C4 compact

Machine Safety Devices

Introduction

The C4 compact series of safety light curtains meet the highest requirements of the latest international safety standards such as ISO 13849-1 PL e and ISO 62061 safety level SIL3, as well as the international light curtain standard IEC 61496-1, IEC 61496-2.

All requirements of the highest level TYPE 4, and passed the test and verification of many third-party verification units in Europe, and obtained the certificate of qualification.

Its safety performance and grade can be applied to all kinds of dangerous machinery such as punching, shearing, folding machines and other working machines, and meet various safety regulations.

The C4 compact series of safety light curtains use the latest electronic and mechanical manufacturing technology, and the exterior structure is small and strong, and the detection dead zone occupied by the upper and lower end caps of the light curtain is reduced. Durable and priced at a lower price than comparable products, it is available in a wide range of models and sizes to meet the safety needs of the operator's palm, arm and body.

TD0401BT

Applications

- Stamping press
- Die Cutting Machine
- Injection molding machine
- Compression molding machine
- High-risk machine that causes serious injury or death
- Safety device in danger zone
- Robotic production line

Property

- Small size, suitable for mechanical compact size design,
  Strong mechanical rigidity without additional mechanism.
- Excellent safety performance, in line with various international safety standards
  and specifications, using the latest process technology, the quality of light curtain is stable.
- Comply with international safety protection product series.
  Various type, 30mm、40mm、45mm、50mm detection capability.
  Both are available in a two-section (ME) light curtain form (cascade) to meet customer requirements.
- Built-in self-diagnosis function and work status indicator.
  A seven-segment display with light screen receiving signal strength indication.
  (can be installed in the vertical direction of the light curtain to customize the font orientation).
- High performance, price concessions.
- Easy installation alignment and regulation.

General Specifications

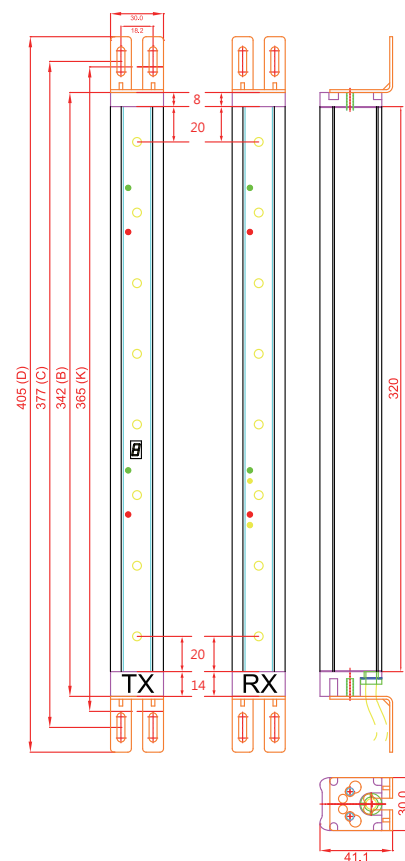| Beam axis pitch	6 ~ 96		4 ~ 48	
Detection capability	30mm	40mm	45mm	50mm
Detection zone	180mm ~ 2430mm	190mm ~ 2440mm	205mm ~ 1965mm	210mm ~ 1970mm
Operating distance	0.5m ~ 5m	3m ~ 10m	0.5m ~ 5m	3m ~ 10m
Reaction time	20msec (It does not include relay switch time)			
Ambient temperature	0℃ to +50℃			
Enclosure rating	IP65			
Status indicator	TX - Status indicator RX - OSSD ON (Green LED),OSSD OFF (Red LED),RX receiving status (Yellow LED)			
Power supply	24 VDC ± 10% and 1.5A regulated			
Power consumption	500mA + (OSSD current consumption)			
Connector	Direct output(standard type)		M12connector(T type)	
Appearance	Aluminum, yellow coating			
Classification	IEC 62061 SIL3 · ISO 13849-1 PL e · IEC 61496-1 TYPE4 / IEC 61496-2 TYPE4			
Input mode	EDM, RESET, Synchronization input, 24VDC / 0V (GND)			
Output mode	OSSD1 & OSSD2 (24 VDC / 500mA Solid-state Electronic), Synchronization output			

C4B series

Beams	Detection Capability 30mm Operating distance 0.5m to 5m		Detection Capability 40mm Operating distance 3m to 10m				
	Model	Detection Zone (K)(mm)	Model	Detection Zone (K)(mm)	Overall Length (B)(mm)	Install Length (C)(mm)	Assembly Length (D)(mm)
6	C4B-6	180	C4B-6L	190	177	212	240
12	C4B-12	330	C4B-12L	340	327	362	390
18	C4B-18	480	C4B-18L	490	477	512	540
24	C4B-24	630	C4B-24L	640	627	662	690
30	C4B-30	780	C4B-30L	790	777	812	840
36	C4B-36	930	C4B-36L	940	927	962	990
42	C4B-42	1080	C4B-42L	1090	1077	1112	1140
48	C4B-48	1230	C4B-48L	1240	1227	1262	1290
54	C4B-54	1380	C4B-54L	1390	1377	1412	1440
60	C4B-60	1530	C4B-60L	1540	1527	1562	1590
66	C4B-66	1680	C4B-66L	1690	1677	1712	1740
72	C4B-72	1830	C4B-72L	1840	1827	1862	1890
78	C4B-78	1980	C4B-78L	1990	1977	2012	2040
84	C4B-84	2130	C4B-84L	2140	2127	2162	2190
90	C4B-90	2280	C4B-90L	2290	2277	2312	2340
96	C4B-96	2430	C4B-96L	2440	2427	2462	2490

C4A series
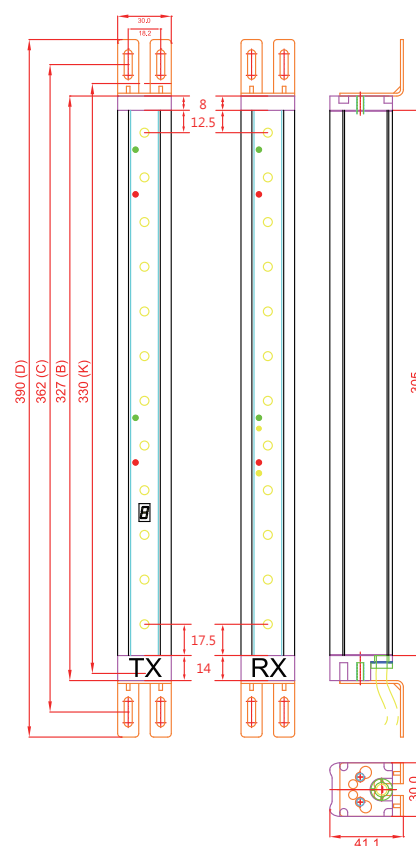
Beams	Detection Capability 45mm Operating distance 0.5m to 5m		Detection Capability 50mm Operating distance 3m to 10m				
	Model	Detection Zone (K)(mm)	Model	Detection Zone (K)(mm)	Overall Length (B)(mm)	Install Length (C)(mm)	Assembly Length (D)(mm)
4	C4A-4	205	C4A-4L	210	182	217	245
8	C4A-8	365	C4A-8L	370	342	377	405
12	C4A-12	525	C4A-12L	530	502	537	565
16	C4A-16	685	C4A-16L	690	662	697	725
20	C4A-20	845	C4A-20L	850	822	857	885
24	C4A-24	1005	C4A-24L	1010	982	1017	1045
28	C4A-28	1165	C4A-28L	1170	1142	1177	1205
32	C4A-32	1325	C4A-32L	1330	1302	1337	1365
36	C4A-36	1485	C4A-36L	1490	1462	1497	1525
40	C4A-40	1645	C4A-40L	1650	1622	1657	1685
44	C4A-44	1805	C4A-44L	1810	1782	1817	1845
48	C4A-48	1965	C4A-48L	1970	1942	1977	2005

Perimeter series

Beams	Beam axis pitch (P)(mm)	Operating distance 0.5m to 5m		Operating distance 3m to 10m		Overall Length (B)(mm)	Install Length (C)(mm)	Assembly Length (D)(mm)
		Model	Detection Zone (K)(mm)	Model	Detection Zone (K)(mm)			
8	500	C4A-125	562	C4A-122	562	562	597	625
8	600	C4A-128	662	C4A-129	662	662	697	725
12	430	C4A-126	962	C4A-123	962	962	997	1025
16	373	C4A-127	1261	C4A-124	1261	1261	1296	1324
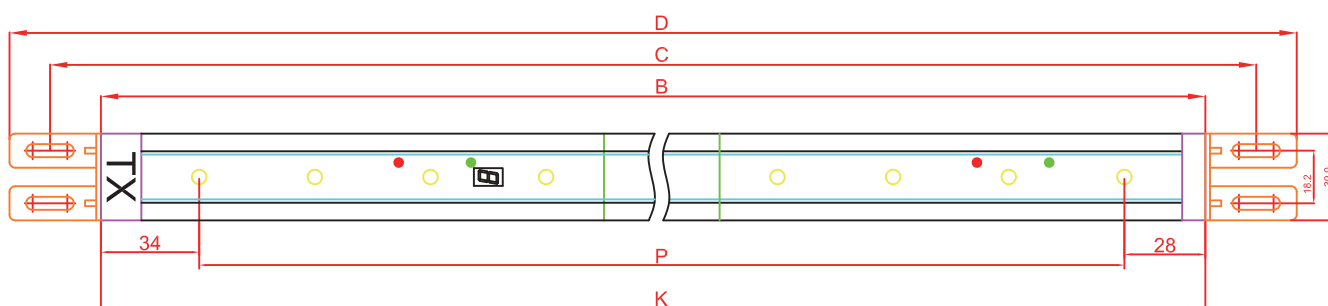
Mirror series (050-450 ~ 050-1950 series)

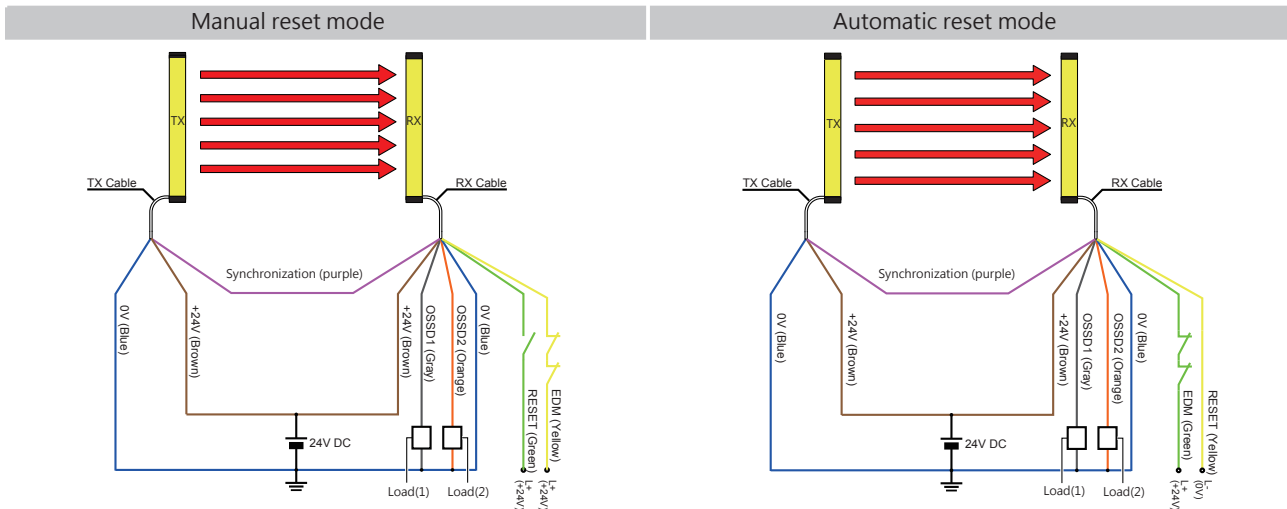Use the reflection of the mirror to establish a protected area
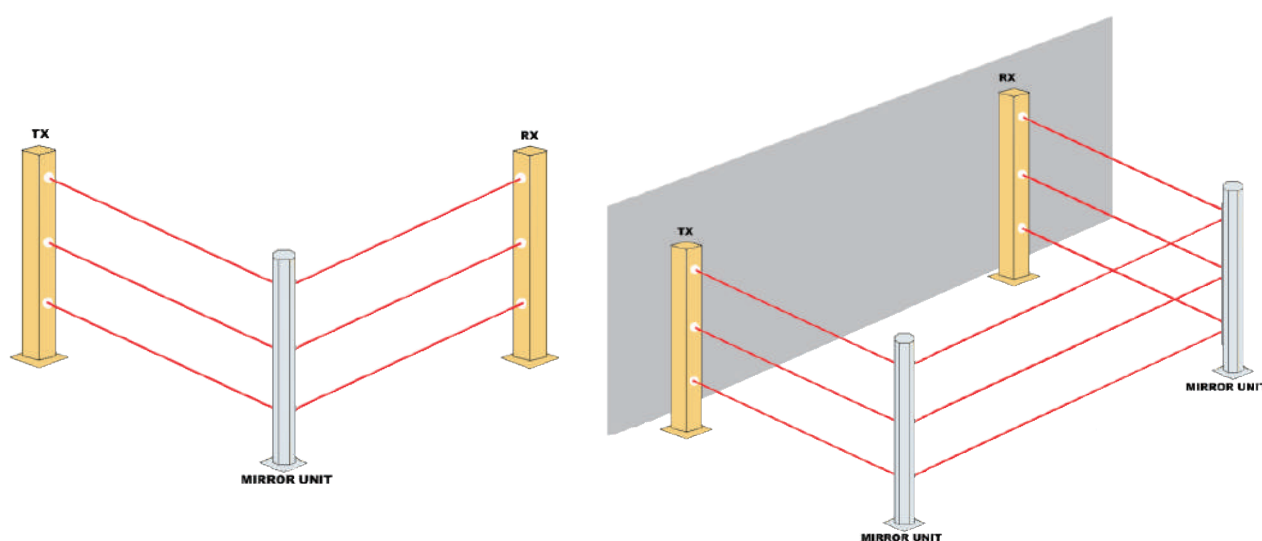
Use mirror reflection with light curtain (Perimeter series) to set up a protective area.
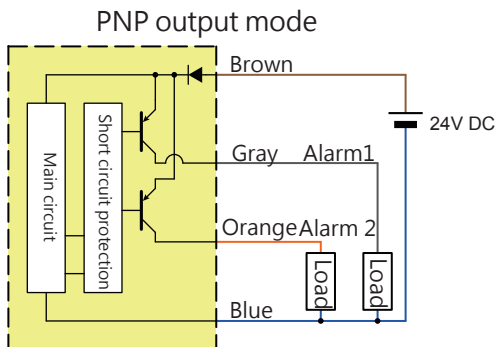
There are also cascadable light curtains.

For details, please contact SMARTSCAN sales or SMARTSCAN official website.

Electric Connection

Input、Output circuit	
(1)Power :	Vin +24V DC transmitter and receiver(Brown+24V、Blue 0V), we suggest using independently power module. It could avoid surging; Ferrite core installs in RX and case connects with Gnd.
(2)Output :	Two groups of transistor(PNP) signal output OSSD1 and OSSD2；DC+24V during light curtain normal operation(MAX 500mA).

Manual reset mode	Automatic reset mode

PNP output mode

TYPE 4 safety certification

Status indicators

TX					RX	
Status indicators	Description	Status indicators	Description	Status indicators		Description
7 segment display (1)	Real-time displays provide instant infrared signal receiving intensity light curtain receiver end,When the light curtain can be installed as an auxiliary installed positioningrefer-ence. Character display 0 ~ 9, F; 0 represents the minimum reception signal, F represents the maximum the received signal.	🟢 CLEAR	Under normal working conditions, the green light will be on. The green light will go out when the light curtain is blocked.	🟢	ON	Under normal working conditions, the green light will be on；the OSSD1 and OSSD2 outputs will be ON.
				🟡	EDM	When the EDM status is ON, the yellow light will be on. When the EDM status is OFF, the yellow light will go out.
7 segment display (2)	Display the current operating state of the light curtain,A total of six groups of light curtain status code action to assist technicians installed correctly curtains. Detailed code content and significance, see the product brochures and other technical manuals file.	🔴 BLOCK	Under normal operating conditions, the red light will go out. When the light curtain is blocked, the red light will be on.	🔴	OFF	The light is on to indicate: 1. The external power supply is normal; 2. The light curtain is blocked, and the OSSD1 and OSSD2 outputs are in the OFF state. When the light is off, the light curtain is unobstructed and normally sensed.
				🟡	ALIGNED	When the yellow light is on, it means that the light curtain is correctly aligned. When the yellow light is off, it means that the light curtain is installed in alignment.

RA4Y Multi-module

SPECIFICATIONS	
Light curtain	Compatible C4、ST、T4 series
Power supply	24VDC±10%
Power consumption	120mA
Safty RELAY output	250V AC 7A
Reaction time	Less than 10ms
Enclosure rating	IP40
Approved standards	GATEGORY 4 SIL 3
Electrical life-span	10^6cycles

RY4A Multi-module connection

Manual reset mode	Automatic reset mode
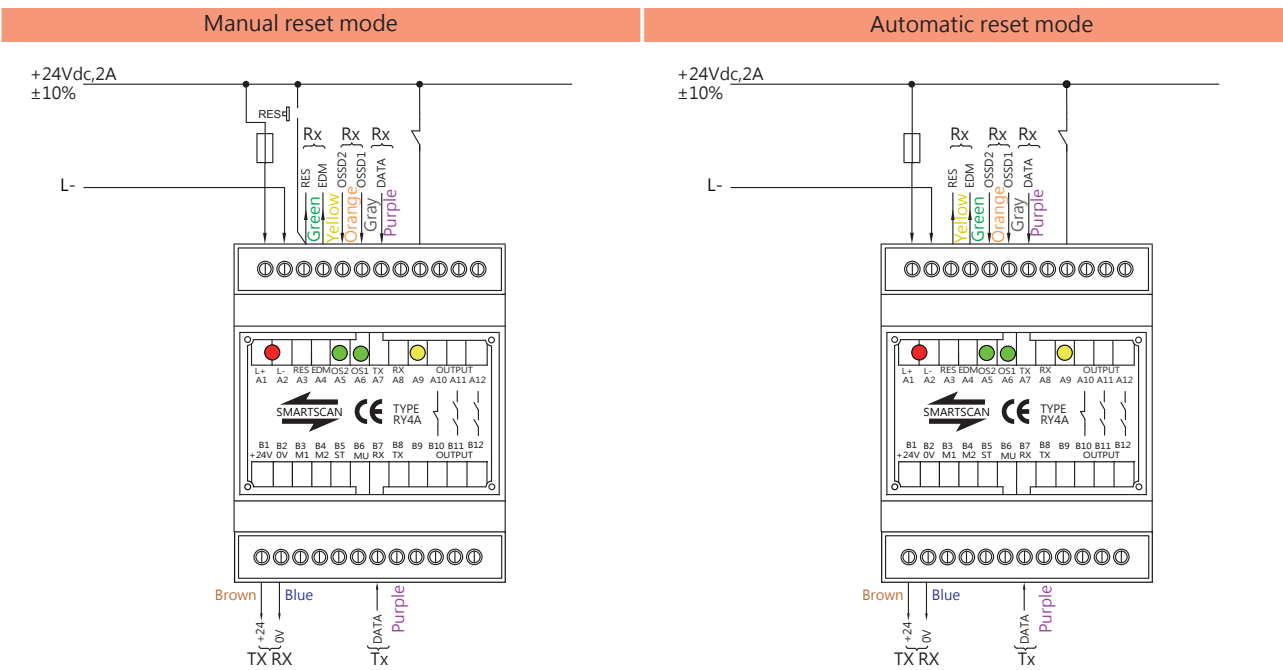
Accessories

Connector	bracket

Cable connection type

Direct output (standard type)	M12 connector type

Cable information
Cable(standard) : 3m
Cable(select): 5m
Cable(select): 10m
TX: 4 core (signal line × 3 core, shielded × 1 core)
RX: 8 core (signal line × 7 core, shielded × 1 core)