


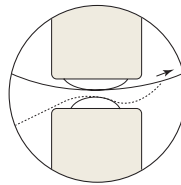
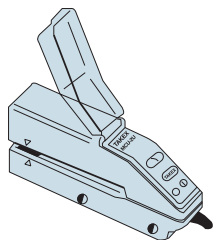
CE



- A Blue LED type is now available (ideal for detecting yellow register marks)
- Lens surface is constantly cleaned
- Large curved Glass lens will not cause damage to work
- Water resistance to IP 67 standard for washability, multi-turn manually adjustable without tool for fine adjustment

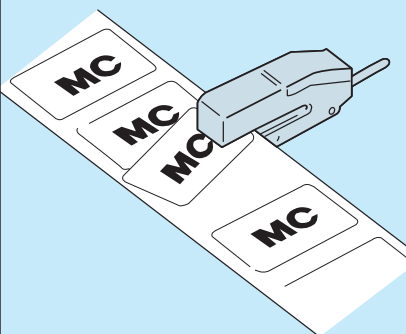
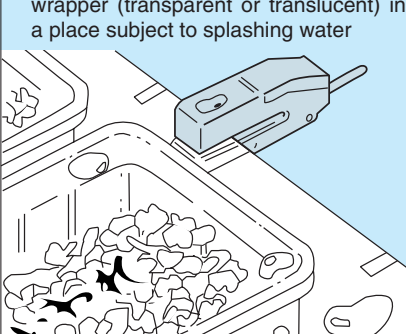
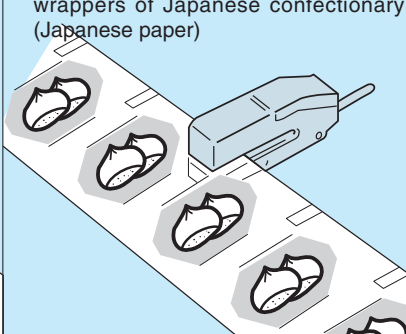
Type

| Detection method | Detection interval | Model | Light source | Operation mode | Output mode | Remarks |
|--|--------------------|-----------|--------------|----------------------------------|----------------|---|
|  U-shaped through-beam | 2 mm fixed | MC-U2R | Red LED | Light-ON/Dark-ON selector switch | Open collector | For detection of labels |
| | | MC-U2R-TC | | | | |
| | | MC-U2G | Green LED | | | For detection of register marks |
| | | MC-U2G-TC | | | | |
| | | MC-U2B | Blue LED | | | Effective for detection of yellow marks |
| | | MC-U2B-TC | | | | |



- The center of detection is constantly cleaned for stable detection, even with Japanese paper, etc., that generates a large amount of dust.
- The top lens is also cleaned by the "spring effect" of work caused by release of tension that occurs when the work runs out.

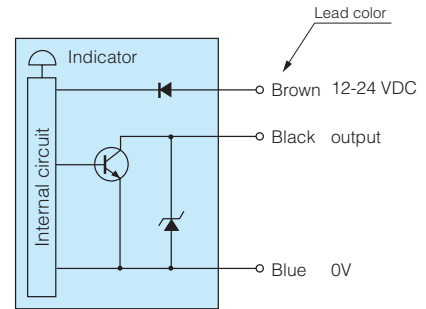
Sample Application

| | | |
|--|---|--|
| <ul style="list-style-type: none"> • Detection of overlapped labels  | <ul style="list-style-type: none"> • Positioning of register marks on film wrapper (transparent or translucent) in a place subject to splashing water  | <ul style="list-style-type: none"> • Detection of register marks on wrappers of Japanese confectionary (Japanese paper)  |
|--|---|--|

Rating/Performance/Specification

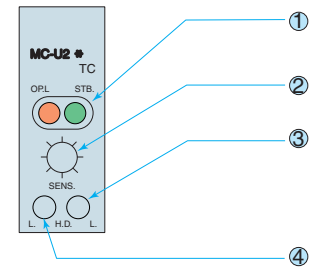
| Rating/performance | Type | Register mark detection | | |
|---------------------|---|--|-------------------|--|
| | Model | MC-U2R | MC-U2G | MC-U2B |
| Detection method | U-shaped through-beam | | | |
| Detection interval | 2 mm fixed | | | |
| Power supply | 12 – 24 VDC ±10% Ripple: 10 % max. | | | |
| Current consumption | 20 mA max. | 28 mA max. | 22 mA max. | |
| Output mode | NPN open collector output Rating: sink current 100 mA (30 VDC) max. (*1) | | | |
| Operation mode | Light-ON/Dark-ON selectable (with switch) | | | |
| Response time | 0.5 us max. | | | |
| Specification | Light source (light wavelength) | Red LED (680nm) | Green LED (570nm) | Blue LED (450nm) |
| | Indicator | OPL: Operation indicator (Red LED), STB: Stability indicator (Green LED) | | |
| | Volume (VR) | SENS: 4-turn sensitivity adjustment without stopper provided | | |
| | Switch (SW) | ● Light-ON/Dark-ON selector switch provided L: Light-ON, D: Dark-ON | | ● Emission intensity selector switch provided L: low powered, H: high powered |
| | Short-circuit protection | Provided | | |
| | Material | Case: heat-resistant ABS, Lens: Glass | | |
| | Connection | Permanently attached cord (outer diameter: dia.4) 0.2 mm2 x 3 cores, 3 m, black | | |
| | Mass | 120 g max. | | |
| | Notes | (*1) Models that provide PNP and NPN outputs are also available. Model Nos.: MC-U2R-TC and MC-U2G-TC. | | |

Input/Output Circuit and Connection



- The output transistor turns off when load short circuit or overload occurs.
- Check the load and turn the power back on.

Panel Layout



- ① Indicators OPL: operation indicator (red LED)
STB: stability indicator (green LED)
- ② Sensitivity adjustment: 4-turn volume without stopper
- ③ Light-ON, Dark-ON selector switch D: Dark ON
L: Light ON
- ④ Emission intensity selector switch L: low powered
H: high powered

Environmental Specification

| Environment | Ambient light | 5,000 lx max. |
|-------------|-------------------------|---|
| | Ambient temperature | -25 - +55 °C (non-freezing) |
| | Ambient humidity | 35-85%RH (non-condensing) |
| | Protective structure | IP67 |
| | Vibration | 10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 direction |
| | Shock | 100 m/s ² / 2 times each in 3 directions |
| | Dielectric withstanding | 500 VAC for 1 minute |
| | Insulation resistance | 500 VDC, 20 MΩ or higher |

Dimensions (in mm for all models)

