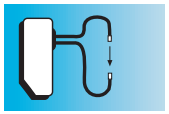
Plastic fiber optic sensors Series 10

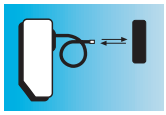
Sensitivity adjustable by potentiometer

Sb 400 mm / Tw 120 mm	Sb 160 mm / Tw 45 mm

		Low hysteresis	Fast version
PNP	light/dark operate	**FVDK 10P81Y0**	**FVDK 10P82Y0**
NPN	light/dark operate	**FVDK 10N81Y0**	**FVDK 10N82Y0**

technical data		
actual range Sb (through beam ø 1,5 mm)	400 mm	160 mm
sensing distance Tw (reflective ø 1,5 mm)	120 mm	45 mm
excess gain / soiled lens indicator	LED green	LED green
output indicator	LED red	LED red
light source	pulsed red diode	pulsed red diode
wave length	680 nm	680 nm
voltage supply range	10 - 30 VDC	10 - 30 VDC
max. supply current average value / peak value	20 mA / 35 mA	20 mA / 35 mA
max. switching current	100 mA	100 mA
voltage drop	≤ 1 VDC	≤ 1 VDC
response time	500 µs	50 µs
release time	500 µs	70 µs
timer function / release delay	40 ms	40 ms
short circuit protection	yes	yes
reverse polarity protection	yes	yes
temperature range	-20...+60 °C	-20...+60 °C
housing material	polycarbonate / ABS	polycarbonate / ABS
protection class	IP 40	IP 40
mounting	DIN Rail EN 50022	DIN Rail EN 50022

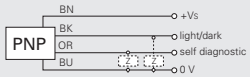


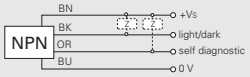


Series 10

- **Light/dark operate adjustment**
- **Alarm output**
- **Timer function**

connection diagrams

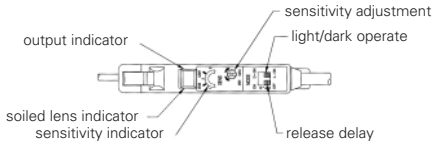




output states

	object present	object not present
light operate	LED ☼ PNP =HIGH NPN=LOW	LED ⊗ PNP =LOW NPN=HIGH
dark operate	LED ☼ PNP =LOW NPN=HIGH	LED ⊗ PNP =HIGH NPN=LOW

operating elements

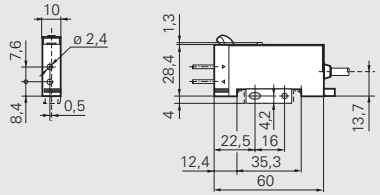


fibers

reflective types pages 26 - 31
through beam types pages 32 - 35

accessories fibers

see page 54



Sb 400 mm
Sb 160 mm

Tw 120 mm
Tw 45 mm

Low hysteresis

Fast version

Timer function

Potentiometer adjustment

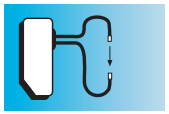
Plastic fiber optic sensors Series 10

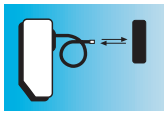
Sensitivity adjustable by potentiometer

Sb 800 mm / Tw 230 mm

		High sensitivity	
PNP	light/dark operate	**FVDK 10P83Y0**	
NPN	light/dark operate	**FVDK 10N83Y0**	

technical data		
actual range Sb (through beam ø 1,5 mm)	800 mm	
sensing distance Tw (reflective ø 1,5 mm)	230 mm	
excess gain / soiled lens indicator	LED green	
output indicator	LED red	
light source	pulsed red diode	
wave length	680 nm	
voltage supply range	10 - 30 VDC	
max. supply current average value / peak value	20 mA / 35 mA	
max. switching current	100 mA	
voltage drop	≤ 1 VDC	
response time	500 µs	
release time	500 µs	
timer function / release delay	40 ms	
short circuit protection	yes	
reverse polarity protection	yes	
temperature range	-20...+60 °C	
housing material	polycarbonate / ABS	
protection class	IP 40	
mounting	DIN Rail EN 50022	





Series 10

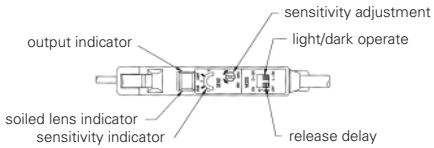
- **Light/dark operate adjustment**
- **Alarm output**
- **Timer function**

connection diagrams

output states

	object present	object not present
light operate	LED ☼ PNP = HIGH NPN = LOW	LED ⊗ PNP = LOW NPN = HIGH
dark operate	LED ☼ PNP = LOW NPN = HIGH	LED ⊗ PNP = HIGH NPN = LOW

operating elements

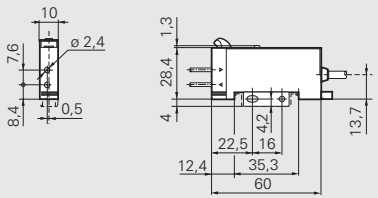


fibers

reflective types pages 26 - 31
through beam types pages 32 - 35

accessories fibers

see page 54



Sb 800 mm

Tw 230 mm

High sensitivity

Timer function

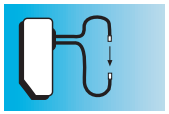
Potentiometer adjustment

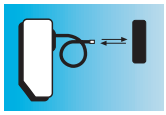
Plastic fiber optic sensors analog Series 10

Sensitivity adjustable by potentiometer

Sb 80 mm / Tw 16 mm

		Analog	
Analog	Analog 1 - 5 V	**FWDK 10U84Y0**	
technical data			
actual range Sb (through beam ø 1,5 mm)		80 mm	
sensing distance Tw (reflective ø 1,5 mm)		16 mm	
alarm output		1 - 5 V	
output voltage display		≥ 1 V LED green	
output voltage display		≥ 5 V LED red	
light source		pulsed red diode	
wave length		680 nm	
voltage supply range		10,8 - 26,4 VDC	
max. supply current average value / peak value		20 mA / 40 mA	
resolution**		coarse / fine	
response time / normal		50 ms	
response time / fast		1 ms	
short circuit protection		yes	
reverse polarity protection		yes	
temperature range		-20...+60 °C	
housing material		polycarbonate / ABS	
protection class		IP 40	
mounting		DIN Rail EN 50022	



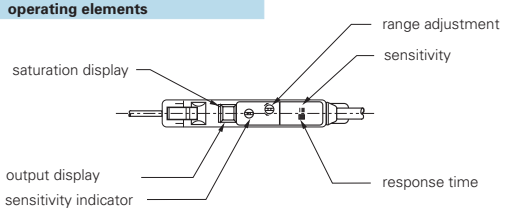


Series 10

- **Offset adjustable by potentiometer**
- **Response time normal / fast selectable**
- **Resolution selectable**

connection diagram

operating elements



resolution **
coarse (1 ms): 6%
coarse (50 ms): 1%
fine (1 ms): 2%
fine (50 ms): 0,3%

fibers

reflective types pages 26 - 31
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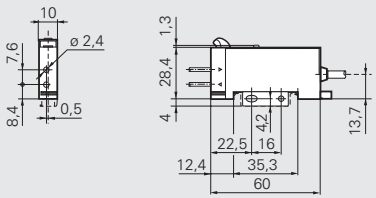
accessories fibers

see page 54



Sb 80 mm

Tw 16 mm

Analog

1 - 5 VDC

Resolution selectable

Potentiometer adjustment