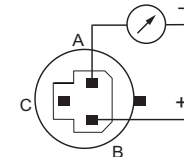
DIN



M12



Packard



# Electronic pressure sensors

OsiSense XM

Pressure transmitters type XMLK, psi version

With analog output 0–10 V

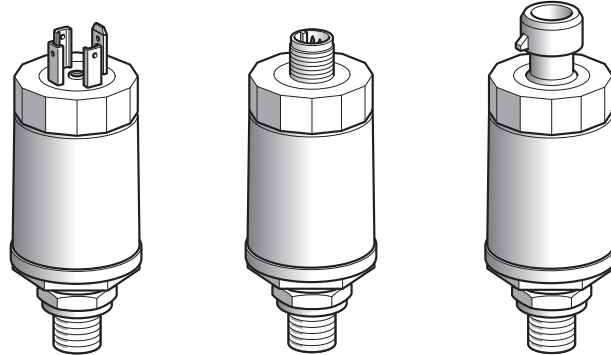
Sizes 0 to 300 psi (0 to 20.7 bar)

## Pressure transmitters type XMLK, PSI version, DIN 43650A, M12 or Packard connector (1)

DIN 43650A connector

M12 connector

Packard connector



Pressure range	0–100 psi (0–6.9 bar)	0–150 psi (0–10.3 bar)	0–200 psi (0–13.8 bar)	0–300 psi (0–20.7 bar)
----------------	-----------------------	------------------------	------------------------	------------------------

### Selection

#### Pressure transmitters XMLK, DIN 43650A connector

Sold in packs of:	1	XMLK100P2C73	XMLK150P2C73	XMLK200P2C73	XMLK300P2C73
	bulk (2)	XMLK100P2C73TQ	XMLK150P2C73TQ	XMLK200P2C73TQ	XMLK300P2C73TQ

#### Pressure transmitters XMLK, M12 connector

Sold in packs of:	1	XMLK100P2D73	XMLK150P2D73	XMLK200P2D73	XMLK300P2D73
	bulk (2)	XMLK100P2D73TQ	XMLK150P2D73TQ	XMLK200P2D73TQ	XMLK300P2D73TQ

#### Pressure transmitters XMLK, Packard connector

Sold in packs of:	1	XMLK100P2P73	XMLK150P2P73	XMLK200P2P73	XMLK300P2P73
	bulk (2)	XMLK100P2P73TQ	XMLK150P2P73TQ	XMLK200P2P73TQ	XMLK300P2P73TQ

Fluid connection (3)	1/4"-18 NPT male
----------------------	------------------

Weight, kg (lb)	0.110 (.25)	0.110 (.25)	0.110 (.25)	0.110 (.25)
-----------------	-------------	-------------	-------------	-------------

### Additional specifications not shown under general specifications

Rated supply voltage	24 V $\overline{\text{---}}$			
Voltage limits	16.2–33 V $\overline{\text{---}}$			
Output (4)	0–10 V, 3-wire technique			
Current consumption	< 6 mA			
Maximum permissible accidental pressure	200 psi (13.8 bar)	300 psi (20.7 bar)	400 psi (27.5 bar)	600 psi (41 bar)
Destruction pressure	300 psi (20.7 bar)	450 psi (31 bar)	600 psi (41 bar)	900 psi (62 bar)
Electrical connection	DIN 43650A connector	EN 175301-803-A (male). For suitable female connector see accessories on page 10.		
	M12 connector	M12, 3-pin male. For suitable female connectors, including pre-wired versions, see accessories on page 10.		
	Packard connector	3-pin Delphi (Packard) Metri-Pack 150 series.		

(1) For other types of electrical connections, consult the Sensor Competency Center.

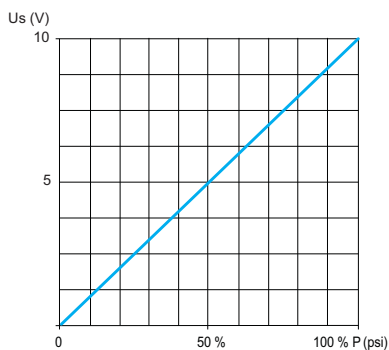
(2) Sold in lots of 25, minimum quantity 50.

(3) For other types of fluid connections, consult the Sensor Competency Center.

(4) For other types of output, consult the Sensor Competency Center.

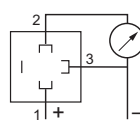
### Output curve

XMLK1●●P2●73

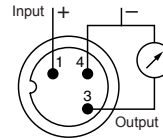


Connector wiring: 3-wire technique (0–10 V)

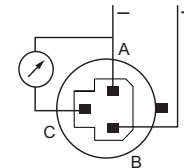
DIN

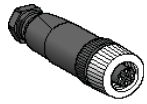


M12

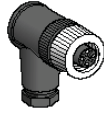


Packard





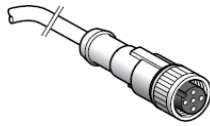
XZ CC12FDM40B



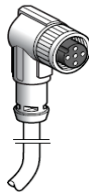
XZ CC12FCM40B



XZ CC43FCP40B



XZ CP1141L10



XZ CP1241L5

#### Connection accessories

Description	Type	Reference	Weight kg (lb)
M12 female connector, metal clamping ring (1)	Straight	XZCC12FDM40B	0.020 (0.04)
	Elbowed	XZCC12FCM40B	0.020 (0.04)
DIN 43650A female connector (1)		XZCC43FCP40B	0.035 (0.08)

Description	Cable Length	Reference	Weight kg (lb)
Pre-wired M12, straight female connectors	2 m	XZCP1141L2	0.090 (0.20)
	5 m	XZCP1141L5	0.190 (0.42)
	10 m	XZCP1141L10	0.370 (0.82)
Pre-wired M12, elbowed female connectors	2 m	XZCP1241L2	0.090 (0.20)
	5 m	XZCP1241L5	0.190 (0.42)
	10 m	XZCP1241L10	0.370 (0.82)

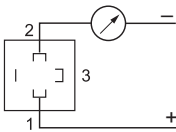
(1) Connector with screw terminal connections.

#### Connector wiring (pressure sensor connector pin view)

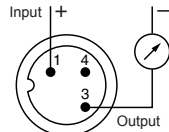
##### Pressure transmitters XMLK

##### 2-wire technique (4–20 mA)

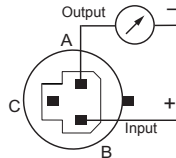
DIN



M12

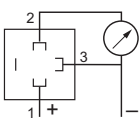


Packard

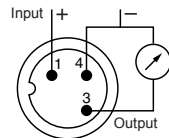


##### 3-wire technique (0–10 V)

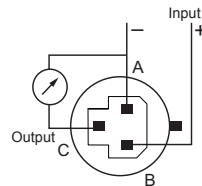
DIN



M12



Packard

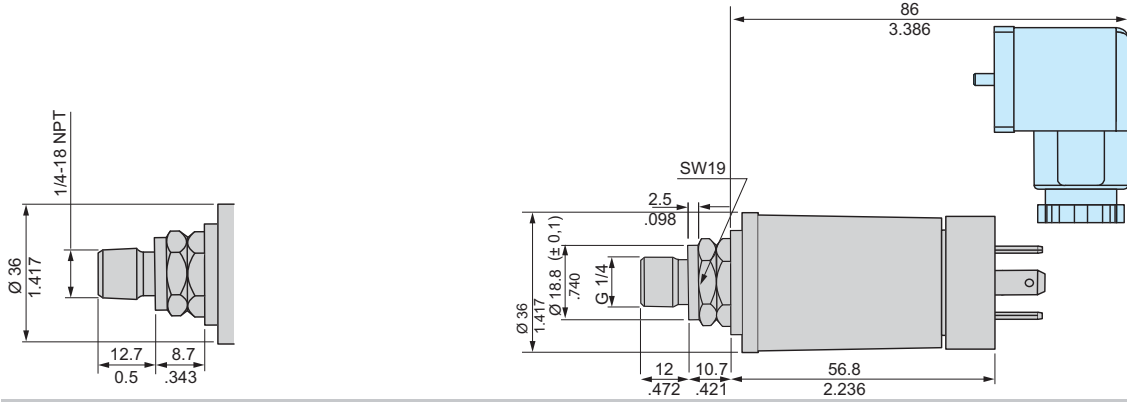


**Dimensions**

XMLK, DIN connector

NPT

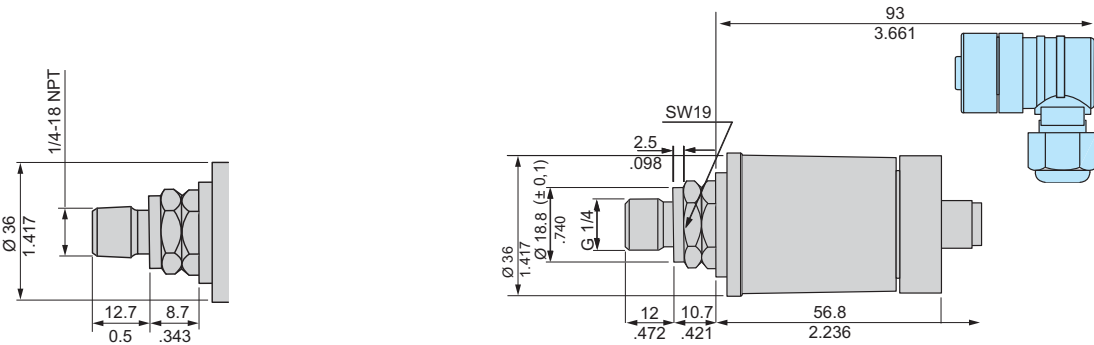
G 1/4 A (male)



XMLK, M12 connector

NPT

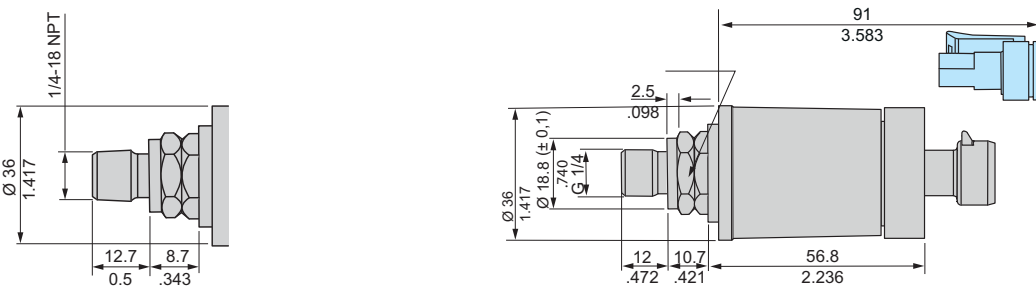
G 1/4 A (male)



XMLK, Packard connector

NPT

G 1/4 A (male)



Dimensions = mm / in.

**Schneider Electric USA, Inc.**

8001 Knightdale Boulevard  
Knightdale, NC 27545  
USA

[www.schneider-electric.com](http://www.schneider-electric.com)

OsiSense, Altivar, Schneider Electric and logo, and "Make the most of your energy" are trademarks or registered trademarks of Schneider Electric or its affiliates in the United States and other countries. Other trademarks used herein are the property of their respective owners.

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 omissions.

© 2010 Schneider Electric. All Rights Reserved.

9012CT1001