Serie FQ / *FQ Series*



Sensori fotoelettrici M18 – serie FQ con corpo corto
M18 photoelectric sensors – FQ Series with short body

- Modelli a diffusione diretta a corta e lunga distanza, polarizzati e a barriera / *diffuse models with short and long sensing distance, polarised and through beam*
- Corpo in ottone nichelato oppure plastico / *Nickel-plated brass or plastic housing*
- Grado di protezione IP67 / *IP67 protection degree*
- Totalmente protetti contro danneggiamenti di tipo elettrico / *complete protection against electrical damages*
- Uscita complementare NO+NC / *NO+NC complementary output*

Struttura del codice e modelli disponibili / *Code description and available models:*

Codice / *code*	**FQ**	**I**	**7**	/	**B**	**P**	-	**0**	**E**
Posizione / *position*	1	2	3		4	5		6	7

Posizione *Position*	Codice *Code*	Descrizione / *Description*
1	FQ	Sensori fotoelettrici M18 a corpo corto *M18 photoelectric sensors with short housing*
2	I	Emissione infrarossa *Infrared emission*
	R	Emissione a luce rossa visibile *Visibile red light emission*
3	2	Diffusione diretta 100 mm senza reg. *100 mm direct diffuse without sens. adj.*
	3	Diffusione diretta 100 mm con reg. *100 mm direct diffuse with sens. adj.*
	7	Diffusione diretta 400 mm con reg. *400 mm direct diffuse with sens. adj.*
	8	Diffusione diretta 1200 mm (assiale), 1000mm (radiale), con reg. *1200 mm (axial), 1000mm (right angle) 1direct diffuse , with sens. adj.*
	C	Catarifrangente 5 m *5 m retroreflective*
	N	Polarizzata 4 m *4 m polarised*
	L	Per rilevazione oggetti trasparenti a catarifrangente 1 m *Retroreflectife for tranparent objects 1 m*
	H	Emettitore senza regolazione *Emitter without sens. adj.*
	Z	Ricevitore senza regolazione Receiver without sensitivity adjustment

Posizione *Position*	Codice *Code*	Descrizione / *Description*
4	0	Emettitore senza check / *Emitter without check*
	B	Ricevitore uscita complementare NO+NC *Receiver with complementary output NO+NC*
5	0	Emettitore / *Emitter*
	P	Uscita PNP / *PNP output*
	N	Uscita NPN / *NPN output*
6	0	Corpo plastico, ottica assiale *Plastic housing, axial optic*
	1	Corpo metallico, ottica assiale *Metal housing, axial optic*
	2	Corpo plastico, ottica radiale *Plastic housing, right angle optic*
	3	Corpo metallico, ottica radiale *Metal housing, right angle optic*
7	E	Uscita connettore M12 plastico *M12 plastic plug cable exit*
	A	Uscita cavo assiale 2 m *2 m axial cable exit*

Serie FQ / *FQ Series*

Modelli disponibili / *Available models*

					Modelli assiali Axial models		Modelli radiali Right angle models	
Funzione Function	**Portata Distance**	**Regolaz. Adjust.**	**Uscita Output**	**Corpo Housing**	**PNP NO + NC**	**NPN NO + NC**	**PNP NO + NC**	**NPN NO + NC**
Diffusione Diretta Direct diffuse	100 mm	No	Cavo assiale *Axial cable*	Plastico *Plastic*	FQR2/BP-0A	FQR2/BN-0A	FQR2/BP-2A	FQR2/BN-2A
				Metallico *Metal*	FQR2/BP-1A	FQR2/BN-1A	FQR2/BP-3A	FQR2/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQR2/BP-0E	FQR2/BN-0E	FQR2/BP-2E	FQR2/BN-2E
				Metallico *Metal*	FQR2/BP-1E	FQR2/BN-1E	FQR2/BP-3E	FQR2/BN-3E
		Si *Yes*	Cavo assiale *Axial cable*	Plastico *Plastic*	FQR3/BP-0A	FQR3/BN-0A	FQR3/BP-2A	FQR3/BN-2A
				Metallico *Metal*	FQR3/BP-1A	FQR3/BN-1A	FQR3/BP-3A	FQR3/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQR3/BP-0E	FQR3/BN-0E	FQR3/BP-2E	FQR3/BN-2E
				Metallico *Metal*	FQR3/BP-1E	FQR3/BN-1E	FQR3/BP-3E	FQR3/BN-3E
	400 mm	Si *Yes*	Cavo assiale *Axial cable*	Plastico *Plastic*	FQI7/BP-0A	FQI7/BN-0A	FQI7/BP-2A	FQI7/BN-2A
				Metallico *Metal*	FQI7/BP-1A	FQI7/BN-1A	FQI7/BP-3A	FQI7/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQI7/BP-0E	FQI7/BN-0E	FQI7/BP-2E	FQI7/BN-2E
				Metallico *Metal*	FQI7/BP-1E	FQI7/BN-1E	FQI7/BP-3E	FQI7/BN-3E
	1200 mm (assiale/*axial*) 1000 mm (90°)	Si *Yes*	Cavo assiale *Axial cable*	Plastico *Plastic*	FQI8/BP-0A	FQI8/BN-0A	FQI8/BP-2A	FQI8/BN-2A
				Metallico *Metal*	FQI8/BP-1A	FQI8/BN-1A	FQI8/BP-3A	FQI8/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQI8/BP-0E	FQI8/BN-0E	FQI8/BP-2E	FQI8/BN-2E
				Metallico *Metal*	FQI8/BP-1E	FQI8/BN-1E	FQI8/BP-3E	FQI8/BN-3E
Catarifrangente *Retroreflective*	5 m (assiali/*axial*) 4 m (90°)	No	Cavo assiale *Axial cable*	Plastico *Plastic*	FQIC/BP-0A	FQIC/BN-0A	FQIC/BP-2A	FQIC/BN-2A
				Metallico *Metal*	FQIC/BP-1A	FQIC/BN-1A	FQIC/BP-3A	FQIC/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQIC/BP-0E	FQIC/BN-0E	FQIC/BP-2E	FQIC/BN-2E
				Metallico *Metal*	FQIC/BP-1E	FQIC/BN-1E	FQIC/BP-3E	FQIC/BN-3E
Polarizzata *Polarised*	4 m (assiali/*axial*) 3 m (90°)	Si *Yes*	Cavo assiale *Axial cable*	Plastico *Plastic*	FQRN/BP-0A	FQRN/BN-0A	FQRN/BP-2A	FQRN/BN-2A
				Metallico *Metal*	FQRN/BP-1A	FQRN/BN-1A	FQRN/BP-3A	FQRN/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQRN/BP-0E	FQRN/BN-0E	FQRN/BP-2E	FQRN/BN-2E
				Metallico *Metal*	FQRN/BP-1E	FQRN/BN-1E	FQRN/BP-3E	FQRN/BN-3E
Per oggetti trasparenti *For transparent objects detection*	1 m	Si *Yes*	Cavo assiale *Axial cable*	Plastico *Plastic*	FQRL/BP-0A	FQRL/BN-0A	FQRL/BP-2A	FQRL/BN-2A
				Metallico *Metal*	FQRL/BP-1A	FQRL/BN-1A	FQRL/BP-3A	FQRL/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQRL/BP-0E	FQRL/BN-0E	FQRL/BP-2E	FQRL/BN-2E
				Metallico *Metal*	FQRL/BP-1E	FQRL/BN-1E	FQRL/BP-3E	FQRL/BN-3E
Ricevitore *Receiver*	20 m	No	Cavo assiale *Axial cable*	Plastico *Plastic*	FQIZ/BP-0A	FQIZ/BN-0A	FQIZ/BP-2A	FQIZ/BN-2A
				Metallico *Metal*	FQIZ/BP-1A	FQIZ/BN-1A	FQIZ/BP-3A	FQIZ/BN-3A
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQIZ/BP-0E	FQIZ/BN-0E	FQIZ/BP-2E	FQIZ/BN-2E
				Metallico *Metal*	FQIZ/BP-1E	FQIZ/BN-1E	FQIZ/BP-3E	FQIZ/BN-3E
Emettitore *Emitter*	20 m	No	Cavo assiale *Axial cable*	Plastico *Plastic*	FQIH/00-0A		FQIH/00-2A	
				Metallico *Metal*	FQIH/00-1A		FQIH/00-3A	
			Connettore M12 *M12 plug*	Plastico *Plastic*	FQIH/00-0E		FQIH/00-2E	
				Metallico *Metal*	FQIH/00-1E		FQIH/00-3E	

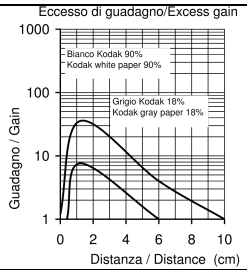
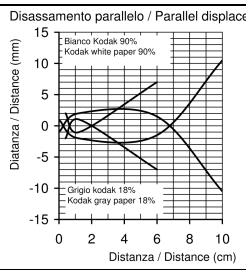
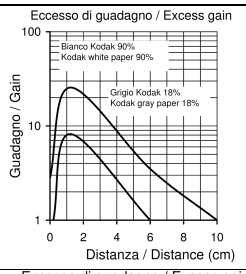
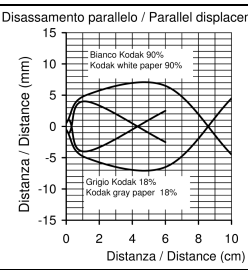
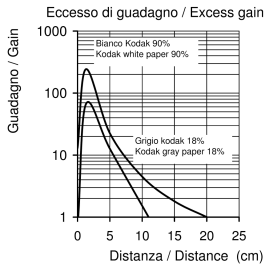
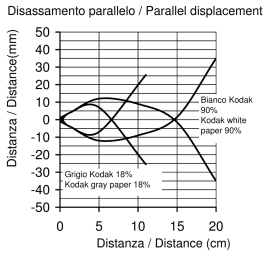
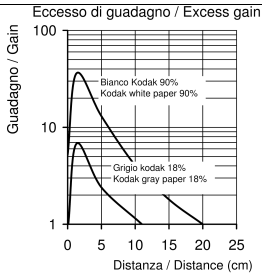
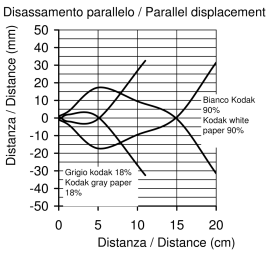
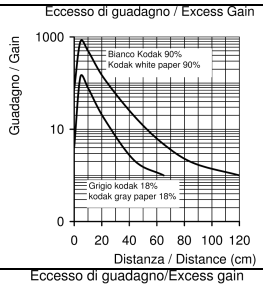
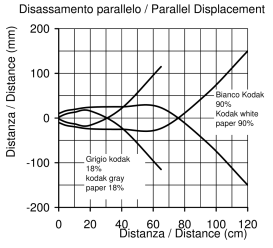
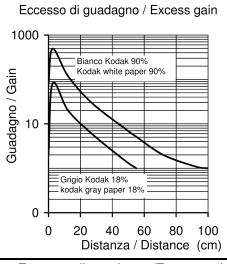
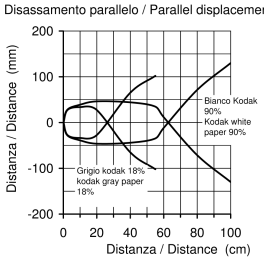
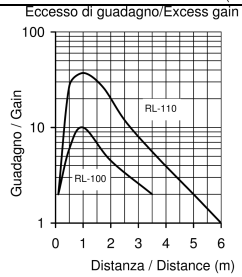
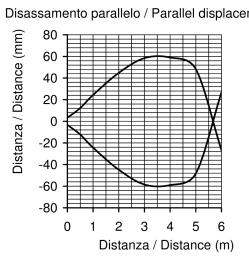
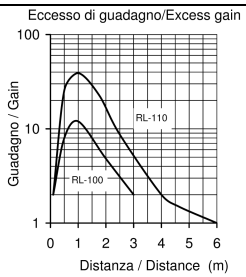
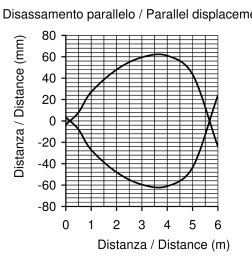
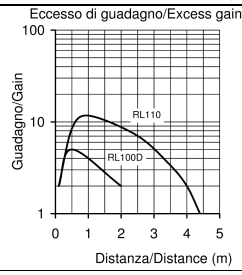
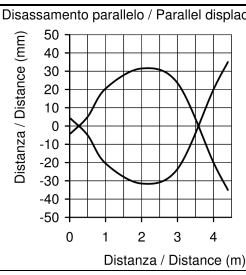
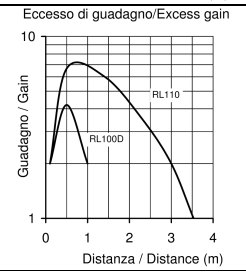
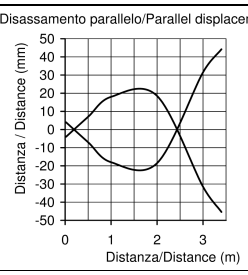
Serie FQ / *FQ Series*

Specifiche / *Specifications* (In accordo con / *according to* IEC EN 60947-5-2)

	Diffusione diretta ***Direct diffuse***				**Catarifrangente** ***Retroreflective***	**Polarizzata** ***Polarised***	**Per oggetti trasparenti** ***For transparent objects***	**Barriera** ***Through beam***	
Modelli / ***Models***	**FQR2**	**FQR3**	**FQI4**	**FQI8**	**FAIC**	**FQRN**	**FQRL**	**FQIZ**	**FQIH**
Distanza di rilevazione nominale *Nominal sensing distance*	100 mm		400 mm	1,2 m 1 m (90°)	5 m 4 m (90°)	4 m 3 m (90°)	0,1 … 1 m	20 m 16 m (90°)	-
Emissione / *Emission*	Rossa / *Red* (690 nm)		Infrarossa / *Infrared* (880 nm)		I.R. (880 nm)	Rossa / *Red* (690 nm)		Infrarossa / *Infrared* (880 nm)	
Corsa differenziale *Diffential travel*	≤ 10%								
Ripetibilità *Repeat accuracy*	5%								
Tensione alimentazione *Operating voltage*	10 … 30 V cc / *dc*								
Ondulazione residua / *Ripple*	≤ 10%								
Corrente assorbita *No load supply current*	≤ 30 mA								
Corrente di uscita *Load current*	≤ 50 mA								
Corrente di perdita *Leakage current*	≤ 10 µA								
Caduta di tensione in uscita *Output voltage drop*	2 V_{max} @ I_L = 50 mA								
Tipo uscita *Output type*	NPN o / *or* PNP NO + NC								-
Frequenza di commutazione *Switching frequency*	250 Hz								
Ritardo alla disponibilità *Time delay before availability*	≤ 200 ms								
Protezione elettriche alimentazione *Supply electrical protections*	Inversione di polarità, sovratensioni impulsive *Polarity reversal, impulsive overvoltage*								
Protezione elettriche uscita *Output electrical protection*	Cortocircuito (autoripristinante), sovratensioni Short circuit (autoreset), overvoltage								
Regolazione di sensibilità *Sensitivity adjustment*	No	Si / Yes			No	Si / Yes		No	No
Temperatura operativa *Operative Temperature range*	-25 … +70°C (senza condensa / *without freeze*)								
Temperatura di immagazzinamento *Storage temperature*	-55 … +80°C								
Deriva termica *Temperature drift*	≤ 10%								
Compatibilità elettromagnetica *EMC*	Secondo /*According to* EN50082-2; 1995; EN60947-5-2; 1999; EN50081-1; 1993								
Interferenza alla luce esterna *Interference by external light*	5000 lux (lampada ad incandescenza) - 10000 lux (luce solare) *5000 lux (incandescence lamp) - 10000 lux (sun light)*								
Grado di protezione *Protection degree*	IP67								
Indicatori LED *LED indicators*	Giallo (Stato luce) *Yellow (Light status)*								
Materiale contenitore *Housing material*	PBT (modelli plastici / *plastic model*) Ottone nichelato-*Nicked plated brass* (modelli metallici / *metallic model*) PC (passacavo / *cable exit*)								
Materiale ottica *Optic material*	PC								
Coppia serraggio *Tightening torque*									
Peso (appros.) *Weight (approx)*									

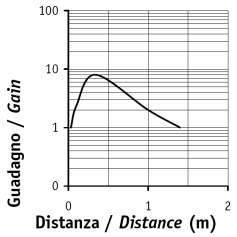
Serie FQ / *FQ Series*

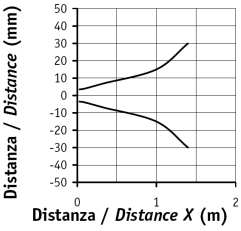
Curve caratteristiche / *Diagrams*

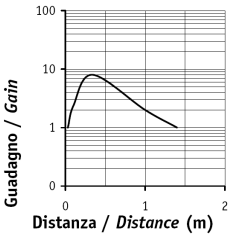
	Modelli assiali *Axial models*		Modelli radiali *Right angle models*	
	Eccesso di guadagno *Excess Gain*	Disassamento parallelo *Parallel displacement*	Eccesso di guadagno *Excess Gain*	Disassamento parallelo *Parallel displacement*
FQR2 FQR3				
FQI4				
FQI8				
FAIC				
FQRN				

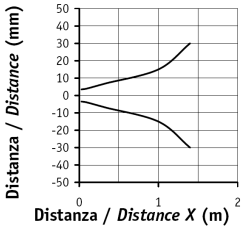
Serie FQ / *FQ Series*

FQRL

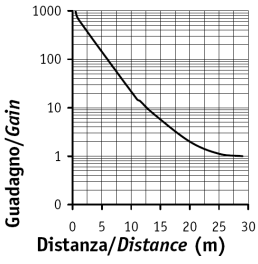


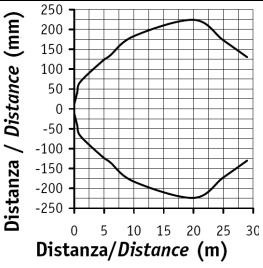


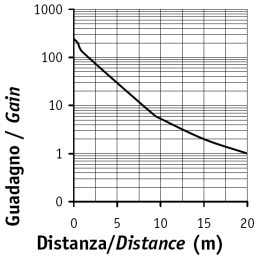


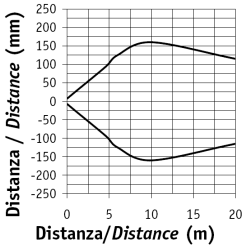


FQIH FQIZ





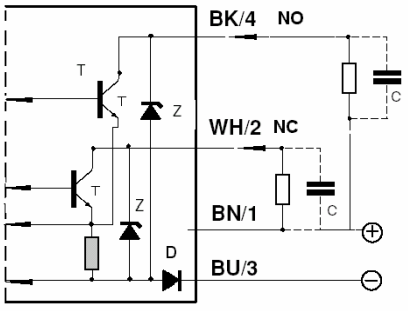




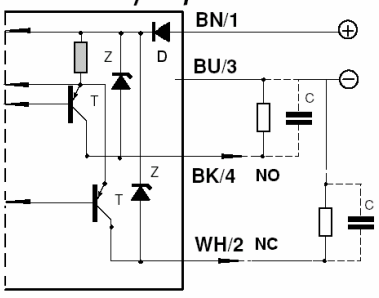
Connessioni / Wiring *Diagrams*

Uscita complementare NO+NC / *NO+NC complementary output*

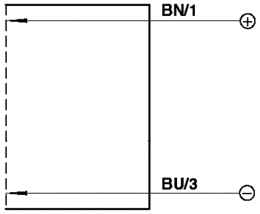
NPN uscita/output



PNP uscita/*output*



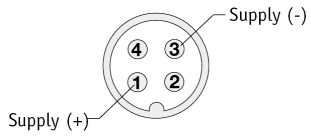
Emettitori / *Emitters*

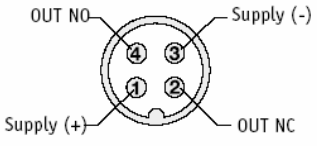


Serie FQ / *FQ Series*

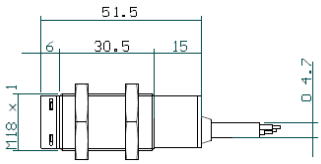
Uscita / Output

Emettitore *Emitter*	Uscita complementare Complementary output	

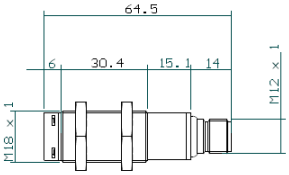




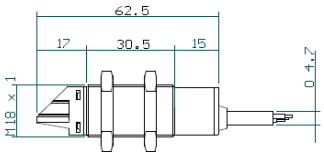
Dimensioni / Dimensions



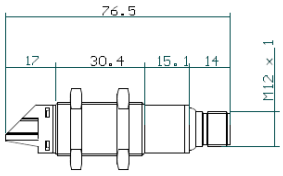
Ottica assiale, uscita a cavo
Axial optic, cable exit



Ottica assiale, uscita a connettore M12
Axial optic, M12 plug cable exit



Ottica radiale, uscita a cavo
Right angle optic, cable exit



Ottica assiale, uscita a connettore M12
Right angle optic, M12 plug cable exit