Photo-electric sensors
XU range
Material handling & working, packaging

Catalogue

YAGEO GROUP Brings you | Telemecanique Sensors

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Photo-electric sensors
XU range General purpose
Single mode function

Format			Design 18, cylindrical miniature			
			Plastic		Metal	
						
Dimensions (Ø or w x h x d) in mm			Ø 18, threaded M18 x 1 Length: 44	Ø 18, threaded M18 x 1 Length: 55.2	Ø 18, threaded M18 x 1 Length: 44	Ø 18, threaded M18 x 1 Length: 55.2
Case (material)	Plastic	PBT/PC	✓		–	
		ABS	–		–	
	Metal	Nickel plated brass	–		✓	
		Stainless steel	–		–	
Sensing distance Sn (m) related to system			*For straight light axis*	*For angled light axis*	*For straight light axis*	*For angled light axis*
	Thru-beam	XU●2	30	17	30	17
	Diffuse short distance	XU●4	–			
	Diffuse long distance	XU●5	1	–	1	–
	Diffuse medium distance	XU●6	0.6	0.5	0.6	0.5
	Background suppression	XU●8	0.3 from white object (90%) to black object (6%)	0.15 from white object (90%) to black object (6%)	0.3 from white object (90%) to black object (6%)	0.15 from white object (90%) to black object (6%)
	Polarised reflex	XU●9	7	5.5	7	5.5
LED emission			Red light			
Degree of protection			All: IP65, IP67 M12 connector only: IP69K			
Supply	⎓ 3-wire (PNP/NPN)		–		–	
	⎓ 4-wire (PNP/NPN)		✓		✓	
	≂ 5-wire, relay output		–		–	
Function		NO	–		–	
		NC	–		–	
		NO/NC	✓	✓	✓	✓
		NO + NC	–	–	–	–
Connection	Pre-cabled	(L = 2 m)	✓	✓	✓	✓
	Connector	M8 (4-pin) ⎓ 3-wire	–			
		M12 (4-pin) ⎓ 4-wire	✓	✓	✓	✓
	Pigtail	0.3 m				
Type reference			**XUB**			
Pages			20			

Miniature design		Hybrid miniature design	
Plastic		**Plastic**	
  		 	
19.5 x 31.5 x 10.8		15 x 59.2 x 31.9	
✓		–	
–		✓	
–		–	
–		–	
With excess gain = 1	*With excess gain = 2*	*With excess gain = 1*	*With excess gain = 2*
30	24	30	20
0.25	0.17	–	
1.9	1.5	1	0.7
1.1	0.8	0.6	0.42
4...300: White paper or object. Sn (90%) 5...265: Grey object. Sn (18%) 8...200: Black object. Sn (6%)		0.3 from white object (90%) to black object (6%)	
0.05...8	0.05...6.7	7	5
Red light for: XUM2, XUM6, XUM8, XUM9 Infrared light for: XUM4, XUM 5		Red light	
All: IP65, IP67		All: IP65, IP67 M12 connector only: IP69K	
✓		–	
–		✓	
–		–	
–		–	
–		–	
✓		✓	
–		–	
✓		✓	
✓		–	
–		✓	
✓		–	
XUM		**XUN**	
8		44	

Photo-electric sensors
XU range Application
For Material handling & working, Packaging

Recommended applications				**Material handling, Material working, Packaging**		
				Marking detection		
						
Format				Miniature		
Dimensions (w x h x d) in mm				12 x 34 x 20		10.8 x 31.5 x 19.5
Case (material)	Plastic	PBT/PC		–	–	–
		ABS		✓	✓	–
		ABS/PC		–	–	–
		PUR		–	–	–
		Glass-filled technopolymer		–	–	✓
	Metal	Nickel plated brass		–	–	–
		Stainless steel		–	–	–
		Zinc die-cast		–	–	–
Technology				Contrast		
Sensing distance (Sn)			XUKC	–	–	–
			XUMR	12 mm	12 mm	12 mm
			XUMT	–	–	–
	Thru-beam		XU●2	–	–	–
	Diffuse short distance		XU●4	–	–	–
	Diffuse medium distance		XU●5	–	–	–
	Diffuse long distance		XU●6	–	–	–
	Background suppression fixed		XU●7	–	–	–
	Background suppression adjust.		XU●8	–	–	–
	Polarised reflex		XU●9	–	–	–
LED emission				White light	RGB light	RGB light
Degree of protection			IP67	✓	✓	✓
			IP69K	✓	✓	–
Supply			⎓	12...24V		
			∿	–	–	–
			⎓ ∿	–	–	–
Output			Autodetect PNP/NPN	✓	✓	✓
			PNP	–	–	–
			NPN	–	–	–
Connection	Pre-cabled		L=2 m	–	–	–
	Connector		M8	✓	✓	✓
			M12	–	–	–
	Pigtail		L=0.15 m (M12)	✓	✓	–
			L=0.2 m (M8)	–	–	–
Type reference				**XUMRAWAY●●**	**XUMRAGAY●● XUMRACAY●●**	**XUMRPGAYM8**
Pages				62		

(1) Depending on fibres used.
(2) Depending on model.

Format	Miniature
Dimensions (w x h x d) in mm	12 x 34 x 20
Case (material) Plastic PBT/PC	–
ABS	✓
ABS/PC	–
PUR	–
Glass-filled technopolymer	–
Metal Nickel plated brass	–
Stainless steel	–
Zinc die-cast	–
Technology	Contrast
Sensing distance (Sn) XUKC	–
XUMR	12 mm
XUMT	–
Thru-beam XU●2	–
Diffuse short distance XU●4	–
Diffuse medium distance XU●5	–
Diffuse long distance XU●6	–
Background suppression fixed XU●7	–
Background suppression adjust. XU●8	–
Polarised reflex XU●9	–
LED emission	White light
Degree of protection IP67	✓
IP69K	✓
Supply ⎓	12...24V
∿	–
⎓ ∿	–
Output Autodetect PNP/NPN	✓
PNP	–
NPN	–
Connection Pre-cabled L=2 m	–
Connector M8	✓
M12	–
Pigtail L=0.15 m (M12)	✓
L=0.2 m (M8)	–
Type reference	**XUMRAWAY●●**
Pages	62

(1) Depending on fibres used.
(2) Depending on model.

Format	Miniature		
Dimensions (w x h x d) in mm	12 x 34 x 20	10.8 x 31.5 x 19.5	12 x 34 x 20
Case (material) Plastic PBT/PC	–	–	–
ABS	✓	–	✓
ABS/PC	–	–	–
PUR	–	–	–
Glass-filled technopolymer	–	✓	–
Metal Nickel plated brass	–	–	–
Stainless steel	–	–	–
Zinc die-cast	–	–	–
Technology	Contrast		
Sensing distance (Sn) XUKC	–	–	–
XUMR	12 mm	12 mm	–
XUMT	–	–	–
Thru-beam XU●2	–	–	–
Diffuse short distance XU●4	–	–	–
Diffuse medium distance XU●5	–	–	150 mm
Diffuse long distance XU●6	–	–	–
Background suppression fixed XU●7	–	–	–
Background suppression adjust. XU●8	–	–	–
Polarised reflex XU●9	–	–	–
LED emission	White light	RGB light	Laser light
Degree of protection IP67	✓	✓	✓
IP69K	✓	–	✓
Supply ⎓	12...24V		
∿	–	–	–
⎓ ∿	–	–	–
Output Autodetect PNP/NPN	✓	✓	✓
PNP	–	–	–
NPN	–	–	–
Connection Pre-cabled L=2 m	–	–	✓
Connector M8	✓	✓	✓
M12	–	–	–
Pigtail L=0.15 m (M12)	✓	–	✓
L=0.2 m (M8)	–	–	–
Type reference	**XUMRAGAY●● XUMRACAY●●**	**XUMRPGAYM8**	**XUM5ALAY●●**
Pages	62		

(1) Depending on fibres used.
(2) Depending on model.

Material handling, Material working, Packaging

Very dark object detection

Compact	Miniature	Sub-miniature
23 x 50 x 50	12 x 34 x 20	8 x 21.1 x 14.6
–	–	–
✓	✓	–
–	–	–
–	–	✓
–	–	–
–	–	–
–	–	–
BGS		
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–
–	–	–
–	80 mm	50 mm
1200 mm	200 mm	100 mm
–	–	–
Blue light		
✓	✓	✓
✓	✓	–
12...24V	12...24V	12...24V for XUT7 24V for XUT8
–	–	–
–	–	–
–	XUM8ABAY●●	XUT8ABAY●●
✓	XUM7ABPX●●	XUT7ABPX●●
–	–	–
–	XUM7ABPX●●	✓
–	✓	–
✓	–	–
–	XUM8ABAY●●	–
–	–	✓
XUK8ABPX●●	**XUM7ABPX●●** **XUM8ABAY●●**	**XUT7ABPX●●** **XUT8ABAY●●**
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Photo-electric sensors
XU range Application
For Material handling & working, Packaging

Recommended applications			**Material handling, Material working, Packaging**		
			Accurate detection		
					
Format			Miniature		Sub-miniature
Dimensions (w x h x d) in mm			12 x 34 x 20	10.8 x 31.5 x 19.5	8 x 21.1 x 14.6
Case (material)	Plastic	PBT/PC	–	–	–
		ABS	✓	–	–
		ABS/PC	–	–	–
		PUR	–	–	✓
		Glass-filled technopolymer	–	✓	–
	Metal	Nickel plated brass	–	–	–
		Stainless steel	–	–	–
		Zinc die-cast	–	–	–
Technology			Diffuse, BGS, reflex	BGS, reflex	BGS, reflex
Sensing distance (Sn)		XUKC	–	–	–
		XUMR	–	–	–
		XUMT	–	–	–
	Thru-beam	XU●2	–	–	–
	Diffuse short distance	XU●4	–	–	–
	Diffuse medium distance	XU●5	250 mm	–	–
	Diffuse long distance	XU●6	–	–	–
	Background suppression fixed	XU●7	–	–	–
	Background suppression adjust.	XU●8	150 mm	200 mm	100 mm
	Polarised reflex	XU●9	15 m	200 mm	4 m
LED emission			Laser light		
Degree of protection		IP65	–	✓	–
		IP67	✓	✓	✓
		IP69K	✓	–	–
Supply		⎓	12...24V	10...30V	12...24V
		∿	–	–	–
		⎓ ∿	–	–	–
Output		Autodetect PNP/NPN	✓	–	XUT8ALAYL2
		PNP	–	✓	XUT9ALPX●●
		NPN	–	–	–
Connection	Pre-cabled	L=2 m	✓	–	✓
	Connector	M8	✓	✓	–
		M12	–	–	–
	Pigtail	L=0.15 m (M12)	✓	–	–
		L=0.2 m (M8)	–	–	✓
Type reference			**XUM5ALAY●● XUM8ALAY●● XUM9ALAY●● XUM●PLPXM8**	**XUM8PLPXM8 XUM9PLPXM8**	**XUT8ALAY●● XUT9ALPX●●**
Pages			72		

Material handling, Material working, Packaging

Color object detection


Transparent object detection




Compact	Miniature	Compact	Miniature		Sub-miniature
3 x 50 x 250	8 x 21.1 x 14.6	23 x 50 x 50	12 x 34 x 20	10.8 x 31.5 x 19.5	8 x 21.1 x 14.6
–	–	–	–	–	–
–	✓	–	✓	–	–
–	–	✓	–	–	–
–	–	–	–	–	✓
–	–	–	–	✓	–
–	–	–	–	–	–
–	–	–	–	–	–
✓	–	–	–	–	–
Color mode		BGS	Reflex (polarized, transparent, BGS)	Transparent reflex	BGS
60 mm XUKCBSAY 150 mm XUKCBLAY	✓	–	–	–	–
–	12 mm	–	–	–	–
–	–	–	2 m		–
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	100 mm	–	50 mm
–	–	1200 mm	200 mm	–	100 mm
–	–	–	–	–	–
White light	RGB light	Blue light	Red light for XUMTA Blue light for XUM7 and XUM8	Red light	Blue light
–	–	–	–	–	–
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	–	✓ (only XUT8)
24V	12...24V	12...24V	24V for XUMTA 12...24V for XUM8 and XUM7	10...30V	24V
–	–	–	–	–	–
–	–	–	–	–	–
–	✓	–	XUM8ABAY●● XUMTARAY●●	–	XUT8ABAY●●
–	–	✓	XUM7ABPX●●	✓	XUT7ABPX●●
–	–	–	–	–	–
–	–	–	XUMTARAY●● XUM7ABPX●●	–	XUT7ABPX●● XUT8ABAY●●
–	✓	–	XUMTARAY●● XUM7ABPX●● XUM8ABAY●●	✓	–
✓	–	✓	–	–	–
–	✓	–	XUMTARAY●● XUM8ABAY●●	–	–
–	–	–	–	–	XUT7ABPX●● XUT8ABAY●●
XUKCB●AYM12	**XUMRACAYM8**	**XUK8ABPXM12**	**XUMTARAY●● XUM8ABAY●● XUM7ABPX●●**	**XUMTPRPXM8**	**XUT7ABPX●● XUT8ABAY●●**
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Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

XU_CP21047

XUM2A●XBL2, XUM2A●XBL03M8, XUM2A●XBL03M12

XU_CP21048

XUM2A●XBM8

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Transmitter + receiver IO-Link					
30 m/24 m	NC/NO (Light ON/Dark ON) configuration by IO-Link and potentiometer	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM2APYBM8** *(1)*	0.010
			Pigtail M12 (4-pin)	**XUM2APYBL03M12** *(1)*	–
Transmitter + receiver					
30 m/24 m	NC/NO (Light ON/Dark ON) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM2APXBL2**	0.096
			M8 connector (4-pin)	**XUM2APXBM8**	0.026
			Pigtail M8 (4-pin)	**XUM2APXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM2APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM2ANXBL2**	0.096
			M8 connector (4-pin)	**XUM2ANXBM8**	0.026
			Pigtail M8 (4-pin)	**XUM2ANXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM2ANXBL03M12** *(1)*	–
Transmitter only					
30 m/24 m			Pre-cabled (L = 2 m)	**XUM2AKXBL2T**	0.063
			M8 connector (4-pin)	**XUM2AKXBM8T**	0.010
			Pigtail M8 (4-pin)	**XUM2AKXBL03M8T** *(1)*	–
			Pigtail M12 (4-pin)	**XUM2AKXBL03M12T** *(1)*	–
Receiver only IO-Link					
30 m/24 m	NC/NO (Light ON/Dark ON) configuration by IO-Link and potentiometer	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM2APYBM8R** *(1)*	0.010
			Pigtail M12 (4-pin)	**XUM2APYBL03M12R** *(1)*	–
Receiver only					
30 m/24 m	NC/NO (Light ON/Dark ON) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM2APXBL2R**	0.063
			M8 connector (4-pin)	**XUM2APXBM8R**	0.010
			Pigtail M8 (4-pin)	**XUM2APXBL03M8R** *(1)*	–
			M12 connector (4-pin)	**XUM2APXBL03M12R** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM2ANXBL2R**	0.063
			M8 connector (4-pin)	**XUM2ANXBM8R**	0.010
			Pigtail M8 (4-pin)	**XUM2ANXBL03M8R** *(1)*	–
			Pigtail M12 (4-pin)	**XUM2ANXBL03M12R** *(1)*	–

Accessories

For all XUM miniature sensors
See page 11.

For thru-beam system
See page 11.

IO-Link Master
See page 88.

Fixing and other accessories
See page 92.

Cabling accessories
See page 98.

(1) Available 4th quarter 2025

Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

XUM4A●XBL2

XUM4A●XBM8

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Diffuse short range					
0.25 m/0.17 m	NO/NC (Light ON/Dark ON) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM4APXBL2**	0.063
			M8 connector (4-pin)	**XUM4APXBM8**	0.010
			Pigtail M8 (4-pin)	**XUM4APXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM4APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM4ANXBL2**	0.063
			M8 connector (4-pin)	**XUM4ANXBM8**	0.010
			Pigtail M8 (4-pin)	**XUM4ANXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM4ANXBL03M12** *(1)*	–

XUM5A●XBL2

XUM5A●XBM8

Diffuse long range IO-Link					
1.9 m/1.5 m	NO/NC (Light ON/Dark ON) configuration by IO-Link and potentiometer	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM5APYBM8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM5APYBL03M12** *(1)*	–
Diffuse long range					
1.9 m/1.5 m	NO/NC (Light ON/Dark ON) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM5APXBL2**	0.063
			M8 connector (4-pin)	**XUM5APXBM8**	0.010
		NPN	Pigtail M8 (4-pin)	**XUM5ANXBL03M8** *(1)*	–
			M12 connector (4-pin)	**XUM5ANXBL03M12** *(1)*	–
			Pre-cabled (L = 2 m)	**XUM5ANXBL2**	0.063
			M8 connector (4-pin)	**XUM5ANXBM8**	0.010
			Pigtail M8 (4-pin)	**XUM5ANXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM5ANXBL03M12** *(1)*	–

XUM6A●XBL2

XUM6A●XBM8

Diffuse medium range IO-Link					
1.1 m/0.8 m	NO/NC (Light ON/Dark ON) configuration by IO-Link and potentiometer	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM6APYBM8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM6APYBL03M12** *(1)*	–
Diffuse medium range					
1.1 m/0.8 m	NO/NC (Light ON/Dark ON) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM6APXBL2**	0.063
			M8 connector (4-pin)	**XUM6APXBM8**	0.010
			Pigtail M8 (4-pin)	**XUM6APXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM6APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM6ANXBL2**	0.063
			M8 connector (4-pin)	**XUM6ANXBM8**	0.010
			Pigtail M8 (4-pin)	**XUM6ANXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM6ANXBL03M12** *(1)*	–

Accessories for XU sensors

For all XUM miniature sensors

See page 11.

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See pages 98 to 103.

(1) Available 4th quarter 2025

Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

XUM9A●XBL2

XUM9A●XBM8

Diffuse system with background suppression and adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
300 mm/200 mm (white object or paper)	NO/NC (Light ON/Dark ON)	PNP	Pre-cabled (L = 2 m)	**XUM8APXBL2**	0.063
			configuration by potentiometer	**XUM8APXBM8**	0.010
		NPN	Pre-cabled (L = 2 m)	**XUM8ANXBL2**	0.063
			M8 connector (4-pin)	**XUM8ANXBM8**	0.010

Polarised reflex system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Sensors IO-Link					
8 m/6.7 m with reflector XUZC50	NC/NO (Light ON/Dark ON) configuration by IO-Link and potentiometer	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM9APYBM8** *(1)*	0.010
			Pigtail M12 (4-pin)	**XUM9APYBL03M12** *(1)*	–
Standard sensors					
8 m/6.7 m with reflector XUZC50	NC/NO (Light ON/Dark ON) configuration by potentiometer	PNP	Pre-cabled (L = 2 m)	**XUM9APXBL2**	0.063
			M8 connector (4-pin)	**XUM9APXBM8**	0.010
			Pigtail M8 (4-pin)	**XUM9APXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM9APXBL03M12** *(1)*	–
		NPN	Pre-cabled (L = 2 m)	**XUM9ANXBL2**	0.063
			M8 connector (4-pin)	**XUM9ANXBM8**	0.010
			Pigtail M8 (4-pin)	**XUM9ANXBL03M8** *(1)*	–
			Pigtail M12 (4-pin)	**XUM9ANXBL03M12** *(1)*	–

(1) Available 4th quarter 2025

XUM8A●XBL2

XUM8A●XBM8

Accessories

For all XUM miniature sensors
See page 11.

IO-Link Master
See page 88.

Fixing and other accessories
See page 92.

Cabling accessories
See page 98.

Photo-electric sensors
XUM, general purpose, single mode function
Accessories

XU_CP21045

XUZASM05

XU_CP21039

XUZDVM●●

XU_CP21040

XUZDHM●●

XU_CP21041

XUZDRM●●

Accessories for all XUM miniature sensors

Setting-up accessory

Description	For use with sensors	Reference	Weight (kg)
Air blower mounting block *(1)* for cleaning the sensitive face of the sensor, using compressed air. Supplied with 2 mounting screws (M3 x 20), 1 air supply port plugging screw for the unused port (of 2 available) and 1 gasket.	XUM●A●XBL2 XUM●A●XBM8	**XUZASM05**	0.030

Accessories for thru-beam system

Diaphragms

Description	Dimensions (mm)	Sensing distance (m)	Reference	Weight (kg)
Vertical diaphragm Sold in lots of 2	0.5 x 6.4	1	**XUZDVM05**	0.003
	1 x 6.4	1.5	**XUZDVM10**	0.003
	2 x 6.4	3.5	**XUZDVM20**	0.003
Horizontal diaphragm Sold in lots of 2	0.5 x 6.4	0.7	**XUZDHM05**	0.003
	1 x 6.4	1.5	**XUZDHM10**	0.003
	2 x 6.4	3	**XUZDHM20**	0.003
Round diaphragm Sold in lots of 2	0.5 x 6.4	0.08	**XUZDRM05**	0.003
	1 x 6.4	0.3	**XUZDRM10**	0.003
	2 x 6.4	1.2	**XUZDRM20**	0.003

Accessories for XU sensors

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See pages 98 to 103.

(1) To order these references, please contact our Customer Care Centre.

Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Characteristics

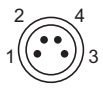
Sensor type				XUM●A●●BM8	XUM●A●●BL03M●	XUM●A●XBL2
Product certifications				CE, UKCA, cULus		
Connection	Connector			M8	–	–
	Pigtail			–	Length: 0.3 m	–
	Pre-cabled			–	–	Length: 2 m
Configuration				IO-Link Potentiometer	IO-Link Potentiometer	Potentiometer
Nominal sensing distance Sn	Thru-beam system	**XUM2**	**m**	30 (with excess gain = 1) 24 (with excess gain = 2)		
	Diffuse system (using a 200 x 200 mm white paper)	**XUM4**	**m**	0.25 (with excess gain = 1) 0.17 (with excess gain = 2)		
		XUM5	**m**	1.9 (with excess gain = 1) 1.5 (with excess gain = 2)		
		XUM6	**m**	1.1 (with excess gain = 1) 0.8 (with excess gain = 2)		
	Background suppression system	**XUM8**	**mm**	4...300: White paper or object. Sn (90%) 5...265: Grey object. Sn (18%) 8...200: Black object. Sn (6%)		
	Polarised reflex system (using a 50 x 50 mm reflector XUZC50)	**XUM9**	**m**	0.05...8 (with excess gain = 1) 0.05...6.7 (with excess gain = 2)		
Hysteresis				2% < H < 20% at Sn		
Type of transmission	Red	**XUM2**		Thru-beam system		
		XUM6		Diffuse system		
		XUM8		Background suppression system		
		XUM9		Polarised reflex system		
	Infrared	**XUM4**		Diffuse system		
		XUM5		Diffuse system		
Degree of protection	Conforming to IEC 60529			IP65, IP67		
Storage temperature			**°C**	-40…+70		
Operating temperature			**°C**	-30…+55		
Materials	Case			PBT		
	Lens			PMMA		
	Display			PC		
	Cable			–	PVC	PVC
Vibration resistance	Conforming to IEC 60068-2-6		**Hz** **gn**	Frequency range Acceleration	10 to 500 9 gn	
Shock resistance	Conforming to IEC 60068-2-27		**gn** **ms**	Peak acceleration Duration of the pulse	100 gn 11	
Indicator lights	Output state			Yellow LED		
	Stability			Green LED (XUM4, XUM5, XUM6, XUM8, XUM9)		
	Power on			Green LED (XUM2)		
Rated supply voltage			**V**	12...24 ⎓ with protection against reverse polarity		
Voltage limits (including ripple)			**V**	10...30 ⎓		
Current consumption, no-load			**mA**	< 20 max.		
Switching capacity			**mA**	100		
Voltage drop, closed state			**V**	≤ 2		
Maximum switching frequency			**Hz**	1000		
Delays	First-up		**ms**	< 100		
	Response		**ms**	0.5		
	Recovery		**ms**	0.5		
	IO-Link		**ms**	< 300		

Photo-electric sensors
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Wiring schemes

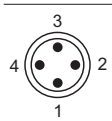
Thru-beam system

M8 and M12 connectors - 4-pin IO-Link



M8

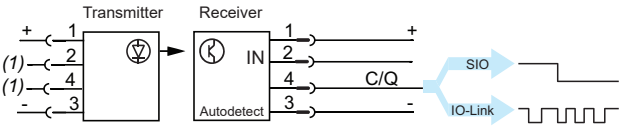
Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication



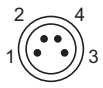
M12

Autodetect PNP/NPN or by IO-Link

XUM2APYBM8, XUM2APYBM8R, XUM2APYBL03M12, XUM2APYBL03M12R

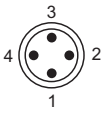


M8 and M12 connectors - 4-pin



M8

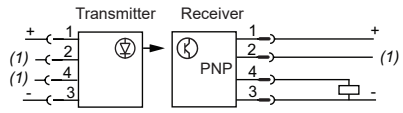
3 (-)
1 (+)
4 OUT/Output



M12

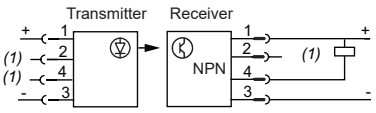
PNP

XUM2APXBM8, XUM2APXBL03M8, XUM2AKXBM8T, XUM2AKXBL03M8T, XUM2APXBM8R, XUM2APXBL03M8R XUM2APXBL03M12, XUM2AKXBL03M12T, XUM2APXBL03M12R



NPN

XUM2ANXBM8, XUM2ANXBL03M8, XUM2ANXBM8R , XUM2ANXBL03M8R XUM2ANXBL03M12, XUM2ANXBL03M12R

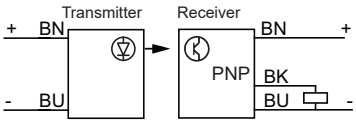


Pre-cabled - 3-wire

(-) BU (Blue)
(+) BN (Brown)
OUT/Output BK (Black)

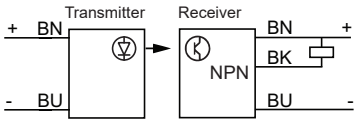
PNP

XUM2APXBL2, XUM2AKXBL2T, XUM2APXBL2R



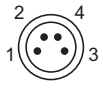
NPN

XUM2ANXBL2, XUM2ANXBL2R



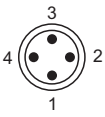
Diffuse systems with or without background suppression and polarised reflex system

M8 and M12 connectors - 4-pin IO-Link



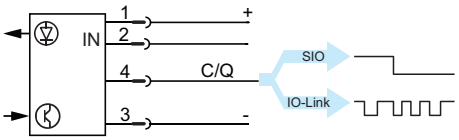
M8

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

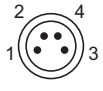


M12

XUM●APYBL03M12, XUM●APYBM8

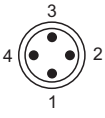


M8 and M12 connectors- 4-pin



M8

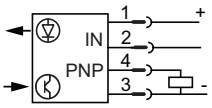
Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)



M12

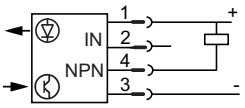
PNP

XUM●APXBL03M12, XUM●APXBM8, XUM●APXBL03M8



NPN

XUM●ANXBL03M12

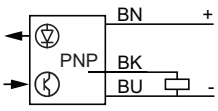


Pre-cabled - 3-wire

(-) BU (Blue)
(+) BN (Brown)
OUT/Output BK (Black)

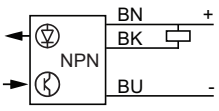
PNP

XUM●APXBL2



NPN

XUM●ANXBL2



(1) Not connected.

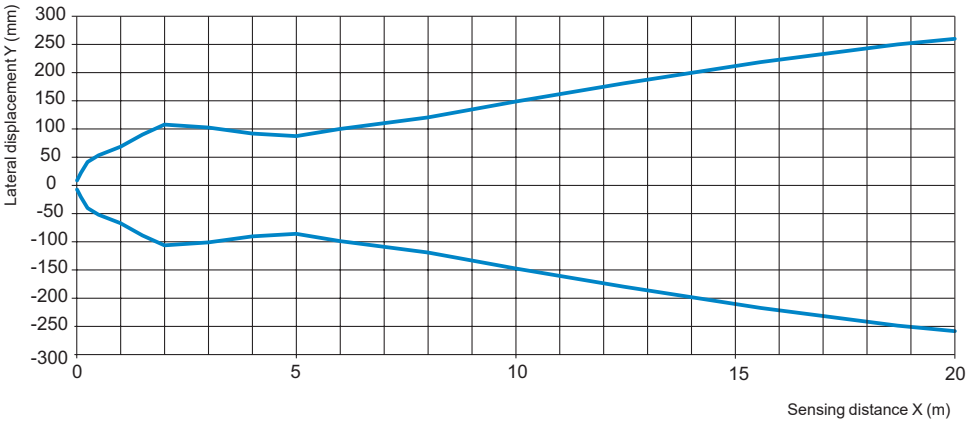
Photo-electric sensors

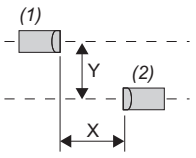
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves

Thru-beam system

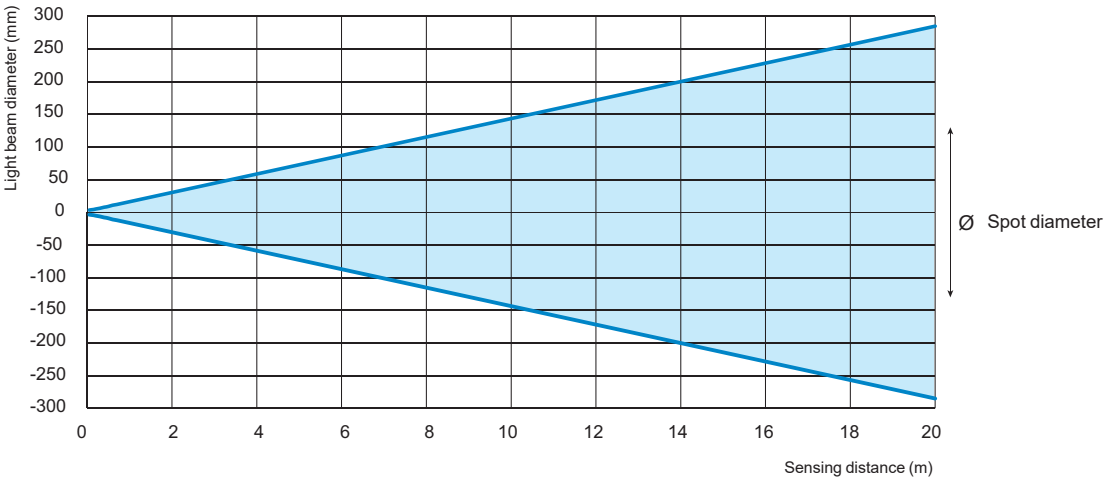
Lateral displacement





(1): Transmitter
(2): Receiver

Light beam diameter



Excess gain

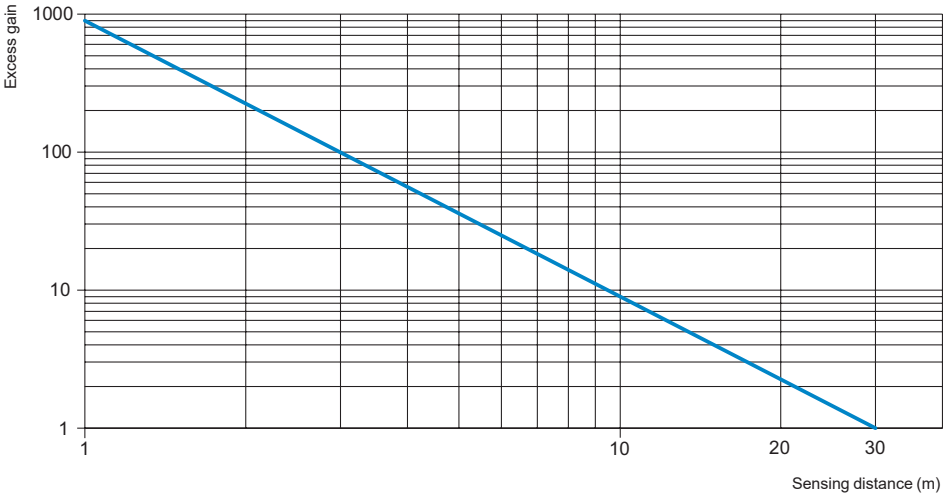
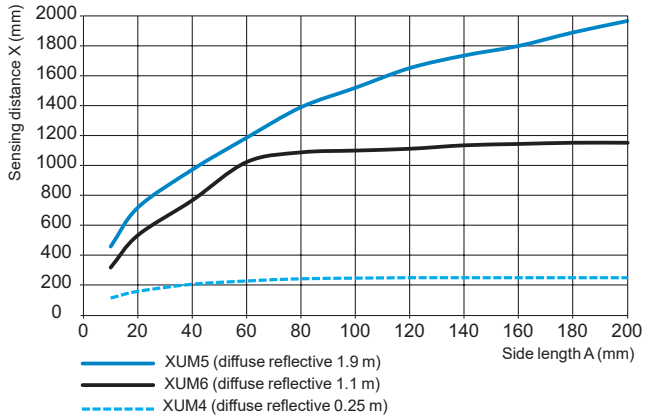


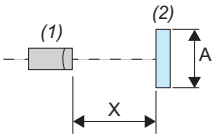
Photo-electric sensors
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves (continued)

Diffuse system: XUM4, XUM5 and XUM6

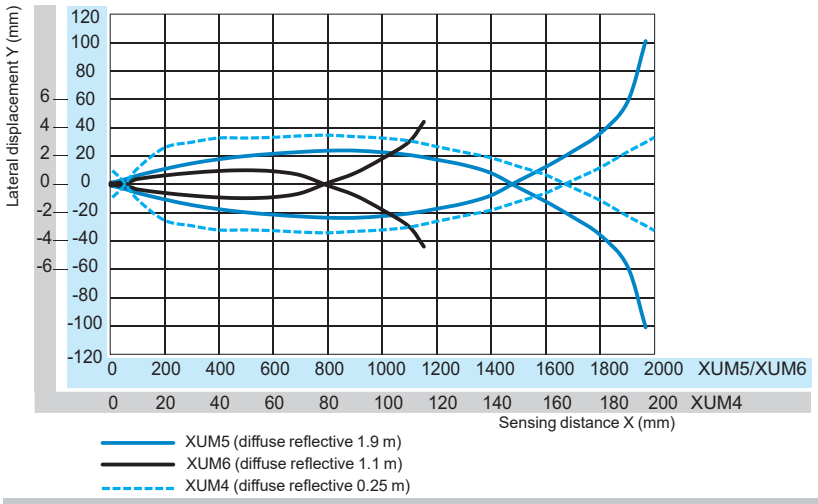
Object size/sensing distance

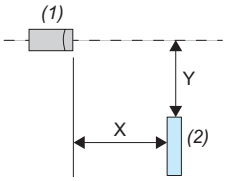




(1): Sensor
(2): Object (white mat paper of A mm square)
A: Side length (mm)
X: Sensing distance (mm)

Lateral displacement





(1): Sensor
(2): Object (200 x 200 mm square white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Excess gain

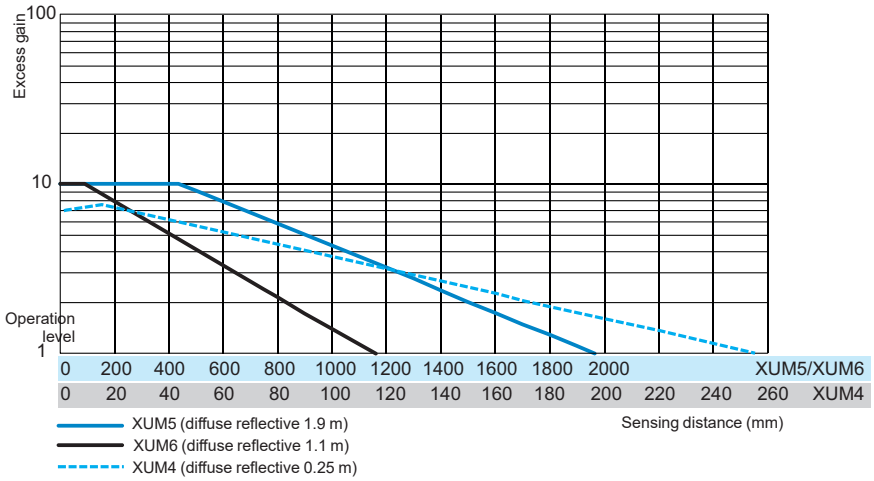
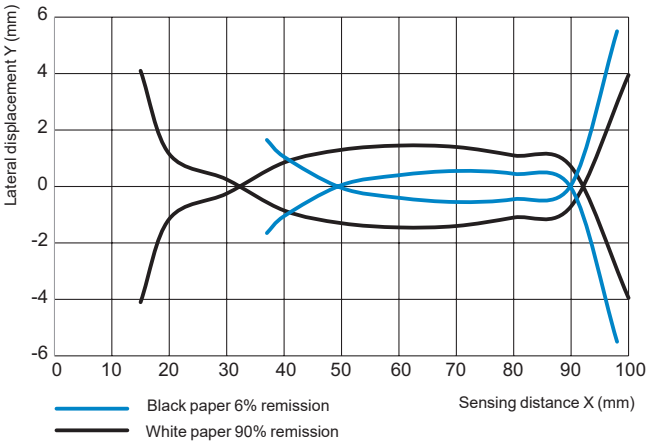


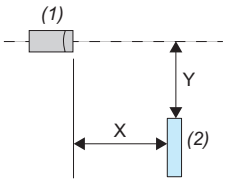
Photo-electric sensors
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves (continued)

Diffuse system with background suppression (BGS): XUM8

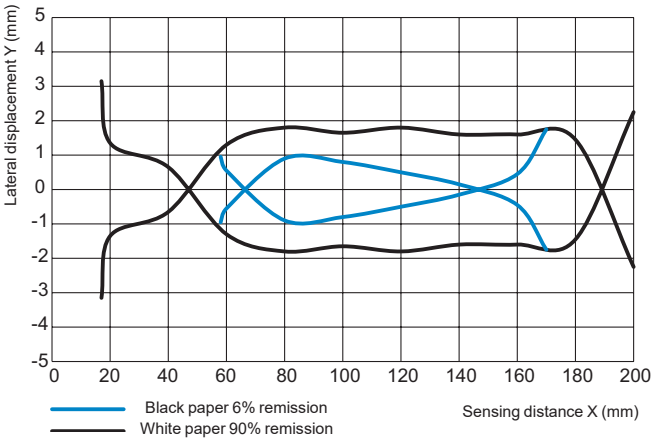
Lateral displacement (preset 100 mm)

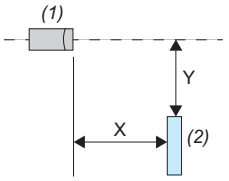




(1): Sensor
(2): Object (200 mm square white and black mat paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

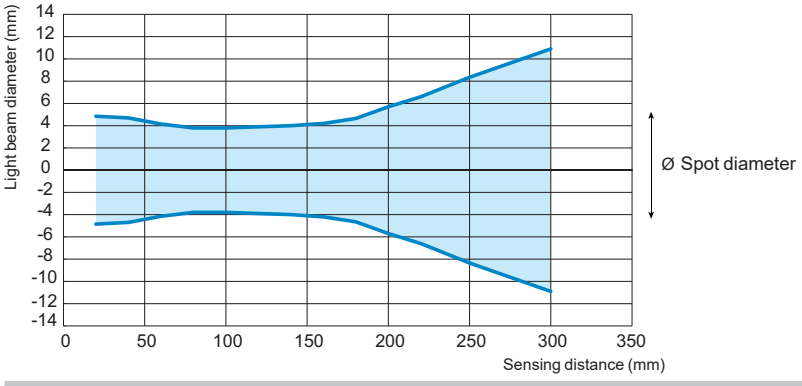
Lateral displacement (preset 200 mm)



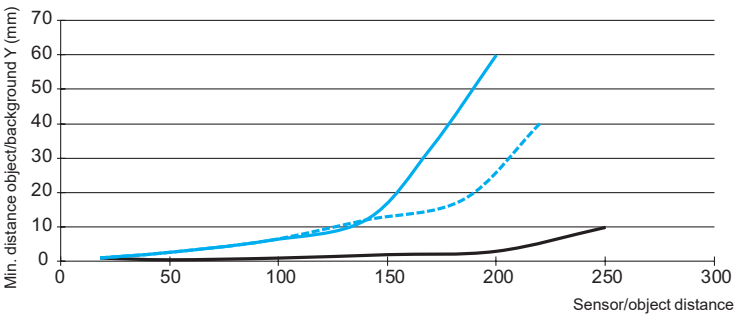


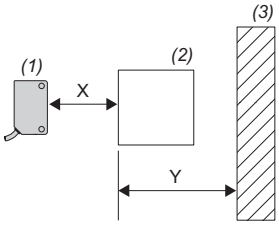
(1): Sensor
(2): Object (200 mm square white and black mat paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Light beam diameter



Minimum distance between the object to be detected and a white background





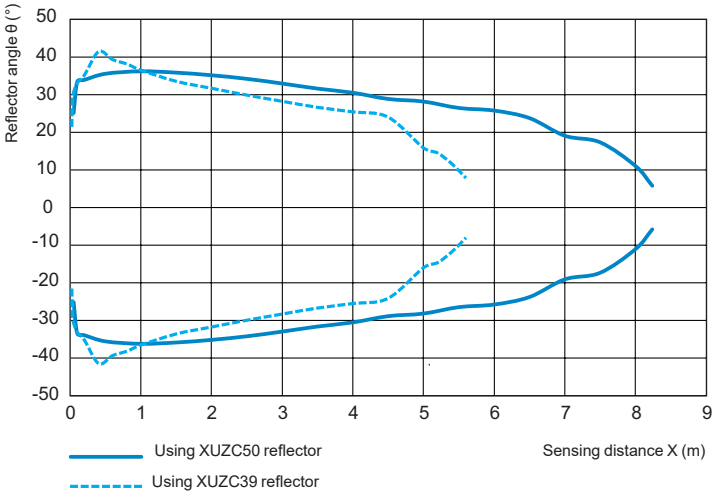
(1): Sensor
(2): Object
(3): Background
X: Sensor/object distance (mm)
Y: Min. distance object/ background (mm)

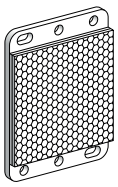
Photo-electric sensors
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Detection curves

Polarised reflex system

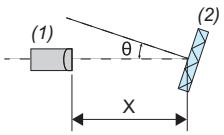
Reflector angle





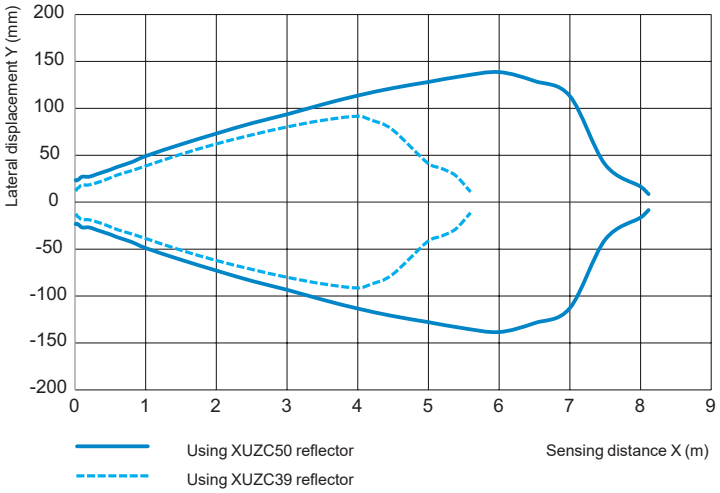
XUZC50

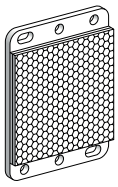
XUZC39



(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)

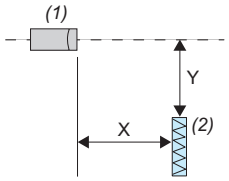
Lateral displacement





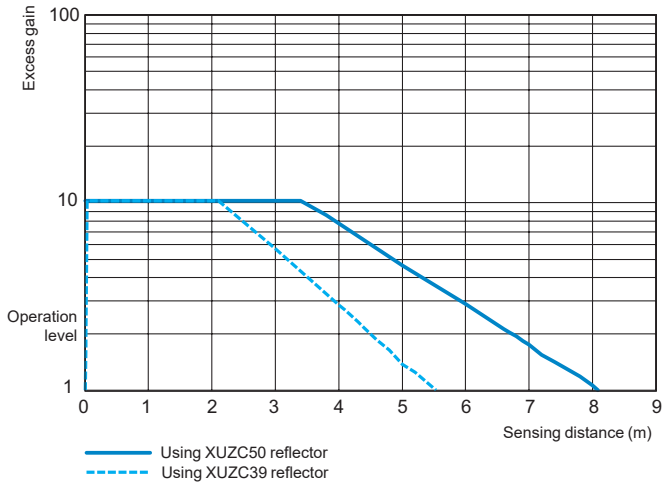
XUZC50

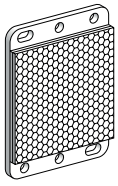
XUZC39



(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)

Excess gain





XUZC50

XUZC39

Photo-electric sensors

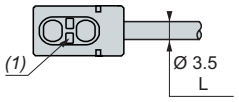
XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

Thru-beam system

Pre-cabled and pigtail versions

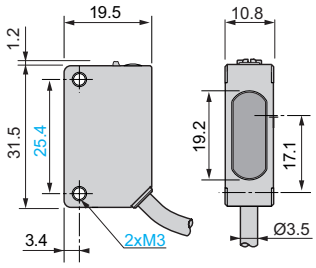
Transmitter

Description - XUM2A●XBL2, XUM2A●●BL03●●●



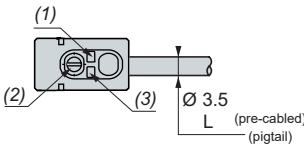
L = 2 m (pre-cabled)
0.3 m (pigtail)

Dimensions - XUM2A●XBL2, XUM2A●●BL03●●●

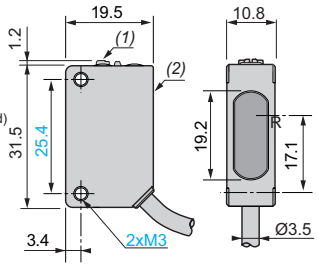


Receiver

Description - XUM2A●XBL2, XUM2A●●BL03●●●



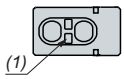
Dimensions - XUM2A●XBL2, XUM2A●●BL03●●●



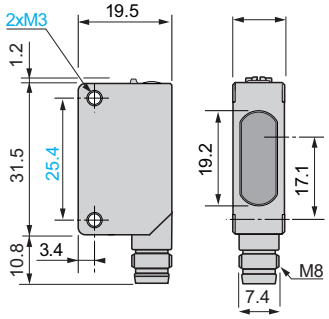
M8 connector version

Transmitter

Description - XUM2A●XBM8

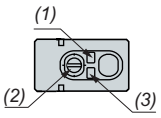


Dimensions - XUM2A●XBM8

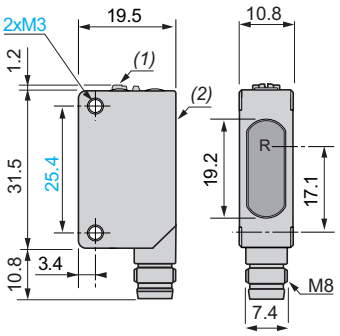


Receiver

Description - XUM2A●XBM8



Dimensions - XUM2A●XBM8



(1) Power ON indicator (green)

T: Transmission

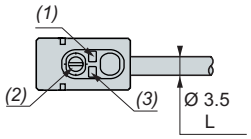
(1) Output indicator (yellow)
(2) Setting potentiometer (sensitivity)
(3) Power ON indicator (green)

R: Reception
(1) Setting potentiometer (sensitivity)
(2) Setting potentiometer (NO/NC)

Diffuse system

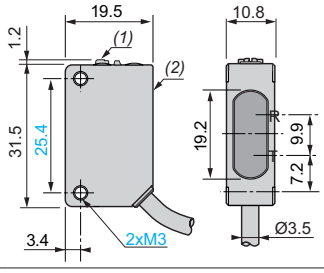
Pre-cabled and pigtail versions

Description - XUM5A●XBL2, XUM6A●XBL2, XUM4A●XBL2, XUM●A●●BL03●●



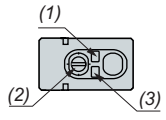
L = 2 m (pre-cabled)
0.3 m (pigtail)

Dimensions - XUM5A●XBL2, XUM6A●XBL2, XUM4A●XBL2, XUM●A●●BL03●●

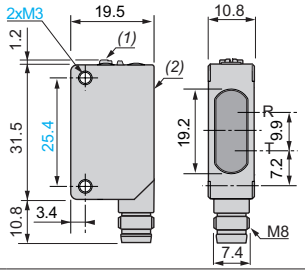


M8 connector version

Description - XUM5A●XBM8, XUM6A●XBM8, XUM4A●XBM8



Dimensions - XUM5A●XBM8, XUM6A●XBM8, XUM4A●XBM8



(1) Output indicator (yellow)
(2) Setting potentiometer (sensitivity)
(3) Stability indicator (green)

R: Reception
T: Transmission
(1) Setting potentiometer (sensitivity)
(2) Setting potentiometer (NO/NC)

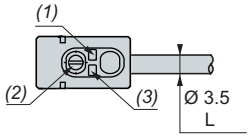
(1) Output indicator (yellow)
(2) Setting potentiometer (sensitivity)
(3) Stability indicator (green)

R: Reception
T: Transmission
(1) Setting potentiometer (sensitivity)
(2) Setting potentiometer (NO/NC)

Diffuse system with background suppression

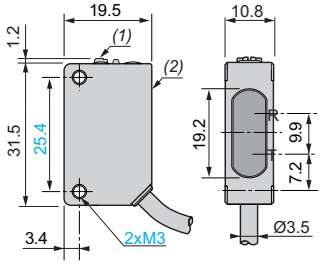
Pre-cabled version

Description - XUM8A●XBL2



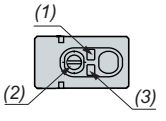
L = 2 m (pre-cabled)
0.3 m (pigtail)

Dimensions - XUM8A●XBL2



M8 connector version

Description - XUM8A●XBM8



Dimensions - XUM8A●XBM8

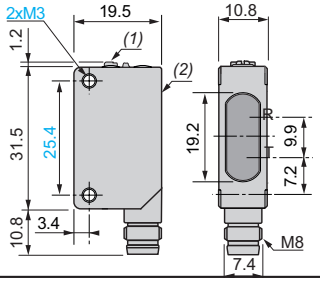


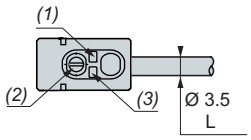
Photo-electric sensors

XUM, general purpose, single mode function
Miniature design, plastic
Three-wire DC, solid-state output

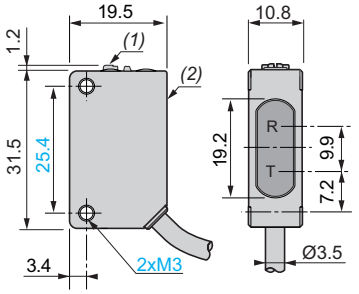
Polarised reflex system

Pre-cabled and pigtail versions

Description - XUM9A●XBL2, XUM9A●●BL03●●

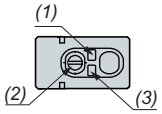


Dimensions - XUM9A●XBL2, XUM9A●●BL03●●

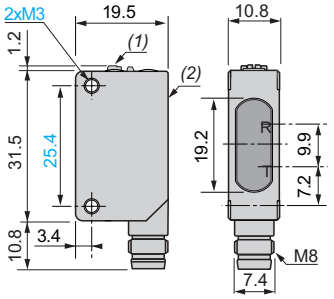


M8 connector version

Description - XUM9A●XBM8



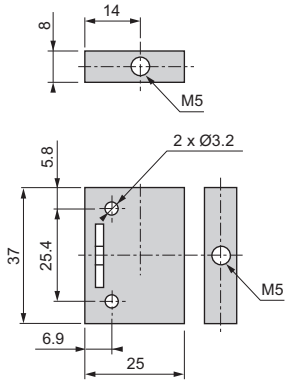
Dimensions - XUM9A●XBM8



Accessories

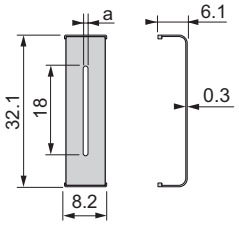
Setting-up accessory

XUZASM05

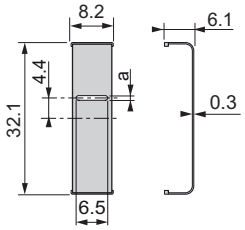


Diaphragms

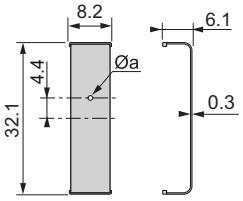
XUZDVM●●



XUZDHM●●



XUZDRM●●



Reference	a (mm)
XUZDVM05	0.5
XUZDVM10	1
XUZDVM20	2
XUZDHM05	0.5
XUZDHM10	1
XUZDHM20	2
XUZDRM05	Ø 0.5
XUZDRM10	Ø 1
XUZDRM20	Ø 2

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic, kits
Four-wire DC, solid-state output
Wire setting for NO/NC

XUB2APYNM12
XUB2ANXWM12

XUB2ANXNL2

XUB2ANXNM12
XUB2ANXWM12

XUB2APXNL2

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)/ Line of sight	Function	Output	Connection	Reference	Weight (kg)
Transmitter + receiver IO-Link					
15 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by IO-Link and/or by wire on the receiver	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2APYNM12**	0.060
12 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by IO-Link and/or by wire on the receiver		M12 connector (4-pin)	**XUB2APYWM12**	0.060
Transmitter + receiver					
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	NPN	Pre-cabled (L = 2 m)	**XUB2ANXNL2**	0.171
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver		M12 connector (4-pin)	**XUB2ANXNM12**	0.060
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	NPN	Pre-cabled (L = 2 m)	**XUB2ANXWL2**	0.171
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver		M12 connector (4-pin)	**XUB2ANXWM12**	0.060
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	PNP	Pre-cabled (L = 2 m)	**XUB2APXNL2**	0.171
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver		M12 connector (4-pin)	**XUB2APXNM12**	0.060
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	PNP	Pre-cabled (L = 2 m)	**XUB2APXWL2**	0.171
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver		M12 connector (4-pin)	**XUB2APXWM12**	0.060

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

XUB2AKXNM12T

XUB2AKXWM12T

XUB2AKXNL2T

XUB2AKXWL2T
XUB2ANXNL2

XUB2APYNM12R
XUB2ANXNM12R
XUB2APXNM12R

XUB2APYWM12R
XUB2ANXWM12R
XUB2APXWM12R

XUB2ANXNL2R
XUB2APXNL2R

XUB2ANXWL2R
XUB2APXWL2R

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Transmitter only *(1)*					
30 m/20 m Along case axis	–	–	Pre-cabled (L = 2 m)	**XUB2AKXNL2T**	0.095
			M12 connector (4-pin)	**XUB2AKXNM12T**	0.040
17 m/12 m 90° to case axis	–	–	Pre-cabled (L = 2 m)	**XUB2AKXWL2T**	0.095
			M12 connector (4-pin)	**XUB2AKXWM12T**	0.040
Receiver IO-Link only					
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2APYNM12R**	0.040
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2APYWM12R**	0.040
Receiver only					
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2ANXNL2R**	0.095
			M12 connector (4-pin)	**XUB2ANXNM12R**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB2APXNL2R**	0.095
			M12 connector (4-pin)	**XUB2APXNM12R**	0.040
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2ANXWL2R**	0.095
			M12 connector (4-pin)	**XUB2ANXWM12R**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB2APXWL2R**	0.095
			M12 connector (4-pin)	**XUB2APXWM12R**	0.040

Accessories

IO-Link Master
See page 88.

Fixing and other accessories
See page 92.

Cabling accessories
See page 98.

(1) All transmitters are compatible with the receivers listed below.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal, kits
Four-wire DC, solid-state output
Wire setting for NO/NC

XUB2BPYNM12
XUB2BNXNM12
XUB2BPXNM12

XUB2BPYWM12
XUB2BNXWM12
XUB2BPXWM12

XUB2BNXNL2
XUB2BPXNL2

XUB2BNXWL2
XUB2BPXWL2

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)/ Line of sight	Function	Output	Connection	Reference	Weight (kg)
Transmitter + receiver IO-Link					
12 m/12 m Along case axis	NO/NC (Dark ON/Light ON) configuration by IO-Link and/or by wire on the receiver	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2BPYNM12**	0.060
12 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by IO-Link and/or by wire on the receiver	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2BPYWM12**	0.060
Transmitter + receiver					
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	NPN	Pre-cabled (L = 2 m)	**XUB2BNXNL2**	0.192
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	NPN	M12 connector (4-pin)	**XUB2BNXNM12**	0.080
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	NPN	Pre-cabled (L = 2 m)	**XUB2BNXWL2**	0.192
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	NPN	M12 connector (4-pin)	**XUB2BNXWM12**	0.080
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	PNP	Pre-cabled (L = 2 m)	**XUB2BPXNL2**	0.192
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	PNP	M12 connector (4-pin)	**XUB2BPXNM12**	0.080
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	PNP	Pre-cabled (L = 2 m)	**XUB2BPXWL2**	0.192
	NO/NC (Dark ON/Light ON) configuration by wire on the receiver	PNP	M12 connector (4-pin)	**XUB2BPXWM12**	0.080

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

XUB2BKXNM12T

XUB2BKXWM12T

XUB2BKXNL2T

XUB2BKXWL2T

XUB2BPYNM12R
XUB2BNXNM12R
XUB2BPXNM12R

XUB2BPYWM12R
XUB2BNXWM12R
XUB2BPXWM12R

XUB2BNXNL2R
XUB2BPXNL2R

XUB2BNXWL2R
XUB2BPXWL2R

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Transmitter only *(1)*					
30 m/20 m Along case axis	–	–	Pre-cabled (L = 2 m)	**XUB2BKXNL2T**	0.095
			M12 connector (4-pin)	**XUB2BKXNM12T**	0.040
17 m/12 m 90° to case axis	–	–	Pre-cabled (L = 2 m)	**XUB2BKXWL2T**	0.095
			M12 connector (4-pin)	**XUB2BKXWM12T**	0.040
Receiver IO-Link only					
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2BPYNM12R**	0.040
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB2BPYWM12R**	0.040
Receiver only					
30 m/20 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2BNXNL2R**	0.095
			M12 connector (4-pin)	**XUB2BNXNM12R**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB2BPXNL2R**	0.095
			M12 connector (4-pin)	**XUB2BPXNM12R**	0.040
17 m/12 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB2BNXWL2R**	0.095
			M12 connector (4-pin)	**XUB2BNXWM12R**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB2BPXWL2R**	0.095
			M12 connector (4-pin)	**XUB2BPXWM12R**	0.040

Accessories

IO-Link Master
See page 88.

Fixing and other accessories
See page 92.

Cabling accessories
See page 98.

(1) All transmitters are compatible with the receivers listed below.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720004

XUB●APYNM12
XUB●ANXNM12
XUB●APXNM12

Apollo_CP0720008

XUB●APYWM12
XUB6●●●●

Apollo_CP0720002

XUB●ANXNL2
XUB●APXNL2

Apollo_CP0720006

XUB6●●●●

Diffuse system with adjustable sensitivity, IO-Link

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Long range, red LED emission					
1 m/0.7 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB5APYNM12**	0.040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6APYNM12**	0.040
0.5 m/0.35 m 90° to case axis	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6APYWM12**	0.040

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Long range, red LED emission					
1 m/0.7 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB5ANXNL2**	0.095
			M12 connector (4-pin)	**XUB5ANXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB5APXNL2**	0.095
			M12 connector (4-pin)	**XUB5APXNM12**	0.040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6ANXNL2**	0.095
			M12 connector (4-pin)	**XUB6ANXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB6APXNL2**	0.095
			M12 connector (4-pin)	**XUB6APXNM12**	0.040
0.5 m/0.35 m 90° to case axis	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6ANXWL2**	0.095
			M12 connector (4-pin)	**XUB6ANXWM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB6APXWL2**	0.095
			M12 connector (4-pin)	**XUB6APXWM12**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720012

XUB●BPYNM12
XUB●BNXNM12
XUB●BPXNM12

Apollo_CP0720016

XUB6BPYWM12
XUB6BNXWM12
XUB6BPXWM12

Apollo_CP0720010

XUB●BNXNL2
XUB●BPXNL2

Apollo_CP0720014

XUB6BNXWL2
XUB6BPXWL2

Diffuse system with adjustable sensitivity, IO-Link

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Long range, red LED emission					
1 m/0.7 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB5BPYNM12**	0.040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6BPYNM12**	0.040
0.5 m/0.35 m 90° to case axis	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB6BPYWM12**	0.040

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Long range, red LED emission					
1 m/0.7 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB5BNXNL2**	0.095
			M12 connector (4-pin)	**XUB5BNXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB5BPXNL2**	0.095
			M12 connector (4-pin)	**XUB5BPXNM12**	0.040
Medium range, red LED emission					
0.6 m/0.42 m Along case axis	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6BNXNL2**	0.095
			M12 connector (4-pin)	**XUB6BNXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB6BPXNL2**	0.095
			M12 connector (4-pin)	**XUB6BPXNM12**	0.040
0.5 m/0.35 m 90° to case axis	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB6BNXWL2**	0.095
			M12 connector (4-pin)	**XUB6BNXWM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB6BPXWL2**	0.095
			M12 connector (4-pin)	**XUB6BPXWM12**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720004

XUB8APYNM12
XUB8ANXNM12
XUB8APXNM12

Apollo_CP0720008

XUB8APYWM12
XUB8ANXWM12
XUB8APXWM12

Diffuse system with background suppression (BGS), IO-Link

Plastic, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
0.3 m/0.3 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	PNP	M12 connector (4-pin)	**XUB8APYNM12**	0.040
0.15 m/0.15 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link			**XUB8APYWM12**	0.040

Apollo_CP0720002

XUB8ANXNL2
XUB8APXNL2

Apollo_CP0720006

XUB8ANXWL2
XUB8APXWL2

Diffuse system with background suppression (BGS)

Plastic, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
0.3 m/0.3 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB8ANXNL2**	0.095
			M12 connector (4-pin)	**XUB8ANXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB8APXNL2**	0.095
			M12 connector (4-pin)	**XUB8APXNM12**	0.040
0.15 m/0.15 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB8ANXWL2**	0.095
			M12 connector (4-pin)	**XUB8ANXWM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB8APXWL2**	0.095
			M12 connector (4-pin)	**XUB8APXWM12**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720012

XUB8BPYNM12
XUB8BNXNM12
XUB8BPXNM12

Apollo_CP0720016

XUB8BPYWM12
XUB8BNXWM12
XUB8BPXWM12

Diffuse system with background suppression (BGS), IO-Link

Metal, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
0.3 m/0.3 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	PNP	M12 connector (4-pin)	**XUB8BPYNM12**	
0.15 m/0.15 m 90° to case axis			M12 connector (4-pin)	**XUB8BPYWM12**	

Apollo_CP0720010

XUB8BNXNL2
XUB8BPXNL2

Apollo_CP0720014

XUB8BNXWL2
XUB8BPXWL2

Diffuse system with background suppression (BGS)

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Metal, red LED emission					
0.3 m/0.3 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB8BNXNL2**	0.095
			M12 connector (4-pin)	**XUB8BNXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB8BPXNL2**	0.095
			M12 connector (4-pin)	**XUB8BPXNM12**	0.040
0.15 m/0.15 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB8BNXWL2**	0.095
			M12 connector (4-pin)	**XUB8BNXWM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB8BPXWL2**	0.095
			M12 connector (4-pin)	**XUB8BPXWM12**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720004

XUB9APYNM12
XUB9ANXNM12
XUB9APXNM12

Apollo_CP0720008

XUB9APYWM12
XUB9ANXWM12
XUB9APXWM12

Polarised reflex system with adjustable sensitivity, IO-Link

Plastic, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
7 m/5 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9APYNM12**	0.040
5.5 m/4 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9APYWM12**	0.040

Apollo_CP0720002

XUB9ANXNL2
XUB9APXNL2

Apollo_CP0720006

XUB9ANXWL2
XUB9APXWL2

Polarised reflex system with adjustable sensitivity

Plastic, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
7 m/5 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9ANXNL2**	0.095
			M12 connector (4-pin)	**XUB9ANXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB9APXNL2**	0.095
			M12 connector (4-pin)	**XUB9APXNM12**	0.040
5.5 m/4 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9ANXWL2**	0.095
			M12 connector (4-pin)	**XUB9ANXWM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB9APXWL2**	0.095
			M12 connector (4-pin)	**XUB9APXWM12**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

Apollo_CP0720012

XUB9BPYNM12
XUB9BNXNM12
XUB9BPXNM12

Apollo_CP0720016

XUB9BPYWM12
XUB9BNXWM12
XUB9BPXWM12

Polarised reflex system with adjustable sensitivity, IO-Link

Metal, red LED emission

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
7 m/5 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9BPYNM12**	0.040
5.5 m/4 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUB9BPYWM12**	0.040

Apollo_CP0720010

XUB9BNXNL2
XUB9BPXNL2

Apollo_CP0720014

XUB9BNXWL2
XUB9BPXWL2

Polarised reflex system with adjustable sensitivity

Max./operating sensing distance (Sn)/Line of sight	Function	Output	Connection	Reference	Weight (kg)
Metal, red LED emission					
7 m/5 m Along case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9BNXNL2**	0.095
			M12 connector (4-pin)	**XUB9BNXNM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB9BPXNL2**	0.095
			M12 connector (4-pin)	**XUB9BPXNM12**	0.040
5.5 m/4 m 90° to case axis	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled (L = 2 m)	**XUB9BNXWL2**	0.095
			M12 connector (4-pin)	**XUB9BNXWM12**	0.040
		PNP	Pre-cabled (L = 2 m)	**XUB9BPXWL2**	0.095
			M12 connector (4-pin)	**XUB9BPXWM12**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Characteristics

Sensor type				**XUB2APY●M12, XUB2BPY●M12, XUB2A●X●M12, XUB2A●X●M12 XUB2APY●M12R, XUB2BPY●M12R, XUB2A●X●M12T, XUB2A●X●M12R, XUB2B●X●M12T, XUB2B●X●M12R, XUB5APYNM12, XUB5BPYNM12, XUB5A●X●M12, XUB5B●X●M12, XUB6APY●M12, XUB6APY●M12, XUB6A●X●M12, XUB6B●X●M12, XUB8APY●M12, XUB8BPY●M12 XUB8A●X●M12, XUB8B●X●M12 XUB9APY●M12, XUB9BPY●M12 XUB9A●X●M12, XUB9B●X●M12**	**XUB2A●X●L2, XUB2A●X●L2, XUB2B●X●L2, XUB2B●X●L2, XUB2A●X●L2T, XUB2A●X●L2R, XUB2B●X●L2T, XUB2B●X●L2R, XUB5A●X●L2, XUB5B●X●L2, XUB6A●X●L2, XUB6B●X●L2, XUB8A●X●L2, XUB8B●X●L2 XUB9A●X●L2, XUB9B●X●L2**
Product certifications		**XUB8**		CE, UKCA, cULus, ECOLAB, RCM	
		Others		CE, UKCA, cULus, ECOLAB	
Connection	Connector			M12	–
	Pre-cabled			–	Length: 2 m
Sensing distance Excess gain = 1: maximum sensing distance Excess gain = 2 : nominal sensing distance	Thru-beam system **XUB2**	Along case axis (axial)	**m**	30 (with excess gain = 1) 20 (with excess gain = 2)	
		90° to case axis (radial)	**m**	17 (with excess gain = 1) 12 (with excess gain = 2)	
	Diffuse long dist. system **XUB5** (using a 200 x 200 mm white paper)	Along case axis (axial)	**m**	1 (with excess gain = 1) 0.7 (with excess gain = 2)	
	Diffuse med. dist. system **XUB6** (using a 200 x 200 mm white paper)	Along case axis (axial)	**m**	0.6 (with excess gain = 1) 0.42 (with excess gain = 2)	
		90° to case axis (radial)	**m**	0.5 (with excess gain = 1) 0.35 (with excess gain = 2)	
	Diffuse BGS **XUB8** (using a 200 x 200 mm white or black mat paper)	Along case axis (axial)	**m**	0.3 (from white object (90%) to black object (6%))	
		90° to case axis (radial)	**m**	0.15 (rom white object (90%) to black object (6%))	
	Polarised reflex system **XUB9** (using a 50 x 50 mm reflector XUZC50)	Along case axis	**m**	7 (with excess gain = 1) 5 (with excess gain = 2)	
		90° to case axis	**m**	5.5 (with excess gain = 1) 4 (with excess gain = 2)	
Blind zone		**XUB8**	**mm**	Axial: < 5, radial: < 13	
		Others	**mm**	0 (white object and potentiometer max.)	
Sensing distance setting				Potentiometer 1 turn (+/- 220 degrees)	
Colour of detection light beam				Red	
Output type				PNP/NPN (or autodetect PNP/NPN with IO-Link)	
Hysteresis				2% < H < 20% at Sn	
Degree of protection	Conforming to IEC 60529			IP65, IP67	
	Conforming to DIN 40050-9			IP69K	N/A
Artificial optical radiation	Conforming to IEC 62471			Class 0 (risk exempt)	
Radiated disturbances emissions	Conforming to EN 55011/CISPR 1			Class A	
Storage temperature			**°C**	-40…+70	
Operating temperature			**°C**	-30…+55	
Materials	Case	**XUB●A**		PBT/PC	
		XUB●B		Brass	
	Back cap			MABS	
	Potentiometer screw			PBT	
	Lens cover			PMMA	
	Cable			–	PVC
Vibration resistance	Conforming to IEC 60068-2-6		**Hz** **gn**	Frequency range 10 to 55 Acceleration 7	
Shock resistance	Conforming to IEC 60068-2-27		**gn** **ms**	Peak acceleration 30 Duration of the pulse 11	
Rated supply voltage			**V**	12...24 ⎓ with protection against reverse polarity	
Voltage limits (including ripple)			**V**	10...30 ⎓	
Current consumption, no-load		IO-Link, **XUB8**	**mA**	< 30	
		Others	**mA**	< 20	
Switching capacity			**mA**	100	
Voltage drop, closed state			**V**	≤ 2	
Maximum switching frequency			**Hz**	1000	
Delays	First-up, **XUB8** and IO-Link		**ms**	< 300	
	Others		**ms**	< 100	
	Response		**ms**	0.5 max.	
	Recovery		**ms**	0.5 max	

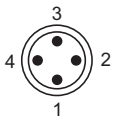
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Wiring schemes

Thru-beam system

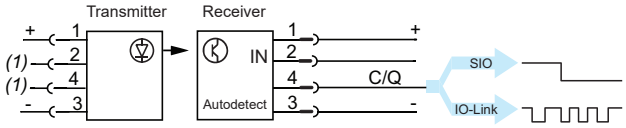
M12 connector - 4 pins, plastic and metal, IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

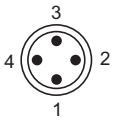
Autodetect PNP/NPN or by IO-Link

XUB2●PYNM12R, XUB2●PYWM12R, XUB2●KXNM12T, XUB2●KXWM12T



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

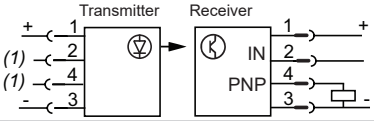
M12 connector - 4 pins, plastic and metal



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

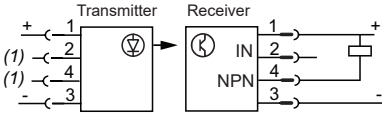
PNP

XUB2●PXNM12R, XUB2●PXWM12R, XUB2●KXNM12T, XUB2●KXWM12T



NPN

XUB2●NXNM12R, XUB2●NXWM12R, XUB2●KXNM12T, XUB2●KXWM12T

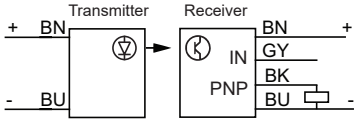


Pre-cabled - 4 wires, plastic and metal

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

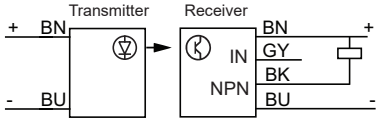
PNP

XUB2●PXNL2R, XUB2●APXWL2R, XUB2●KXNL2T, XUB2●KXWL2T



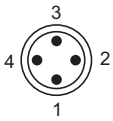
NPN

XUB2●NXNL2R, XUB2●NXWL2R, XUB2●KXNL2T, XUB2●KXWL2T



Diffuse system

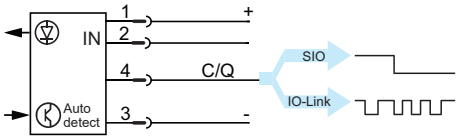
M12 connector - 4 pins, plastic and metal, IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

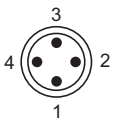
Autodetect PNP/NPN or by IO-Link

XUB5APYNM12, XUB6APYNM12, XUB6APYWM12, XUB5BPYNM12, XUB6BPYNM12, XUB6BPYWM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

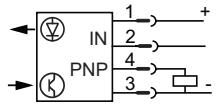
M12 connector - 4 pins, plastic and metal



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

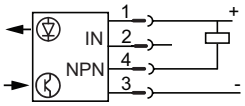
PNP

XUB5APXNM12, XUB6APXNM12, XUB6APXWM12, XUB5BPXNM12, XUB6BPXNM12, XUB6BPXWM12,



NPN

XUB5ANXNM12, XUB6ANXNM12, XUB6ANXWM12, XUB5BNXNM12, XUB6BNXNM12, XUB6BNXWM12

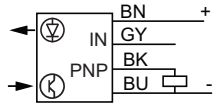


Pre-cabled - 4 wires, plastic and metal

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

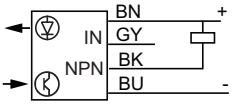
PNP

XUB5APXNL2, XUB6APXNL2, XUB6APXWL2, XUB5BPXNL2, XUB6BPXNL2, XUB6BPXWL2



NPN

XUB5ANXNL2, XUB6ANXNL2, XUB6ANXWL2, XUB5BNXNL2, XUB6BNXNL2, XUB6BNXWL2



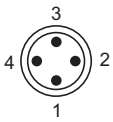
(1) Not connected.

Photo-electric sensors
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Wiring schemes (continued)

Diffuse system with background suppression

M12 connector - 4 pins, plastic and metal, IO-Link

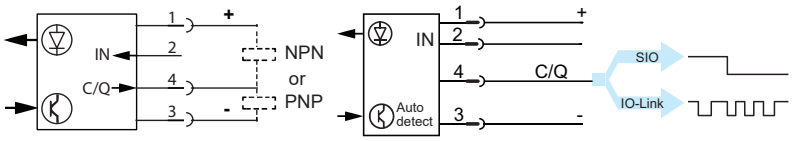


Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC
		- = NO
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Coded switching signal (IO-Link)

Autodetect PNP/NPN or by IO-Link

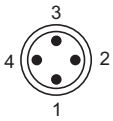
XUB8APYNM12, XUB8APYWM12, XUB8BPYNM12, XUB8BPYWM12

Auto-detect NPN/PNP



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

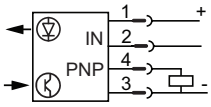
M12 connector - 4 pins, plastic and metal



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

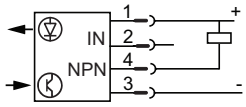
PNP

XUB8APXNM12, XUB8APXWM12
XUB8BPXNM12, XUB8BPXWM12



NPN

XUB8ANXNM12, XUB8ANXWM12
XUB8BNXNM12, XUB8BNXWM12

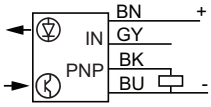


Pre-cabled - 4 wires, plastic and metal

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

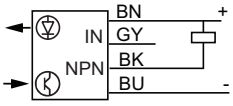
PNP

XUB8APXNL2, XUB8APXWL2
XUB8BPXNL2, XUB8BPXWL2



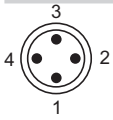
NPN

XUB8ANXNL2, XUB8ANXWL2
XUB8BNXNL2, XUB8BNXWL2



Polarised reflex system

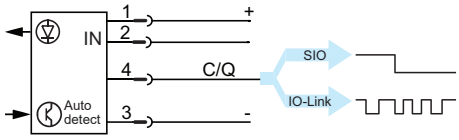
M12 connector - 4 pins, plastic and metal, IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC
		- = NO
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Coded switching signal (IO-Link)

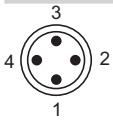
Autodetect PNP/NPN or by IO-Link

XUB9APYNM12, XUB9APYWM12, XUB9BPYNM12, XUB9BPYWM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

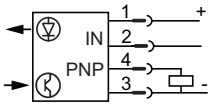
M12 connector - 4 pins, plastic and metal



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC
		- = NO
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Coded switching signal (IO-Link)

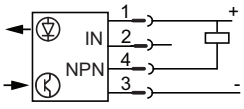
PNP

XUB9APXNM12, XUB9APXWM12,
XUB9BPXNM12, XUB9BPXWM12



NPN

XUB9ANXNM12, XUB9ANXWM12,
XUB9BNXNM12, XUB9BNXWM12

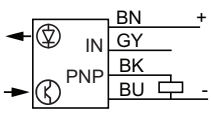


Pre-cabled, 4 wires, plastic and metal

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

PNP

XUB9APXNL2, XUB9BAPXWL2,
XUB9BPXNL2, XUB9BPXWL2



NPN

XUB9ANXNL2, XUB9ANXWL2,
XUB9BNXNL2, XUB9BNXWL2

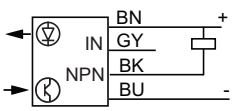


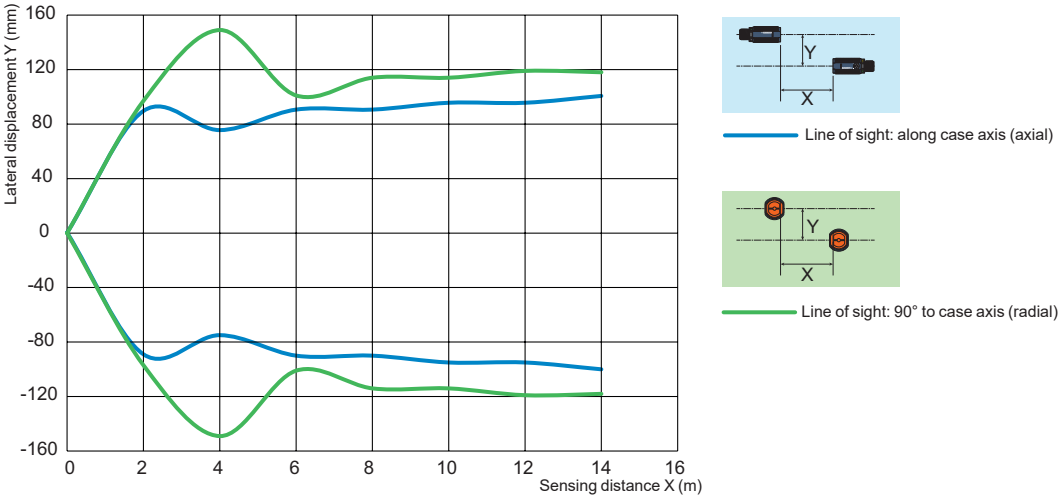
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

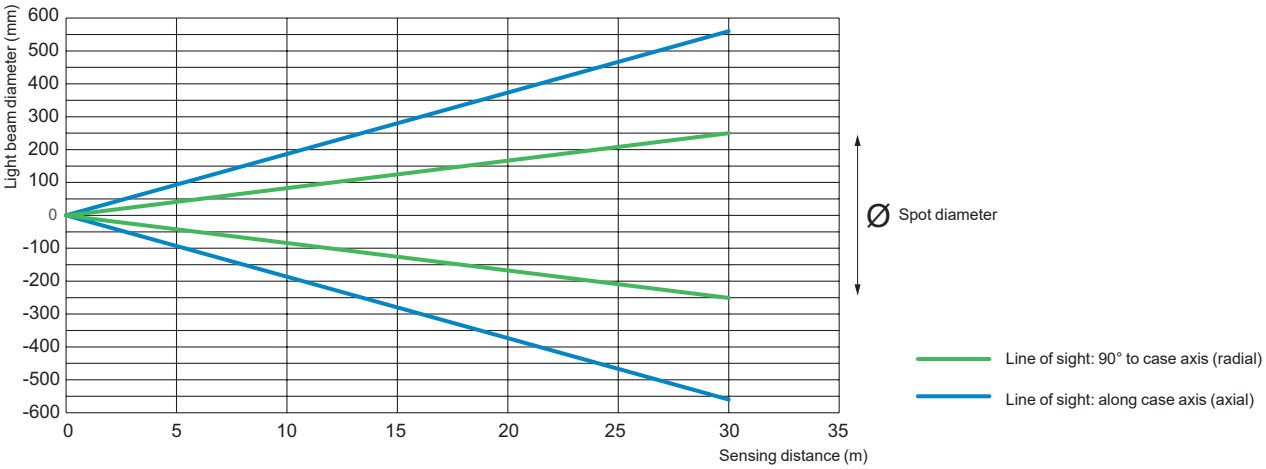
Detection curves

Thru-beam system

Lateral displacement



Light beam diameter



Excess gain

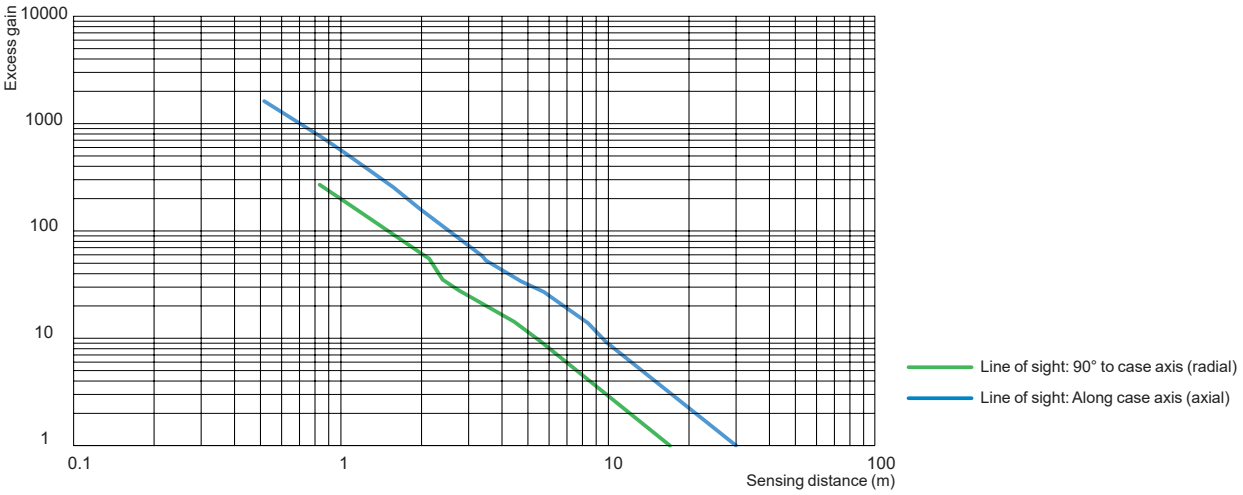
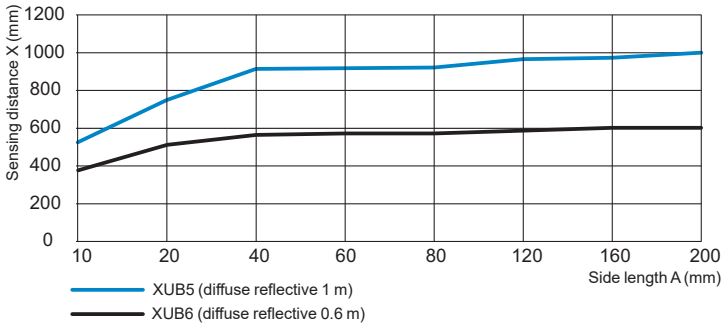


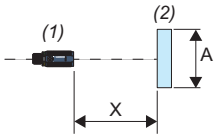
Photo-electric sensors
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Detection curves *(continued)*

Diffuse system

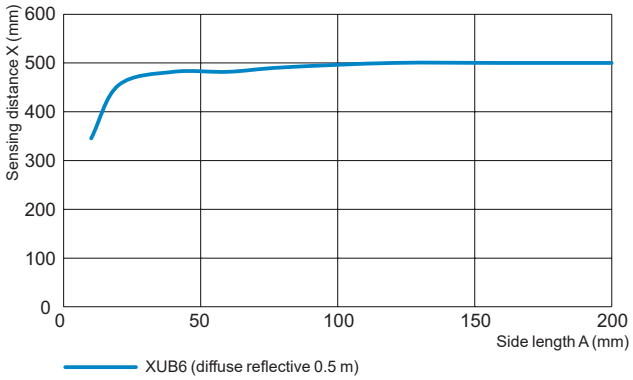
Minimum object size/sensing distance. Line of sight: along case axis (axial)

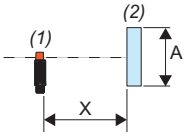




(1): Sensor
(2): Object (white matt paper of A x A mm)
A: Side length (mm)
X: Sensing distance (mm)

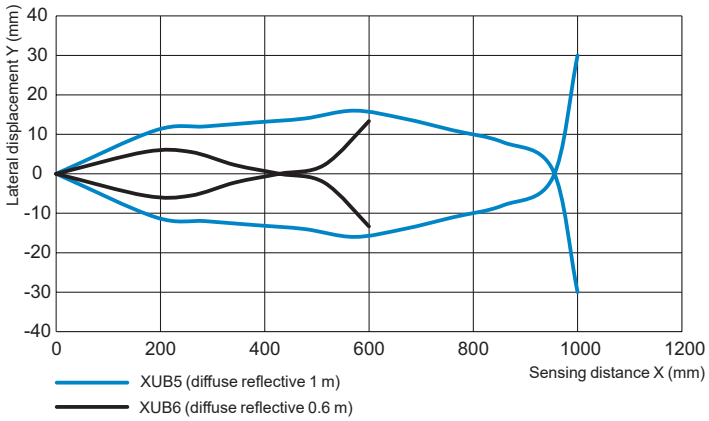
Minimum object size/sensing distance. Line of sight: 90° to case axis (radial)

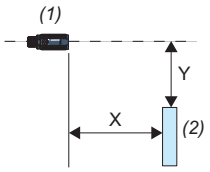




(1): Sensor
(2): Object (white matt paper of A x A mm)
A: Side length (mm)
X: Sensing distance (mm)

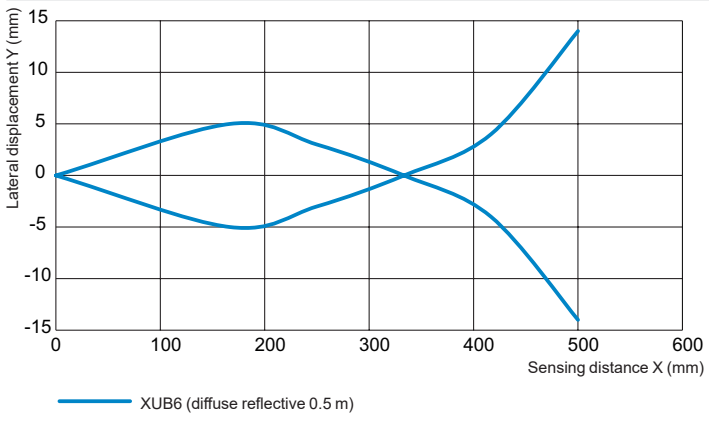
Lateral displacement. Line of sight: along case axis (axial)

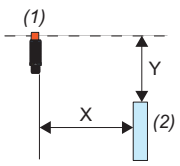




(1): Sensor
(2): Object (200 x 200 mm white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Lateral displacement. Line of sight: 90° to case axis (radial)



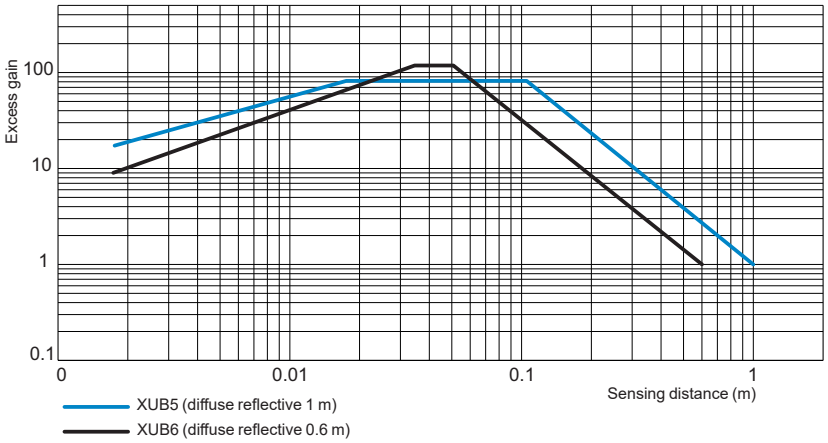


(1): Sensor
(2): Object (200 x 200 mm white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Detection curves *(continued)*

Diffuse system *(continued)*

Excess gain. Line of sight: along case axis (axial)



Excess gain. Line of sight: 90° to case axis (radial)

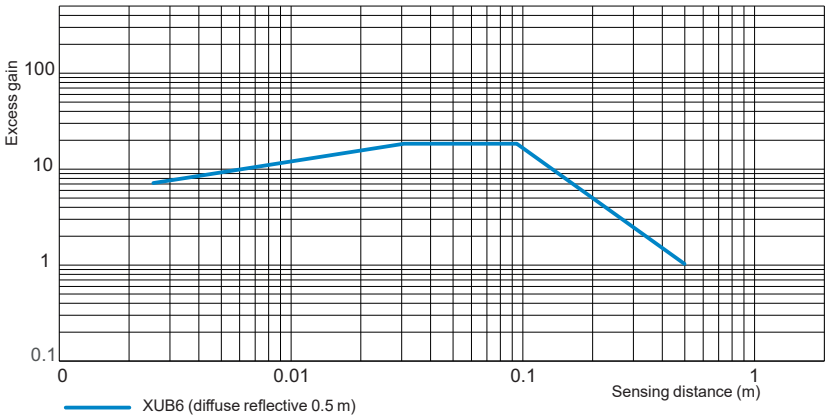


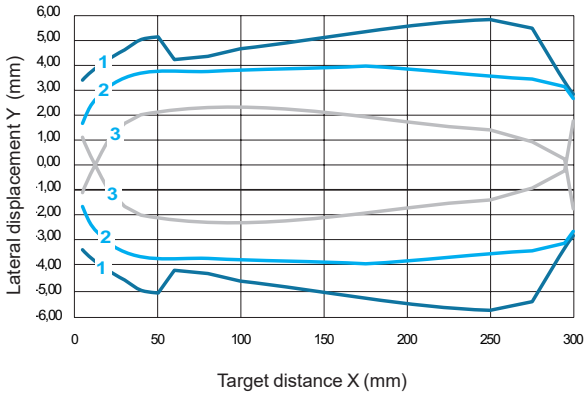
Photo-electric sensors
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Detection curves *(continued)*

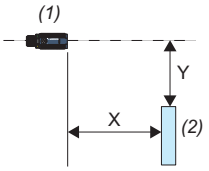
Diffuse system with background suppression

Lateral displacement. Line of sight: along case axis (axial)

(Preset 300 mm)



Target distance X (mm)

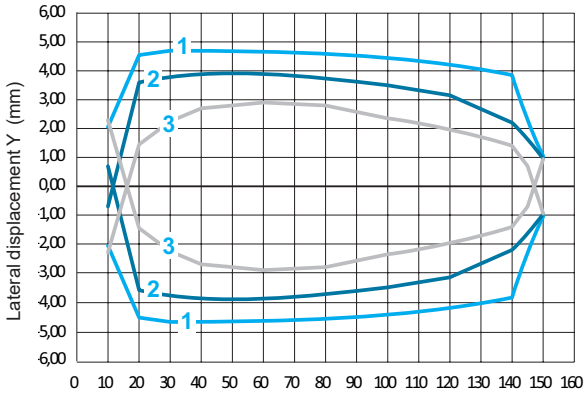


(1): Sensor
(2): Object (200 x 200 mm white or black paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

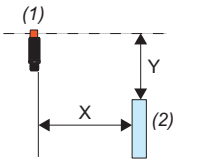
- *White object / white background(90%)*
- *Grey object / grey (background 90%)*
- *Black object / black background (90%)*

Lateral displacement. Line of sight: 90° to case axis (radial)

(Preset 150 mm)



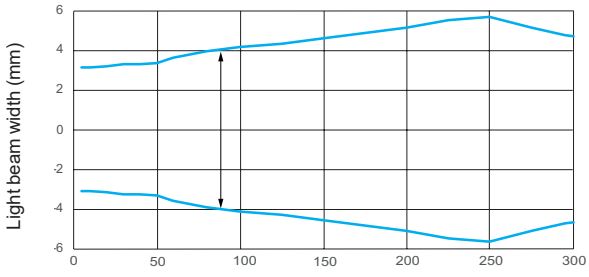
Target distance X (mm)



(1): Sensor
(2): Object (200 x 200 mm white or black paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

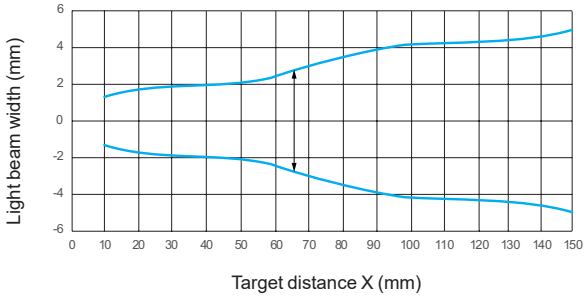
- *White object / white background(90%)*
- *Grey object / grey (background 90%)*
- *Black object / black background (90%)*

Light beam width. Line of sight: along case axis (axial)



Target distance X (mm)

Light beam width. Line of sight: 90° to case axis (radial)



Target distance X (mm)

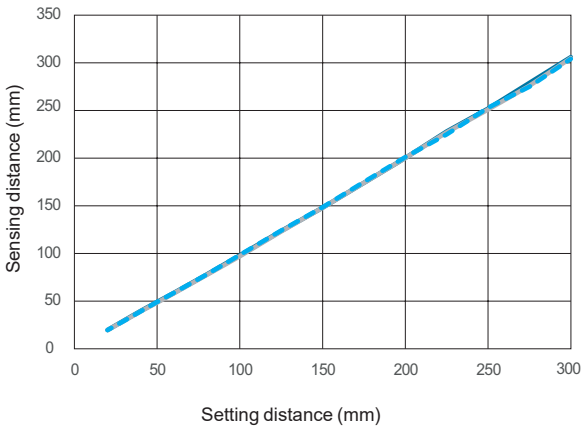
Photo-electric sensors

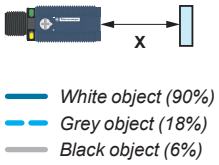
XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

Detection curves *(continued)*

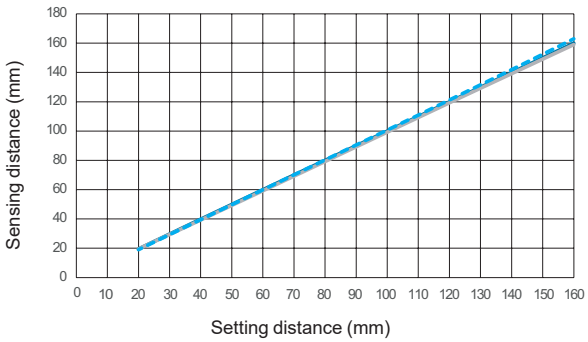
Diffuse system with background suppression *(continued)*

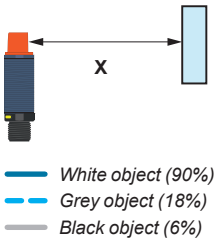
Sensing distance. Line of sight: along case axis (axial)



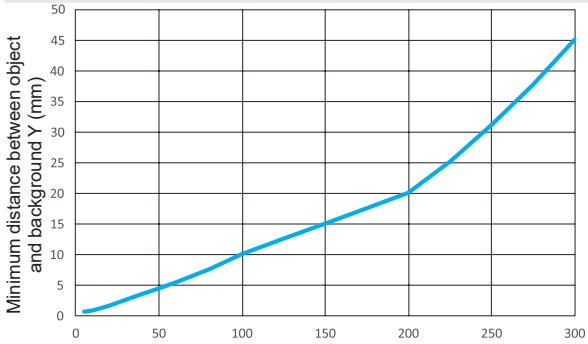


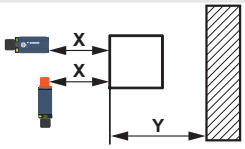
Sensing distance. Line of sight: 90° to case axis (radial)



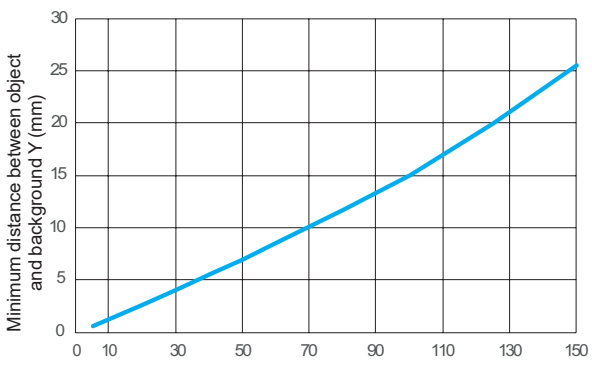


Minimum distance between the object to detect and white background (mm). Line of sight: along case axis (axial)





Minimum distance between the object to detect and white background (mm). Line of sight: 90° to case axis (radial)



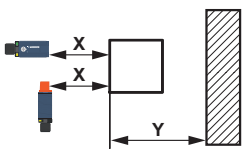
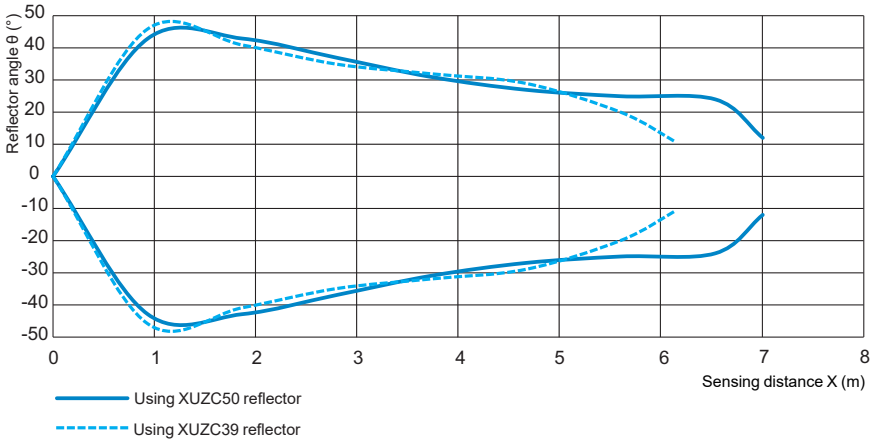


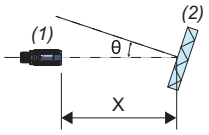
Photo-electric sensors
XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Detection curves (continued)

Polarised reflex system

Reflector angle. Line of sight: along case axis (axial)



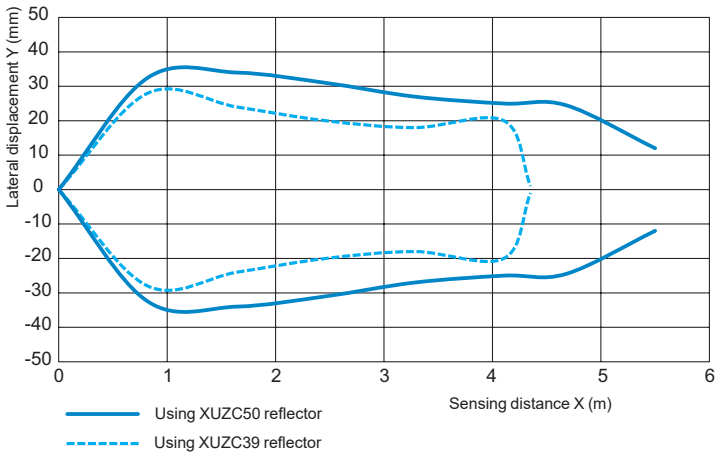


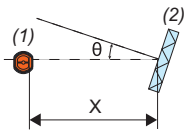
(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)

XUZC50

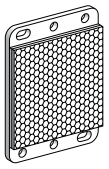
XUZC39

Reflector angle. Line of sight: 90° to case axis (radial)





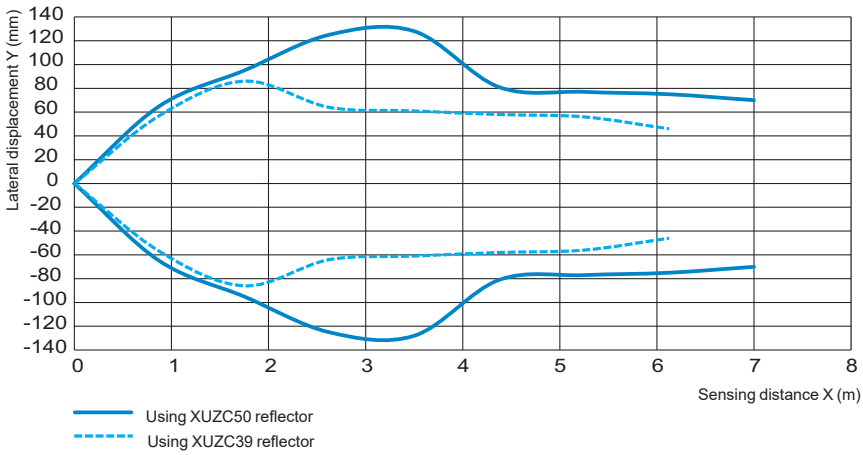
(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)

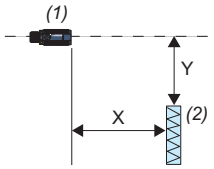


XUZC50

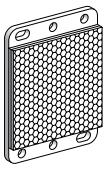
XUZC39

Lateral displacement. Line of sight: along case axis (axial)





(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)



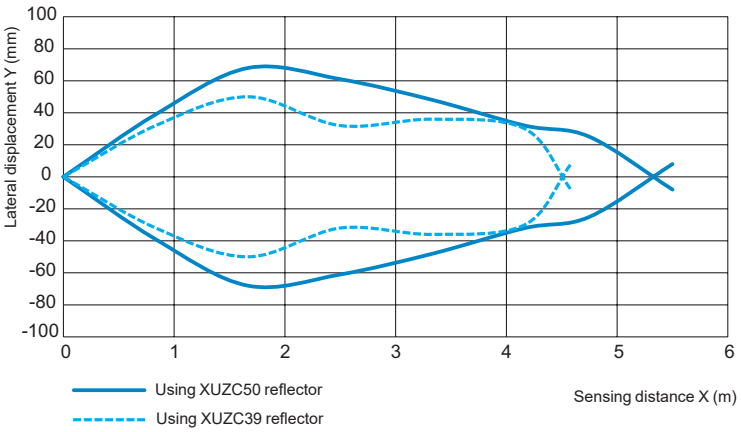
XUZC50

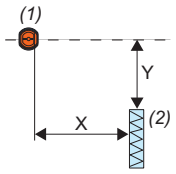
XUZC39

Detection curves *(continued)*

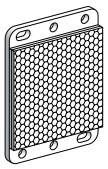
Polarised reflex system *(continued)*

Lateral displacement. Line of sight: 90° to case axis (radial)





(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)



XUZC50

XUZC39

Excess gain

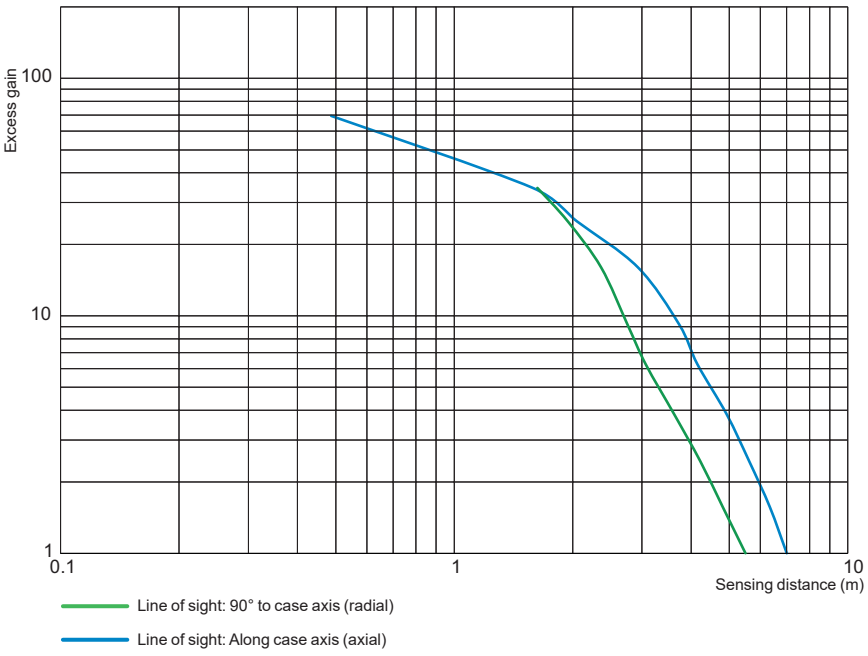


Photo-electric sensors

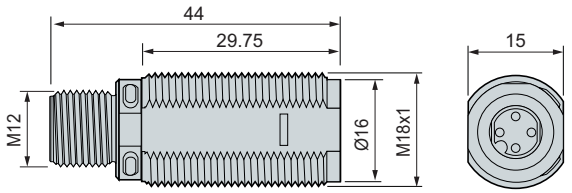
XUB general purpose, single mode function
Cylindrical miniature design 18, plastic
Four-wire DC, solid-state output
Wire setting for NO/NC

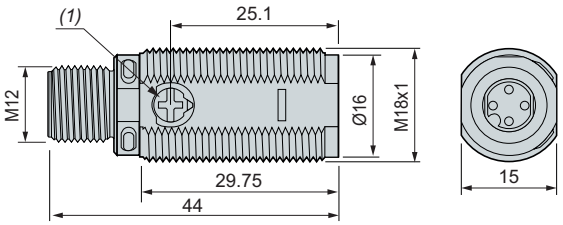
Thru-beam system, plastic, M12 connector version

Line of sight: along case axis (axial)

Kits Transmitter + Receiver: XUB2ANXNM12, XUB2APXNM12, XUB2APYNM12

Transmitter	Receiver
XUB2AKXNM12T	XUB2APYNM12R, XUB2ANXNM12R, XUB2APXNM12R

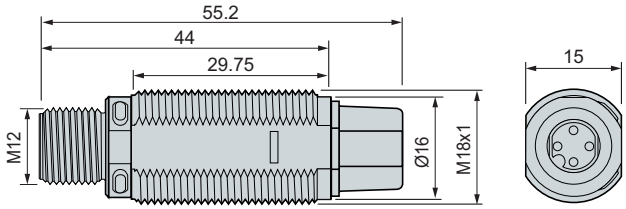


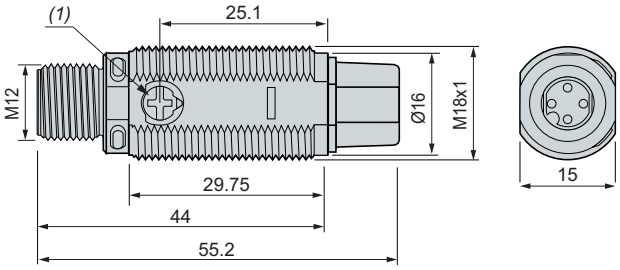


Line of sight: 90° to case axis (radial)

Kit Transmitter + Receiver: XUB2ANXWM12

Transmitter	Receiver
XUB2AKXWM12T	XUB2APYWM12R, XUB2ANXWM12R, XUB2APXWM12R



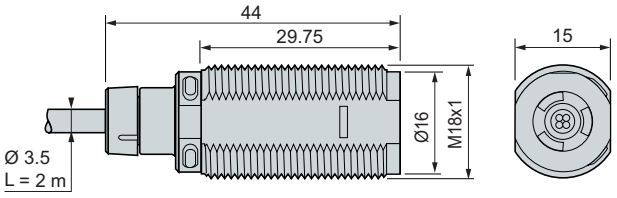


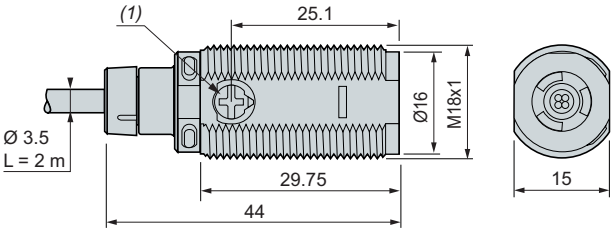
Thru-beam system, plastic, pre-cabled version

Line of sight: along case axis (axial)

Kit Transmitter + Receiver: XUB2ANXNL2, XUB2APXNL2

Transmitter	Receiver
XUB2AKXNL2T	XUB2ANXNL2R, XUB2APXNL2R

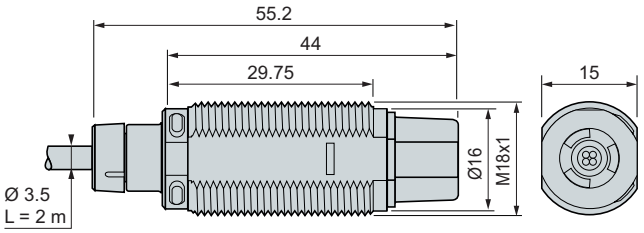


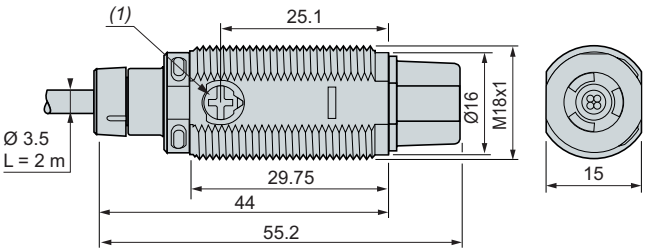


Pre-cabled version, line of sight 90° to case axis

Kits Transmitter + Receiver: XUB2APXWM12, XUB2APYWM12, XUB2ANXWL2, XUB2APXWL2

Transmitter	Receiver
XUB2AKXWL2T	XUB2ANXWL2R, XUB2APXWL2R





(1) Potentiomètre de réglage (sensibilité)

Photo-electric sensors

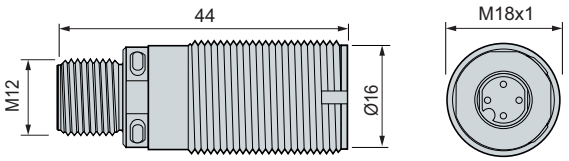
XUB general purpose, single mode function
Cylindrical miniature design 18, metal
Four-wire DC, solid-state output
Wire setting for NO/NC

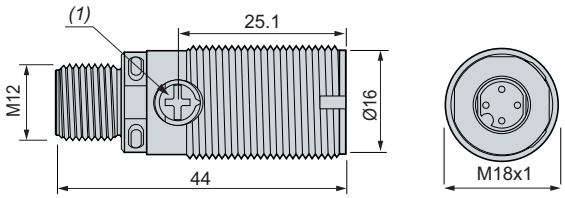
Thru-beam system, metal, M12 connector version

Line of sight: along case axis (axial)

Kits Transmitter + Receiver: XUB2BPXNM12, XUB2BNXNM12, XUB2BPYNM12

Transmitter	Receiver
XUB2BKXNM12T	XUB2BPYNM12R, XUB2BNXNM12R, XUB2BPXNM12R

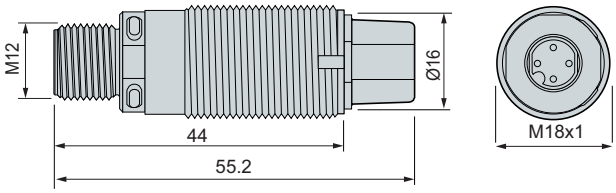


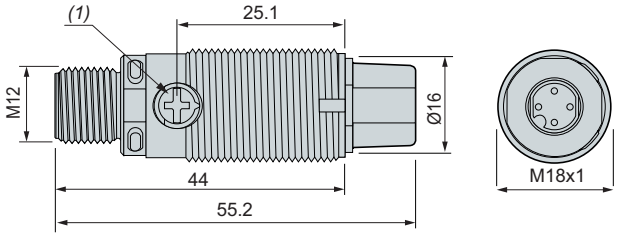


Line of sight: 90° to case axis (radial)

Kits Transmitter + Receiver: XUB2BNXWM12, XUB2BPYWM12, XUB2BPXWM12

Transmitter	Receiver
XUB2BKXWM12T	XUB2BPYWM12R, XUB2BNXWM12R, XUB2BPXWM12R



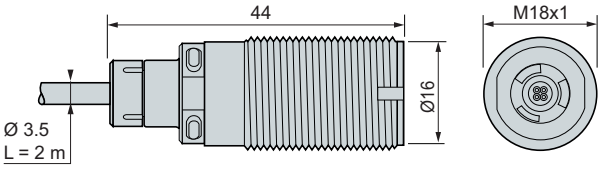


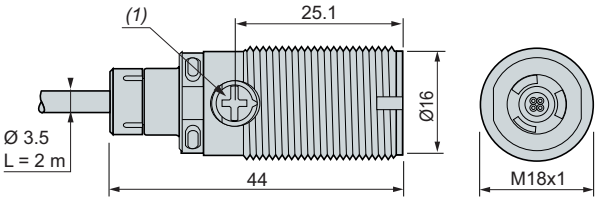
Thru-beam system, metal, pre-cabled version

Line of sight: along case axis (axial)

Kits Transmitter + Receiver: XUB2BNXNL2, XUB2BPXNL2

Transmitter	Receiver
XUB2BKXNL2T	XUB2BNXNL2R, XUB2BPXNL2R

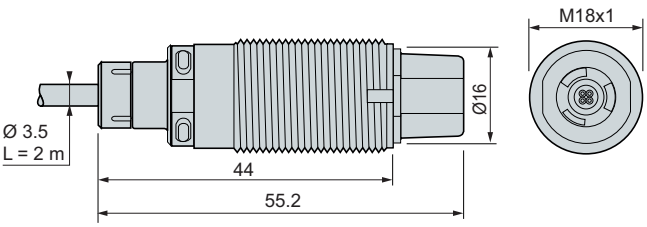


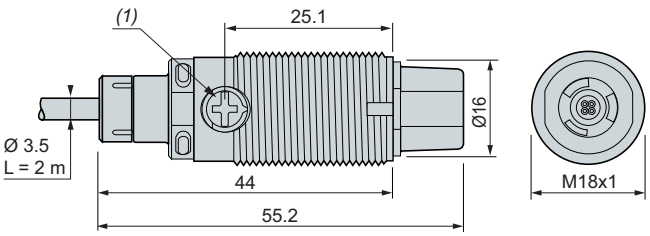


Pre-cabled version, line of sight 90° to case axis

Kits Transmitter + Receiver: XUB2BNXWL2, XUB2BPXWL2

Transmitter	Receiver
XUB2BKXWL2T	XUB2BNXWL2R, XUB2BPXWL2R





(1) Potentiomètre de réglage (sensibilité)

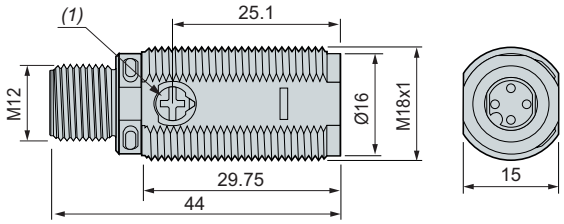
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Diffuse system (with or without backgroung suppression), plastic, M12 connector version

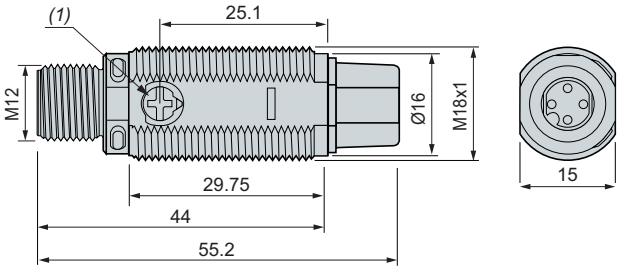
Line of sight: along case axis (axial)

XUB5ANXNM12, XUB5APXNM12, XUB5APYNM12, XUB6ANXNM12, XUB6APXNM12, XUB6APYNM12, XUB8ANXNM12, XUB8APXNM12, XUB8APYNM12



Line of sight: 90° to case axis (radial)

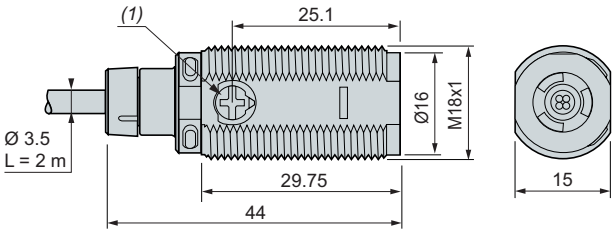
XUB6ANXWM12, XUB6APXWM12, XUB6APYWM12, XUB8ANXWM12, XUB8APXWM12, XUB8APYWM12



Diffuse system (with or without backgroung suppression), plastic, pre-cabled version

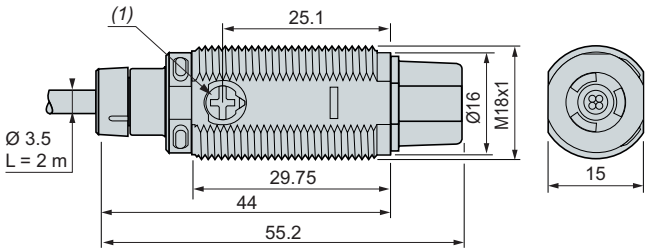
Line of sight: along case axis (axial)

XUB5ANXNL2, XUB5APXNL2, XUB6ANXNL2, XUB6APXNL2, XUB8ANXNL2, XUB8APXNL2



Line of sight: 90° to case axis (radial)

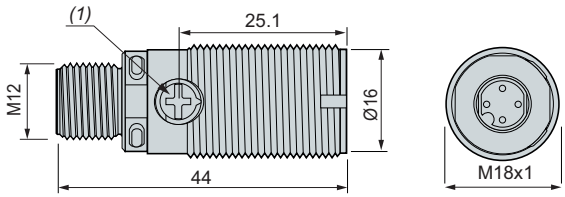
XUB6ANXWL2, XUB6APXWL2, XUB8ANXWL2, XUB8APXWL2



Diffuse system (with or without backgroung suppression), metal, M12 connector version

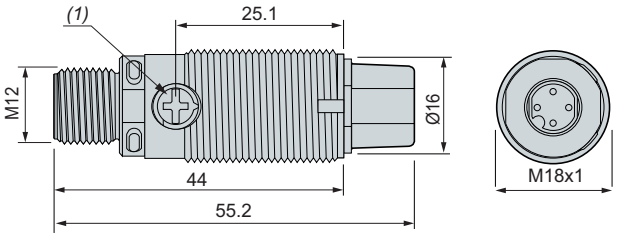
Line of sight: along case axis (axial)

XUB5BNXNM12, XUB5BPXNM12, XUB5BPYNM12, XUB6BNXNM12, XUB6BPXNM12, XUB6BPYNM12 XUB8BNXNM12, XUB8BPXNM12, XUB8BPYNM12



Line of sight: 90° to case axis (radial)

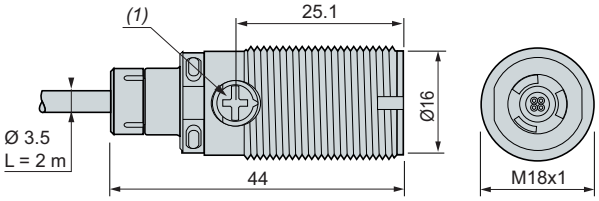
XUB6BNXWM12, XUB6BPXWM12, XUB6BPYWM12, XUB8BNXWM12, XUB8BPXWM12, XUB8BPYWM12



Diffuse system (with or without backgroung suppression), metal, pre-cabled version

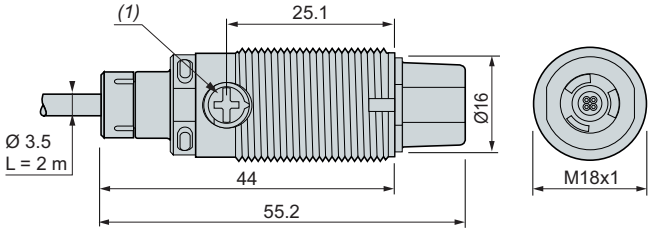
Line of sight: along case axis (axial)

XUB5BNXNL2, XUB5BPXNL2, XUB6BNXNL2, XUB6BPXNL2, XUB8BNXNL2, XUB8BPXNL2



Line of sight: 90° to case axis (radial)

XUB6BNXWL2 ,XUB6BPXWL2, XUB8BNXWL2 ,XUB8BPXWL2



(1) Adjustment potentiometer (sensitivity).

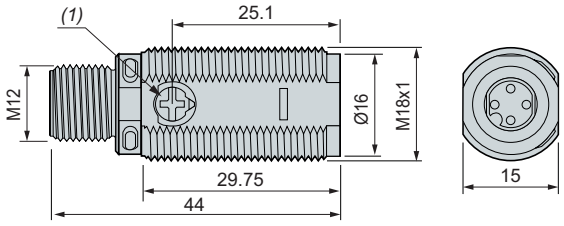
Photo-electric sensors

XUB general purpose, single mode function
Cylindrical miniature design 18
Four-wire DC, solid-state output
Wire setting for NO/NC

Polarised reflex system, plastic, M12 connector version

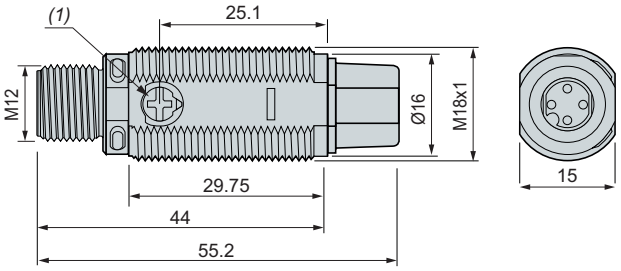
Line of sight: along case axis (axial)

XUB9ANXNM12, XUB9APXNM12 and XUB9APYNM12



Line of sight: 90° to case axis (radial)

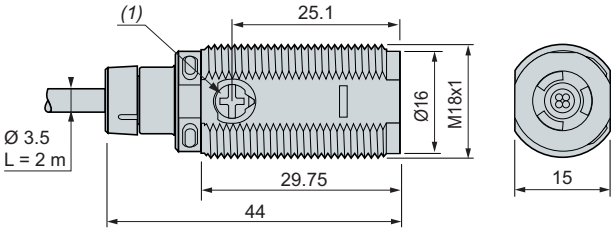
XUB9ANXWM12, XUB9APXWM12 and XUB9APYWM12



Polarised reflex system, plastic, pre-cabled version

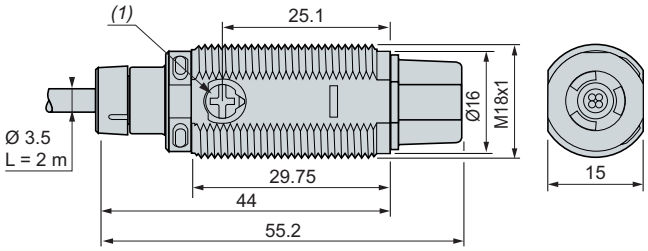
Line of sight: along case axis (axial)

XUB9ANXNL2 and XUB9APXNL2



Line of sight: 90° to case axis (radial)

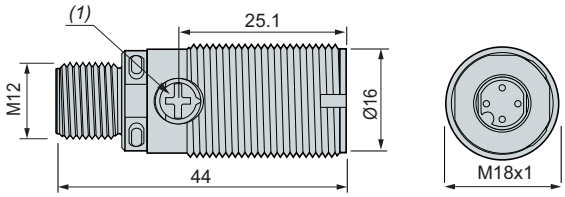
XUB9ANXWL2 and XUB9APXWL2



Polarised reflex system, metal, M12 connector version

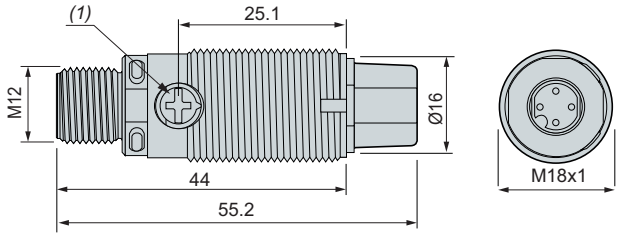
Line of sight: along case axis (axial)

XUB9BNXNM12, XUB9BPXNM12 and XUB9BPYNM12



Line of sight: 90° to case axis (radial)

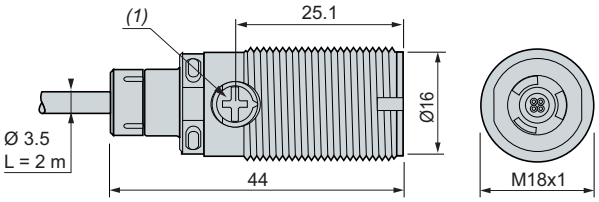
XUB9BNXWM12, XUB9BPXWM12 and XUB9BPYWM12



Polarised reflex system, metal, pre-cabled version

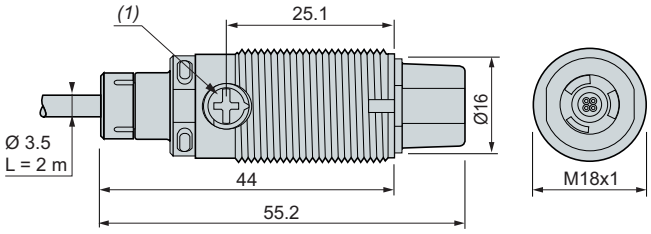
Line of sight: along case axis (axial)

XUB9BNXNL2 and XUB9BPXNL2



Line of sight: 90° to case axis (radial)

XUB9BNXWL2 and XUB9BPXWL2



(1) Adjustment potentiometer (sensitivity).

Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

XUN2APYNM12

XUN2APYNM12R

XUN2ANXNL2, XUN2APXNL2,
XUN2ANXSL2, XUN2APXSL2

XUN2AKXNL2T

XUN2ANXNM12
XUN2APXNM12

XUN2AKXNM12T

XUN2ANXNL2R
XUN2APXNL2R

XUN2ANXNM12R
XUN2APXNM12R

Thru-beam system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Transmitter + receiver IO-Link					
30 m/20 m	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN2APYNM12**	0.013
Transmitter + receiver					
30 m/20 m	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled 4-wire (L = 2 m)	**XUN2ANXNL2**	0.040
			M12 connector (4-pin)	**XUN2ANXNM12**	0.013
		PNP	Pre-cabled 4-wire (L = 2 m)	**XUN2APXNL2**	0.040
			M12 connector (4-pin)	**XUN2APXNM12**	0.013
	NO configuration by wire	NPN	Pre-cabled 3-wire (L = 2 m)	**XUN2ANXSL2**	0.040
		PNP	Pre-cabled 3-wire (L = 2 m)	**XUN2APXSL2**	0.040
Transmitter only *(1)*					
30 m/20 m			Pre-cabled 4-wire (L = 2 m)	**XUN2AKXNL2T**	0.040
			M12 connector (4-pin)	**XUN2AKXNM12T**	0.013
Receiver IO-Link **only**					
30 m/20 m	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN2APYNM12R**	0.013
Receiver					
30 m/20 m	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled 4-wire (L = 2 m)	**XUN2ANXNL2R**	0.040
			M12 connector (4-pin)	**XUN2ANXNM12R**	0.013
		PNP	Pre-cabled 4-wire (L = 2 m)	**XUN2APXNL2R**	0.040
			M12 connector (4-pin)	**XUN2APXNM12R**	0.013

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

(1) All transmitters are compatible with the receivers listed below.

Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

XUN5APYNM12
XUN6APYNM12

XUN5ANXNL2, XUN5APXNL2,
XUN5ANXSL2, XUN5APXSL2

XUN5ANXNM12
XUN5APXNM12

XUN6ANXNL2
XUN6APXNL2

XUN6ANXNM12
XUN6APXNM12

Diffuse system with adjustable sensitivity IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Long range, red LED emission					
1 m/0.7 m	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN5APYNM12**	0.013
Medium range, red LED emission					
0.6 m/0.42 m	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN6APYNM12**	0.013

Diffuse system with adjustable sensitivity

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Long range, red LED emission					
1 m/0.7 m	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled 4-wire (L = 2 m)	**XUN5ANXNL2**	0.040
			M12 connector (4-pin)	**XUN5ANXNM12**	0.013
		PNP	Pre-cabled 4-wire (L = 2 m)	**XUN5APXNL2**	0.040
			M12 connector (4-pin)	**XUN5APXNM12**	0.013
	NO configuration by wire	NPN	Pre-cabled 3-wire (L = 2 m)	**XUN5ANXSL2**	0.040
		PNP	Pre-cabled 3-wire (L = 2 m)	**XUN5APXSL2**	0.040
Medium range, red LED emission					
0.6 m/0.42 m	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled 4-wire (L = 2 m)	**XUN6ANXNL2**	0.040
			M12 connector (4-pin)	**XUN6ANXNM12**	0.013
		PNP	Pre-cabled 4-wire (L = 2 m)	**XUN6APXNL2**	0.040
			M12 connector (4-pin)	**XUN6APXNM12**	0.013
	NO configuration by wire	NPN	Pre-cabled 3-wire (L = 2 m)	**XUN6ANXSL2**	0.040
		PNP	Pre-cabled 3-wire (L = 2 m)	**XUN6APXSL2**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

XUN8APYNM12

XUN8ANXNL2

XUN8ANXNM12

XUN8ANXNL2
XUN8APXSL2
XUN8ANXSL2

XUN8ANXNM12

Diffuse system with background suppression, IO-Link

Plastic, red LED emission

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
0.03 m/0.022 m	NO/NC (Light ON/Dark ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN8APYNM12**	0.013

Diffuse system with background suppression

Plastic, red LED emission

0.03 m/0.022 m	NO/NC (Light ON/Dark ON) configuration by wire	NPN	Pre-cabled, 4-wire (L = 2 m)	**XUN8ANXNL2**	0.040
			M12 connector (4-pin)	**XUN8ANXNM12**	0.013
		PNP	Pre-cabled, 4-wire (L = 2 m)	**XUN8APXNL2**	0.040
			M12 connector (4-pin)	**XUN8APXNM12**	0.013
	NO configuration by wire	NPN	Pre-cabled, 3-wire (L = 2 m)	**XUN8ANXSL2**	0.040
		PNP	Pre-cabled, 3-wire (L = 2 m)	**XUN8APXSL2**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Apollo_CP0720020

XUN9APYNM12

Apollo_CP0720018

XUN9ANXNL2
XUN9APXNL2
XUN9APXSL2
XUN9ANXSL2

Apollo_CP0720020

XUN9ANXNM12
XUN9APXNM12

Polarised reflex system with adjustable sensitivity, IO-Link

Plastic, red LED emission

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
7 m/5 m	NO/NC (Dark ON/Light ON) configuration by wire or IO-Link	Autodetect PNP/NPN	M12 connector (4-pin)	**XUN9APYNM12**	0.013

Polarised reflex system with adjustable sensitivity

Plastic, red LED emission

7 m/5 m	NO/NC (Dark ON/Light ON) configuration by wire	NPN	Pre-cabled 4-wire (L = 2 m)	**XUN9ANXNL2**	0.040
			M12 connector (4-pin)	**XUN9ANXNM12**	0.013
		PNP	Pre-cabled 4-wire (L = 2 m)	**XUN9APXNL2**	0.040
			M12 connector (4-pin)	**XUN9APXNM12**	0.013
	NO configuration by wire	NPN	Pre-cabled, 3-wire (L = 2 m)	**XUN9ANXSL2**	0.040
		PNP	Pre-cabled, 3-wire (L = 2 m)	**XUN9APXSL2**	0.040

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Characteristics

Sensor type				**XUN2APYNM12, XUN2APYNM12R, XUN2A●XNM12, XU2AKXNM12T, XUN2A●XNM12R, XUN5APYNM12, XUN5A●XNM12, XUN6APYNM12, XUN6A●XNM12, XUN8APYNM12, XUN8A●XNM12 XUN9APYNM12, XUN9A●XNM12**	**XUN2A●XNL2, XUN2A●XNL2R, XUN2AKXNL2T, XUN5A●XNL2, XUN6A●XNL2, XUN8A●XNL2, XUN9A●XNL2**	**XUN2A●XSL2, XUN5A●XSL2, XUN6A●XSL2, XUN8A●XSL2, XUN9A●XSL2**
Product certifications		**XUN2, XUN5, XUN6, XUN9**		CE, UKCA, cULus		
		XUN8		CE, UKCA, cULus, RCM		
Connection		Connector		M12	–	
		Pre-cabled, 2 m long		–	4-wire	3-wire
Sensing distance Excess gain = 1: maximum sensing distance Excess gain = 2 : nominal sensing distance	Thru-beam system **XUN2**		**m**	30 (with excess gain = 1) 20 (with excess gain = 2)		
	Diffuse long dist. system **XUN5** (using a white paper 200 x 200 mm)		**m**	1 (with excess gain = 1) 0.7 (with excess gain = 2)		
	Diffuse medium dist. system **XUN6** (using a white paper 200 x 200 mm)		**m**	0.6 (with excess gain = 1) 0.42 (with excess gain = 2)		
	Diffuse system with BGS **XUN8** (using a white or black paper 200 x 200 mm)		**m**	0.3 (from white object (90%) to black object (6%))		
	Polarised reflex system **XUN9** (using a 50 x 50 mm reflector XUZC50)		**m**	7 (with excess gain = 1) 5 (with excess gain = 2)		
Blind zone		**XUN2, XUN5, XUN6, XUN9**	**mm**	0 (white object and potentiometer max.)		
		XUN8	**mm**	< 5		
Sensing distance setting				Potentiometer 1 turn (+/- 220 degrees)		
Colour of detection light beam				Red		
Output type				PNP/NPN (or autodetect PNP/NPN with IO-Link)		
Hysteresis				2 % < H < 20 % at Sn		
Degree of protection	Conforming to IEC 60529			IP65, IP67		
	Conforming to DIN 40050-9			IP69K (M12 connector version only)		
Artificial optical radiation	Conforming to IEC 62471			Class 0 (risk exempt)		
Radiated disturbances emissions	Conforming to EN 55011/CISPR 1			Class A		
Storage temperature			**°C**	-40…+70		
Operating temperature			**°C**	-30…+55		
Materials	Case	**XUN2, XUN5, XUN6, XUN9**		PBT/PC		
		XUN8		PBT/PC		
	Lens cover			PMMA		
	Transparent cover	**XUN2, XUN5, XUN6, XUN9**		ABS		
		XUN8		PMMA		
	Potentiometer screw	**XUN2, XUN5, XUN6, XUN9**		PA66		
		XUN8		PBT		
	Cable			–	PVC	
Vibration resistance	Conforming to IEC 60068-2-6		**Hz** **gn**	Frequency range 10 to 55 Acceleration 7		
Shock resistance	Conforming to IEC 60068-2-27		**gn** **ms**	Peak acceleration 30 Duration of the pulse 11		
Rated supply voltage			**V**	12...24 ⎓ with protection against reverse polarity		
Voltage limits (including ripple)			**V**	10...30 ⎓		
Current consumption, no-load		**XUN2, XUN5, XUN6, XUN9**	**mA**	< 20		
		XUN8	**mA**	< 30		
		IO-Link	**mA**	< 30		
Switching capacity			**mA**	100		
Voltage drop, closed state			**V**	< 2 max.		
Maximum switching frequency			**Hz**	1000		
Delays	First-up IO-Link, XUN8		**ms**	< 300		
	First-up, others		**ms**	< 100		
	Response		**ms**	0.5 max.		
	Recovery		**ms**	0.5 max		

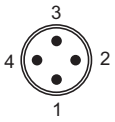
Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Wiring schemes

Thru-beam system

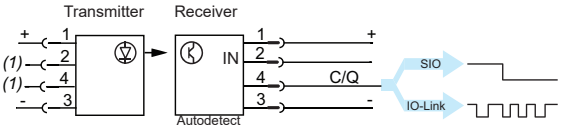
M12 connector - 4 pins - IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

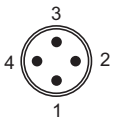
Autodetect PNP/NPN or by IO-Link

XUN2APYNM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

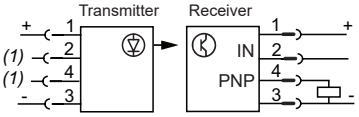
M12 connector - 4 pins



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

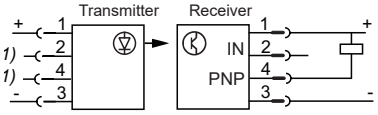
PNP

XUN2APXNM12



NPN

XUN2ANXNM12

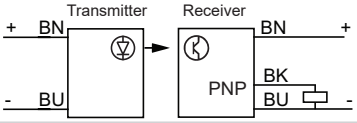


Pre-cabled - 3 wires

+BN (Brown)
OUT (output) BK (Black)
-BU (Blue)

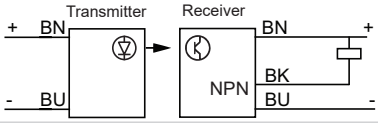
PNP

XUN2APXSL2



NPN

XUN2ANXSL2

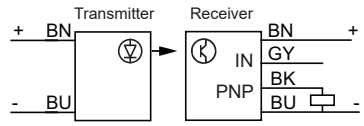


Pre-cabled - 4 wires

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

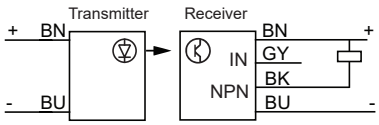
PNP

XUN2APXNL2



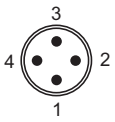
NPN

XUN2ANXNL2



Diffuse system

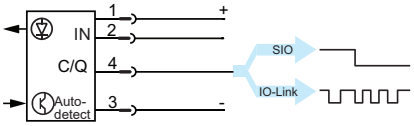
M12 connector - 4 pins - IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

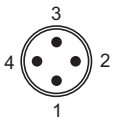
Autodetect PNP/NPN or by IO-Link

XUN5APYNM12, XUN6APYNM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

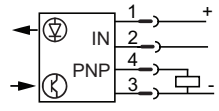
M12 connector - 4 pins



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)

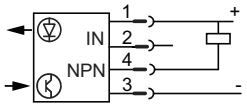
PNP

XUN5APXNM12, XUN6APXNM12



NPN

XUN5ANXNM12, XUN6ANXNM12



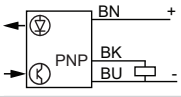
(1) Not connected

Pre-cabled - 3 wires

+BN (Brown)
OUT (output) BK (Black)
-BU (Blue)

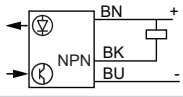
PNP

XUN5APXSL2, XUN6APXSL2



NPN

XUN5ANXSL12, XUN6ANXSL2

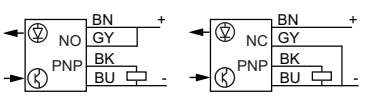


Pre-cabled - 4 wires

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

PNP

XUN5APXNL2, XUN6APXNL2



NPN

XUN5ANXNL12, XUN6ANXNL2

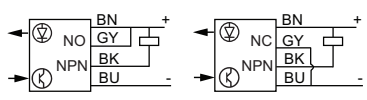
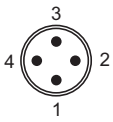


Photo-electric sensors
XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Wiring schemes (continued)

Diffuse system with background suppression (BGS)

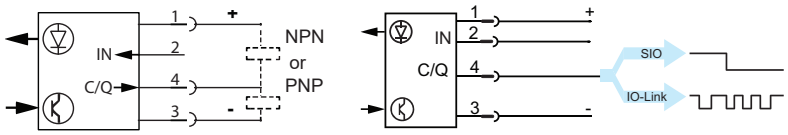
M12 connector - 4 pins - IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC
		- = NO
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

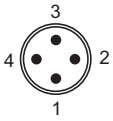
Autodetect PNP/NPN or by IO-Link

XUN8APYNM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

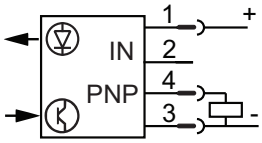
M12 connector - 4 pin



Control input IN:
(+) = NC
(-) = NO
Open = NO

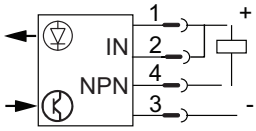
PNP

XUN8APXNM12



NPN

XUN8ANXNM12

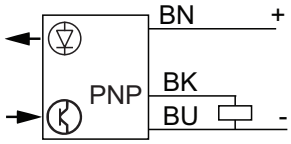


Pre-cabled 3 wires

+BN (Brown)
OUT (output) BK (Black)
-BU (Blue)

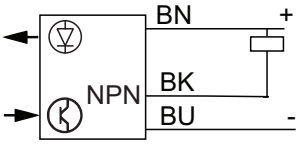
PNP

XUN8APXSL2



NPN

XUN8ANXSL2

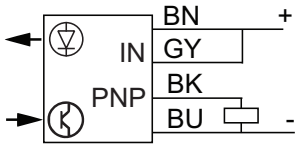


Pre-cabled 4 wires

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

PNP

XUN8APXNL2



NPN

XUN8ANXNL2

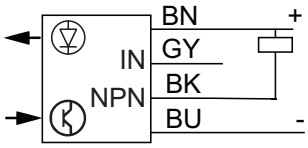
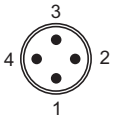


Photo-electric sensors
XUN general purpose, single mode function
Hybrid miniature design, plastic
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Wiring schemes *(continued)*

Polarised reflex system

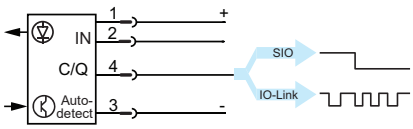
M12 connector - 4 pins - IO-Link



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	IO-Link communication

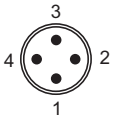
Autodetect PNP/NPN or by IO-Link

XUN9APYNM12



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

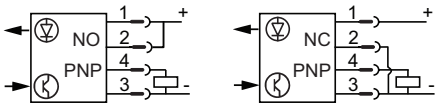
M12 connector - 4 pins



Control input IN:
(+) = NO
(-) = NC
Open = NO

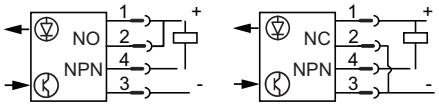
PNP

XUN9APXNM12



NPN

XUN9ANXNM12

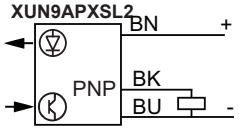


Pre-cabled - 3 wires

+BN (Brown)
OUT (output) BK (Black)
-BU (Blue)

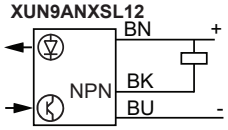
PNP

XUN9APXSL2



NPN

XUN9ANXSL12

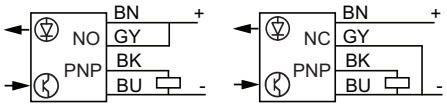


Pre-cabled - 4 wires

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

PNP

XUN9APXNL2



NPN

XUN9ANXNL12

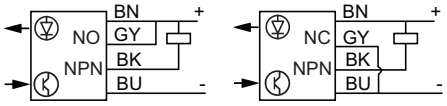


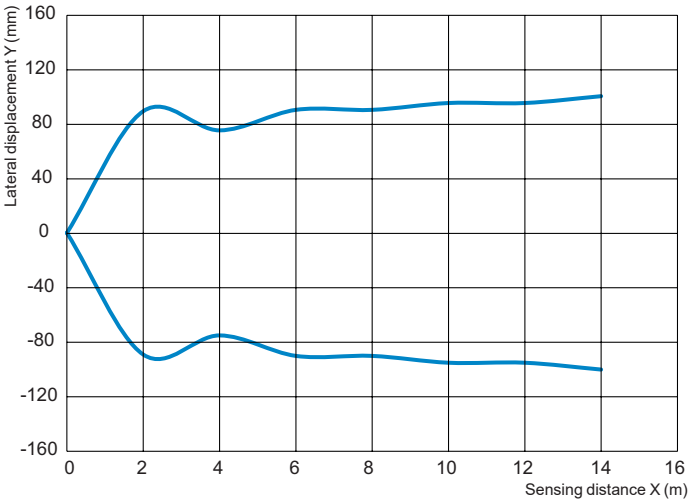
Photo-electric sensors

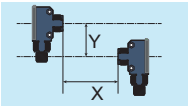
XUN general purpose, single mode function
Hybrid miniature design, plastic, thru-beam system
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Detection curves

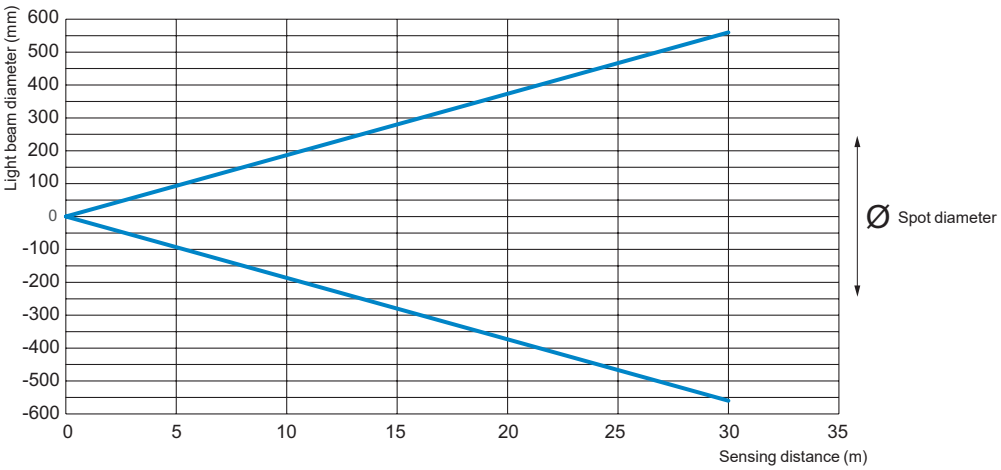
Thru-beam system

Lateral displacement





Light beam diameter



Excess gain

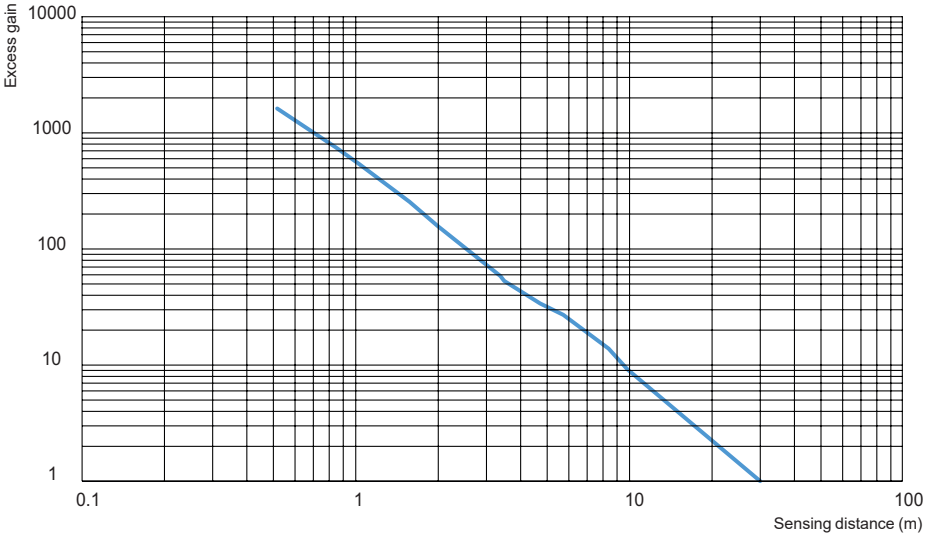


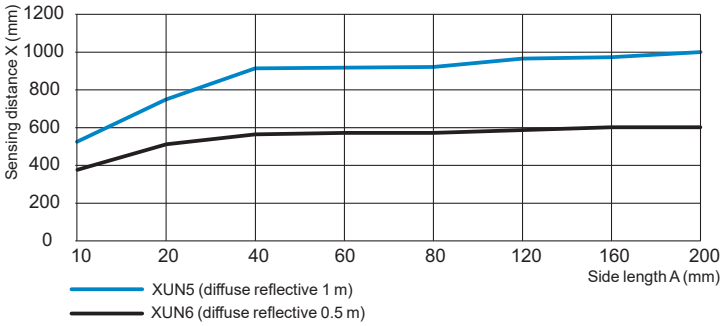
Photo-electric sensors

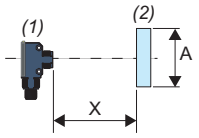
XUN general purpose, single mode function
Hybrid miniature design, plastic, diffuse system
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Detection curves (continued)

Diffuse system

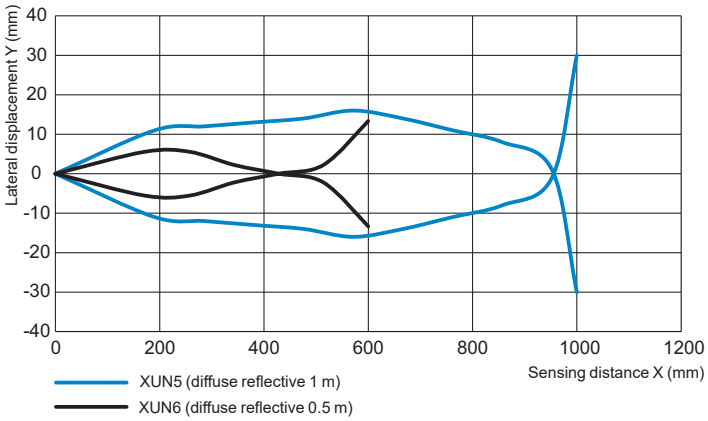
Minimum object size/sensing distance

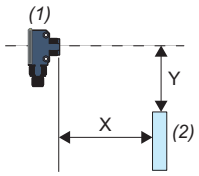




(1): Sensor
(2): Object (white matt paper of A mm square)
A: Side length (mm)
X: Sensing distance (mm)

Lateral displacement





(1): Sensor
(2): Object (200 mm square white paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

Excess gain

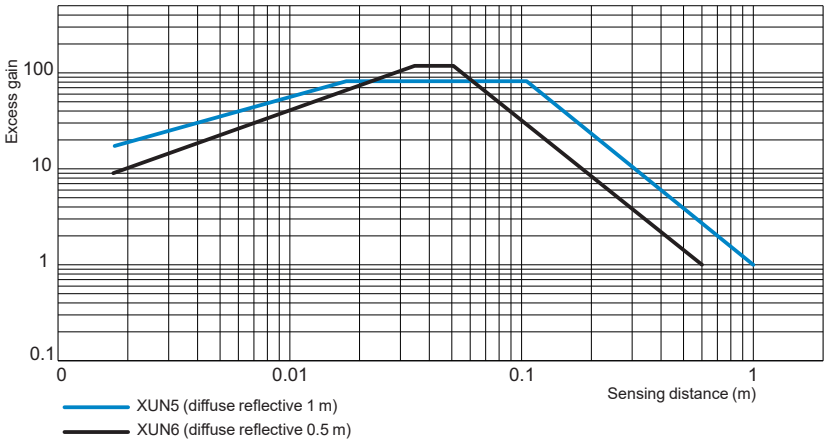
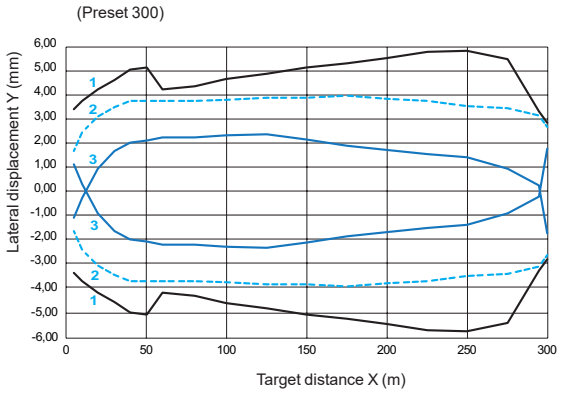


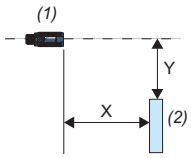
Photo-electric sensors
XUN general purpose, single mode function
Hybrid miniature design, plastic,
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Detection curves (continued)

Diffuse system with background suppression

Lateral displacement: along case axis (axial)

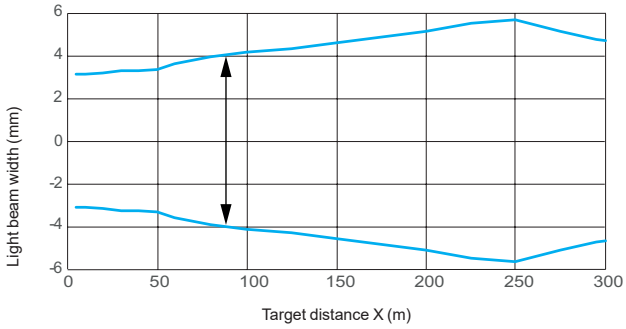




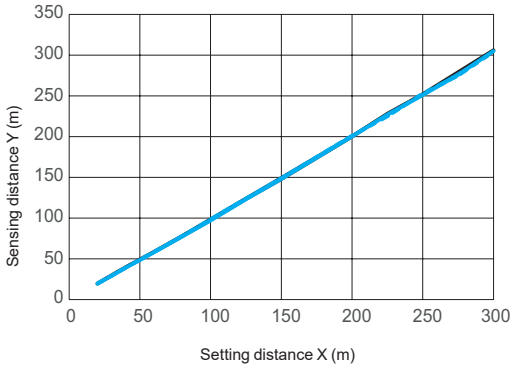
(1): Sensor
(2): Object (200 x 200 mm white or black matt paper)
X: Sensing distance (mm)
Y: Lateral displacement (mm)

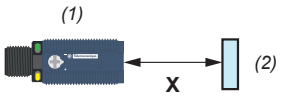
1 White object (90%) / white background (90%)
2 Grey object (18%) / white background (90%)
3 Black object (6%) / white background (90%)

Light beam width: along case axis (axial)



Sensing distance vs distance setting: along case axis (axial)

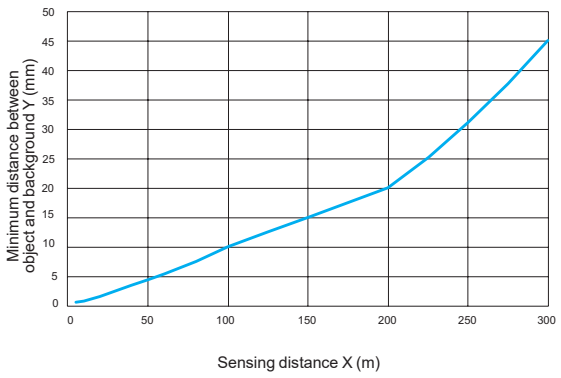




(1): Sensor
(2): Object (200 x 200 mm white or black matt paper)
X: Sensing distance (mm)

1 White object (90%) / white background (90%)
2 Grey object (18%) / white background (90%)
3 Black object (6%) / white background (90%)

Minimum distance between the object to detect and white background: along case axis (axial)



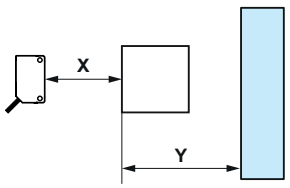


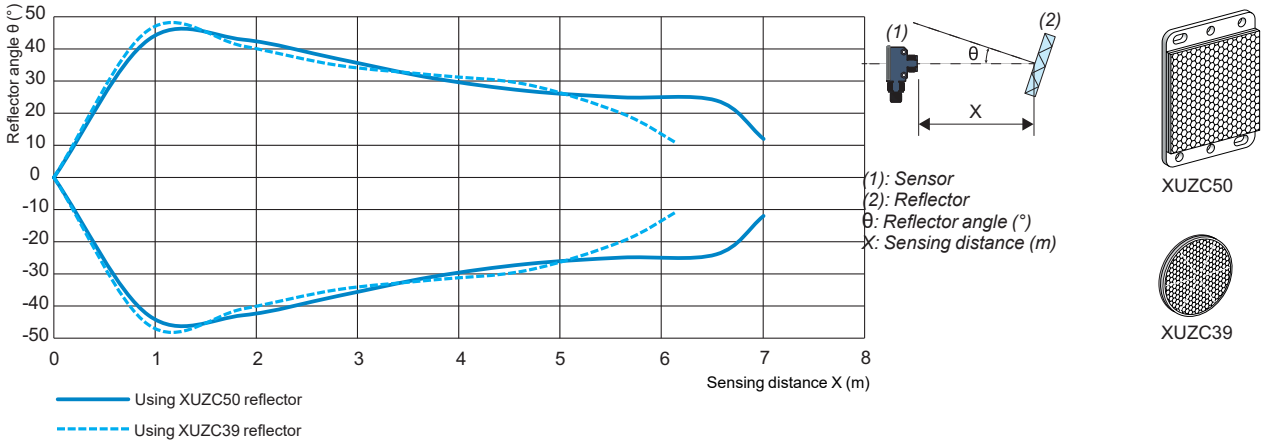
Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic,
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Detection curves *(continued)*

Polarised reflex system

Reflector angle

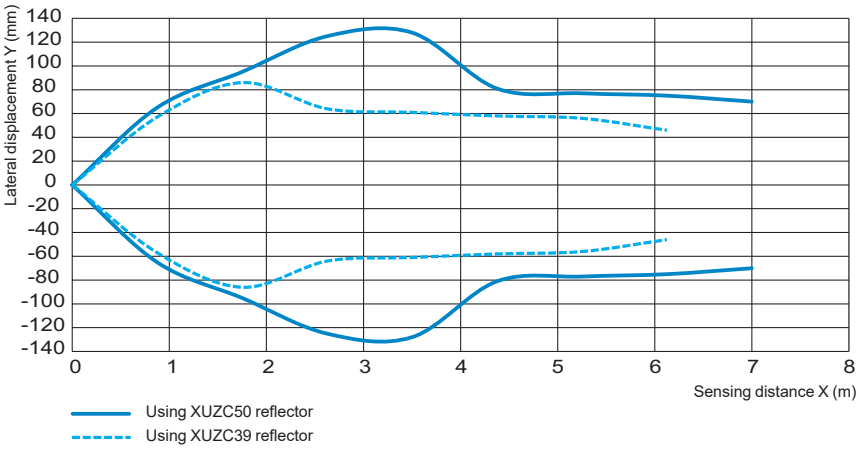


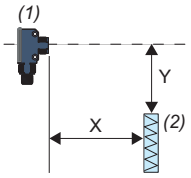
(1): Sensor
(2): Reflector
θ: Reflector angle (°)
X: Sensing distance (m)

XUZC50

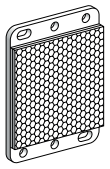
XUZC39

Lateral displacement





(1): Sensor
(2): Reflector
Y: Lateral displacement (mm)
X: Sensing distance (m)



XUZC50

XUZC39

Excess gain

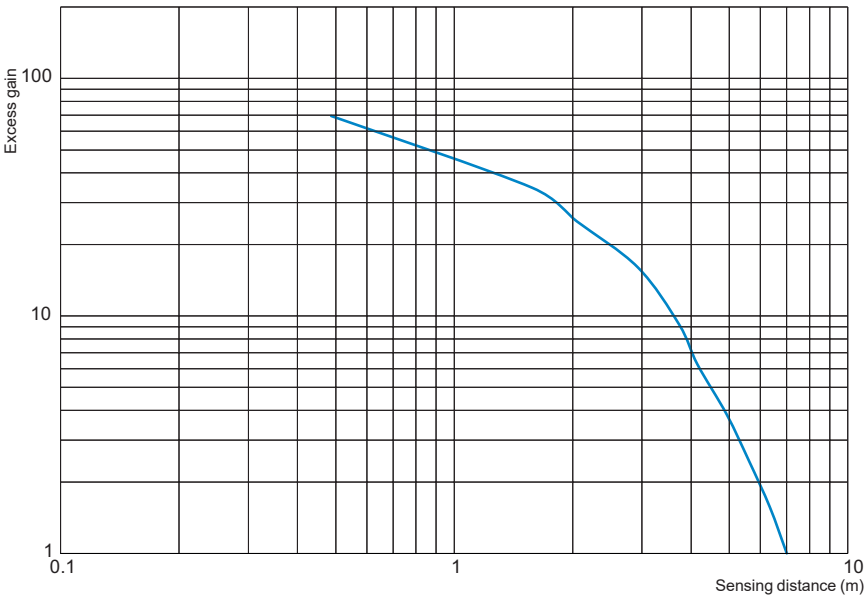


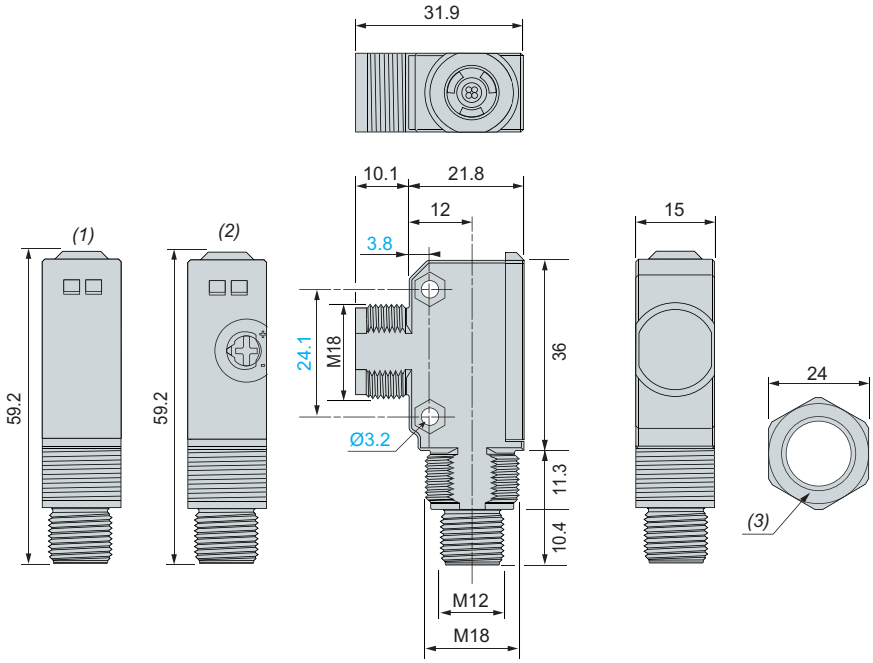
Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic,
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Thru-beam system, plastic, M12 connector version

Transmitter + receiver (common top, side and front views)

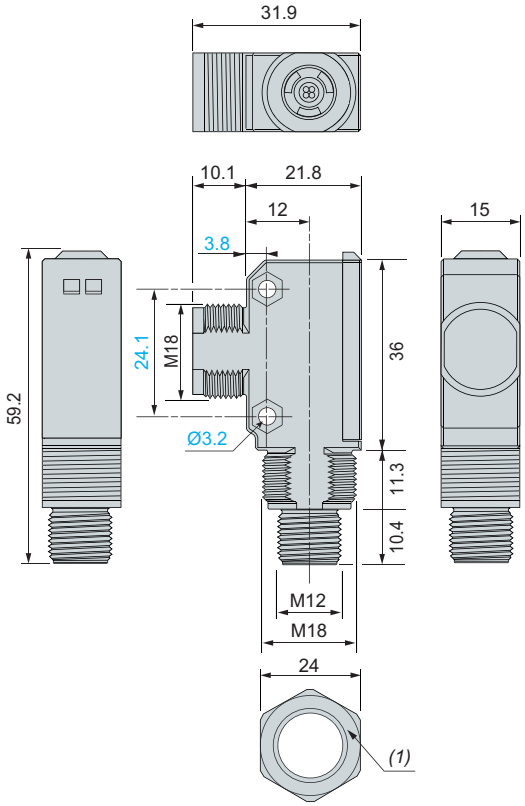
XUN2APYNM12 , XUN2ANXNM12, XUN2APXNM12



(1) Transmitter
(2) Receiver
(3) 4 fixing nuts provided with the sensors

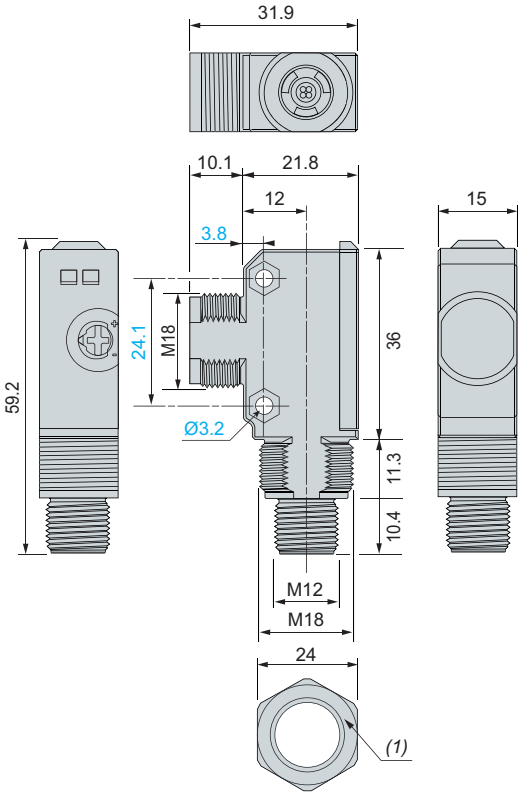
Transmitter only

XUN2AKXNM12T



Receiver only

XUN2APYNM12R, XUN2ANXNM12R, XUN2APXNM12R



(1) 2 fixing nuts provided with the sensor.

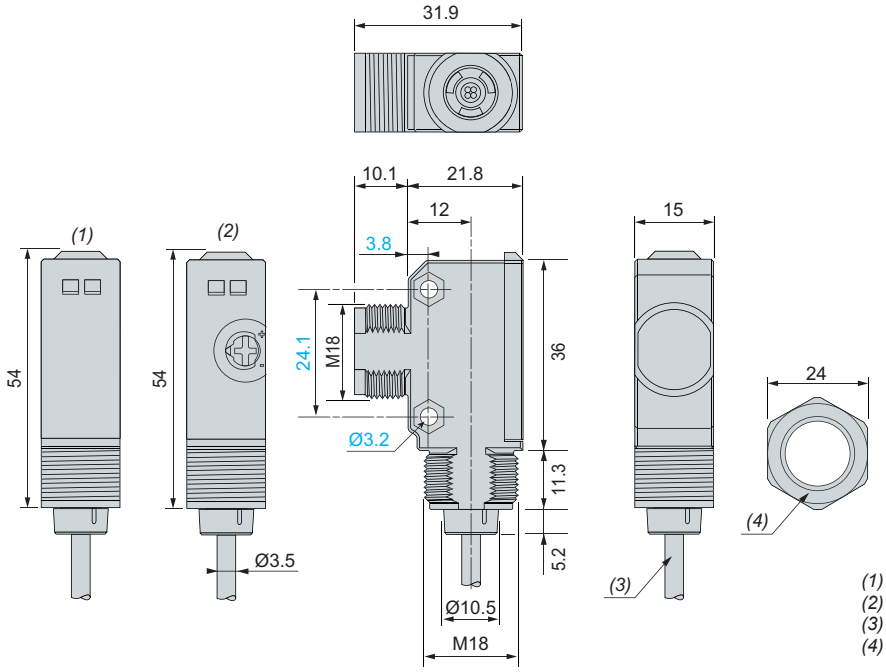
Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic,
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Thru-beam system, plastic, pre-cabled version

Transmitter + receiver (common top, side and front views)

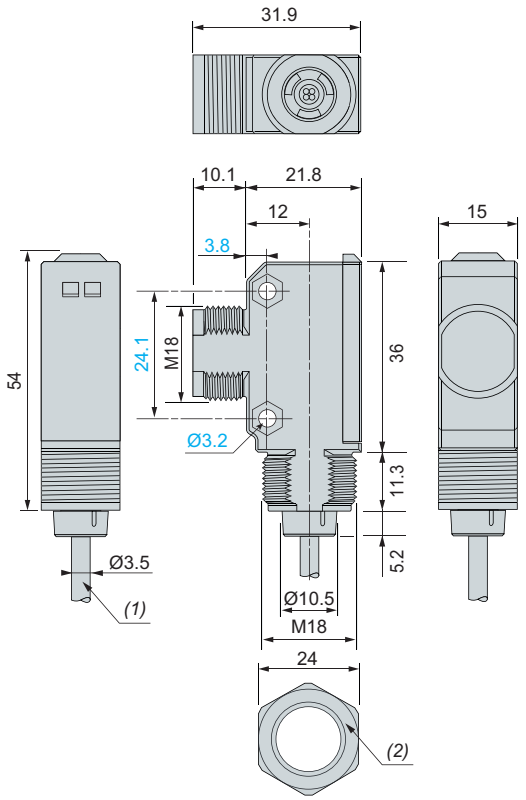
XUN2ANXNL2, XUN2APXNL2, XUN2ANXSL2, XUN2APXSL2



(1) Transmitter
(2) Receiver
(3) 2 m long cable
(4) 4 fixing nuts provided with the sensors

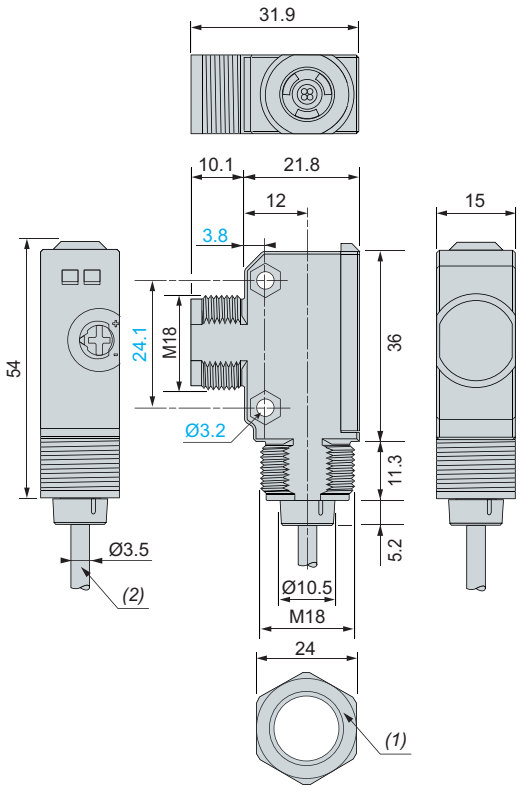
Transmitter only

XUN2AKXNL2T



Receiver only

XUN2ANXNL2R, XUN2APXNL2R



(1) 2 m long cable.
(2) 2 fixing nuts provided with the sensor.

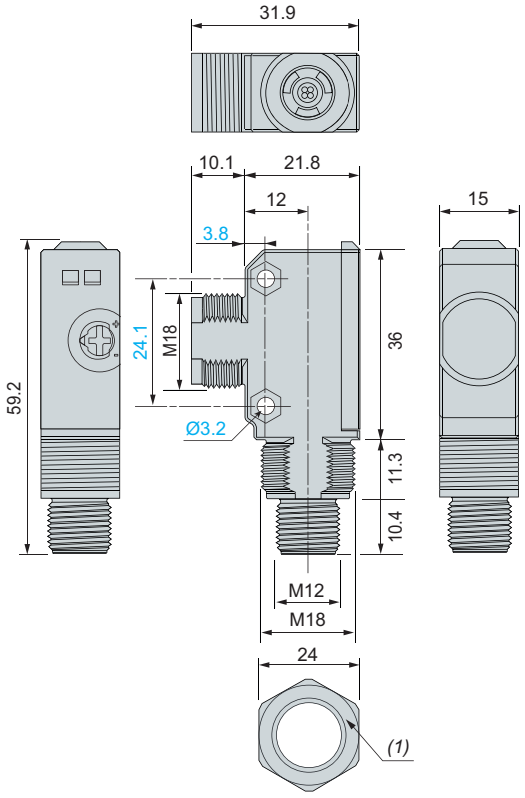
Photo-electric sensors

XUN general purpose, single mode function
Hybrid miniature design, plastic,
Four-wire DC, solid-state output,
Wire setting for NO/NC

Diffuse system

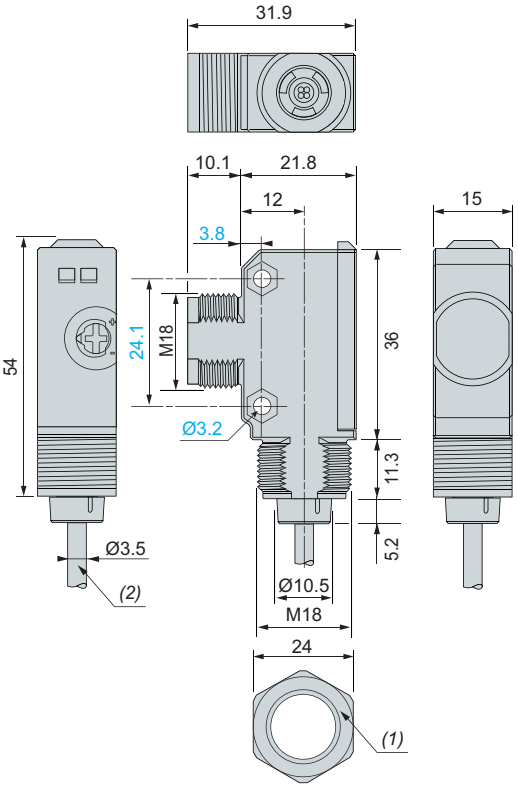
M12 connector version

**XUN5APYNM12, XUN5ANXNM12, XUN5APXNM12,
XUN6APYNM12, XUN6ANXNM12, XUN6APXNM12
XUN8ANXNM12, XUN8APXNM12, XUN8APYNM12**



Pre-cabled version

**XUN5ANXNL2, XUN5APXNL2, XUN5ANXSL2, XUN5APXSL2,
XUN6ANXNL2, XUN6APXNL2, XUN6ANXSL2, XUN6APXSL2,
XUN8ANXNL2, XUN8ANXSL2, XUN8APXNL2, XUN8APXSL2**



(1) 2 fixing nuts provided with the sensor.
(2) 2 m long cable.

Photo-electric sensors

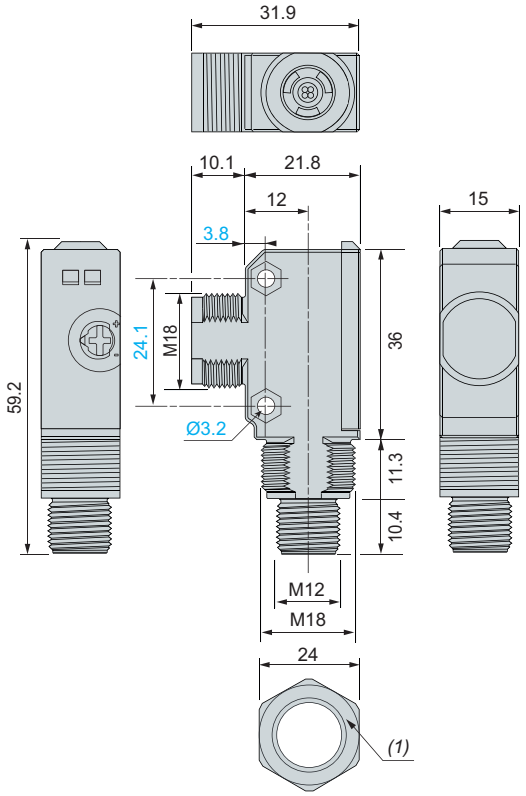
XUN general purpose, single mode function

Hybrid miniature design, plastic,
Three- and four-wire DC, solid-state output,
Wire setting for NO/NC

Polarised reflex system

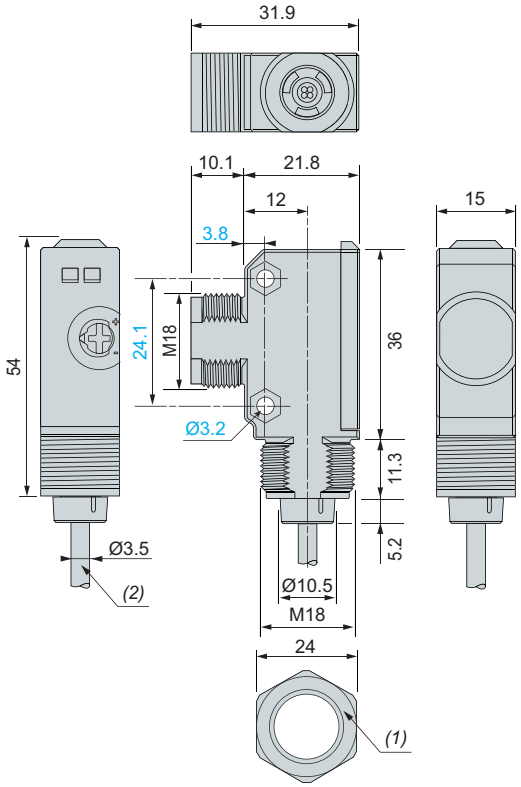
M12 connector version

XUN9APYNM12, XUN9ANXNM12, XUN9APXNM12



Pre-cabled version (3- and 4-wire)

XUN9ANXNL2, XUN9APXNL2, XUN9ANXSL2, XUN9APXSL2



(1) 2 fixing nuts provided with the sensor.
(2) 2 m long cable.

Photo-electric sensors
XU range application
For material handling and working, packaging

XU photo-electric sensors
for packaging, food & beverage

Telemecanique Sensors presents an expanded XU range of application photo-electric sensors to be embedded in automated lines for the packaging market segment.

With their diverse technical characteristics, high performance and smart management capabilities, they are designed to address a wide scope of specific needs.

Packaging *Handling* *Food and Beverage*

Fast object detection

Sensor family per application

> Marking detection

> Very dark object detection

> Accurate detection

> Colour object detection, from simple colour to very complex colour sorting

Read the promotional video

Five detection types

Select the perfectly suitable light spot

> **Blue light**: for low-reflectivity objects, especially dark ones. Blue light short waves mean less penetration, resulting in higher surface reflection.

> **Red light**: for detecting objects at a long distance and/or transparent objects

> **Laser light**: to detect very small objects and contrast marks with pinpoint accuracy, even at a long sensing distance

> **White light**: for simple contrast detection (high contrast), short distances

> **RGB light** : for more accurate contrast in colour prints

Blue light *Red light* *Laser* *White light* *RGB*

Photo-electric sensors
XU range application
For material handling and working, packaging

Designed for small spaces in packaging machines

Choose the casing, connection type and size

> Plastic or metal *(1)* casing

> Pre-cabled, with pigtail or connector

> Compact, miniature, and sub-miniature size

Simple communication with the PLC via Ethernet

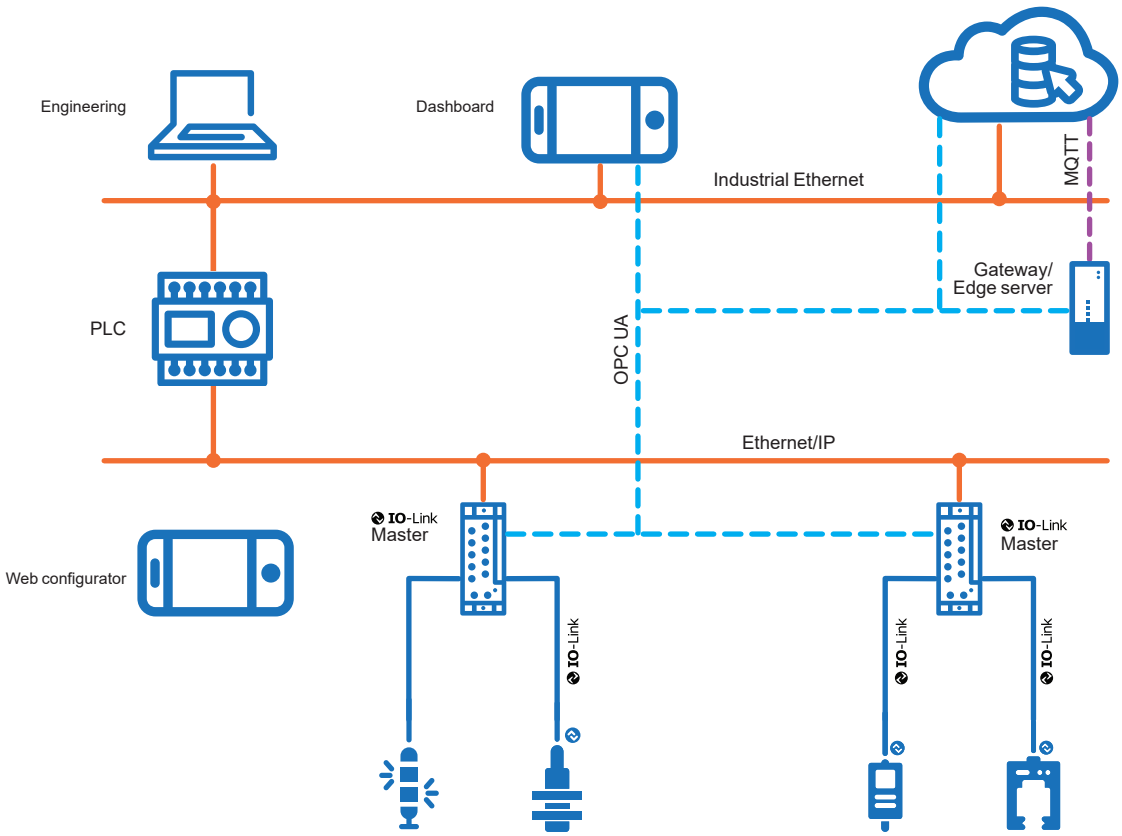
IO-Link

Smart devices communicate via IO-Link protocol

> Install your new IO-Link sensor easily: automatic reading of the device identification file (IODD) and automatic detection of the sensor output mode

> Automated parameter settings: configure the detection parameters

> Extended diagnostics, with real-time information for optimised usage and maintenance



(1) XUKC only has a metal casing.

Photo-electric sensors
XU range application
Constrast system for marking detection
Miniature design, plastic

XUMRAWAYM8
XUMRAGAYM8
XUMRACAYM8

XUMRAWAYP015
XUMRAGAYP015

XUMRPGAYM8

XUM5ALAYM8

XUM5ALAYL2

Contrast mark reader sensors IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
White light					
15 mm/12 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRAWAYM8**	0.018
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUMRAWAYP015**	0.027
RGB light					
15 mm/12 mm	NO/NC configuration via Teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRAGAYM8**	0.018
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRACAYM8**	0.018
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUMRAGAYP015**	0.027
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRPGAYM8**	0.01
Laser light					
250 mm/150 mm	NO/NC configuration via Teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM5ALAYL2**	0.045
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM5ALAYM8**	0.018
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUM5ALAYP015**	0.026

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors
XU range application
Constrast system for marking detection
Miniature design, plastic

Characteristics

Sensor type				XUMRA●AY●●	XUMRPGAYM8	XUM5ALAY●●
Product certifications				CE, UKCA, cULus, Ecolab	CE, UKCA, cULus	CE, UKCA, cULus, Ecolab
Connection	Connector			M8	M8	M8
	Pigtail	Connector		M12	–	M12
		Length	**m**	0.15	–	0.15
	Pre-cabled	Length		–	–	2
Maximum sensing distance Smax	Contrast mark reader		**mm**	15	15	250
Detection light beam colour				White LED RGB (red, green, blue)	RGB (red, green, blue)	Red (laser class 1)
Degree of protection	Conforming to IEC 60529			IP67		
	Conforming to DIN 40050-9			IP69K	IP67	IP69K
Storage temperature			**°C**	-20...+80	-40...+70	-20...+80
Operating temperature			**°C**	-20...+55	-25...+55	-20...+60
Materials	Case			ABS	Glass-filled technopolymer	ABS
	Lens			PMMA		
	Front			PMMA	PMMA	PMMA
	Cable			PVC	–	PVC
Rated supply voltage			**V**	12...24 ⎓		
Voltage limits (including ripple)			**V**	10...30 ⎓		
Current consumption, no-load			**mA**	≤ 30 for RGB ≤ 25 for white light	≤ 40 (≤ 20 at 24V)	≤ 30
Switching capacity			**mA**	100	≤100	100
Maximum switching frequency		XUMRAWAY●●	**Hz**	10,000	–	–
		XUMRAGAY●●	**Hz**	10,000	–	–
		XUMRACAY●●	**Hz**	2500	–	–
		XUMRPGAYM8	**Hz**	–	30,000 (selectable by IO-Link) 60,000 (by default)	–
		XUM5ALAY●●	**Hz**	–	–	4000
Delays	First-up		**ms**	300	0.08	300
	Response	XUMRAWAY●●	**µs**	50	–	–
		XUMRAGAY●●	**µs**	50	–	–
		XUMRACAY●●	**µs**	200	–	–
		XUMRPGAYM8	**µs**	–	16	–
		XUM5ALAY●●	**µs**	–	–	125
	Recovery		**ms**	300	–	300
	IO-Link		**ms**	> 230		

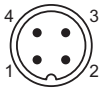
Photo-electric sensors
XU range application
Constrast system for marking detection
Miniature design, plastic

Wiring schemes

Contrast mark reader systems

M8 and M12 connectors – 4-pin – IO-Link

M8

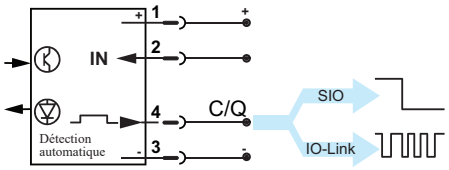


M12

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUM●A●AYM8, XUM●A●AYP015 (white, RGB, and laser)



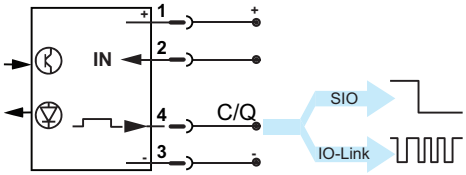
Note : IODD IO-Link files are available on our web site www.telemecaniquesensors.com/iolink

Pre-cabled – 4-wire – IO-Link

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	C	Switching signal (SIO)
		Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUM5ALAYL2 (laser)



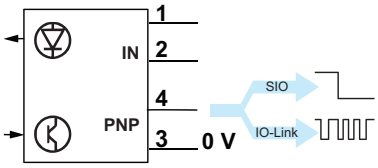
Note : IODD IO-Link files are available on our web site www.telemecaniquesensors.com/iolink

M8 connector – 4-wire – IO-Link

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN *(1)*	Teach-in
		L/D (NO/NC)
		Delay enable
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)

PNP, potentiometer or by IO-Link

XUMRPGAYM8



Note : IODD IO-Link files are available on our web site www.telemecaniquesensors.com/iolink

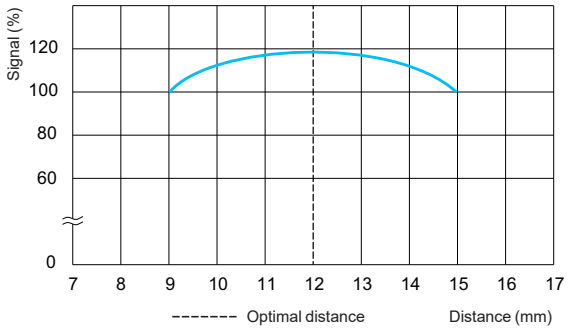
(1) By default, pin 2 is configured as push-pull OUTPUT; it can be configured as INPUT with IO-Link.

Photo-electric sensors
XU range application
Constrast system for marking detection
Miniature design, plastic

Detection curves

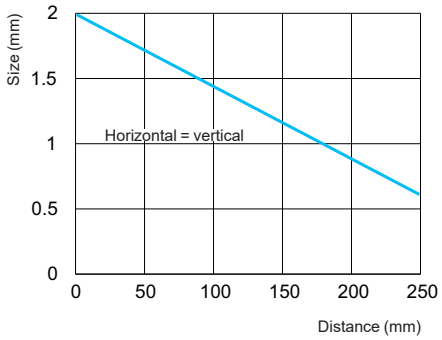
Contrast mark reader: XUMRA●AYM8, XUMRA●AYP015, XUMRPGAYM8

Signal process

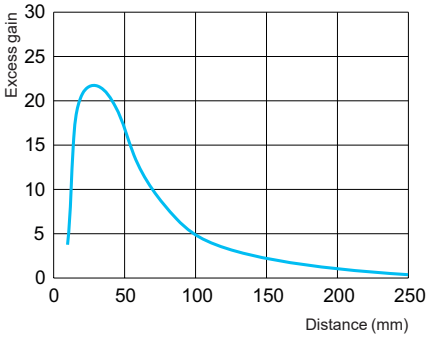


Contrast mark reader: XUM5ALAY●●

Light spot size

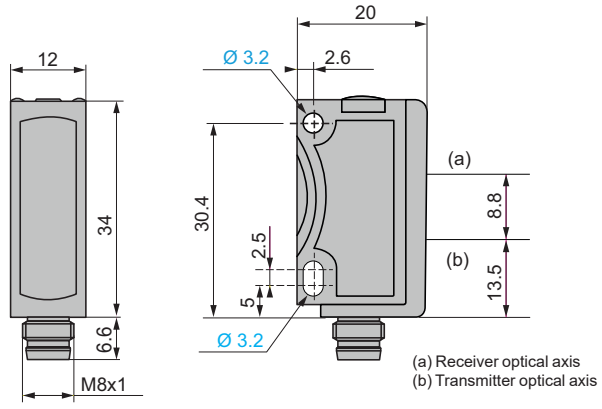


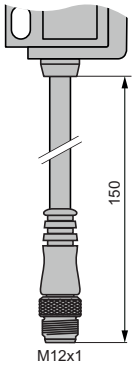
Excess gain

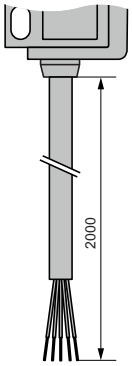


Dimensions

Miniature format: XUM







Miniature format: XUMRPGAYM8

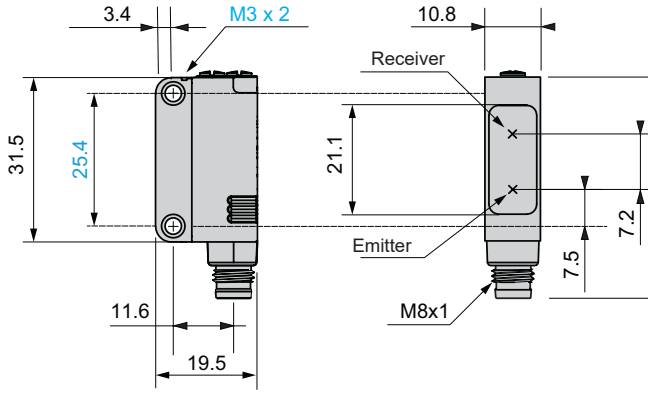


Photo-electric sensors

XU range application

Blue light sensors for very dark object detection

Compact, miniature, and sub-miniature design, plastic

XUM8ABAYP015

XUM7ABPXL2

XUM7ABPXM8, XUM8ABAYM8

XUT7ABPXL2, XUT8ABAYL2

XUT7ABPXP02, XUT8ABAYP02

XUK8ABPXM12

Read the promotional video

Background suppression sensors IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Adjustable blue light					
200 mm/200 mm miniature format	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM8ABAYM8**	0.014
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUM8ABAYP015**	0.027
100 mm/100 mm sub-miniature format	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUT8ABAYL2**	0.031
		Autodetect PNP/NPN	Pigtail M8 (L= 0.2 m)	**XUT8ABAYP02**	0.019

Background suppression sensors

Fixed blue light, miniature format					
100 mm/80 mm	NO/NC configuration via teach-in or IO-Link	PNP	Pre-cabled (L = 2 m)	**XUM7ABPXL2**	0.056
		PNP	M8 connector (4-pin)	**XUM7ABPXM8**	0.017
Fixed blue light, sub-miniature format					
50 mm/50 mm	NO/NC configuration via teach-in or IO-Link	PNP	Pre-cabled (L = 2 m)	**XUT7ABPXL2**	0.031
		PNP	Pigtail M8 (L= 0.2 m)	**XUT7ABPXP02**	0.022
Adjustable blue light (potentiometer)					
1200 mm/600 mm	NO/NC configuration via teach-in or IO-Link	PNP	M12 connector (4-pin)	**XUK8ABPXM12**	0.046

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors

XU range application

Blue light sensors for very dark object detection

Compact, miniature, and sub-miniature design, plastic

Characteristics

Sensor type					XU●7ABPX●●	XU●8ABAY●●	XUK8ABPXM12
Product certifications					CE, UKCA, cULus, Ecolab		
Connection	Connector				M8	M8	M12
	Pre-cabled	Length		**m**	2	2	–
	Pigtail	Length	XUM8	**m**	0.2	0.15	–
			XUT8	**m**		0.2	
Maximum sensing distance Smax	BGS, fixed blue light		XUM7	**mm**	100	–	–
			XUT7	**mm**	50	–	–
	BGS, adjustable blue light		XUM8	**mm**	–	200	–
			XUT8	**mm**	–	100	–
			XUK8	**mm**	–	–	1200
Detection light beam colour					Blue		
Degree of protection	Conforming to IEC 60529				IP67		
	Conforming to DIN 40050-9				IP69K for XUM7 only	IP69K for XUM8 only	IP69K
Storage temperature				**°C**	-20...+80		
Operating temperature			XUM7	**°C**	-20...+60	-20...+60	
			XUT7	**°C**	-20...+50		
Materials	Case		XUM		ABS	ABS	ABS/PC
			XUT		PUR	PUR	
	Lens				PMMA		
	Front				PMMA		–
	Cable				PVC		–
Rated supply voltage			XUM8	**V**	12...24 ⎓	12...24	12...24 ⎓
			XUT8	**V**		24 ⎓	
Voltage limits (including ripple)				**V**	10...30	10...30	10...30
Current consumption, no-load			XUM	**mA**	≤ 30		≤ 30
			XUT	**mA**	≤ 20		
Switching capacity			XUM	**mA**	≤ 100		≤ 100
			XUT	**mA**	≤ 50		
Maximum switching frequency				**Hz**	1000	700	600
Delays	First-up			**ms**	< 300		
	Response		XUM	**µs**	500	500	830 max.
			XUT	**µs**		700	
	Recovery			**ms**	< 300		300 max.
	IO-Link			**ms**	> 230		

Photo-electric sensors
XU range application
Blue light sensors for very dark object detection
Compact, miniature, and sub-miniature design, plastic

Wiring schemes

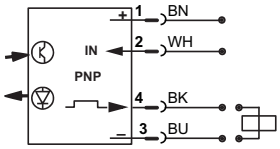
Background suppression sensor

M8 connector (including pigtail) - 4-pin

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC - = NO Open = NO
3	-	0 V ⎓
4	Q	Switching signal

PNP

XUM7ABPXM8, XUT7ABPXP02

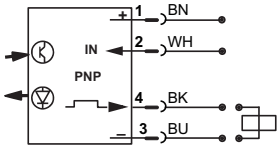


Pre-cabled - 4-wire

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

PNP

XUT7ABPXL2, XUM7ABPXL2



M8 and M12 connector - 4-pin IO-Link

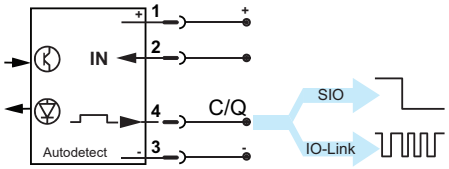
M8

M12

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	C	Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUM8ABAYM8, XUM8ABAYP015, XUT8ABAYP02



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

Photo-electric sensors

XU range application

Blue light sensors for very dark object detection

Compact, miniature, and sub-miniature design, plastic

Wiring schemes

Background suppression sensor

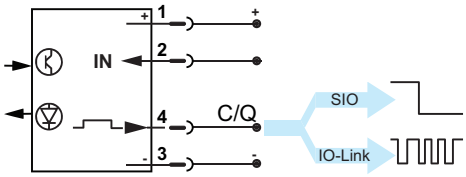
Pre-cabled - 4-wire IO-Link

+BN (Brown)
IN (input) GY (Grey)
OUT (output) BK (Black)
-BU (Blue)

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	C	Switching signal (SIO) Communication (IO-Link)

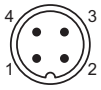
Autodetect PNP/NPN or by IO-Link

XUT8ABAYL2



***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

M12 connector - 4-pin



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC - = NO Open = NO
3	-	0 V ⎓
4	C	Switching signal

PNP

XUK8ABPXM12

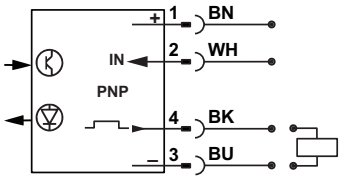


Photo-electric sensors

XU range application

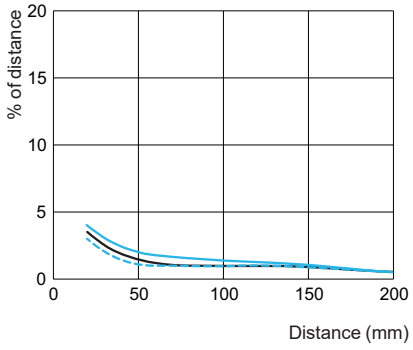
Blue light sensors for very dark object detection

Compact, miniature, and sub-miniature design, plastic

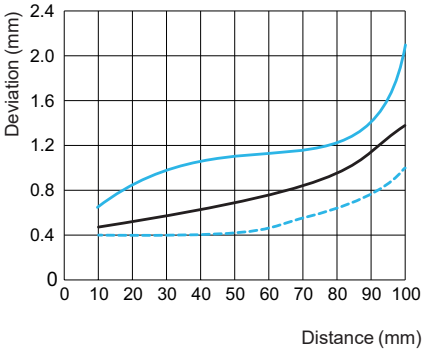
Detection curves

Background suppression sensor

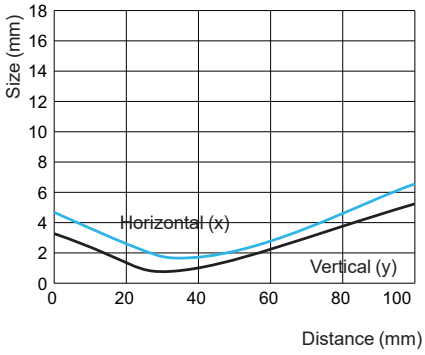
Scanning properties: XUM8ABAY●●



Scanning properties: XUT8ABAY●●

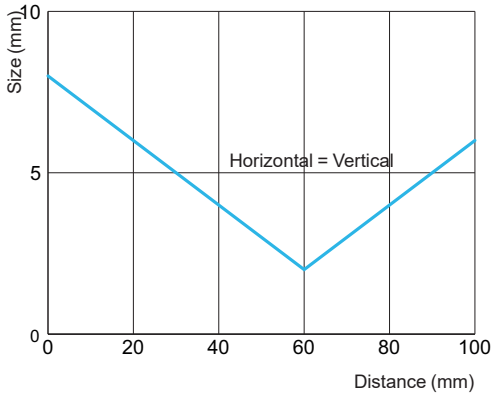


Light spot size: XUT8ABAY●●

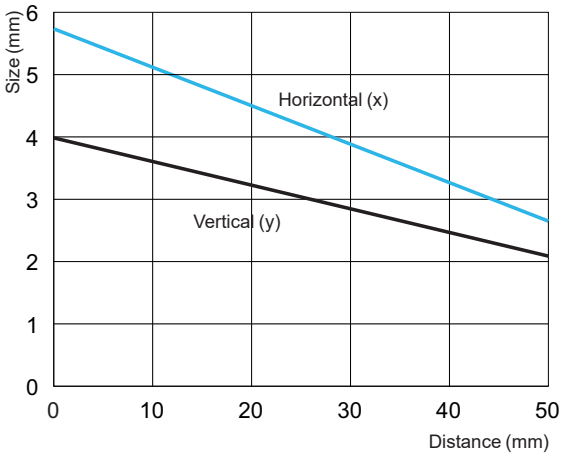


Min. distance white object (90%)/white background (90%) (mm)
Min. distance grey object (18%)/white background (90%) (mm)
Min. distance black object (6%)/white background (90%) (mm)

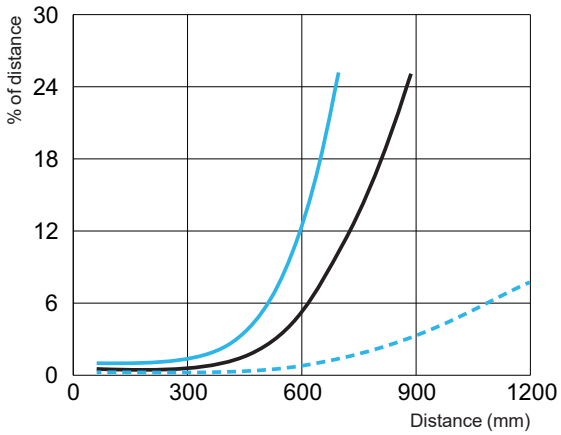
Light spot size: XUM7ABPX●●



Light spot size: XUT7ABPX●●



Scanning properties: XUK8ABPXM12



Min. distance white object (90%)/white background (90%) (mm)
Min. distance grey object (18%)/white background (90%) (mm)
Min. distance black object (6%)/white background (90%) (mm)

Light beam diameter: XUK8ABPXM12

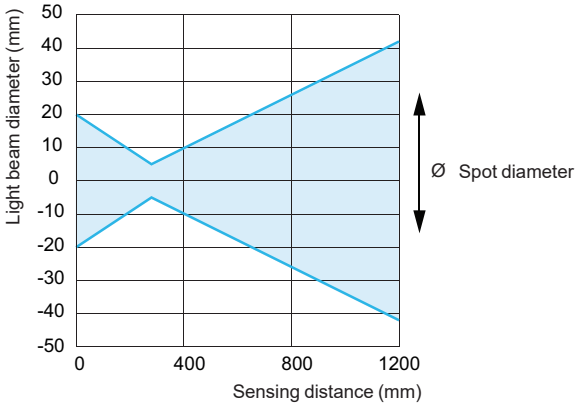


Photo-electric sensors

XU range application

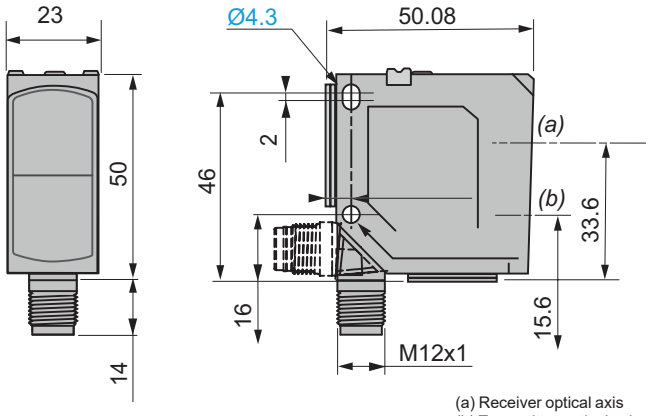
Blue light sensors for very dark object detection

Compact, miniature, and sub-miniature design, plastic

Dimensions

Compact format: XUK

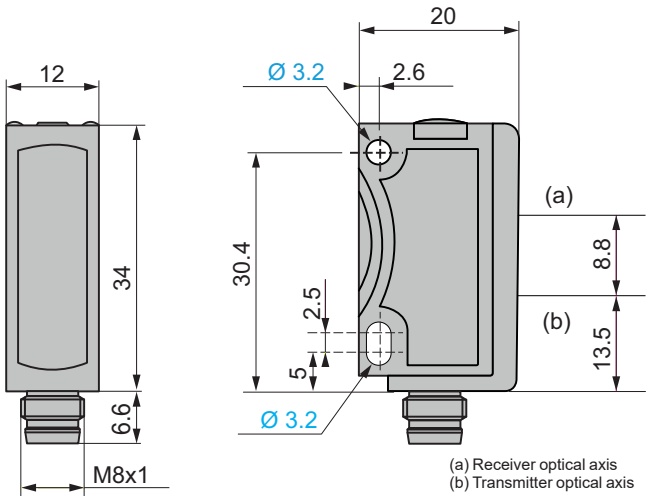
XUK8ABPXM12



(a) Receiver optical axis
(b) Transmitter optical axis

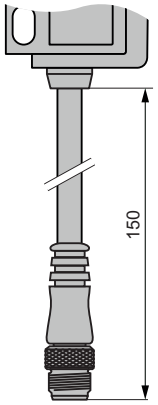
Miniature format: XUM

XUM7ABPXL2, XUM8ABAYM8

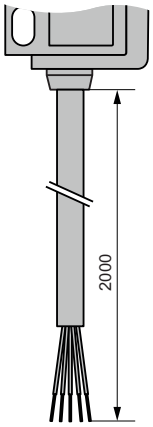


(a) Receiver optical axis
(b) Transmitter optical axis

XUM8ABAYP015

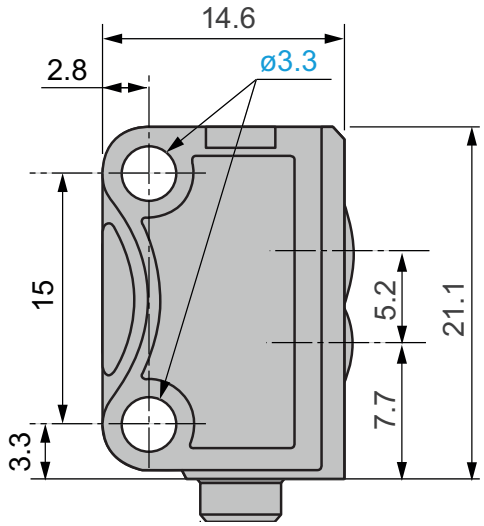


XUM7ABPXL2

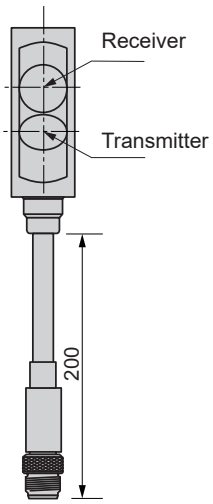


Sub-miniature format: XUT

XUT7ABPXP02, XUT7ABPXL2, XUT8ABAYP02, XUT8ABAYL2



XUT●●●●●P02



XUT●●●●L2

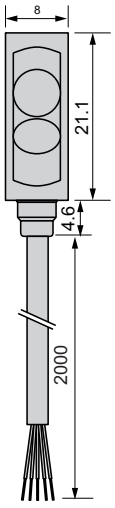


Photo-electric sensors
XU range application
Laser sensors for accurate detection
Miniature and sub-miniature design, plastic

XUM5ALAYM8, XUM8ALAYM8, XUM9ALAYM8

XUT8ALAYP02, XUT8ALAYL2, XUT9ALPXP02, XUT9ALPXL2

XUM8PLPXM8 XUM9PLPXM8

XUM5ALAYP015, XUM8ALAYP015, XUM9ALAYP015

XUM5ALAYL2, XUM8ALAYL2, XUM9ALAYL2

Laser sensors

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Diffuse mode detection IO-Link					
250 mm/150 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM5ALAYL2**	0.045
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM5ALAYM8**	0.018
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUM5ALAYP015**	0.026
BGS mode detection IO-Link					
150 mm/120 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM8ALAYL2**	0.056
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM8ALAYM8**	0.018
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUM8ALAYP015**	0.027
100 mm/70 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUT8ALAYL2**	0.031
		Autodetect PNP/NPN	Pigtail M8 (L= 0.2 m)	**XUT8ALAYP02**	0.019
BGS mode detection					
200 mm/130 mm	NO/NC configuration via potentiometer	PNP	M8 connector (4-pin)	**XUM8PLPXM8**	0.01
Reflex mode detection IO-Link					
15 m/13 m	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUM9ALAYL2**	0.056
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUM9ALAYM8**	0.018
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUM9ALAYP015**	0.027
Reflex mode detection					
4 m/3 m	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUT9ALPXL2**	0.031
		PNP	Pigtail M8 (L= 0.2 m)	**XUT9ALPXP02**	0.019
12 m/10 m	NO/NC configuration via potentiometer	PNP	M8 connector (4-pin)	**XUM9PLPXM8**	0.01

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors
XU range application
Laser sensors for accurate detection
Miniature and sub-miniature design, plastic

Characteristics

Sensor type					XUM●ALAY●●	XUM●PLPXM8
Product certifications					CE, UKCA, cULus, Ecolab	CE, UKCA, cULus
Connection	Connector				M8	M8
	Pigtail	Length	XUM5, XUM8, XUM9	**m**	0.15	–
			XUT8, XUT9	**m**	0.20	–
	Pre-cabled	Length		**m**	2	–
Maximum sensing distance Smax	Diffuse mode		XUM5	**mm**	1...250	–
	Background suppression system		XUM8	**mm**	4...150	200
			XUT8	**mm**	6...70	–
	Reflex mode system		XU●9	**m**	0.1...13	15
Detection light beam colour					Laser class 1, red	
Degree of protection	Conforming to IEC 60529				IP67 for XUM5, XUT8, XUM8, XUT9, XUM9	IP65/ IP67
	Conforming to DIN 40050-9				IP69K for XUM5, XUM8, XUM9	–
Storage temperature				**°C**	-20...+80	-40...+70
Operating temperature	XUM5, XUM8, XUM9			**°C**	-20...+60	-20...+55
	XUT8, XUT9			**°C**	-20...+50	–
Materials	Case	XUM5, XUM8, XUM9			ABS	Glass filled technopolymer
		XUT8, XUT9			PUR	–
	Lens				PMMA	
	Front				PMMA	–
	Cable				PVC	–
Rated supply voltage				**V**	12...24 ⎓	10...30 ⎓
Voltage limits (including ripple)				**V**	10...30 ⎓	
Current consumption, no-load	XUM5, XUM8, XUM9			**mA**	≤ 30	≤35
	XUT8, XUT9			**mA**	≤ 12	–
Switching capacity	XUM5, XUM8, XUM9			**mA**	≤ 100	
	XUT8, XUT9			**mA**	≤ 50	–
Maximum switching frequency	XUM5, XUM9			**Hz**	4000	≤2000
	XUT8, XUM8, XUT9			**Hz**	1000	≤2000
Delays	First-up			**ms**	< 300	–
	Response		XUM5	**µs**	≤ 125	–
			XUM8	**µs**	≤ 500	250
			XUM9	**µs**	125	250
			XUT8, XUT9	**µs**	500	–
	Recovery			**ms**	< 300	–
	IO-Link			**ms**	> 230	

Photo-electric sensors
XU range application
Laser sensors for accurate detection
Miniature and sub-miniature design, plastic

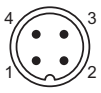
Wiring schemes

Laser sensors

M8 and M12 connector - 4-pin - IO-Link

M8

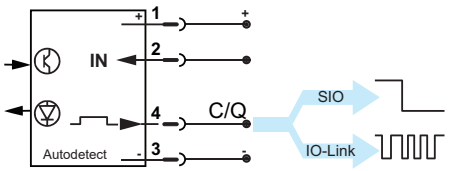
Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)



M12

Autodetect PNP/NPN or by IO-Link

XUM5ALAYM8, XUM5ALAYP015, XUM8ALAYM8, XUM8ALAYP015, XUT8ALAYP02, XUM9ALAYM8, XUM9ALAYP015



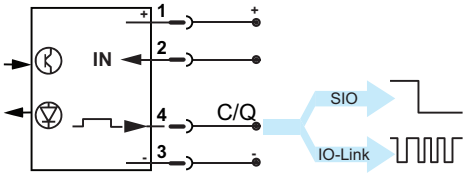
Note: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink

Pre-cabled - 4-wire - IO-Link

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	C	Switching signal (SIO) Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUM5ALAYL2, XUM8ALAYL2, XUT8ALAYL2, XUM9ALAYL2



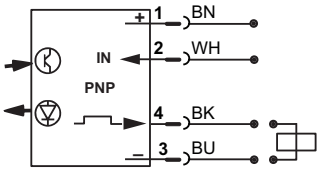
Note: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink

M8 connector - 4-pin

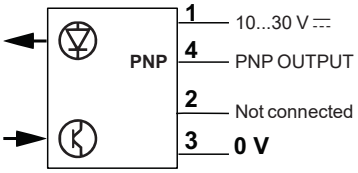
Pin	Signal	Definition	
		XUT9ALPX	XUM●PLPX
1	+	+ 24 V ⎓	10...30 V ⎓
2	IN	+ = NC - = NO Open = NO	Not connected
3	-	0 V ⎓	0 V ⎓
4	Q	Switching signal	PNP output

PNP

XUT9ALPXL2, XUT9ALPXP02



XUM8PLPXM8, XUM9PLPXM8



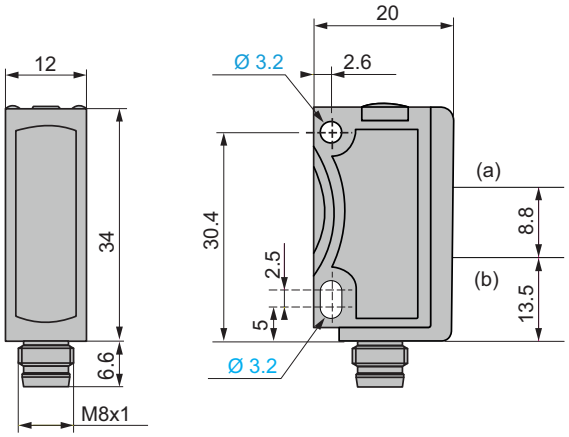
Note: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink

Photo-electric sensors
XU range application
Laser sensors for accurate detection
Miniature and sub-miniature design, plastic

Dimensions

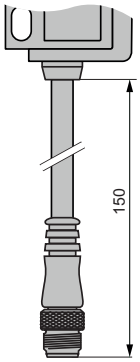
Miniature format: XUM

XUM●ALAYM8

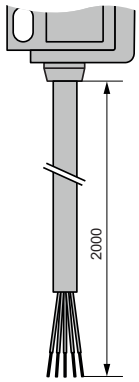


(a) Receiver optical axis
(b) Transmitter optical axis

XUM●ALAYP015

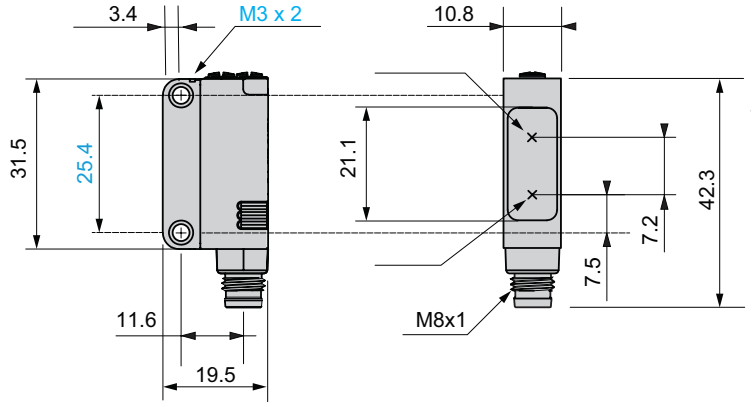


XUM●ALAYL2



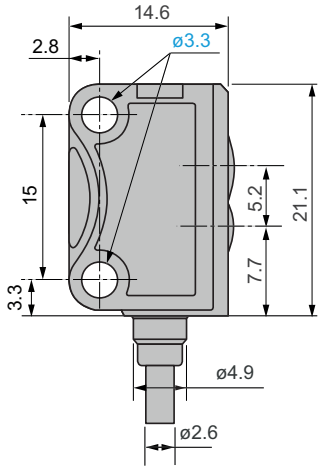
Miniature format: XUM●PLPXM8

XUM8PLPXM8, XUM9PLPXM8

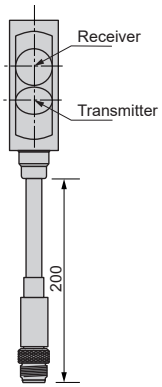


Sub-miniature format: XUT

XUT●●●●●●2



XUT●●●●●P02



XUT●●●●●L2

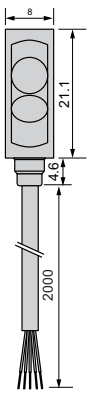
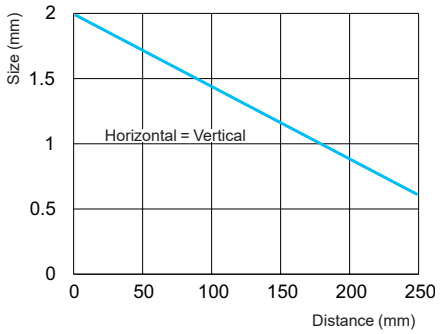


Photo-electric sensors
XU range application
Laser sensors for accurate detection
Miniature and sub-miniature design, plastic

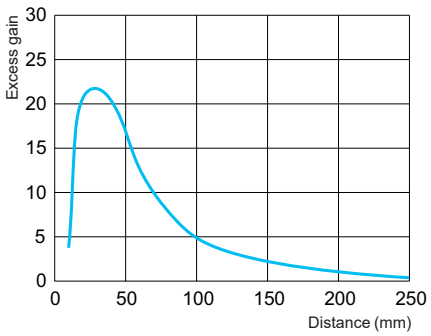
Detection curves

Laser sensor, diffuse mode detection

Light spot size: XUM5ALAY●●

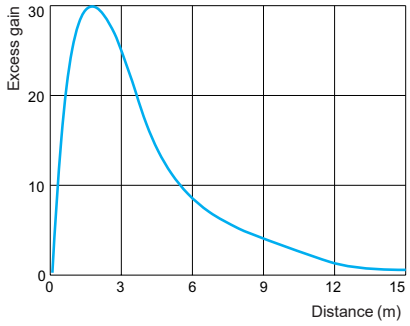


Excess gain: XUM5ALAY●●

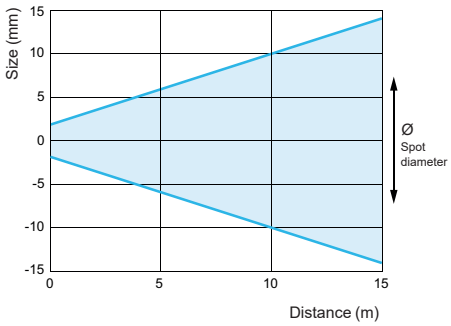


Laser sensor, reflex mode detection: XU●9AL●●

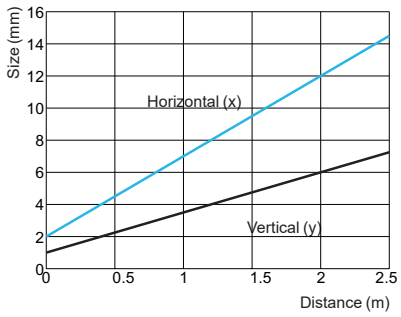
Functional reserves: XUM9ALAY●●



Light spot diameter: XUM9ALAY●●



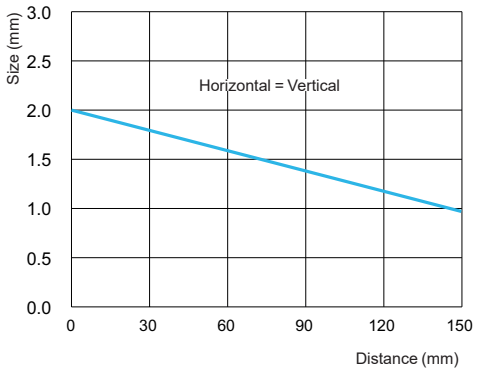
Light spot size: XUT9ALPX●●



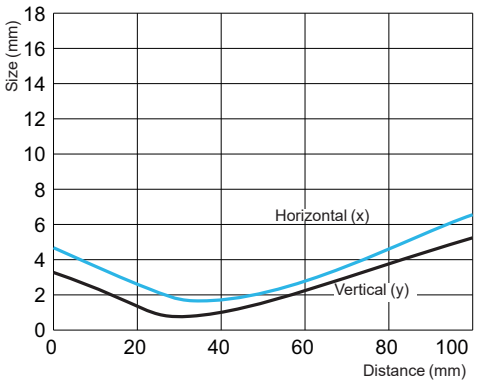
Detection curves

Laser sensor, background suppression mode

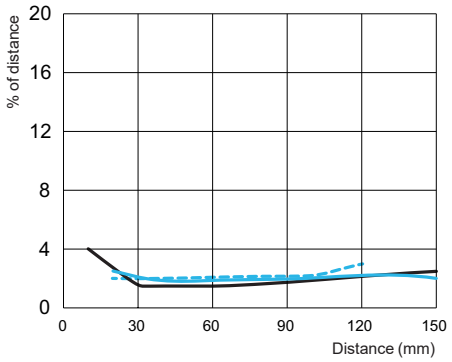
Light spot size: XUM8ALAY●●



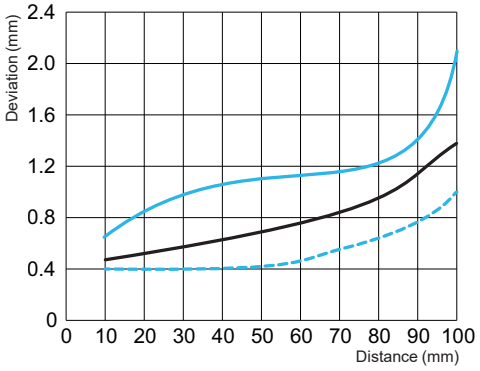
Light spot size: XUT8ALAY●●



Scanning properties: XUM8ALAY●●



Scanning properties: XUT8ALAY●●



Min. distance white object (90%)/white background (90%) (mm)
Min. distance grey object (18%)/white background (90%) (mm)
Min. distance black object (6%)/white background (90%) (mm)

Photo-electric sensors
XU range application
Sensors for colour object detection
Compact and miniature design, plastic

XUKCBSAYM12

XUKCBLAYM12

XUMRACAYM8

Colour sensors IO-Link

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
White light, multiple colour					
60 mm/30 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M12 connector (3-output)	**XUKCBSAYM12**	0.017
150 mm/120 mm		Autodetect PNP/NPN	M12 connector (3-output)	**XUKCBLAYM12**	0.017
RGB light, unique colour					
15 mm/12 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUMRACAYM8**	0.018

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Characteristics

Sensor type				XUKCB●AYM12	XUMRACAYM8
Product certifications				CE, UKCA, cULus	CE, UKCA, cULus, Ecolab
Connection	Connector			M12 (5-pin)	M8 (4-pin)
Maximum sensing distance Smax	White light	XUKC short	**mm**	60	–
		XUKC long	**mm**	150	–
	RGB light	XUMR	**mm**	–	15
Detection light beam colour				White	Red, green and blue
Degree of protection	Conforming to IEC 60529			IP67	
	Conforming to DIN 40050-9			IP69K	
Storage temperature			**°C**	-20...+80	
Operating temperature			**°C**	-20...+55	
Materials	Case			Zinc die-cast	ABS
	Lens			PMMA	PMMA
	Front			PMMA	PMMA
	Cable				
Rated supply voltage			**V**	24 ⎓	12...24 ⎓
Voltage limits (including ripple)			**V**	18...30	10...30
Current consumption, no-load			**mA**	≤ 60	≤ 30
Switching capacity			**mA**	≤ 100	
Maximum switching frequency			**Hz**	3000	2500
Delays	First-up		**ms**	300	
	Response		**µs**	≤ 180	≤ 200
	Recovery		**ms**	< 300	–
	IO-Link		**ms**	> 230	

Photo-electric sensors
XU range application
Sensors for colour object detection
Compact and miniature design, plastic

Wiring schemes

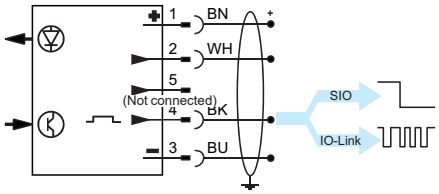
Colour detection system

M12 connector - 5-pin - IO-Link

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO
		- = NC
		Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)

Autodetect PNP/NPN or by IO-Link

XUKCB●AYM12, XUMRACAYM8

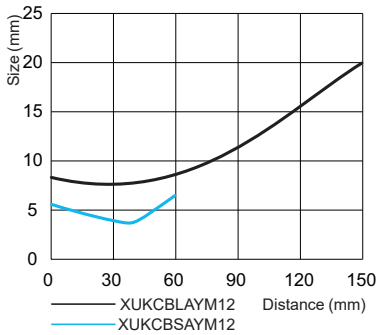


***Note**: IODD IO-Link files available on our website www.telemecaniquesensors.com/iolink*

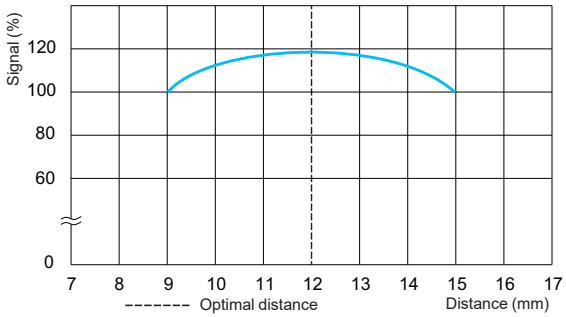
Detection curves

Colour detection system

Light spot size: XUKCBSAYM12 and XUKCBLAYM12

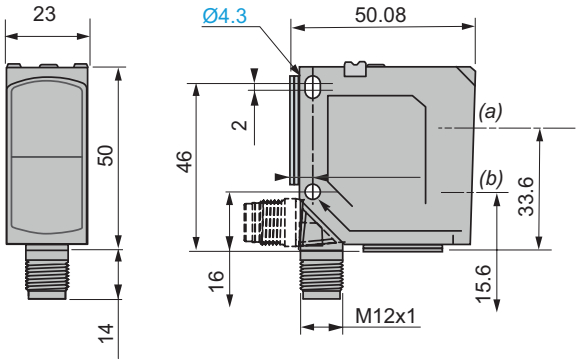


Signal process: XUMRACAYM8



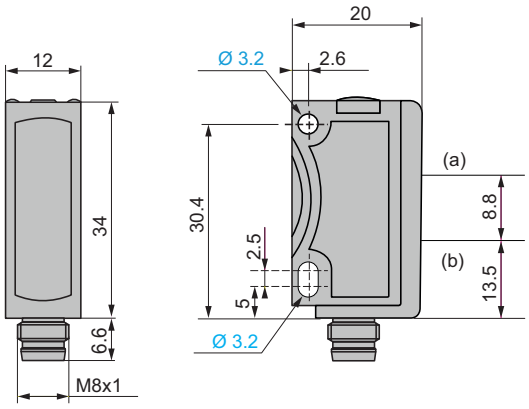
Dimensions

Compact format: XUKCB●AYM12



(a) Receiver optical axis
(b) Transmitter optical axis

Miniature format: XUMRACAYM8



(a) Receiver optical axis
(b) Transmitter optical axis

Photo-electric sensors

XU range application

Sensors for transparent object detection

Miniature, sub-miniature, and compact design, plastic

XUMTARAYM8, XUM7ABPXM8, XUM8ABAYM8

XUMTARAYL2, XUMTARAYP015, XUM7ABPXL2, XUM8ABAYP015

XUMTPRPXM8

XUT8ABAYL2, XUT8ABAYP02, XUT7ABPXL2, XUT7ABPXP02

XUK8ABPXM12

Sensors for transparent object detection

Max./operating sensing distance (Sn)	Function	Output	Connection	Reference	Weight (kg)
Polarised reflex system IO-Link					
2 m/2 m	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUMTARAYL2**	0.056
		Autodetect PNP/NPN	M8 connector (4-pin)	**XUMTARAYM8**	0.018
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUMTARAYP015**	0.027
Transparent reflex system					
2 m/2 m	NO/NC configuration via potentiometer	PNP	M8 connector (4-pin)	**XUMTPRPXM8**	0.01
BGS mode detection, adjustable IO-Link					
200 mm/200 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	M8 connector (4-pin)	**XUM8ABAYM8**	0.014
		Autodetect PNP/NPN	Pigtail M12 (L= 0.15 m)	**XUM8ABAYP015**	0.027
100 mm/100 mm	NO/NC configuration via teach-in or IO-Link	Autodetect PNP/NPN	Pigtail M8 (L= 0.2 m)	**XUT8ABAYP02**	0.019
		Autodetect PNP/NPN	Pre-cabled (L = 2 m)	**XUT8ABAYL2**	0.031
BGS mode detection, not adjustable					
100 mm/80 mm	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUM7ABPXL2**	0.056
		PNP	M8 connector (4-pin)	**XUM7ABPXM8**	0.017
50 mm/50 mm	NO/NC configuration via teach-in	PNP	Pre-cabled (L = 2 m)	**XUT7ABPXL2**	0.031
		PNP	Pigtail M8 (L= 0.2 m)	**XUT7ABPXP02**	0.022
BGS mode detection, compact IO-Link					
1200 mm/1200 mm	NO/NC configuration via teach-in or IO-Link	PNP	M12 connector (4-pin)	**XUK8ABPXM12**	0.046

Accessories

IO-Link Master

See page 88.

Fixing and other accessories

See page 92.

Cabling accessories

See page 98.

Photo-electric sensors
XU range application
Sensors for transparent object detection
Miniature, sub-miniature, and compact design, plastic

Characteristics

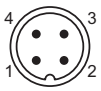
Sensor type					XUMTARAY••	XU•7ABP••	XUK8ABP••	XU•8ABAY••	XUMTPRPXM8
Product certifications					CE, UKCA, cULus, Ecolab				CE, UKCA, cULus
Connection	Connector				M8	M8 (for XUM7)	M12	M8	M8
	Pigtail	Length	XUM8	m	0.15	0.2	–	0.15	–
			XUT8	m				0.2	
	Pre-cabled	Length		m	2	2	–	2	–
Maximum sensing distance Smax	Polarised reflex system		XUMTA	m	0...2	–	–	–	–
	Transparent reflex system		XUMTP	m	–	–	–	–	2
	BGS system, not adjustable		XUM7	mm	–	0...80	–	–	–
	BGS system, adjustable		XUM8	mm	–	–	White = 3...1200 Grey = 5...750 Black = 10...600	1...200	–
			XUT8	mm				3...100	–
	BGS system, blue light		XUT7	mm	–	2...50	–	–	–
Detection light beam colour					Red (LED)	Blue (LED)	Blue (LED)	Blue (LED)	Red (LED)
Degree of protection	Conforming to IEC 60529				IP67				
	Conforming to DIN 40050-9				IP69K (except XUT)				–
Storage temperature				°C	-20...+80				-40...+70
Operating temperature				°C	-20...+60	-20...+50	-20...+60		-25...+55
Materials	Case		XUM		ABS	ABS	ABS/PC	ABS	Glass-filled technopolymer
			XUT			PUR		PUR	
	Lens				PMMA				
	Front				PMMA				–
	Cable				PVC	PVC	–	PVC	–
Rated supply voltage			XUM	V	24 ⎓	12...24 ⎓	12...24 ⎓	12...24 ⎓	10...30 ⎓
			XUT	V				24 ⎓	
Voltage limits (including ripple)				V	10...30				
Current consumption, no-load			XUM	mA	≤ 30	≤ 30	≤ 30	≤ 30	≤35m
			XUT	mA		≤ 20		≤ 20	
Switching capacity			XUM	mA	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100
			XUT	mA		≤ 50		≤ 50	
Maximum switching frequency				Hz	1000	1000	600	700	1000
Delays	First-up			ms	< 300				–
	Response		XUM	µs	500		830	500	500
			XUT	µs				700	
	Recovery			ms	< 300				–
	IO-Link				> 230	–	> 230	> 230	–

Photo-electric sensors
XU range application
Sensors for transparent object detection
Miniature, sub-miniature, and compact design, plastic

Wiring schemes

Polarised reflex system

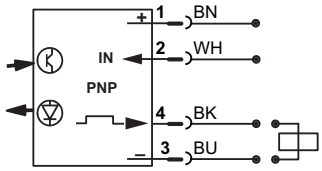
M8 and M12 connector - 4-pin - or pre-cabled - 4-wire IO-Link



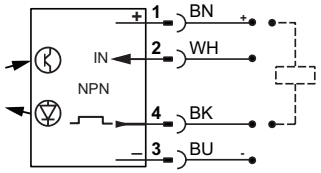
Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)

PNP

XUMTARAYL2, XUMTARAYM8, XUMTARAYP015



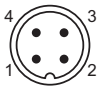
NPN



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

BGS mode detection, adjustable IO-Link

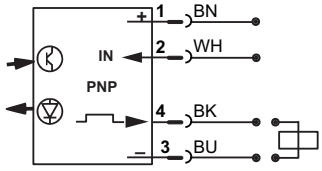
M8 and M12 connector - 4-pin- or pre-cabled - 4-wire



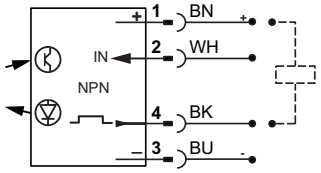
Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NO - = NC Open = NO
3	-	0 V ⎓
4	Q	Switching signal (SIO)
	C	Communication (IO-Link)

PNP

XUM8ABAYM8, XUM8ABAYP015, XUT8ABAYP02, XUT8ABAYL2



NPN



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

BGS mode detection, not adjustable

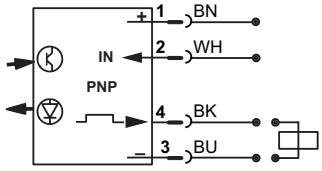
M8 connector - 4-pin- or pre-cabled - 4-wire

Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC - = NO Open = NO
3	-	0 V ⎓
4	Q	Switching signal

PNP

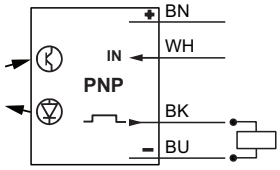
M8 connector

XUM7ABPXM8, XUT7ABPXP02



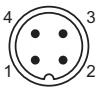
Pre-cabled

XUM7ABPXL2, XUT7ABPXL2



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

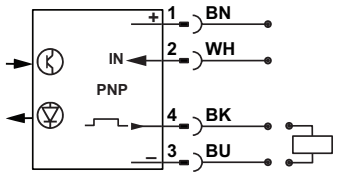
M12 connector - 4-pin



Pin	Signal	Definition
1	+	+ 24 V ⎓
2	IN	+ = NC - = NO Open = NO
3	-	0 V ⎓
4	Q	Switching signal

PNP

XUK8ABPXM12



***Note**: IODD IO-Link files available on the website www.telemecaniquesensors.com/iolink*

Transparent reflex

M8 connector - 4-pin

Pin	Definition
1	10...30 Vdc
2	Not connected
3	0 V
4	PNP OUTPUT

PNP

XUMTPRPXM8

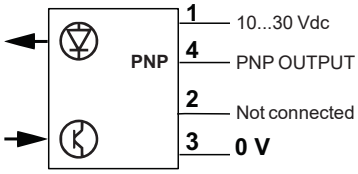
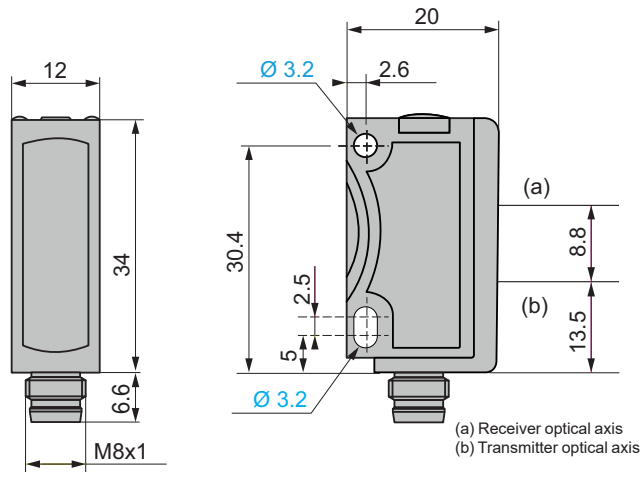


Photo-electric sensors
XU range application
Sensors for transparent object detection
Miniature, sub-miniature, and compact design, plastic

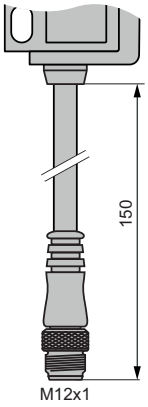
Dimensions

Miniature format: XUM

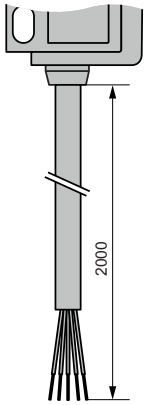
XUM•A•AYM8, XUM•A•AYL2, XUM•A•AYP015, XUM•ABPX••



XUM••••••P015

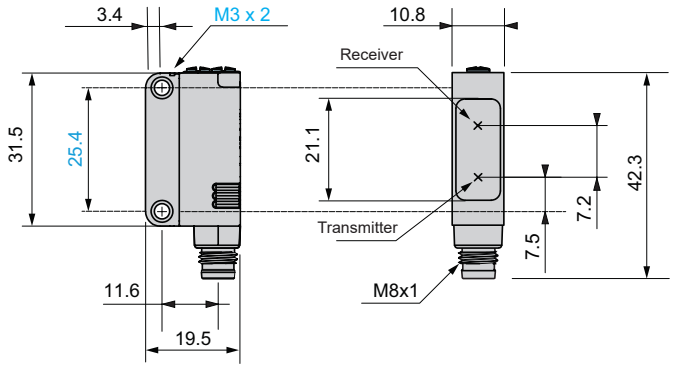


XUM•••••L2



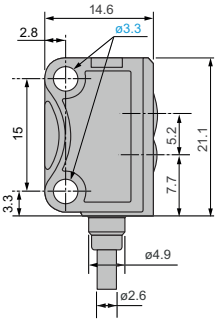
Miniature format: XUM

XUMTPRPXM8

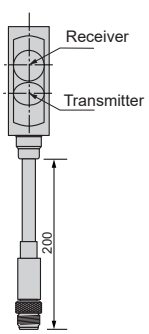


Sub-miniature format: XUT

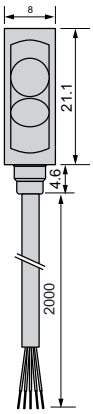
XUT7ABPXP02, XUT7ABPXL2, XUT8ABAYL2, XUT8ABAYP02



XUT••••••P02



XUT•••••L2



Compact format: XUK

XUK8ABPXM12

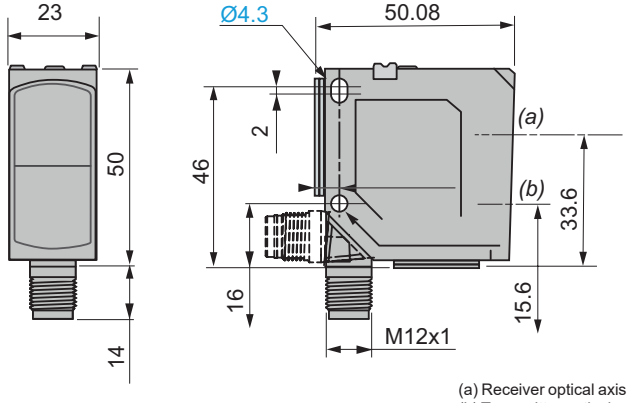
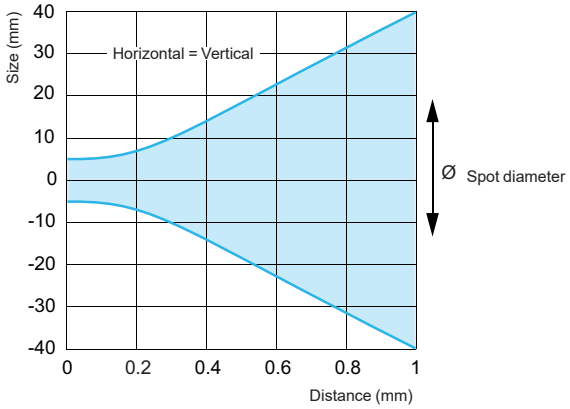


Photo-electric sensors
XU range application
Sensors for transparent object detection
Miniature, sub-miniature, and compact design, plastic

Detection curves

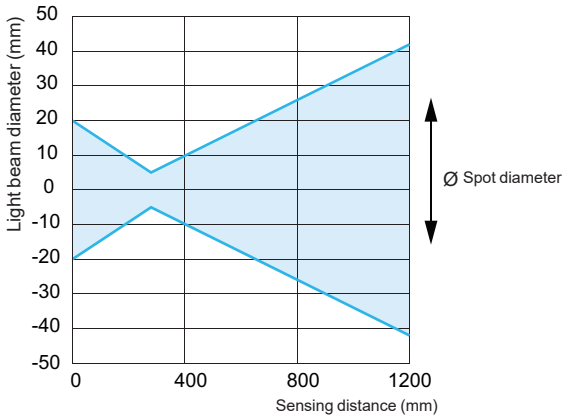
Polarised reflex

Light spot diameter: XUMTARAY●●



Background suppression mode

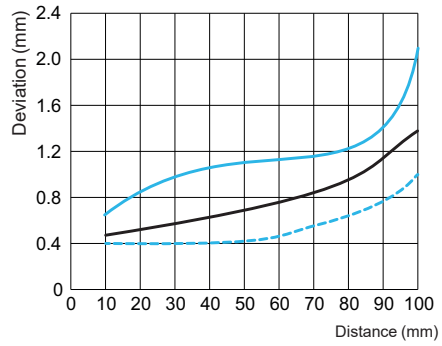
Light spot diameter: XUK8ABPXM12



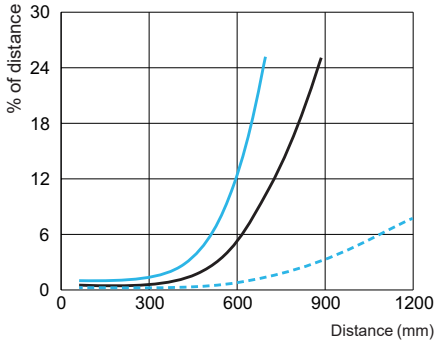
Detection curves

Background suppression mode

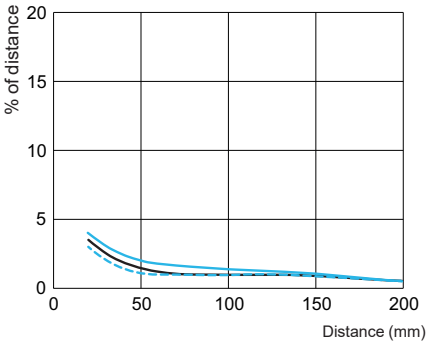
Scanning properties: XUT8ABAY●●



Scanning properties: XUK8ABPXM12

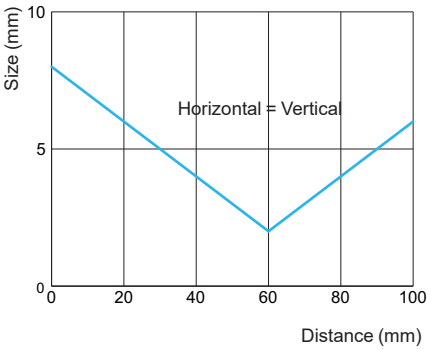


Scanning properties: XUM8ABAY●●

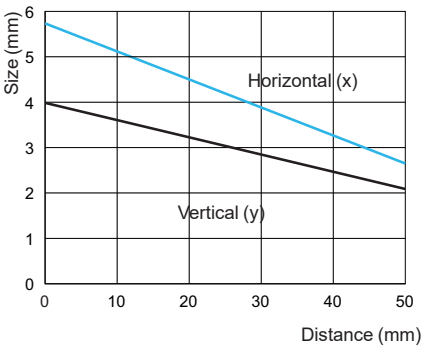


Min. distance white object (90%)/white background (90%) (mm)
Min. distance grey object (18%)/white background (90%) (mm)
Min. distance black object (6%)/white background (90%) (mm)

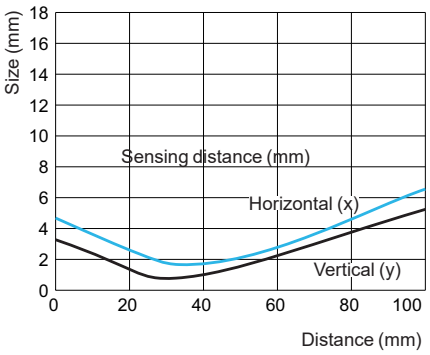
Light spot size: XUM7ABPX●●



Light spot size: XUT7ABPX●●



Light spot size: XUT8ABAY●●



Ultrasonic sensors
XUVU for packaging series
Ultrasound fork for label detection

XUVU04M3BL02M12

XUVU04M3●L2

XUVU04M3BL2

XUVU04M3●L02M12

XUVU04M3BM8

XUVU04M3●M8

IO-Link

Ultrasonic fork

Operating sensing distance (Sn)	Function	Connection	Reference	Weight (kg)
2.6 mm	Push/pull	M8 connector (4-pin)	**XUVU04M3BM8**	0.095
		Pre-cabled (L = 2 m)	**XUVU04M3BL2**	0.12
		Pigtail M12 (L= 0.2 m)	**XUVU04M3BL02M12**	0.108
	PNP	M8 connector (4-pin)	**XUVU04M3PM8**	0.095
		Pre-cabled (L = 2 m)	**XUVU04M3PL2**	0.12
		Pigtail M12 (L= 0.2 m)	**XUVU04M3PL02M12**	0.108
	NPN	M8 connector (4-pin)	**XUVU04M3NM8**	0.095
		Pre-cabled (L = 2 m)	**XUVU04M3NL2**	0.12
		Pigtail M12 (L= 0.2 m)	**XUVU04M3NL02M12**	0.108

Accessories

IO-Link Master

See page 88

Cabling accessories

See page 98

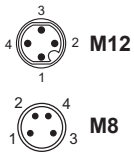
Ultrasonic sensors
XUVU for packaging series
Ultrasound fork for label detection

Characteristics

System			Thru-beam		
Type of transmission			Ultrasonic		
Nominal sensing distance (Sn)			2.6 mm		
Depth			43 mm		
References			**XUVU04M3B●**	**XUVU04M3P●**	**XUVU04M3N●**
Remote adjustment			Push-Pull	PNP	NPN
Product certifications			IEC 60947-5-2, CE, UKCA, cULus		
Materials			Valox, Zamac		
Connection			XUVU04M3●M8: 4-pin M8 connector XUVU04M3●L2: 4-wire cable XUVU04M3●L02M12: 4-pin M12 connector		
Detection performance	Minimum length of label	mm	2		
	Minimum distance between 2 labels	mm	1		
	Maximum flow rate	m/s	4 (240 m/min)		
	Detection accuracy	mm	For v = 2 m/s: +/-0.25		
Supply	Rated supply voltage	**V**	**12-24 with protection against reverse polarity**		
	Voltage limits	**V**	**10-30 (including ripple)**		
	Current consumption, no-load	mA	<50		
Protection class			III		
Output	Maximum rated current	mA	100		
	Maximum switching frequency	kHz	**1.1**		
	Indicator light				
	LEDs Output state		Yellow		
	Quality of Teach/ Quality of Run		5-segment LED bar graph (green)		
	Power		Green		
Delay		µs	440		
Environment	Operating temperature	°C	+5...+55		
	Storage temperature	°C	-20...+70		
	Degree of protection		IP65		

Wiring schemes

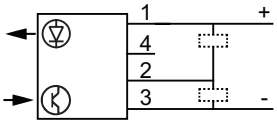
M12/M8 connector - 4 pins - pre-cabled



Pin	Signal	Colour
1	+	Brown (BN)
2	MF	White (WH)
3	-	BU (Blue)
4	Q/C	Black (BK)

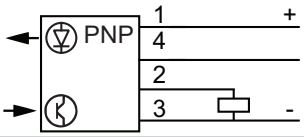
Push/pull

XUVU04M3BM8, XUVU04M3BL2, XUVU04M3BL02M12



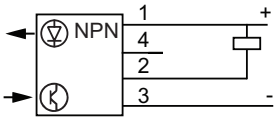
PNP

XUVU04M3PM8, XUVU04M3PL2, XUVU04M3PL02M12



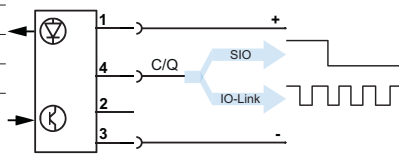
NPN

XUVU04M3NM8, XUVU04M3NL2, XUVU04M3NL02M12



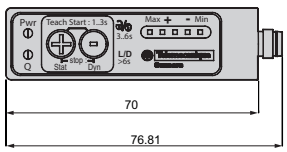
Auto-detect by IO-Link

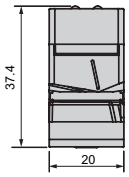
Pin	Signal
1	+
2	MF
3	-
4	Q/C

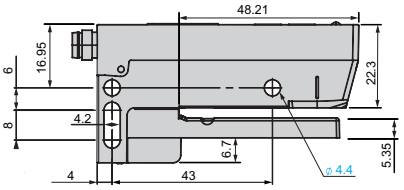


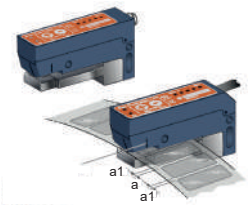
Dimensions

XUVU04M3●●●









a1 ⩾1 mm (*0.039 in.*)
a ⩾ 2 mm (*0.078 in.*)

Photo-electric sensors
IO-Link Master

XZIOM8AM12PY

Presentation

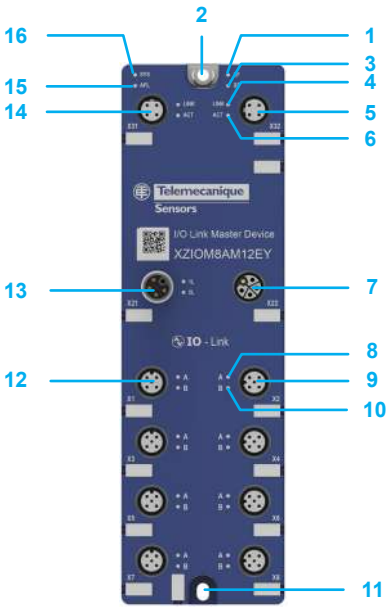
IO-Link is a point-to-point network communication protocol dedicated to sensors and actuators offering advantages such as increased productivity, simplified integration and reduced inventory.

It enables:
- Simplified connection of sensors and actuators to the upper-level control and monitoring system of an automated line
- Advanced diagnostic functions, through continuous monitoring of critical parameters such as signal quality and sensor status
- Reduced commissiong time due to fewer cables and hot swappable devices
- Integration with third-party devices, thanks to multiple fieldbus protocol support (PROFINET, Ethernet/IP)

Telemecanique Sensors offers a wide choice of IO-Link conformant devices, with various detection systems such as thru-beam, diffuse, polarised reflex, etc.

IO-Link system

An IO-Link system consists of the following components:
- IO-Link Master
- IO-Link devices (sensors, RFID readers, valves, motor starters, I/O modules)
- Cabling
- Engineering tool for integration and configuration of IO-Link devices (Simply Config IO-Link Master software *(1)*)



1 For Ethernet, module status LED (MS)
For PROFINET, system error LED (SF)
2 Fixing hole and functional earth (FE)
3 For Ethernet, network status LED (NS)
For PROFINET, bus failure LED (BF)
4 Link LED X32
5 Ethernet interface, M12, D-coded, port 2
6 Activity LED X32
7 Power Out
8 IO-Link status LED, port 2, channel A
9 IO-Link, port 2, M12, A-coded
10 IO-Link status LED, port 2, channel B
11 Fixing hole
12 IO-Link, port 1, M12, A-coded
13 Power In
14 Ethernet interface, M12, D-coded, port 1
15 Application status LED
16 System status LED

Description

IO-Link Masters

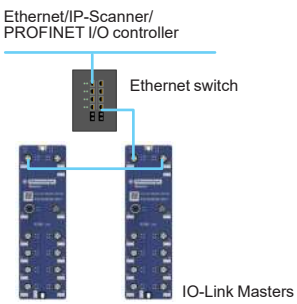
IO-Link Masters serve to capture digital inputs and outputs being conveyed between the PLC and the IO-Link devices.

Two types of IO-Link Master are available:
- **XZIOM8AM12EY** Ethernet Master, for devices connected to an Ethernet/IP network
- **XZIOM8AM12PY** PROFINET Master, for devices connected to a PROFINET network

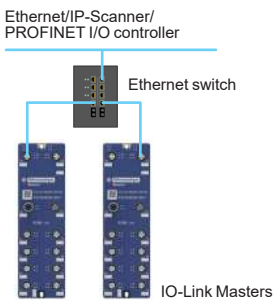
An IO-Link Master enables:
- On the sensor side: IODD file management, sensor configuration, port diagnosis
- On the Master side: Master configuration, firmware update, factory reset, Master diagnosis, MQTT setting

Example of installation in line or star topology

Line topology



Star topology



(1) Simply Config IO-Link software can be downloaded from our website.

Photo-electric sensors
IO-Link Master

IO-Link Master devices

Description	Protocol	Power consumption	Number of ports	Connector	Reference	Weight (kg)
IO-Link Master	Ethernet/IP	24V ⎓	8 class A	M12	**XZIOM8AM12EY**	0.405
	PROFINET	24V ⎓	8 class A	M12	**XZIOM8AM12PY**	0.405

IO-Link cables

XZCPK75●L

XZCR26K26●L

Power cables

Description	Type of connector	End fittings	Length m		Reference	Weight (kg)
Single-ended, pre-wired, L-coded power cable (PUR)	Female	5-pin (4+FE)	2	1.5 mm²	**XZCPK75DL2**	0.255
			5	1.5 mm²	**XZCPK75DL5**	0.585
			2	1.5 mm²	**XZCPK75CL2**	0.255
			5	1.5 mm²	**XZCPK75CL5**	0.585
Jumper power cable (PUR)	Male/ Female	M12 5-pin/M12 5-pin	2	1.5 mm²	**XZCR25K25DL2**	0.285
			5	1.5 mm²	**XZCR25K25DL5**	0.615
			2	1.5 mm²	**XZCR26K26CL2**	0.285
			5	1.5 mm²	**XZCR26K26CL5**	0.615

XGSZ12E45●●

XGSZ22E45●●

Communication cables

Description	Type of connector	Length (m)	Reference
Ethernet copper cable	M12 D-coded to RJ45, straight/straight	3	**XGSZ12E4503**
		10	**XGSZ12E4510**
Ethernet copper cable, shielded	Jumper M12/RJ45, straight/elbowed	3	**XGSZ22E4503**
		10	**XGSZ22E4510**

IO-Link connector

TCSCTN011M11F

Description	Type of connector	End fittings	Reference	Weight (kg)
A-coded M12 T-connector	1 Male/2 Female	M12 5-pin/M12 5-pin	**TCSCTN011M11F**	0.035kg

Dimensions

XZIOM8AM12●Y

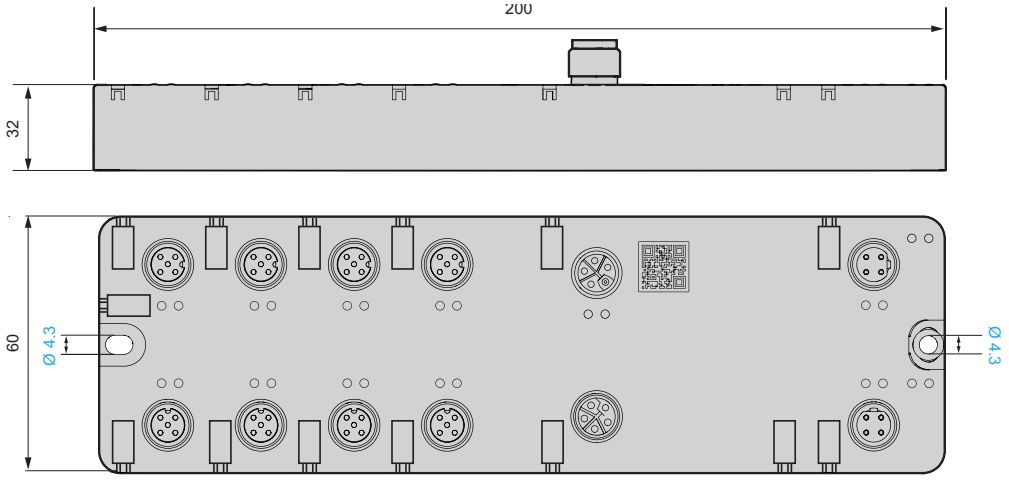


Photo-electric sensors
IO-Link Master

Product specifications

Reference			XZIOM8AM12EY	XZIOM8AM12PY
Function			Ethernet/IP IO-Link Master	ProfiNet IO-Link Master
Power supply 1L, 2L	Supply voltage 1L, 2L	**V**	⎓ 24, –25%/+30% (18…31.2)	
	Low voltage warning 1L	**V**	18.0 (± 5% at 25 °C) notification on,18.3 (± 5% at 25 °C) notification off	
	Overvoltage warning 1L	**V**	30.0 (± 5% at 25 °C) notification on, 29.7 (± 5% at 25 °C) notification off	
	Current consumption	**A**	1L: 0.1...16 (at 24 V DC) 2L: 0.01...16 (at 24 V DC)	
	Current consumption of supply port	**A**	Max. 16	
	Conductor cross-section	**mm²**	0.5…2.5	
	Connector		PWR IN: M12 L-coded, 5-pin, male PWR OUT: M12 L-coded, 5-pin, female	
	Torque	**Nm**	1.0	
	Reverse polarity protection		Yes	
	Power supply	**V**	24 ⎓ PELV (Protective Extra Low Voltage) or SELV (Safety Extra Low Voltage)	
Total load	Maximum total load current	**A**	15.7	
Device	Dimensions (L x W x H)	**mm**	200 x 60 x 32	
	Weight	**g**	404	
	Housing		Plastic	
	Potting		Solvent-free electro-casting resin system based on 2 K polyurethane	
	Degree of protection		IP67 (EN 60529)	
	Protection class		III (EN 61140)	
	Mounting		Screw mounting on carrier, 2x M4	
Environmental conditions	Location of operation		Indoor	
	Ambient temperature (operation)	**°C**	-25...+70	
	Ambient temperature (storage)	**°C**	-40...+80	
	Maximum temperature change	**K/min**	3	
	Relative humidity		5%...95%	
	Degree of pollution		3 (EN 60664-1)	
	Altitude	**m**	0…2000	
	Overvoltage category		II (EN 60664-1)	
	Degree of protection		IP67 (EN 60529)	
	Protection class		III (EN 61140)	
Electrical characteristics	Insulation resistance	**V**	60 ⎓	
	Test voltage	**V**	550 ∿ RMS	
	Minimal creepage distance	**mm**	0.7	
Ethernet connector	Communication interface		Ethernet	
	Autonegotiation, autocrossover		Yes	
	Connector		2x M12, D-coded, female, 4-pin	
	Torque	**Nm**	1.0	
IO-Link connector	Connector		8x M12, A-coded, male, 5-pin	
	Torque	**Nm**	1.0	
	Operating modes		Pin 2: DI or DO Pin 4: IO-Link Master, DI or DO	
LEDs	SYS		System status, green/yellow	
	APL		Application status, red/green	
	MS		Module status (EtherNet/IP), red/green	-
	SF		-	System error (PROFINET), red
	NS		Network status (EtherNet/IP), red/green	-
	BF		-	Bus error (PROFINET), red
	LINK		Link status, green	
	ACT		Activity status, yellow	
	1L, 2L		Supply voltage status, red/green	
	A, B		Port status: red/green/yellow (yellow by simultaneous red and green)	
Compliance	RoHS		Yes	
Compliance with EMC guidelines	CE sign		Yes	
	UKCA sign		Yes	
	Emission		EN 61000-6-4/BS EN 61000-6-4	
	Immunity		EN 61000-6-2/BS EN 61000-6-2	

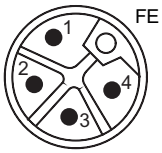
Photo-electric sensors
IO-Link Master

Wiring schemes

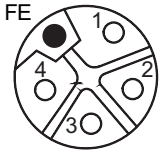
Power supply

M12 connector - 5 pins (4 + FE) - IO-Link

Supply voltage input



Supply voltage input

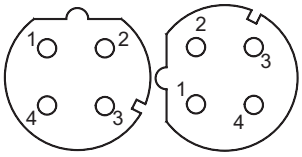


Pin	Signal	Wire colour	Description
1	1L+	Brown	24 V ⎓
2	2L-	White	Reference potential for 2L
3	1L-	Blue	Reference potential for 1L
4	2L+	Black	24 V ⎓ auxiliary/ control voltage U2L
FE	FE	Pink	Functional earth

Communication

M12 connector - D-coded - socket - 4 pins

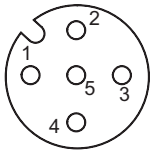
Ethernet



Pin	Signal	Wire colour	Description
1	TX+	Brown	Transmit data positive
2	RX+	White	Receive data positive
3	TX-	Blue	Transmit data negative
4	RX-	Black	Receive data negative

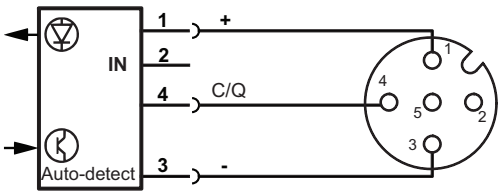
IO-Link ports (Class A)

M12 connector - 4 pins



Pin	Signal	Wire colour	Description
1	+	Brown	+24 V DC supply voltage U 1L for sensor/actuator
2	IN	White	Digital input/output channel B
3	-	Blue	Functional earth for 1L+
4	Q	Black	IO-Link data or Digital input/output channel A
5	-	-	Not connected

Auto-detect PNP/NPN or by IO-Link IO-Link



Derating curves

XZIOM8AM12EY and XZIOM8AM12PY

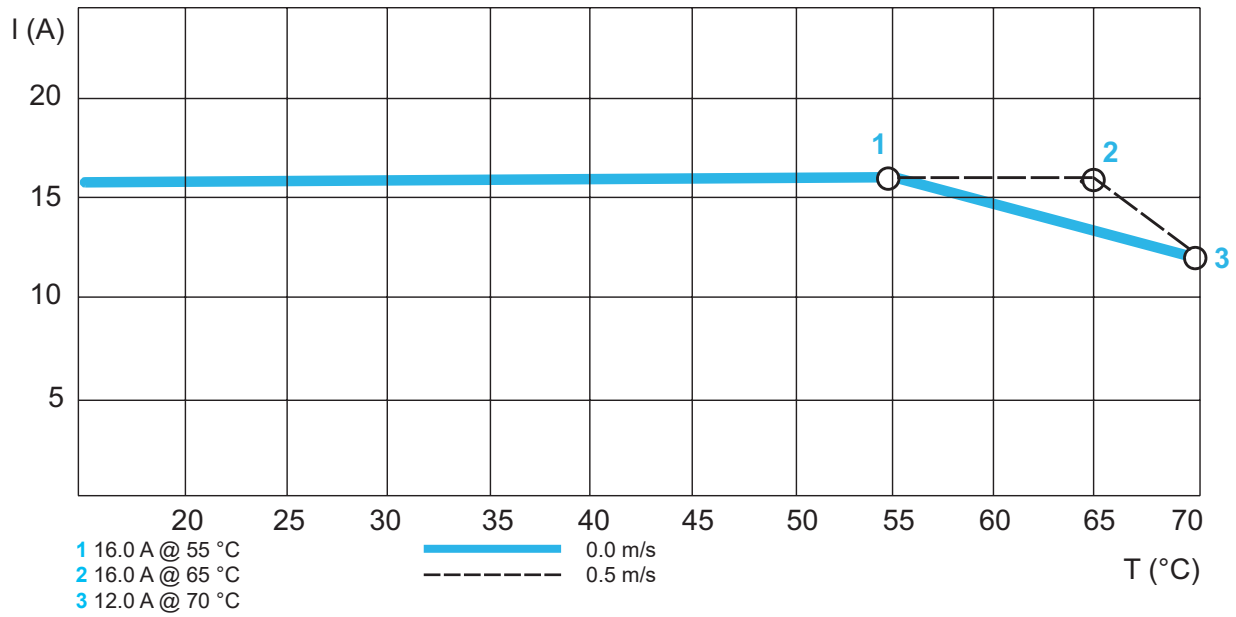


Photo-electric sensors
XU general purpose and Application Accessories
Fixing brackets


XUZASM02

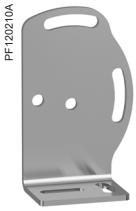

XUZASM03


XUZASM04


XUZASN001


XUZASN002


XUZA50


XUZA51S


XUZASK001


XUZASW001


XUZASW002


XUZA118


XUZA218


XUZARS


XUZASS


XUZARM


XUZARK


XUZASB001


XUZASB002


XUZASB003

Fixing accessories

Fixing brackets

Description	For use with sensors	Reference	Weight kg
Wrap-around horizontal mounting bracket for pre-cabled sensors Supplied with 2 x M3 screws	XUM●A●XBL2	**XUZASM02**	0.030
Wrap-around vertical mounting bracket for pre-cabled sensors Supplied with 2 x M3 screws	XUM●A●XBL2	**XUZASM03**	0.062
Rear mounting bracket Supplied with 2 x M3 screws	XUM●A●XBL2, XUM●A●XBM8	**XUZASM04**	0.030
Stainless steel grade 316 fixing bracket Supplied with 2 x M3 screws	XUN	**XUZASN001**	0.124
Wrap-around vertical mounting bracket for pre-cabled sensors Supplied with 2 x M3 screws	XUN	**XUZASN002**	0.133
Metal fixing bracket Supplied with 2 x M3 screws	XUM, XUT, XUK	**XUZA50**	0.025
Stainless steel grade 316 fixing brackets Supplied with 2 x M3 screws	XUK8ABPXM12	**XUZA51S**	0.050
Stainless steel grade 304 fixing bracket for compact sensor 50 x 50 mm Supplied with 2 x M3 screws	XUK8ABPXM12	**XUZASK001**	0.240
Metal dovetail fixing clamp, 1 axis Supplied with 1 x M3 screw	XUK8ABPXM12	**XUZASW001**	0.014
Simple metal fixing bracket Supplied with 2 x M3 screws	XUK8ABPXM12	**XUZASW002**	0.017
90° stainless steel fixing brackets	XUB	**XUZA118**	0.045
Plastic fixing bracket with adjustable ball joint	XUB	**XUZA218**	0.035
Dovetail clamp Supplied with 2 x M3 screws	XUT7ABPX●●, XUT8A●AY●●, XUT9ABPX●●	**XUZARS**	0.005
Mounting bracket Supplied with 2 x M3 screws	XUT7ABPX●●, XUT8A●AY●●, XUT9ABPX●●	**XUZASS**	0.008
Dovetail clamp Supplied with 2 x M3 screws	XUM●A●AYM8, XUM●A●AYP015, XUM●A●AYL2, XUM7ABPX●●	**XUZARM**	0.017
Dovetail clamp Supplied with 1 x M3 screw	XUKCB●AYM12, XUK8ABPXM12	**XUZARK**	0.026

Mounting rings

Description	For use with sensors	Reference	Weight kg
Stainless steel flush mounting nut	XUB	**XUZASB001**	0.018
Plastic mounting ring 27 mm x 16.8 mm	XUB	**XUZASB002**	0.003
Metal mounting ring 30 mm x 18 mm	XUB	**XUZASB003**	0.011

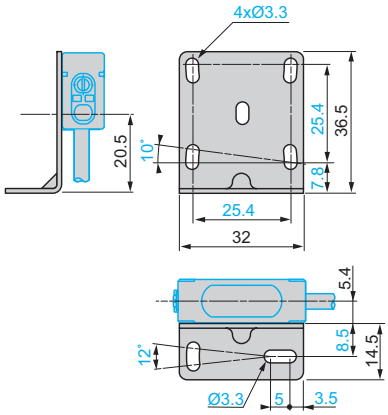
Cabling accessories

See pages 98 to 103.

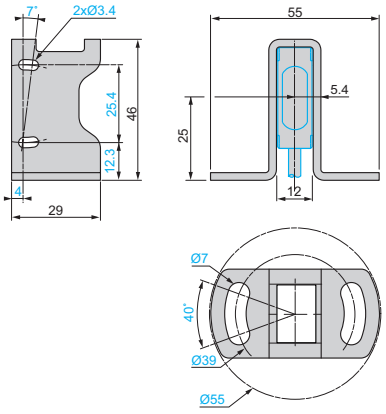
Fixing accessories

Fixing brackets

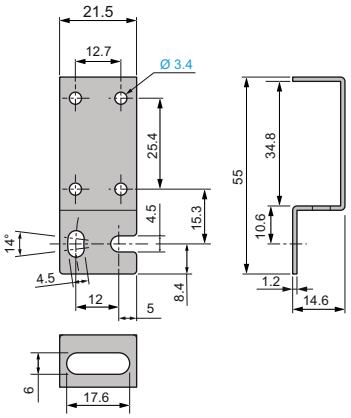
XUZASM04



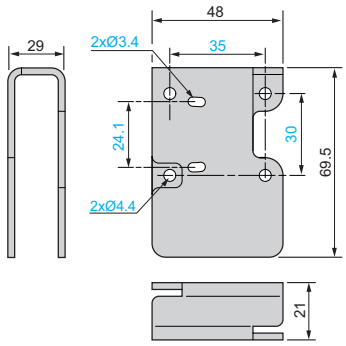
XUZASM03



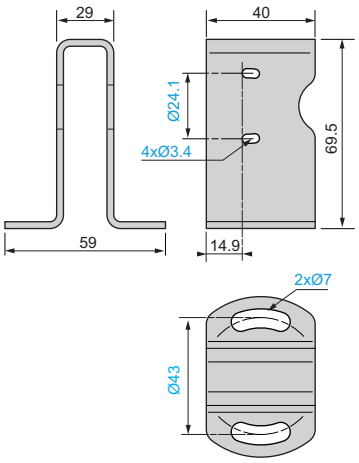
XUZASM02



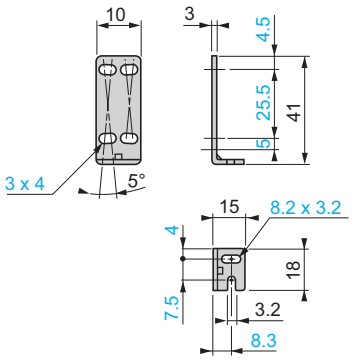
XUZASN001



XUZASN002



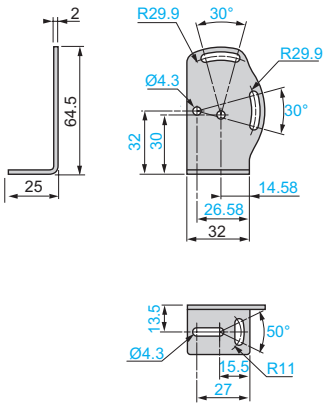
XUZA50



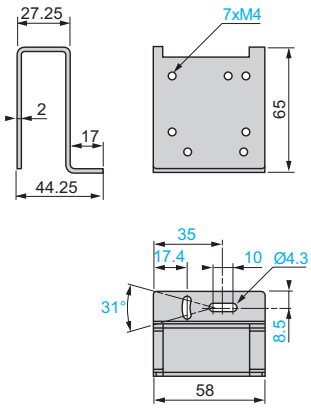
Fixing accessories

Fixing brackets

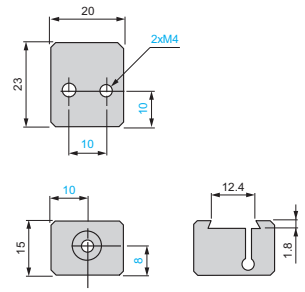
XUZA51S



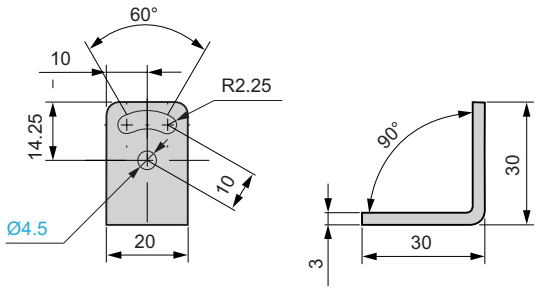
XUZASK001



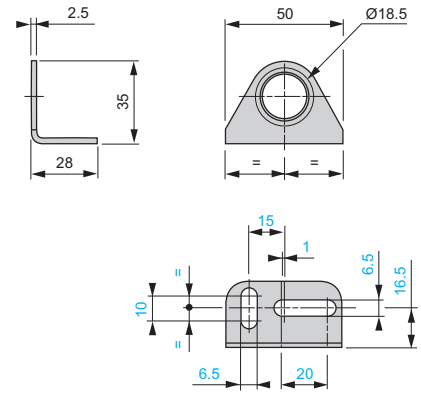
XUZASW001



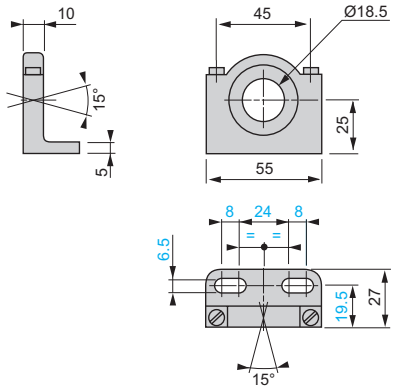
XUZASW002



XUZA118



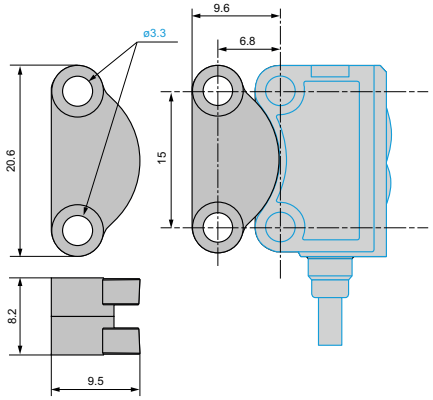
XUZA218



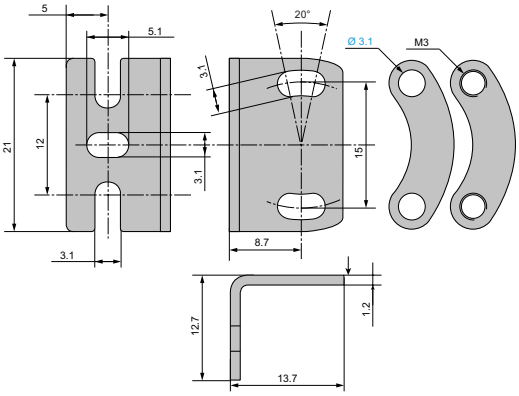
Fixing accessories

Fixing brackets

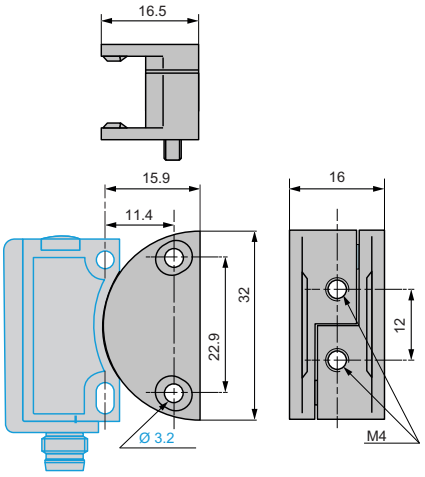
XUZARS



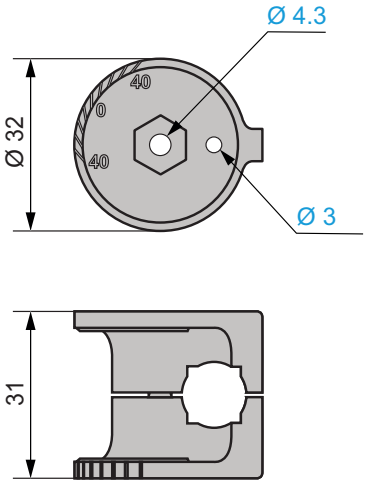
XUZASS



XUZARM

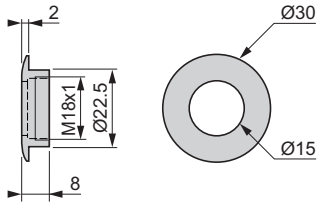


XUZARK



Mounting rings

XUZASB001



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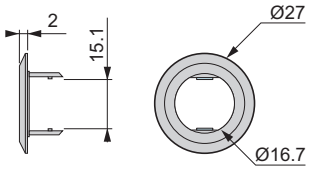

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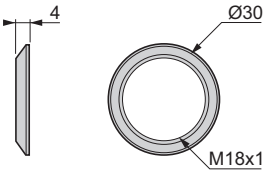


Photo-electric sensors
XU general purpose and XU Application Accessories
Reflectors

XUZC50_30

XUZC50●●

XU_511_PFJR18019

XUZC60S11

XU_511_PFJR18005

XUZC39

XUZCR0401CRHP

XUZCR0401

Reflectors

Description	Size	Fixing mode	Chemical resistance	Reference	Weight kg
Universal (generic) devices					
Rigid square reflectors	100 mm x 100 mm	2 brackets (not provided)	No	**XUZC100**	0.035
	51.5 mm x 69 mm	6 holes	No	**XUZC50**	0.020
Rigid rectangle reflectors	45 mm x 29 mm	2 holes	No	**XUZC24**	0.010
	40 mm x 60 mm	2 holes	No	**XUZC60S11**	0.022
Rigid circular reflectors	Ø 39 mm	Adhesive	No	**XUZC39**	0.008
For laser products					
Rigid square reflectors	50 mm x 50 mm	6 holes	No	**XUZC50HP**	0.020
Rigid rectangle reflectors	60 mm x 19 mm	2 holes	No	**XUZCR0401HP**	0.010
		2 holes	Ecolab	**XUZCR0401CRHP**	0.010
For food & beverage					
Rigid square reflectors	50 mm x 50 mm	6 holes	Ecolab	**XUZC50CR**	0.200

Cabling accessories

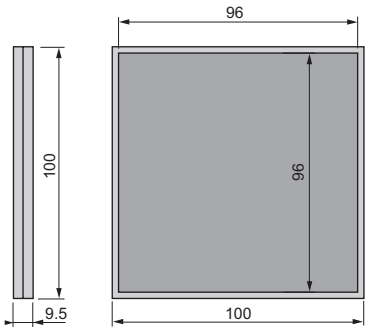
See pages 98 to 103.

Photo-electric sensors
XU Range
Accessories
Reflectors

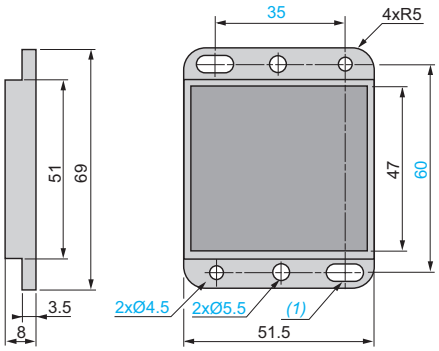
Reflectors

Dimensions

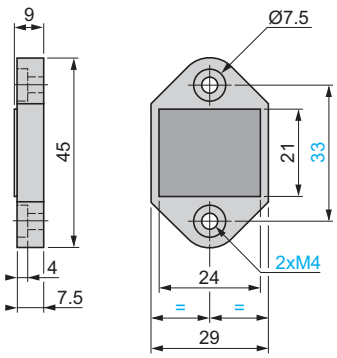
XUZC100



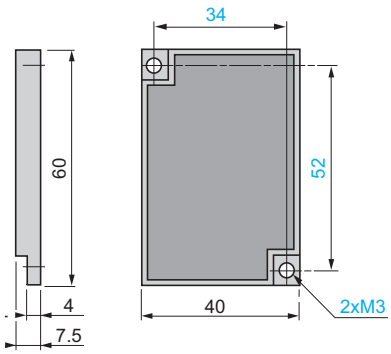
XUZC50, XUZC50HP, XUZC50CR



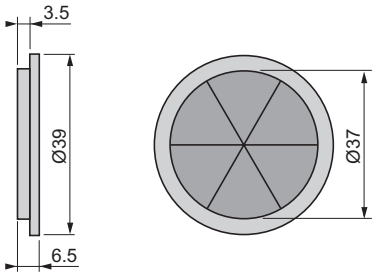
XUZC24



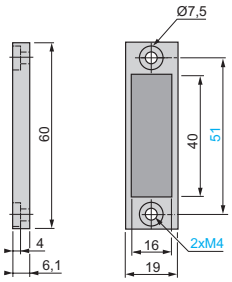
XUZC60S11



XUZC39



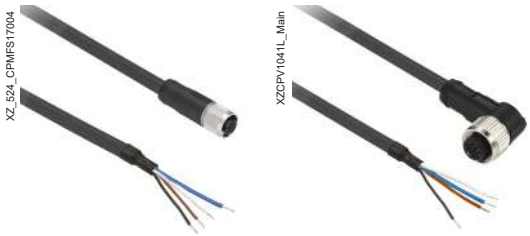
XUZCR0401HP, XUZCR0401CRHP



(1) 2 elongated holes Ø 4.5 x 8 for M4 screws

***Note**: All reflectors are IP 67 and IP 69K.*

Photo-electric sensors
Cables for sensors
Pre-wired connectors



Pre-wired M8 connector, 4 conductors

PVC cables with pre-wired connector

Description	Connector type	End fittings	Length (m)	For use with sensor	Reference	Weight kg
M8 connector						
Pre-wired M8 connectors	Female, straight	4-pin	2	XUM●●●●M8, XUT●●●●M8	**XZCPV0941L2**	0.090
			5		**XZCPV0941L5**	0.200
			10		**XZCPV0941L10**	0.380
	Female, elbowed		2		**XZCPV1041L2**	0.090
			5		**XZCPV1041L5**	0.200
			10		**XZCPV1041L10**	0.380
M12 connector						
Pre-wired M12 connectors	Female, straight	4-pin	2	XUM●●●●M12, XUM●●●●P015, XUN●●●●M12, XUB●●●●M12, XUT●●●●M12, XUVU04M3●●	**XZCPV1141L2**	0.090
			5		**XZCPV1141L5**	0.200
			10		**XZCPV1141L10**	0.380
	Female, elbowed		2		**XZCPV1241L2**	0.090
			5		**XZCPV1241L5**	0.200
			10		**XZCPV1241L10**	0.380

Pre-wired M12 connector, straight, 4 conductors (left) and 5 conductors (right)

PUR cables with pre-wired connector

Description	Connector type	End fittings	Length (m)	For use with sensor	Reference	Weight kg
M8 connector						
Pre-wired M8 connectors	Female, straight	4-pin	2	XUM●●●●M8, XUT●●●●M8	**XZCP0941L2**	0.080
			5		**XZCP0941L5**	0.180
			10		**XZCP0941L10**	0.360
	Female, elbowed		2		**XZCP1041L2**	0.080
			5		**XZCP1041L5**	0.180
			10		**XZCP1041L10**	0.360
M12 connector						
Pre-wired M12 connectors	Female, straight	4-pin	2	XUM●●●●M12, XUM●●●●P0●, XUN●●●●M12, XUB●●●●M12, XUK●●●●M12, XUVU04M3●●	**XZCP1141L2**	0.090
			5		**XZCP1141L5**	0.190
			10		**XZCP1141L10**	0.370
	Female, elbowed		2		**XZCP1241L2**	0.090
			5		**XZCP1241L5**	0.190
			10		**XZCP1241L10**	0.370
M12 connector, shielded						
Shielded pre-wired M12 connectors	Female, straight	4-pin	2	XUM●●●●M12, XUM●●●●P0●, XUN●●●●M12, XUB●●●●M12, XUK●●●●M12	**XZCPB1141L2**	0.200
			5		**XZCPB1141L5**	0.350
		5-pin	2	XUKC●●●●	**XZCPB1151L2**	0.114
			5		**XZCPB1151L5**	0.259
	Female, elbowed		2		**XZCPB1251L2**	0.113
			5		**XZCPB1251L5**	0.258

Pre-wired M12 connector, elbowed, 4 conductors (left) and 5 conductors (right)

Photo-electric sensors
Cables for sensors
Jumper cables

Jumper cables, M12-M12 connectors, 4-pin/4-pin

PVC jumper cables

Description	Connector type		End fittings	Length (m)	For use with sensor	Reference	Weight kg
	Male	Female					
M12-M12 connectors							
PVC jumper cable XZ	M12, straight	M12, straight	4-pin/ 4-pin	1	XUM●●●●M12, XUM●●●●P015,	**XZCRV1511041C1**	0.070
				2	XUN●●●●M12, XUB●●●●M12,	**XZCRV1511041C2**	0.110
				5	XUT●●●●M12, XUVU04M3●●	**XZCRV1511041C5**	0.230
		M12, elbowed		1		**XZCRV1512041C1**	0.070
				2		**XZCRV1512041C2**	0.110
				5		**XZCRV1512041C5**	0.230

Shielded jumper cables, M12-M12 connectors, 5-pin/5-pin

PUR jumper cables

Description	Connector type		End fittings	Length (m)	For use with sensor	Reference	Weight kg
	Male	Female					
Shielded, M12-M12 connectors							
PUR jumper cable XZ	M12, straight	M12, straight	5-pin/ 5-pin	2	XUCK●●●●	**XZCRB151151C2**	0.123
				5		**XZCRB151151C5**	0.267

Jumper cables, M12-M12 connectors, 4-pin/4-pin

M12-M12 connectors							
PUR jumper cable XZ	M12, straight	M12, straight	4-pin/ 4-pin	1	XUVU04M3●●	**XZCR1511041C1**	0.065
				2		**XZCR1511041C2**	0.095
		M12, elbowed		1		**XZCR1512041C1**	0.065
				2		**XZCR1512041C2**	0.095

Jumper cables, M8-M8 connectors, 3-pin/3-pin

Jumper cables, M8-M8 connectors, 3-pin/4-pin or 4-pin/4-pin

M8-M8 connectors							
PUR jumper cable XZ	M8, straight	M8, straight	3-pin/ 3-pin	1	XUM●●●●M8, XUT●●●●M8	**XZCR2705037R1**	0.065
				2		**XZCR2705037R2**	0.090
		M8, elbowed		1		**XZCR2706037R1**	0.065
		M8, straight	3-pin/ 4-pin	2		**XZCR2709037S2**	0.090
		M8, straight	4-pin/ 4-pin	1		**XZCR2609P2Y1**	0.065
				2		**XZCR2609P2Y2**	0.095

Jumper cables, M8-M12 connectors, 3-pin/5-pin

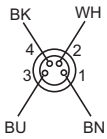
M8-M12 connectors							
PUR jumper cable XZ	M8, straight	M12, straight	3-pin/ 5-pin	1	XUM●●●●M8, XUT●●●●M8	**XZCR2711037T1**	0.065
				2		**XZCR2711037T2**	0.093
		M12, elbowed		1		**XZCR2712037T1**	0.065
				2		**XZCR2712037T2**	0.093

Photo-electric sensors
Cables for sensors, PVC
Pre-wired connectors M8 and M12, 4-pin

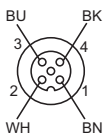
Connector type		Female, M8, straight	Female, M8, elbowed	Female, M12, straight	Female, M12, elbowed
Number of conductors		4			
References					
PVC cable	L = 2 m	**XZCPV0941L2**	**XZCPV1041L2**	**XZCPV1141L2**	**XZCPV1241L2**
	L = 5 m	**XZCPV0941L5**	**XZCPV1041L5**	**XZCPV1141L5**	**XZCPV1241L5**
	L = 10 m	**XZCPV0941L10**	**XZCPV1041L10**	**XZCPV1141L10**	**XZCPV1241L10**
Weight (kg)		0.090 (L = 2 m) 0.200 (L = 5 m) 0.380 (L = 10 m)			
Characteristics					
Certifications		cULus			
Connection type		Screw threaded (metal clamping ring)			
Cable material	Sheath	PVC			
	Conductor insulation	PP			
Degree of protection		IP65, IP67			
Ambient air temperature	Static cable	-25…+80 °C			
	Flexing cable	-5…+80 °C			
Conductor c.s.a		4 x 0.25 mm^2			
Cable diameter		4.6 mm			
Nominal voltage		60 V ∿, 75 V ⎓		250 V ∿, 300 V ⎓	
Nominal current		3 A			
Insulation resistance		> 10^9 Ω			
Contact resistance		≤ 5 m Ω			

Connections

XZCPV0941L●, XZCPV1041L●



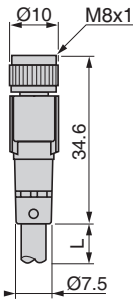
XZCPV1141L●, XZCPV1241L●



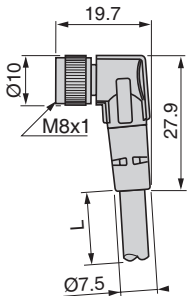
BN: Brown
WH: White
BU: Blue
BK: Black

Dimensions

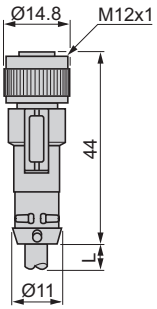
XZCPV0941L●



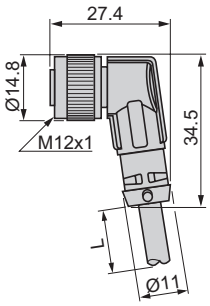
XZCPV1041L●



XZCPV1141L●



XZCPV1241L●



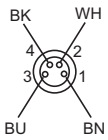
L = 2, 5 or 10 m

Photo-electric sensors
Cables for sensors, PVC
Pre-wired connectors M8 and M12, 4-pin

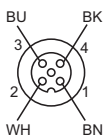
Connector type		Female, M8, straight	Female, M8, elbowed	Female, M12, straight	Female, M12, elbowed
Number of conductors		4			
References					
PUR cable	L = 2 m	**XZCP0941L2**	**XZCP1041L2**	**XZCP1141L2**	**XZCP1241L2**
	L = 5 m	**XZCP0941L5**	**XZCP1041L5**	**XZCP1141L5**	**XZCP1241L5**
	L = 10 m	**XZCP0941L10**	**XZCP1041L10**	**XZCP1141L10**	**XZCP1241L10**
Weight (kg)		0.080 (L = 2 m) 0.180 (L = 5 m) 0.360 (L = 10 m)		0.090 (L = 2 m) 0.190 (L = 5 m) 0.370 (L = 10 m)	
Characteristics					
Certifications		cULus			
Connection type		Screw threaded (metal clamping ring)			
Cable material	Sheath	PUR			
	Conductor insulation	PP			
Degree of protection		IP65, IP67, IP69K			
Ambient air temperature	Static cable	-40…+80 °C			
	Flexing cable	-5…+80 °C			
Conductor c.s.a.		4 x 0.34 mm^2			
Cable diameter		5.2 mm			
Nominal voltage		60 V ∿, 75 V ⎓		250 V ∿, 300 V ⎓	
Nominal current		4 A			
Insulation resistance		> 10^9 Ω			
Contact resistance		≤ 5 m Ω			

Connections

XZCP0941L●, XZCP1041L●



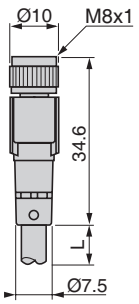
XZCP1141L●, XZCP1241L●



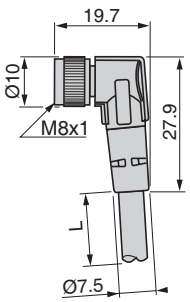
BN: Brown
WH: White
BU: Blue
BK: Black

Dimensions

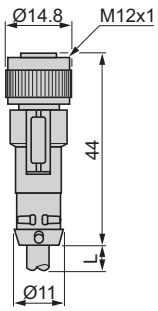
XZCP0941L●



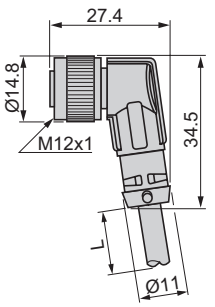
XZCP1041L●



XZCP1141L●



XZCP1241L●



L = 2, 5 or 10 m

Photo-electric sensors
Cables for sensors, PUR shielded
Pre-wired connectors M12, 4-pin

Connector type		Female, M12, straight
Number of conductors		4

References

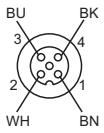
PUR cable	L = 2 m	**XZCPB1141L2**
	L = 5 m	**XZCPB1141L5**
Weight (kg)		0.200 (L = 2 m) 0.350 (L = 5 m)

Characteristics

Certifications		cULus
Connection type		Screw threaded (metal clamping ring)
Cable material	Sheath	PUR, shielded
	Conductor insulation	PP
Degree of protection		IP65, IP67
Ambient air temperature	Static cable	-25…+80 °C
	Flexing cable	-5… +80 °C
Conductor c.s.a.		4 x 0.34 mm²
Cable diameter		5.9 mm
Nominal voltage		250 V ∿, 300 V ⎓
Nominal current		4 A
Insulation resistance		1 GΩ
Contact resistance		5000 µOhm

Connections

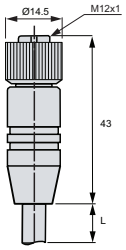
XZCPB1141L●



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

Dimensions

XZCPB1141L●



L = 2 or 5 m

Photo-electric sensors
Cables for sensors, PUR shielded
Pre-wired connectors M12, 5-pin

Connector type		Female, M12, straight	Female, M12, elbowed
Number of conductors		5	

References

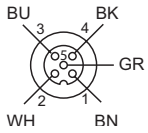
PUR cable	L = 2 m	**XZCPB1151L2**	**XZCPB1251L2**
	L = 5 m	**XZCPB1151L5**	**XZCPB1251L5**
Weight (kg)		0.114 (L = 2 m) 0.259 (L = 5 m)	0.113 (L = 2 m) 0.258 (L = 5 m)

Characteristics

Certifications		cULus
Connection type		Screw threaded (nickel clamping ring)
Cable material	Sheath	PUR, shielded
	Conductor insulation	PP
Degree of protection		IP65, IP67, IP69K
Ambient air temperature	Static cable	-40…+90 °C
	Flexing cable	-25…+80 °C
Conductor c.s.a.		5 x 0.34 mm^2
Cable diameter		5.85 mm
Nominal voltage		250 V ∿, 60 V ⎓
Nominal current		4 A
Insulation resistance		> 10^9 Ω
Contact resistance		≤ 10 m Ω

Connections

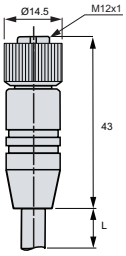
XZCPB1●51L●



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

Dimensions

XZCPB1151L●



L = 2 or 5 m

XZCPB1251L●

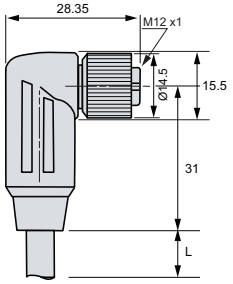


Photo-electric sensors
Cables for sensors, PVC
Jumper cables M12-M12, 4-pin/4-pin

Male connector type		M12, 4-pin, straight	
Female connector type		M12, 4-pin, straight	M12, 4-pin, elbowed
Number of conductors		4	

References

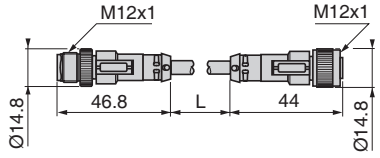
PVC cable	L = 1 m	**XZCRV1511041C1**	**XZCRV1512041C1**
	L = 2 m	**XZCRV1511041C2**	**XZCRV1512041C2**
	L = 5 m	**XZCRV1511041C5**	**XZCRV1512041C5**
Weight (kg)		0.070 (L = 1 m) 0.110 (L = 2 m) 0.230 (L = 5 m)	

Characteristics

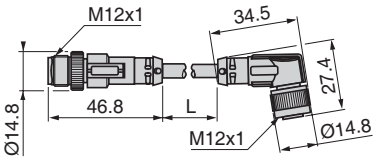
Certifications		cULus
Connection type	Male and female	Screw threaded
Cable material	Sheath	PVC
	Conductor insulation	PP
Degree of protection		IP65, IP67
Ambient air temperature	Static cable	-25…+80 °C
	Flexing cable	-5…+80 °C
Conductor c.s.a		4 x 0.25 mm^2
Cable diameter		4.6 mm
Nominal voltage		250 V ∿, 300 V ⎓
Nominal current		3 A
Insulation resistance		> 10^9 Ω
Contact resistance		≤ 5 m Ω

Dimensions

XZCRV1511041C1, XZCRV1511041C2, XZCRV1511041C5



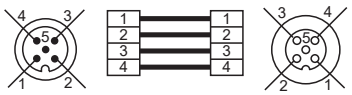
XZCRV1512041C1, XZCRV1512041C2, XZCRV1512041C5



L = 2, 5 or 10 m

Connections

XZCRV1511041C●, XZCRV1512041C●



1: Brown
2: White
3: Blue
4: Black

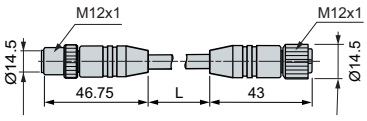
Photo-electric sensors

Cables for sensors, PUR
Jumper cables M12-M12
Shielded 5-pin/5-pin and unshielded 4-pin/4-pin

Male connector type		M12, 5-pin, straight	M12, 4-pin, straight	
Female connector type		M12, 5-pin, straight	M12, 4-pin, straight	M12, 4-pin, elbowed
Number of conductors		5	4	
References				
PUR cable	L = 1 m	–	**XZCR1511041C1**	**XZCR1512041C1**
	L = 2 m	**XZCRB151151C2**	**XZCR1511041C2**	**XZCR1512041C2**
	L = 5 m	**XZCRB151151C5**	–	–
Weight (kg)		0.123 (L = 2 m) 0.267 (L = 5 m)	0.065 (L = 1 m) 0.095 (L = 2 m)	
Characteristics				
Certifications		cULus		
Connection type	Male and female	Screw threaded		
Cable material	Sheath	PUR, shielded	PUR	
	Conductor insulation	PP	–	–
Degree of protection		IP65, IP67, IP69K		
Ambient air temperature	Static cable	-40…+90 °C	-35…+90 °C	
	Flexing cable	-25…+80 °C	-5…+90 °C	
Conductor c.s.a		5 x 0.34 mm²	4 x 0.34 mm²	
Cable diameter		5.85 mm ± 0.15 mm	5.2 mm	
Nominal voltage		250 V ∿, 60 V ⎓	250 V ∿, 300 V ⎓	
Nominal current		4 A	4 A	
Insulation resistance		> 10^9 Ω	⩾ 10^9 Ω	
Contact resistance		⩽ 10 m Ω	5000 m Ω	

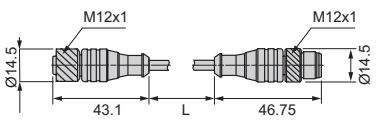
Dimensions

XZCRB151151C2, XZCRB151151C5



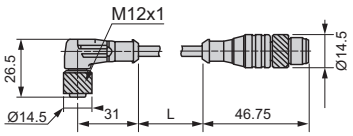
L = 2 or 5 m

XZCR1511041C1, XZCR1511041C2



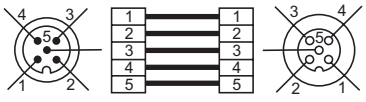
L = 1 or 2 m

XZCR1512041C1, XZCR1512041C2



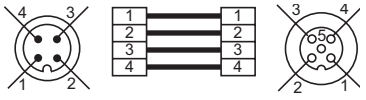
Connections

XZCRB151151C2, XZCRB151151C2



1: Brown
2: White
3: Blue
4: Black
5: Grey

XZCR1511041C1, XZCR1511041C2, XZCR1512041C1, XZCR1512041C2



1: Brown
2: White
3: Blue
4: Black

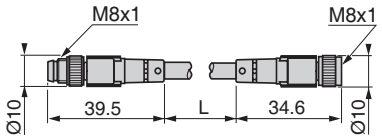
Photo-electric sensors

Cables for sensors, PUR
Jumper cables M8-M8,
3-pin/3-pin, 3-pin/4-pin, or 4-pin/4-pin

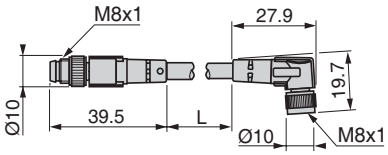
Male connector type		M8, 3-pin, straight			M8, 4-pin, straight
Female connector type		M8, 3-pin, straight	M8, 3-pin, elbowed	M8, 4-pin, straight	M8, 4-pin, straight
Number of conductors		3			
References					
PUR cable	L = 1 m	**XZCR2705037R1**	**XZCR2706037R1**	**–**	**XZCR2609P2Y1**
	L = 2 m	**XZCR2705037R2**	**–**	**XZCR2709037S2**	**XZCR2609P2Y2**
Weight (kg)	L = 1 m	0.065			
	L = 2 m	0.090			0.095
Characteristics					
Certifications		cULus			
Connection type	Male	Screw threaded and clip.			
	Female	Screw threaded. Metal clamping ring.			
Cable material	Sheath	PUR			
	Conductor insulation	PP			
Degree of protection		IP65, IP67, IP69K			
Ambient air temperature	Static cable	-35…+90 °C			
	Flexing cable	-5…+90 °C			
Conductor c.s.a.		3 x 0.34 mm²			
Cable diameter		5.2 mm			
Nominal voltage		60 V ∼, 45 V ⎓			30 V ∼, 36 V ⎓
Nominal current		4 A			
Insulation resistance		> 10^9 Ω			
Contact resistance		⩽ 5 mΩ			

Dimensions

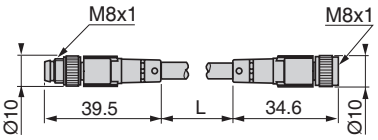
XZCR2705037R1, XZCR2705037R2



XZCR2706037R1



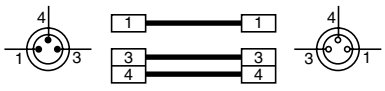
XZCR2709037S2



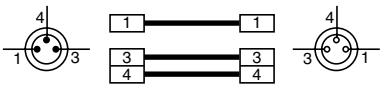
L = 1 or 2 m

Connections

XZCR2705037R1, XZCR2705037R2



XZCR2706037R1



XZCR2709037S2

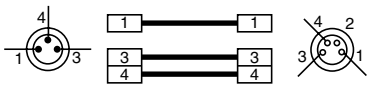


Photo-electric sensors

Cables for sensors, PUR
Jumper cables M8-M12, 3-pin/5-pin

Male connector type		M8, 3-pin, straight		
Female connector type		M8, 4-pin, elbowed	M12, 5-pin, straight	M12, 5-pin, elbowed
Number of conductors		3		

References

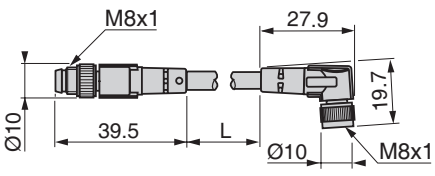
PUR cable	L = 1 m	**XZCR2710037S1**	**XZCR2711037T1**	**XZCR2712037T1**
	L = 2 m	**XZCR2710037S2**	**XZCR2711037T2**	**XZCR2712037T2**
Weight (kg)	L = 1 m	0.065		
	L = 2 m	0.090	0.093	

Characteristics

Certifications		cULus		
Connection type	Male	Screw threaded and clip.		
	Female	Screw threaded. Metal clamping ring.		
Cable material	Sheath	PUR		
	Conductor insulation	PP		
Degree of protection		IP65, IP67, IP69K		
Ambient air temperature	Static cable	-35…+90 °C		
	Flexing cable	-5…+90 °C		
Conductor c.s.a.		3 x 0.34 mm²		
Cable diameter		5.2 mm		
Nominal voltage		60 V ∼, 45 V ⎓		
Nominal current		4 A		
Insulation resistance		> 10^9 Ω		
Contact resistance		≤ 5 m Ω		

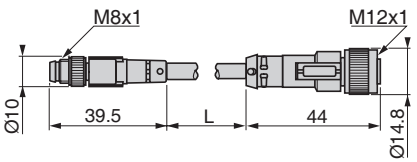
Dimensions

XZCR2710037S1, XZCR2710037S2

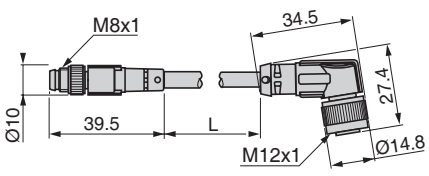


L = 1 or 2 m

XZCR2711037T1, XZCR2711037T2

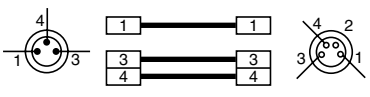


XZCR2712037T1, XZCR2712037T2

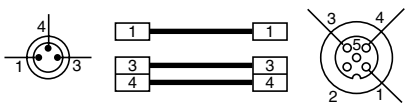


Connections

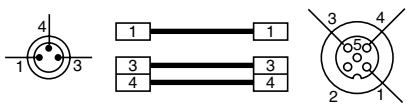
XZCR2710037S1, XZCR2710037S2



XZCR2711037T1, XZCR2711037T2



XZCR2712037T1, XZCR2712037T2



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