


MC series

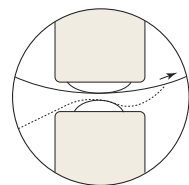
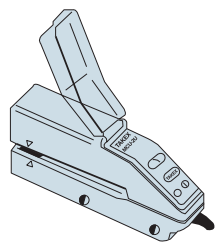
U-shaped mark sensor



- A Blue LED type is now available (ideal for detecting yellow register marks)
- Lens surface is constantly cleaned
- No damage to sheets with the large curvature convex lens
- Water resistant IP 67 washable housing
- Multi-turn pot. for easy adjustment

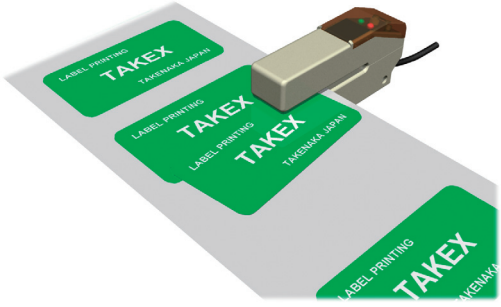
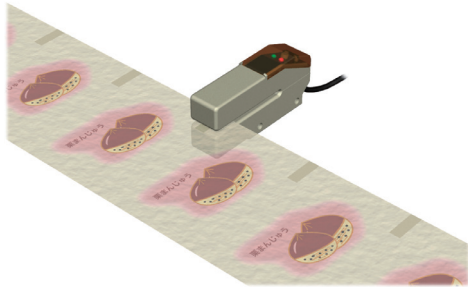
Type

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 selectable (with switch)	Open collector	NPN	For detection of labels
		MC-U2RTC				NPN/PNP 2 outputs	
		MC-U2G	Green LED			NPN	For detection of register marks
		MC-U2GTC				NPN/PNP 2 outputs	
		MC-U2B	Blue LED			NPN	Effective for detection of yellow marks
		MC-U2BTC				NPN/PNP 2 outputs	



- 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.

Applications

<ul style="list-style-type: none"> ● Detection of overlapped labels 	<ul style="list-style-type: none"> ● Detection of register marks on wrappers of Japanese confectionary (Japanese paper) 
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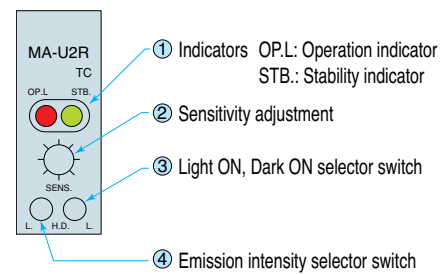
Rating/Performance/Specification

Type	NPN type			NPN/PNP Dual output type		
	For detection of labels	Register mark detection		For detection of labels	Register mark detection	
Model	MC-U2R	MC-U2G	MC-U2B	MC-U2RTC	MC-U2GTC	MC-U2BTC
Detection method	U-shaped through beam					
Detection interval	2 mm fixed					
Power supply	12 - 24 VDC ±10% / Ripple: 10 % or less					
Current consumption	20mA or less	28mA or less	22mA or less	22mA or less	30mA or less	24mA or less
Output mode	NPN open collector output Rating: Sink current 100 mA (30 VDC) or less			NPN / PNP open collector 2 outputs Rating: Sink current (NPN), source current (PNP) 100 mA (30 VDC) or less		
Operation mode	Light ON/Dark ON selectable (with switch)					
Response time	0.5 ms or less					
Light source (light wavelength)	Red LED (680nm)	Green LED (525nm)	Blue LED (450nm)	Red LED (680nm)	Green LED (525nm)	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)	<ul style="list-style-type: none"> ●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	Cable type (outer diameter: dia.4mm) 0.2 mm ² x 3 cores, 3 m, black			Cable type (outer diameter: dia.4mm) 0.2 mm ² x 4 cores, 3 m, black		
Weight	Approx. 120 g or less					
Accessory	Screwdriver for adjustment, operation manual					

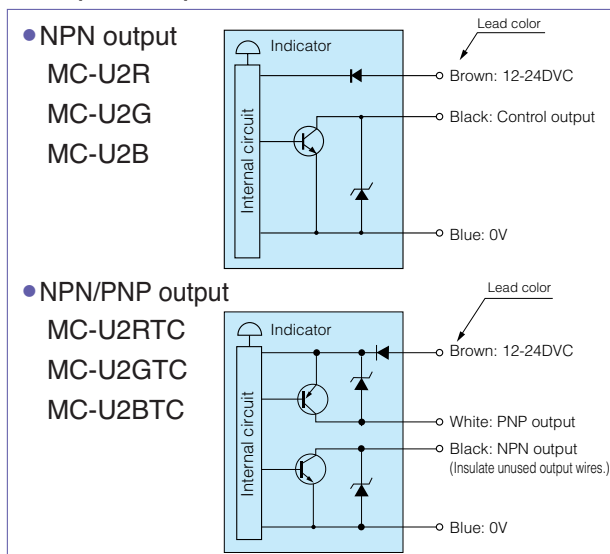
Environmental Specification

Ambient light	5,000 lx or less
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 / 3 times each in 3 directions
Dielectric withstanding	500 VAC for 1 minute
Insulation resistance	500 VDC, 20 MΩ or higher

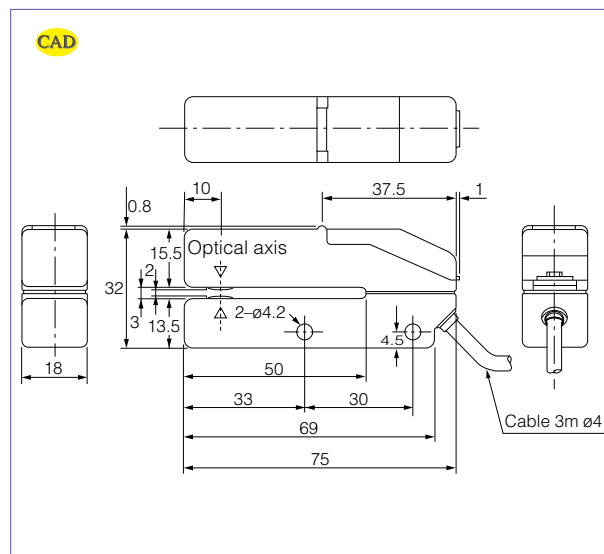
Panel Layout



Input/Output Circuit and Connection



Dimensions (in mm for all models)



In the condition of load short-circuit or overload, the output transistor turns off. Check the load condition before restarting.

To download CAD data including dimensions, please visit www.takex-elec.co.jp/index_e.html.