


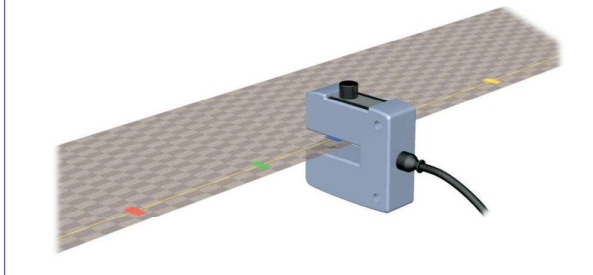
- For detection of marks on edge of transparent or translucent film
- Both Light ON and Dark ON outputs available
- U-shaped sensor requiring no light axis alignment, eliminates the possibility of misalignment caused by vibration
Distance: 10 mm fixed
- Light reception indicator and easy-to-use sensitivity adjustment provided, also excellent resistance to noise

Type

Detection method	Detection interval	Model	Light source	Operation mode	Output mode
 U-shaped through beam	10 mm fixed	MU10N	Green LED	Light ON/Dark ON (according to the selection of output lead)	Current output Voltage output

Typical Application

- MU10N uses a green LED as the light source, which allows detection of register marks printed on transparent or translucent paper with transmission factor of 10-100%.



Detection Capability

- Reference for selection of model

Detection object	Film sheet with transmission factor of 10-100%						Film sheet with transmission factor of 10% or lower					
	Mark color		Mark color		Mark color		Mark color		Mark color		Mark color	
Model	Red	Black	Brown	Dark blue	Green	Blue	Red	Black	Brown	Dark blue	Green	Blue
MU10N	○	○	○	○	△	○	—	—	—	—	—	—

○: detectable

△: may be detectable depending on shade

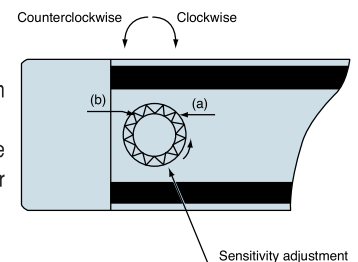
—: inappropriate application

Detection may not succeed depending on the shading. Be sure to provide samples.

Sensitivity Adjustment

The following example shows the procedure to adjust for light blocking condition with a register mark. For light reception condition with register marks, adjust in a reverse manner.

1. Turn the sensitivity adjustment counterclockwise to the minimum sensitivity.
2. With no mark present, turn up (clockwise) the sensitivity adjustment gradually from the minimum position and find the point at which the indicator is illuminated (Point b).
3. With the mark present, turn down (counterclockwise) the sensitivity adjustment gradually from the maximum position and find the point at which the indicator is illuminated (Point a). If the indicator is not illuminated even at the maximum, the maximum is regarded as Point a.
4. Set the adjustment at midway between Points a and b.



Rating/Performance/Specification

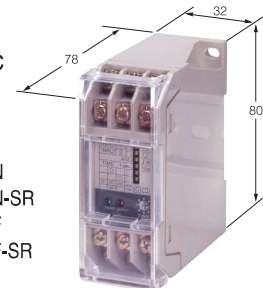
Model	MU10N	
Detection method	U-shaped through beam	
Detection interval (between transmitter and receiver)	10 mm fixed	
Power supply	12 – 24 VDC \pm 10% Ripple: 10 % or less.	
Current consumption	35 mA or less.	
Output mode	Current output/Voltage output (Rating): Current output: sink current 100 mA (30 VDC) or less. Voltage output: output impedance 4.7 k Ω	
Operation mode	Light ON/Dark ON	2 outputs (2 output leads)
Response time	3 ms or less.	
Light source	Green LED (570nm)	
Sensitivity adjustment	Provided	
Indicator	Light reception indicator (red LED)	
Material	Polycarbonate	
Connection	Cable type (outer diameter: dia.6mm) 0.3 mm ² x 4 cores, 3 m	
Weight	Approx. 220 g	
Accessory	Operation manual	

Environmental Specification

Ambient light	3,000 lx or less
Ambient temperature	-10 - +55 °C (non-freezing)
Ambient humidity	35-85%RH (non-condensing)
Protective structure	IP40
Vibration	10-55 Hz / 1.5 mm double amplitude / 2 hours each in 3 direction
Shock	100 m/s ² / 3 times each in 3 directions
Dielectric withstanding	1,500 VAC for 1 minute
Insulation resistance	500 VDC, 20 M Ω or higher

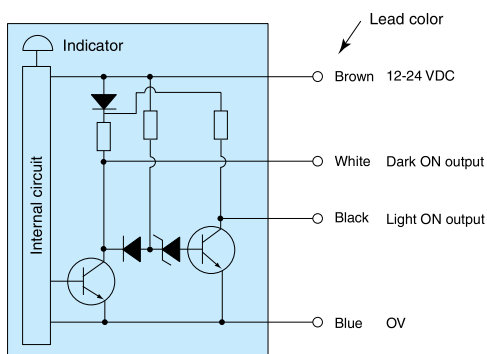
• Applicable power supply unit

PS Series
High capacity of
200 mA at 12 VDC



(General-purpose type) PS3N
PS3N-SR
(Multifunctional type) PS3F
PS3F-SR

Input/Output Circuit and Connection



Dimensions (in mm)

