

# PHOTOELECTRIC SENSORS

## Background Suppression Photoelectric Sensors

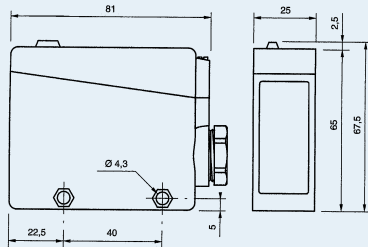
- For detecting black targets on white background
- Insensitive to colours
- Programmable output
- **IP66**



<sup>(1)</sup>Background suppression 2m, Determined with a white mat paper 20 x 20cm. On white target 3m.

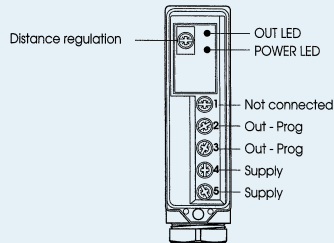
Switching Distance	0.2–3m <sup>(1)</sup>
Hysteresis	<5%
Emission	880nm
Supply	12-30VDC (-15/+10%)
Max Ripple	≤10%
Max Output	200mA
Configuration	NPN, PNP, NO, NC programmable
Consumption	25 to 40mA
Voltage Drop (On)	≤1.8V
Switching Frequency	500Hz
Response Time	100mS
Circuit Protection	S.C. + reverse polarity
Ambient	-10 to +60°C
Light Immunity	10000LUX
Housing Material	Housing ABS, lens Methacrylate
Weight (Approx)	110g
<b>Code</b> 12-30VDC	<b>FW-01BSD3</b>

### Dimensions

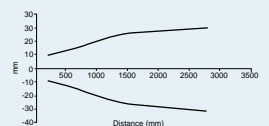
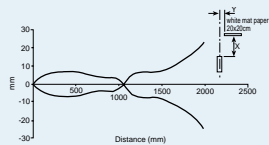


### Wiring Diagram

Connection:  
Terminal Block

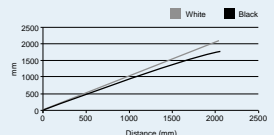


### Characteristic Curve



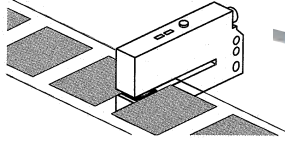
### Connection Table

Output	Contacts numbers			
	2	3	4	5
NPN NO	NO	-	+	-
NPN NC	NC	-	-	+
PNP NO	+	NO	+	-
PNP NC	+	NC	-	+



## Fork Photoelectric Sensors IP65

Photoelectric Sensor Position

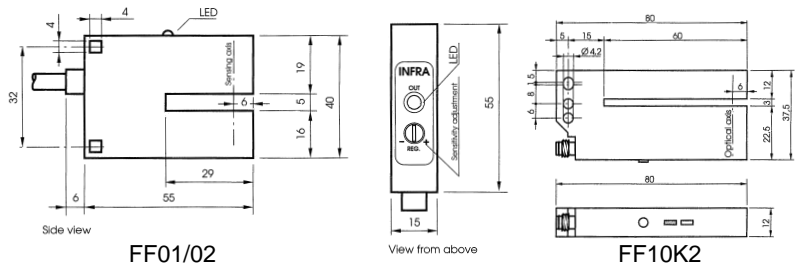


*Teach-in*



Application	Opaque Tags	Opaque and translucent Tags
Slot	5 x 29mm	3 x 60mm
Emission	Infrared (875nm)	Infrared (875nm)
Supply	12-30VDC (-15/+10%)	12-30VDC (-15/+10%)
Max Ripple	≤10%	≤10%
Max Output	200mA	100mA
Configuration	NPN or PNP, NO + NC	NPN, PNP, NO, NC programmable
Consumption @ 30V	30mA	≤40mA
Voltage Drop (On)	<1.5V (I = 100mA)	≤2V (I = 100mA)
Sensitivity Adj.	Trimmer 9 turns	<i>Teach-in</i>
Switching Frequency	200Hz	10.000Hz
Response Time	5mS	100mS
Start Up Delay	200mS	≤100mS
Circuit Protection	S.C. + reverse polarity	S.C. + reverse polarity
Ambient	-10 to +60°C	-10 to +60°C
Light Immunity	2000LUX	3000LUX
Cable	2m 4 x 0.25mm <sup>2</sup>	see <b>K2FDV5</b> connector page 170
Housing Material	Glass filled nylon + methacrylate lens	Anodised aluminium
Weight	110g	85g
<b>Code:</b> NPN NO+NC	<b>FF01</b>	-
PNP NO+NC	<b>FF02</b>	-
Programmable	-	<b>FF10K2</b>

### Dimensions



### Wiring Diagram

