

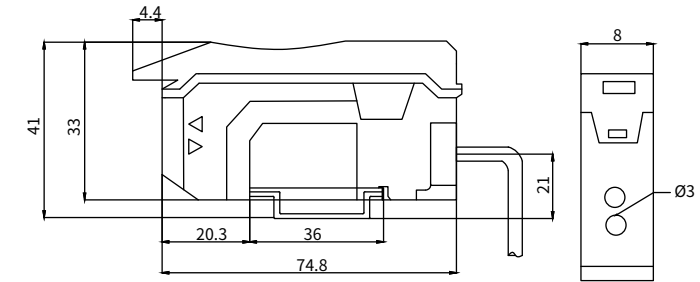
FWGS-21 Series

COLOR SENSOR

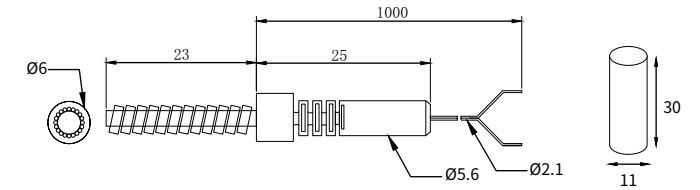


Specification		
Model	FWGS-21N	FWGS-21P
Output Method	NPN Output	PNP Output
Type	1 output port, lead out type	
Control Output	1 output port	
Light	RGB three primary light emitting diode body	
Detection Method	C mode, C1 mode, MARK mode	
reaction Time	MARK mode 50 μs. C or C1 mode 130 μs	
Output Selection	LIGHT-ON/DARK-ON	
supply Voltage	12~24VDC±10% Pulse P-P below 10%	
ambient Eemperature	-10~55°C (avoid condensation and frost) During storage: -20~70°C	
ambient Humidity	35~85%RH, During storage: 35~85%RH	
Power Consumption	Standard mode: maximum 300mW maximum voltage: 24V	
Vibration Resistance	Dual amplitude: 1.5mm, 10~55Hz (2 hours each in X, Y, and Z directions)	

Dimensions



FWGS-21



M6 Fiber Optic Probe

Focusing Lenses

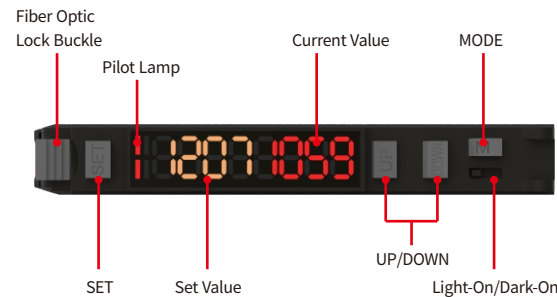
Safety Warning

- Do not use in an environment with flammable, explosive or corrosive gases.
- Do not use in an environment with oil or chemicals.
- Do not use in an environment with high humidity.
- Do not use in direct sunlight.
- Do not use under other environmental conditions that exceed the rated value.
- Do not disassemble, repair or modify the product without permission.

End-of-life Disposal

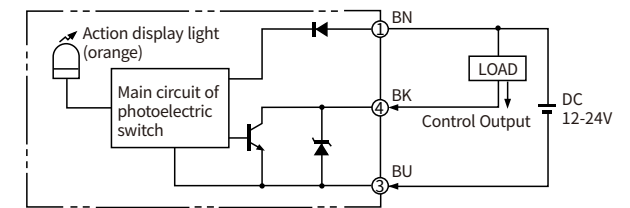
When the product is disposed of, please dispose of it as industrial waste.

Panel Introduction

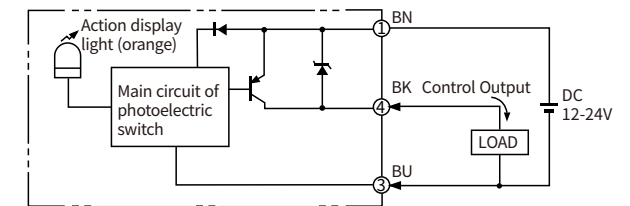


Single core fiber optic output optical transmitter.  
Multi core fiber optic connector receiving end.

Wiring Diagram



NPN Output

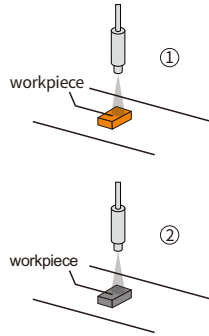


PNP Output

## Teaching Setting

Press the SET button under the sensing head towards the desired color to display **SEt 1**.

Press the SET button against the background color again, and the sensor will automatically teach.



## Settings

### Mode Settings

Long press the M key for more than 3 seconds to enter, and press the left and right keys UP or DOWN to switch modes.

**C**: Color mode

**C|**: Color+light intensity contrast mode

**AA-P**: Light exposure comparison mode



Color Mode



Color+Light Intensity Contrast Mode



Light Exposure Comparison Mode

### Light and Saturation Settings

The software defaults to **A-H**, and when detecting highly reflective materials, the reflected data will cause signal saturation, making it impossible to detect correctly. At this point, adjust the menu to **A-L** mode to prevent signal saturation, and correct detection can be achieved.



A-H



A-L

### Teaching Function Switching

After setting the light saturation, press the M key once to switch to the teaching function. Press the left and right keys to switch.

**t-P** is a one button teaching mode (you only need to aim at the target color and press the SET key once to complete the setting. This mode knowledge can be used in **C** mode), and

**t-2P** is a two point calibration mode (aim at the target color and press SET once, move the target color away, and then press SET to complete the setting).



One Click Teaching



Two Point Calibration

### Delay Mode

After completing the teaching mode setting, press the M key once to enter the delay mode setting. Press the left and right keys to switch, with a range of 0.01~9.99s

**tOFF**: Delay off

**oFFd**: Delay output

**ond**: Delay input

**onod**: Delay input output

Press the left and right keys to add or subtract red values

Value 10 corresponds to 0.01s, 9999 corresponds to 9.99s



Delay Off



Delay Output



Delay Input



Delay Input Output

### Initialization Method

Press and hold SET and M simultaneously for more than three seconds, and **rSt** will appear to complete initialization.



Initialization

### Lock Screen Settings

Simultaneously pressing M and DOWN for more than three seconds will result in **LoC** successfully locking the screen, and repeating the above steps will result in **UloC** successfully unlocking.



Lock



Unlock

## The following situations are not applicable

- Liquid
- Lighting
- Screen
- Dust Environment
- Fabric
- Too Many Mottled Colors
- Inconsistent Size
- Large Amplitude Jitter

Product specifications are subject to change without notice.  
For more information or if you have any questions or suggestions about this product, please feel free to contact us.