RSL230

Direct Projection Type Safety Light System

Designed to increase productivity while ensuring personnel safety

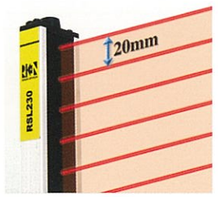
For Personnel Protection

RSL230 Series Safety Light Curtain is designed to protect machine operators and plant personnel from hazards associated with moving machinery with fail-safe control reliability. In operation, RSL230 extends a columnated "Curtain of Light" in front of hazardus areas. If a worker's hand interrupts the"light curtain", a signal is sent to the "stop" circuit of the machine.
RSL230 is designed with fail-safe circuitry, if any component within the system fails, a stop command is sent to the press, disabling it until the failure is corrected.

Features

Positive Protection

20mm pitch optical axes accurately cover the protection area without fail.



Direct Projection Safety System

Employed direct projection type safety system makes it possible to adjust optical axes easily.

Both-sides Protection

Control box is selectable from one-side and both-sides types. The both-sides type enables to control 2 pairs of emitters and receivers simultaneously.

Wide Variation

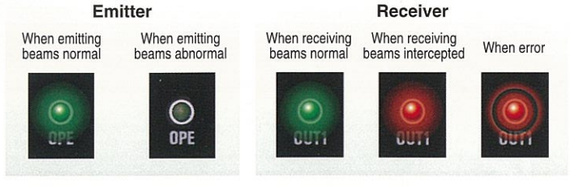
8~100 optical axes types in the unit of every 4-optical-axes are available, and selectable from 140~1,980mm length variation.

Compact Design

Light and slim design requires minimum installation space and thus allows large workspace.

Error-mode Monitor

When an error arises, its cause is indicated with LED flashing patterns.



Quick Disconnect Cable

Employed pre-wired feature realizes simple cable connection and easy installation.

Significantly Improved Safety with Various Added Functions

- ***External Diagnosis Function (Emitting Stop)***
  Stops emitting of the emitter forcibly. It's effective when pre-operation check of the safety system.
- ***External Interlock Function***
  Sensor operation interlock is controllable by inputting external signals to the sensor. Also, auxiliary optical axes are connectable using this function (one signal-line only).
- ***Mutual-interference Preventive Function***
  When 2 sensors are so close to be mutual-interference, it's prevented with making mutual-interference preventive connection.
- ***Ambient-light Diagnosis Function***
  With modulated light system, it's nearly unaffected by ambient-light. Also, it turns to be lock-out state when detecting external abnormal light.
- ***External Relay Monitor Function***
  Sensor verifies whether relays in the control box are working correctly.

Specifications

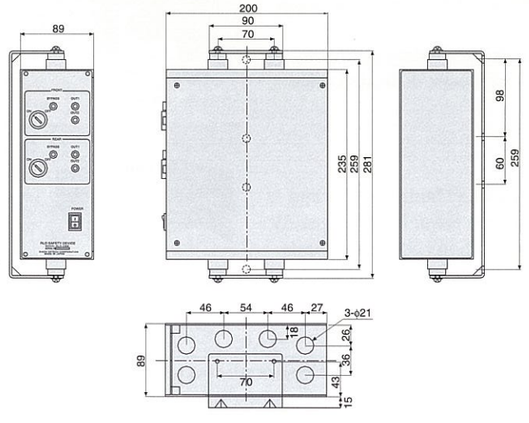
Light Sensor						
Models		RSL230-140~300	RSL230-380~540	RSL230-620~780	RSL230-860~1020	RSL230-1100~1260
No. of optical axis		8~16	20~28	32~40	44~52	56~64
Intercept response (ms or less)		15	20	25	30	35
Through response (ms or less)		70	100	130	160	190
Current consumption (max)		220mA	230mA	240mA	250mA	260mA
Optical axis pitch		20mm				
Minimum detectable object (MOS)		30ϕ				
Detective distance		0.2m ~ 6m				
Optical element		Infrared LED (wavelength 870nm)				
External diagnosis function		Available				
Indicators	Receiving indicator	When through: Green LED × 2 light				
		When intercept: Red LED × 2 light				
		When safety device off: Distinguish				
		When abnormal: Red LED flash pattern caused by abnormal				
	Emitting indicator	When sensor emitting correctly: Green LED × 1 light				
		External diagnosis (when intercepted forcibly): Red LED × 1 light				
Connecting type		Pre-wired (300mm standard)				
Protection circuit		Output load short protection Over-current protection fuse built-in				
Ambient temperature		-5°C ~ 55°C				
Ambient humidity		35 ~ 85%RH				

Control Box			
Items		RSL230-(S)	RSL230-(W)
Power requirement		AC 100V or AC 240V, 50~60Hz*	
Power consumption		+24V/15W	+24V/30W
Light sensor supply voltage		DC+24V	
Output contact	No. of output contact	1a × 2	
	Open-close capacity	AC 240V, inductive load (cosϕ=0.3)	
	Carrying current	2A	
	Minimum applicable load (P level reference value)	DC24V 50mA	
	Mechanical life	1,000,000 times or more (Open-close frequency 1,800 times per hour)	
	Electrical life	1,000,000 times or more (Open-close frequency 1,800 times per hour)	
Output performance	When all optical axes through	Relay on, contact close	
	When 1 or more optical axes intercept	Relay off, contact open	
Insulation resistance (DC 500V Mega)	Between all output contacts, power N/L (AC 100V) and DC output	100 MΩ or more	
	Between all output contacts and power N/L (AC 100V)	100 MΩ or more	
	Between output contacts (A11, A21), (A12, A22)	100 MΩ or more	
Operating temperature range		-10°C ~ 55°C	
Storage temperature range		-25°C ~ 85°C	
Operating humidity range		35 ~ 85%RH	
Storage humidity range		35 ~ 85%RH	

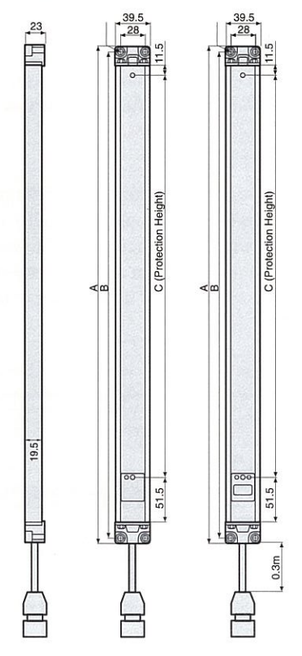
* For 100V and 200V, different switching power units are used.

Dimensions

Control Box



Light Sensor



(unit: mm)

Model RSL230-	300	380	460	540	620	700	780	860	940	1020	1100
No. of optical axis	16	20	24	28	32	36	40	44	48	52	56
A-size	403	483	563	643	723	803	883	963	1043	1123	1203
B-size	391	471	551	631	711	791	871	951	1031	1111	1191
C-size (Protection Height)	300	380	460	540	620	700	780	860	940	1020	1100

Model RSL230-	1180	1260	1340	1420	1500	1580	1660	1740	1820	1900	1980
No. of optical axis	60	64	68	72	76	80	84	88	92	96	100
A-size	1283	1363	1443	1523	1603	1683	1763	1843	1923	2003	2083
B-size	1271	1351	1431	1511	1591	1671	1751	1831	1911	1991	2071
C-size (Protection Height)	1180	1260	1340	1420	1500	1580	1660	1740	1820	1900	1980