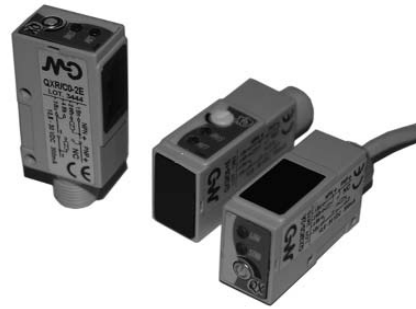


### Fotocellule miniaturizzate con alte prestazioni - DC serie QX

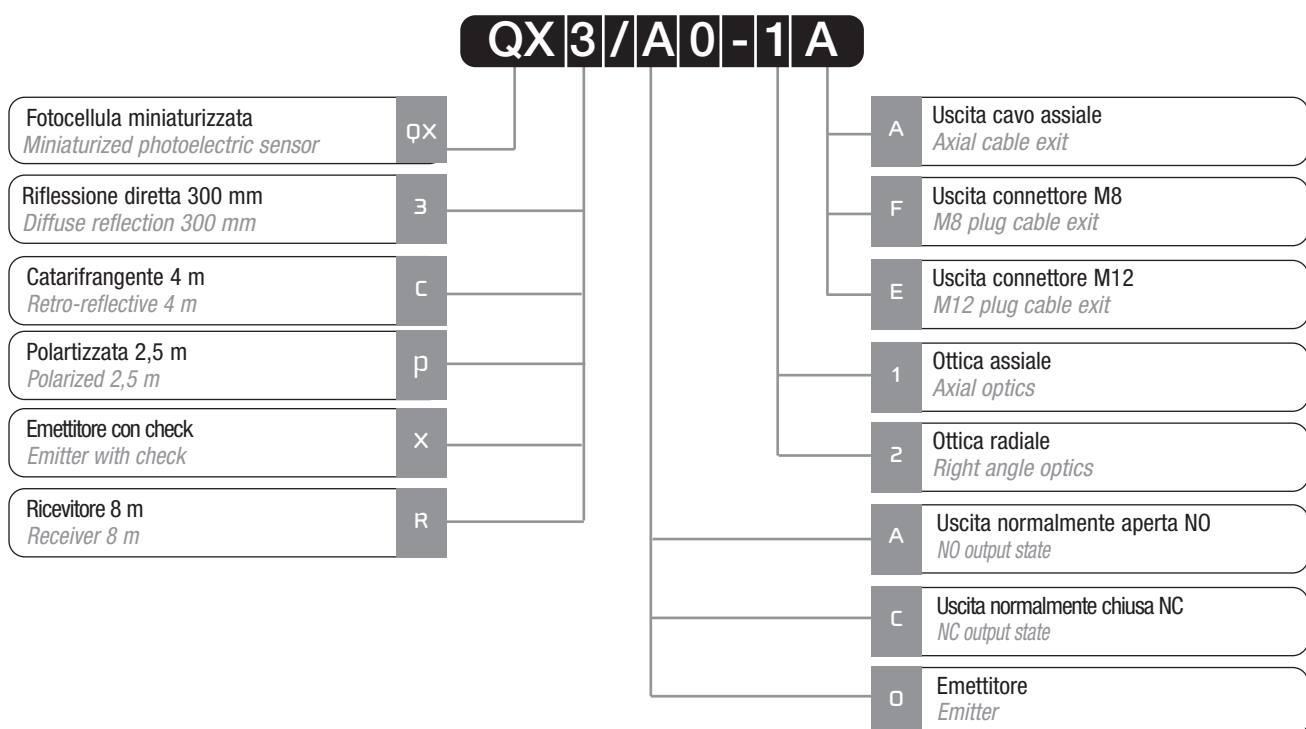
Miniaturized photoelectric sensors with high performances - DC QX series



### Caratteristiche principali Main features

- > Vasta gamma di modelli: riflessione diretta, riflessione diretta con regolazione, catarifrangente, polarizzata e barriera
- > Wide range of models: diffuse, diffuse with sensitivity adj., retro-reflective, polarized light and through-beam detection
- > Dimensioni ridotte (15x23x40 mm)
- > Housing with small dimensions (15x23x40 mm)
- > Ottica assiale ed a 90°
- > Axial and right angle optics
- > 2 LED indicatori (soglia e margine di segnale)
- > 2 LED indicators (threshold and signal margin)
- > Luce rossa visibile nei modelli con catarifrangente polarizzati e barriere
- > Visible red light in retro-reflective, polarized and through-beam models
- > Distanze di rilevazione elevate
- > Long distances capability
- > Fasci ottici di piccolo diametro
- > Precision beam
- > Breve tempo di risposta (0,75-0,5 ms)
- > Fast response time (0,75-0,5 ms)
- > Uscita NPN-PNP selezionabile
- > NPN-PNP selectable output
- > Elevata corrente di uscita (>300 mA)
- > High output current (>300 mA)
- > 3 differenti uscite cavo: assiale, connettore M8 e M12
- > 3 different output cable: axial, M8 and M12 plug
- > Grado di protezione IP65
- > IP65 protection degree
- > Totalmente protetto contro danneggiamenti di tipo elettrico
- > Complete protection against electrical damage
- > Approvazioni: CE e cURus
- > Approvals: CE and cURus

### Descrizione del codice - Code structure



### Modelli disponibili - Available models

Funzione		Portata Distance	Cavo / Cable		Connettore / Plug M8		Connettore / Plug M12	
Model			NO	NC	NO	NC	NO	NC
Ottica assiale Axial optic	Tasteggio diretto / Direct diffuse	300 mm	QX3/A0-1A	QX3/C0-1A	QX3/A0-1F	QX3/C0-1F	QX3/A0-1E	QX3/C0-1E
	Catarifrangente / Retro-reflective	4 m	QXC/A0-1A	QXC/C0-1A	QXC/A0-1F	QXC/C0-1F	QXC/A0-1E	QXC/C0-1E
	Polarizzata / Polarized	3 m	QXP/A0-1A	QXP/C0-1A	QXP/A0-1F	QXP/C0-1F	QXP/A0-1E	QXP/C0-1E
	Barriera Through-beam	8 m	QXX/00-1A		QXX/00-1F		QXX/00-1E	
Emittitore / Emitter Ricevitore / Receiver	QXR/A0-1A		QXR/C0-1A	QXR/A0-1F	QXR/C0-1F	QXR/A0-1E	QXR/C0-1E	
Ottica radiale Radial optic	Tasteggio diretto / Direct diffuse	300 mm	QX3/A0-2A	QX3/C0-2A	QX3/A0-2F	QX3/C0-2F	QX3/A0-2E	QX3/C0-2E
	Catarifrangente / Retro-reflective	4 m	QXC/A0-2A	QXC/C0-2A	QXC/A0-2F	QXC/C0-2F	QXC/A0-2E	QXC/C0-2E
	Polarizzata / Polarized	3 m	QXP/A0-2A	QXP/C0-2A	QXP/A0-2F	QXP/C0-2F	QXP/A0-2E	QXP/C0-2E
	Barriera Through-beam	8 m	QXX/00-2A		QXX/00-2F		QXX/00-2E	
Emittitore / Emitter Ricevitore / Receiver	QXR/A0-2A		QXR/C0-2A	QXR/A0-2F	QXR/C0-2F	QXR/A0-2E	QXR/C0-2E	

### Specifiche (In accordo con IEC EN 60947-5-2) - Specifications (According to IEC EN 60947-5-2)

Modello / Model	QX3/*0-**	QXC/*0-**	QXP/*0-**	QXX/*0-** QXR/*0-**
Tipo / Type	Riflessione diretta Diffuse reflection	Con catarifrangente Retro-reflective	Polarizzata Polarized retro-reflective	Barriera Through-beam
Distanza di rilevazione nominale (Sn) Nominal sensing distance (Sn)	300 mm <sup>(1)</sup>	4 m <sup>(2)</sup>	2,5 m <sup>(2)</sup>	8 m
Emissione Emission	Infrarosso / Infrared (880nm)	Rosso / Red (660nm)		
Oggetto minimo rilevabile Minimum detectable object	Vedi Curve caratteristiche See Characteristic curves			2 mm
Tolleranza / Tolerance	+15/-5% Sn			Vedi Sr (glossario) See Sr (glossary)
Corsa differenziale / Differential travel	10%			
Ripetibilità / Repeat accuracy	5%			
Tensione di alimentazione / Operating voltage	10,8 - 30 Vdc			
Ondulazione residua / Ripple	10 % max.			
Corrente assorbita / No-load supply current	20 mA			20 mA (em.), 5 mA (ric.)
Tensione di check / Check voltage	-			10,8 - 30 Vdc (QXX)
Corrente di uscita / Load current	300 mA			
Corrente di perdita / Leakage current	100 µA max. at 30 Vdc			
Caduta di tensione in uscita / Voltage drop	1,2 V max. I <sub>L</sub> =100 mA			
Tipo uscita / Output type	NPN/PNP selezionabile / selectable - NO o / or NC			
Frequenza di commutazione / Switching frequency	750 Hz (Tr=0,5 ms)			500 Hz (Tr=0,75 ms)
Ritardo alla disponibilità Time delay before availability	200 ms			
Protezioni elettriche alimentazione Supply electrical protections	Inversione di polarità, sovratensioni impulsive Polarity reversal, transient			
Protezioni elettriche uscita Output electrical protections	Al cortocircuito (autoripristinante) Short circuit (autoreset)			
Limiti di temperatura / Temperature range	-25°C ....+70°C (senza condensa / without freeze)			
Interferenza luce esterna Interference to external light	3000 lux (lampada ad incandescenza), 10000 lux (luce solare) 3000 lux (incandescent lamp), 10000 lux (sunlight)			
Grado di protezione / Protection degree	IP65 (EN60529) <sup>(3)</sup>			
Indicatori LED / LED indicators	Vedi disegno dimensionale / See dimensional drawing			
Materiali corpo / Housing material	ABS (caricato in vetro / glass fiber reinforced)			
Materiali ottica / Lenses material	Acrilico / Acrylic			
Peso (appross.) / Weight (approx.)	70 g (singola / single)			

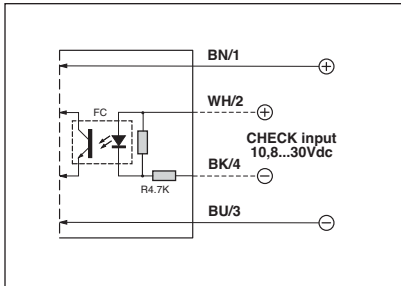
<sup>(1)</sup> Con foglio di carta bianca opaca 100x100 mm / With 100x100 mm white matt paper

<sup>(2)</sup> Con catarifrangente Ø80 mm (RL110 fornito separatamente) / With standard reflector Ø80 mm (RL110 supplied separately)

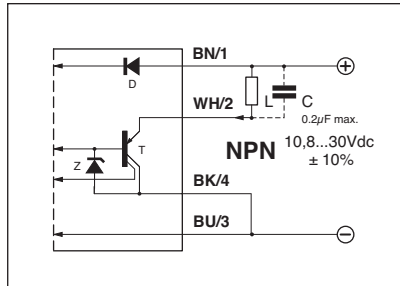
<sup>(3)</sup> Protezione garantita solo con il cavo a connettore correttamente montato / Protection guaranteed only with plug cable well mounted

### Schemi elettrici delle connessioni - Electrical diagrams of the connections

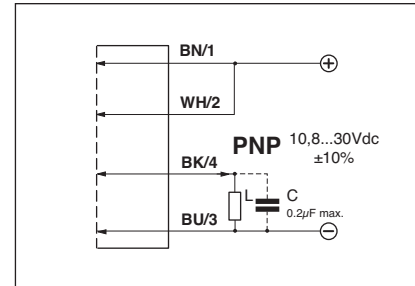
Emettitore con check  
Emitter with check



Uscita NPN  
NPN output



Uscita PNP  
PNP output

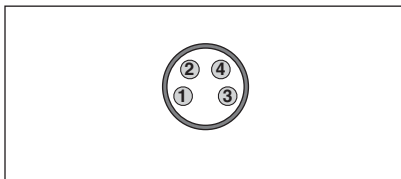


#### Legenda Key

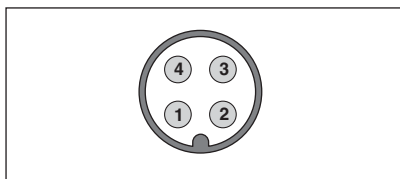
BN → marrone/brown    BU → blu/blue  
BK → nero/black        WH → bianco/white

### Connettore - Plug

M8

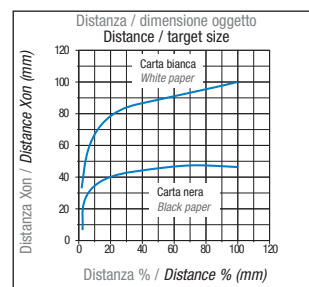
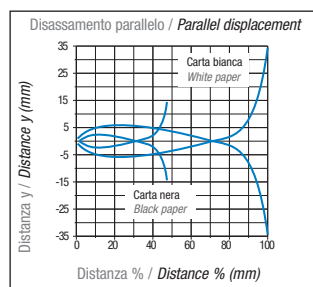
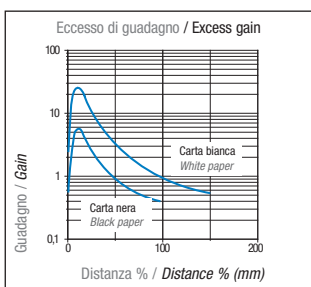


M12

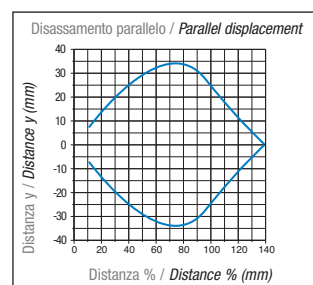
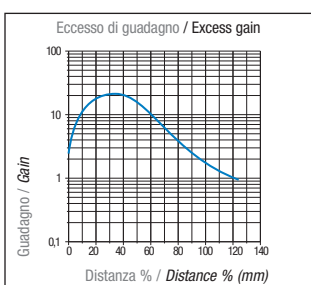


### Curva di risposta - Response diagram

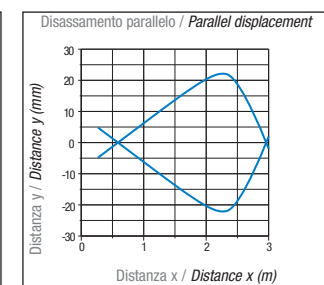
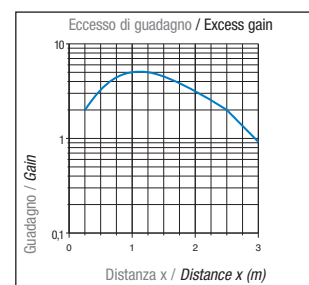
QX3/\*0-\*\*



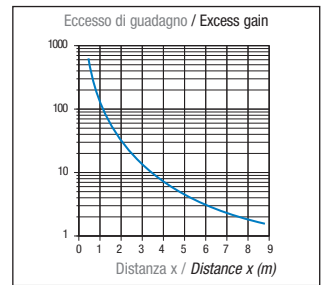
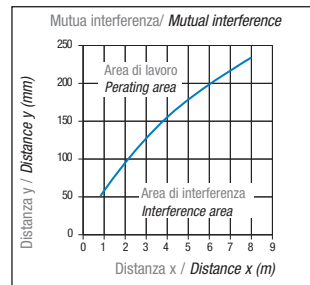
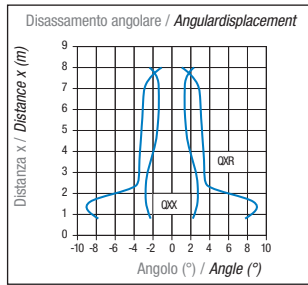
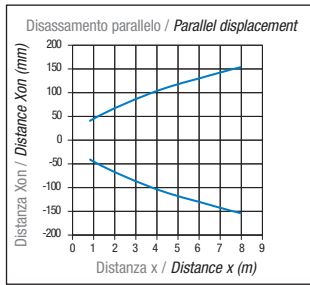
QXC/\*0-\*\*



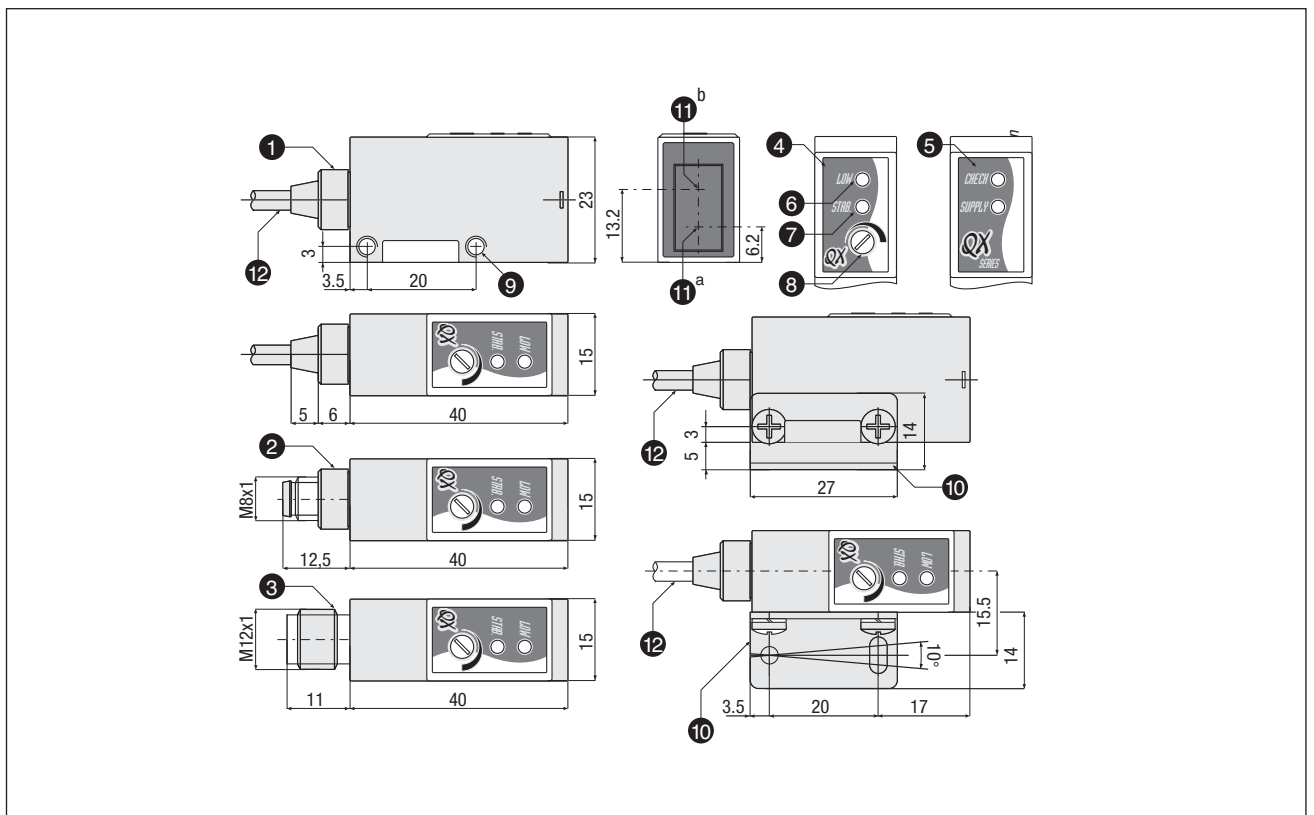
QXP/\*0-\*\*

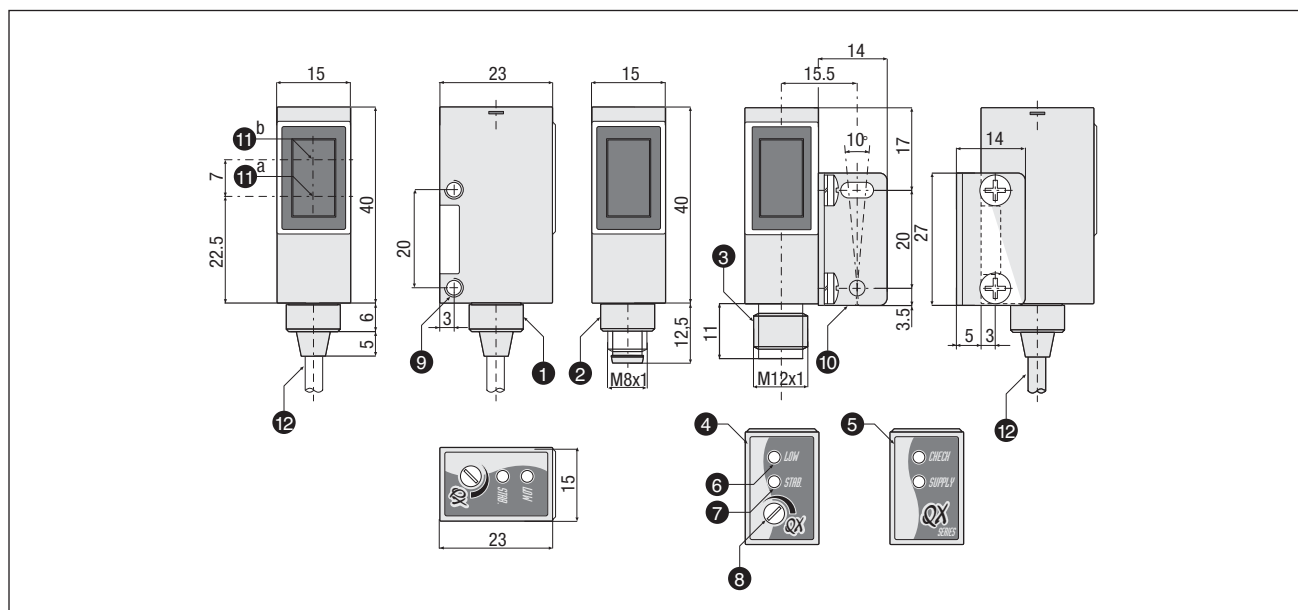


QXX/00-\*\*- QXR/\*0-\*\*-



### Dimensioni - Dimensions





### Legenda / Key

- |   |   |
|---|---|
| ① Uscita cavo assiale<br><i>Axial cable exit</i>  | ⑧ Trimmer di regolazione sensibilità (1 giro)<br><i>Sensitivity adjustment trimmer (1 turn)</i>                           |
| ② Uscita connettore M8<br><i>M8 plug cable exit</i>   | ⑨ Fori di fissaggio per viti M3<br><i>Holes for M3 screws</i>   |
| ③ Uscita connettore M12<br><i>M12 plug cable exit</i>   | ⑩ Staffa ST70 e viti (inclusi)<br><i>Bracket ST70 and screws (included)</i>   |
| ④ Pannello ricevitore, catarifrangente, riflessione diretta<br><i>Receiver, retro-reflective, diffuse models functional panel</i> | ⑪ Posizione asse ottico (a: QX3, QXC, QXP - b: QXE, QXR)<br><i>Optical axis position (a: QX3, QXC, QXP - b: QXE, QXR)</i> |
| ⑤ Pannello emettitore con check<br><i>Emitter with check functional panel</i>   | ⑫ Cavo 4x0,14 mm <sup>2</sup> , Ø3,75 mm, PVC, 2 m<br><i>Cable 4x0,14 mm<sup>2</sup>, Ø3,75 mm, PVC, 2 m</i>              |
| ⑥ LED rosso (margine di segnale basso QX*)<br>LED rosso (check QXX)<br><i>Red LED (low margin signal QX*) Red LED (check QXX)</i> |   |
| ⑦ LED verde (segnale stabile QX*) LED verde (alimentazione QXX)<br><i>Green LED (stability QX*) Green LED (supply QXX)</i>        |   |