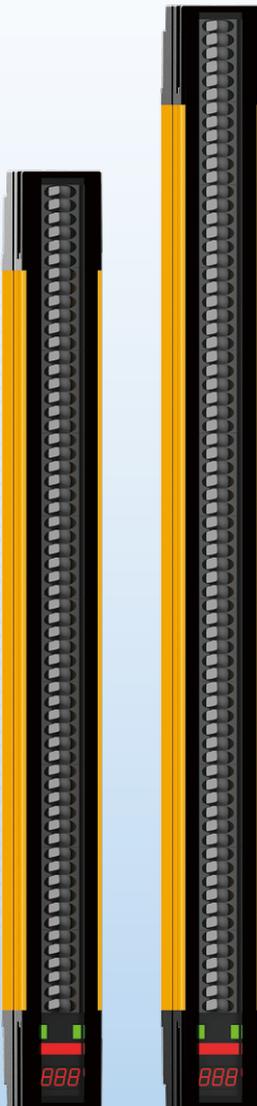




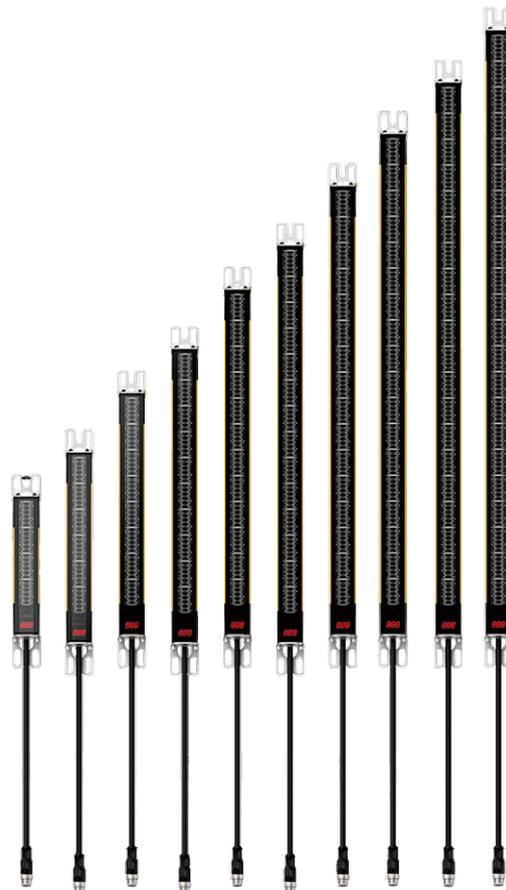
LCMF

Series Measuring Light Curtain



Functional Features

- ◆ 3 scanning methods: Straight scan、Single-edge scan、Double-edge scan
- ◆ 20 measurement (“scan analysis”) modes:
FBB、LBB、TBB、MBB、FBM、LBM、TBM、OD、ID、CBB、CBM、CFBB、CLBB、O1FBB、O1LBB、O2FBB、O2LBB、O3FBB、O3LBB、TRN
- ◆ Three output modes: 2-way independent level output, 2-way independent analog output, standard Modbus 485 RTU serial output
- ◆ Excellent 5 mm minimum object detection or 2.5 mm edge resolution, depending on scanning method
- ◆ The range of aiming distance is 400mm~4000mm, and the beam spacing is 5mm
- ◆ 3-bit digital tube and multiple LED lights are used to indicate the working state
- ◆ Equipped with PC host computer software, it can perform advanced configuration and work monitoring on light curtains
- ◆ Supporting Android system APP, light curtain can be configured through wireless infrared communication
- ◆ A remote configuration line is used to configure some simple functions: scanning mode, shielding setting, alignment calibration, gain setting, nixie tube display direction, infrared communication on/off



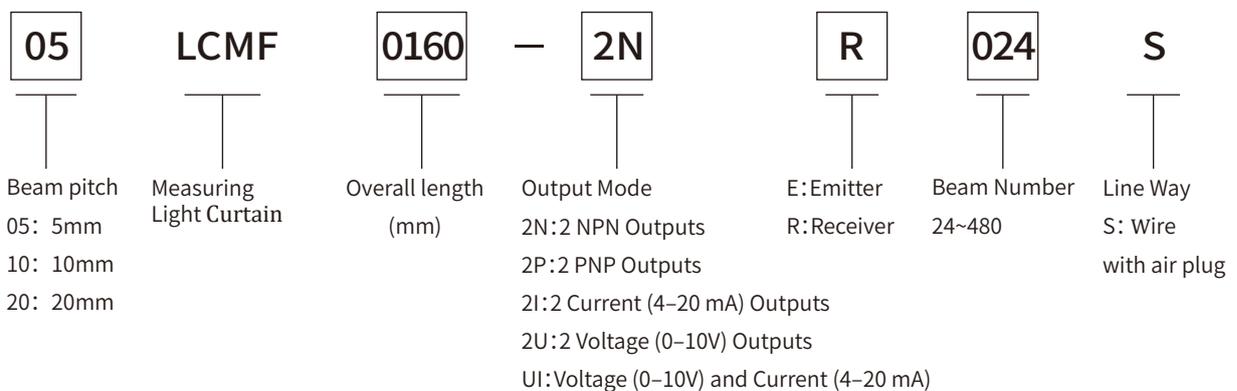
LCMF SERIES MEASURING LIGHT CURTAIN

LCMF Technical Parameters

Electric Parameters	
Supply voltage	Emitter: 12~30V DC Receiver (Voltage analog quantity type): 15~30V DC Receiver (Non voltage analog quantity type): 12~30V DC
Maximum power	15W (excluding load)
Response time	See table
Switch output	Two independent NPN or PNP transistor outputs Maximum load of output drive: 150mA Output pipe conduction voltage drop: 2V@150mA
Analog output	Two independent voltage or current analog outputs Voltage output: 0~10V (maximum load: 5mA) Current output: 4~20mA [maximum load: (power supply voltage - 3.5), 0.2]
TEACH signal	Low level voltage range: 0~1.5V High level voltage: 5~30V
Communication and settings	Modbus communication (baud rate: 9600/19200/38400bps)
Enclosure protection grade	IP65
Working temperature	-10~55°C
Storage temperature	-20~70°C
Relative humidity	15%~95%
Impact resistance	10g/20ms

Optical Parameters	
Detection accuracy	2.5mm/5mm/10mm (Depending on scan mode)
Detection height	120~2400mm
Detection distance	0.1~4m
Number of optical axes	24~480
Beam pitch	5mm
Effective aperture	±3°
wavelength	940nm
Anti ambient light interference	>10,000Lux
Synchronization	Line synchronization

LCMF Sensor Models



LCMF Model Example

Emitter

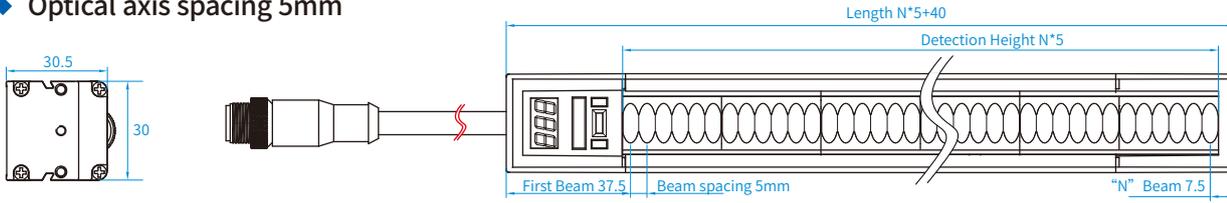


Receiver



LCMF Specification and selection

◆ Optical axis spacing 5mm

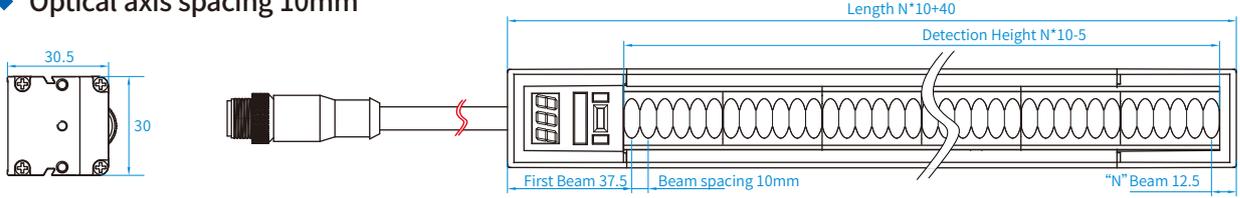


※ Due to the influence of product configuration and manufacturing process, the actual product size and weight may vary. Please refer to the actual product

N represents the number of optical axes

NO.	Dimension L*W*H (mm)	Beam Number	Detection Height (mm)	Model					
				Emitter	Receiver-2N	Receiver-2P	Receiver-2I	Receiver-2U	Receiver-UI
1	30×30×160	24	120	05LCMF0160-E024S	05LCMF0160-2NR024S	05LCMF0160-2PR024S	05LCMF0160-2IR024S	05LCMF0160-2UR024S	05LCMF0160-UIR024S
2	30×30×220	36	180	05LCMF0220-E036S	05LCMF0220-2NR036S	05LCMF0220-2PR036S	05LCMF0220-2IR036S	05LCMF0220-2UR036S	05LCMF0220-UIR036S
3	30×30×280	48	240	05LCMF0280-E048S	05LCMF0280-2NR048S	05LCMF0280-2PR048S	05LCMF0280-2IR048S	05LCMF0280-2UR048S	05LCMF0280-UIR048S
4	30×30×340	60	300	05LCMF0340-E060S	05LCMF0340-2NR060S	05LCMF0340-2PR060S	05LCMF0340-2IR060S	05LCMF0340-2UR060S	05LCMF0340-UIR060S
5	30×30×400	72	360	05LCMF0400-E072S	05LCMF0400-2NR072S	05LCMF0400-2PR072S	05LCMF0400-2IR072S	05LCMF0400-2UR072S	05LCMF0400-UIR072S
6	30×30×460	84	420	05LCMF0460-E084S	05LCMF0460-2NR084S	05LCMF0460-2PR084S	05LCMF0460-2IR084S	05LCMF0460-2UR084S	05LCMF0460-UIR084S
7	30×30×520	96	480	05LCMF0520-E096S	05LCMF0520-2NR096S	05LCMF0520-2PR096S	05LCMF0520-2IR096S	05LCMF0520-2UR096S	05LCMF0520-UIR096S
8	30×30×580	108	540	05LCMF0580-E108S	05LCMF0580-2NR108S	05LCMF0580-2PR108S	05LCMF0580-2IR108S	05LCMF0580-2UR108S	05LCMF0580-UIR108S
9	30×30×640	120	600	05LCMF0640-E120S	05LCMF0640-2NR120S	05LCMF0640-2PR120S	05LCMF0640-2IR120S	05LCMF0640-2UR120S	05LCMF0640-UIR120S
10	30×30×700	132	660	05LCMF0700-E132S	05LCMF0700-2NR132S	05LCMF0700-2PR132S	05LCMF0700-2IR132S	05LCMF0700-2UR132S	05LCMF0700-UIR132S
11	30×30×760	144	720	05LCMF0760-E144S	05LCMF0760-2NR144S	05LCMF0760-2PR144S	05LCMF0760-2IR144S	05LCMF0760-2UR144S	05LCMF0760-UIR144S
12	30×30×820	156	780	05LCMF0820-E156S	05LCMF0820-2NR156S	05LCMF0820-2PR156S	05LCMF0820-2IR156S	05LCMF0820-2UR156S	05LCMF0820-UIR156S
13	30×30×880	168	840	05LCMF0880-E168S	05LCMF0880-2NR168S	05LCMF0880-2PR168S	05LCMF0880-2IR168S	05LCMF0880-2UR168S	05LCMF0880-UIR168S
14	30×30×940	180	900	05LCMF0940-E180S	05LCMF0940-2NR180S	05LCMF0940-2PR180S	05LCMF0940-2IR180S	05LCMF0940-2UR180S	05LCMF0940-UIR180S
15	30×30×1000	192	960	05LCMF1000-E192S	05LCMF1000-2NR192S	05LCMF1000-2PR192S	05LCMF1000-2IR192S	05LCMF1000-2UR192S	05LCMF1000-UIR192S
16	30×30×1060	204	1020	05LCMF1060-E204S	05LCMF1060-2NR204S	05LCMF1060-2PR204S	05LCMF1060-2IR204S	05LCMF1060-2UR204S	05LCMF1060-UIR204S
17	30×30×1120	216	1080	05LCMF1120-E216S	05LCMF1120-2NR216S	05LCMF1120-2PR216S	05LCMF1120-2IR216S	05LCMF1120-2UR216S	05LCMF1120-UIR216S
18	30×30×1180	228	1140	05LCMF1180-E228S	05LCMF1180-2NR228S	05LCMF1180-2PR228S	05LCMF1180-2IR228S	05LCMF1180-2UR228S	05LCMF1180-UIR228S
19	30×30×1240	240	1200	05LCMF1240-E240S	05LCMF1240-2NR240S	05LCMF1240-2PR240S	05LCMF1240-2IR240S	05LCMF1240-2UR240S	05LCMF1240-UIR240S
20	30×30×1300	252	1260	05LCMF1300-E252S	05LCMF1300-2NR252S	05LCMF1300-2PR252S	05LCMF1300-2IR252S	05LCMF1300-2UR252S	05LCMF1300-UIR252S
21	30×30×1360	264	1320	05LCMF1360-E264S	05LCMF1360-2NR264S	05LCMF1360-2PR264S	05LCMF1360-2IR264S	05LCMF1360-2UR264S	05LCMF1360-UIR264S
22	30×30×1420	276	1380	05LCMF1420-E276S	05LCMF1420-2NR276S	05LCMF1420-2PR276S	05LCMF1420-2IR276S	05LCMF1420-2UR276S	05LCMF1420-UIR276S
23	30×30×1480	288	1440	05LCMF1480-E288S	05LCMF1480-2NR288S	05LCMF1480-2PR288S	05LCMF1480-2IR288S	05LCMF1480-2UR288S	05LCMF1480-UIR288S
24	30×30×1540	300	1500	05LCMF1540-E300S	05LCMF1540-2NR300S	05LCMF1540-2PR300S	05LCMF1540-2IR300S	05LCMF1540-2UR300S	05LCMF1540-UIR300S
25	30×30×1600	312	1560	05LCMF1600-E312S	05LCMF1600-2NR312S	05LCMF1600-2PR312S	05LCMF1600-2IR312S	05LCMF1600-2UR312S	05LCMF1600-UIR312S
26	30×30×1660	324	1620	05LCMF1660-E324S	05LCMF1660-2NR324S	05LCMF1660-2PR324S	05LCMF1660-2IR324S	05LCMF1660-2UR324S	05LCMF1660-UIR324S
27	30×30×1720	336	1680	05LCMF1720-E336S	05LCMF1720-2NR336S	05LCMF1720-2PR336S	05LCMF1720-2IR336S	05LCMF1720-2UR336S	05LCMF1720-UIR336S
28	30×30×1780	348	1740	05LCMF1780-E348S	05LCMF1780-2NR348S	05LCMF1780-2PR348S	05LCMF1780-2IR348S	05LCMF1780-2UR348S	05LCMF1780-UIR348S
29	30×30×1840	360	1800	05LCMF1840-E360S	05LCMF1840-2NR360S	05LCMF1840-2PR360S	05LCMF1840-2IR360S	05LCMF1840-2UR360S	05LCMF1840-UIR360S
30	30×30×1900	372	1860	05LCMF1900-E372S	05LCMF1900-2NR372S	05LCMF1900-2PR372S	05LCMF1900-2IR372S	05LCMF1900-2UR372S	05LCMF1900-UIR372S
31	30×30×1960	384	1920	05LCMF1960-E384S	05LCMF1960-2NR384S	05LCMF1960-2PR384S	05LCMF1960-2IR384S	05LCMF1960-2UR384S	05LCMF1960-UIR384S
32	30×30×2020	396	1980	05LCMF2020-E396S	05LCMF2020-2NR396S	05LCMF2020-2PR396S	05LCMF2020-2IR396S	05LCMF2020-2UR396S	05LCMF2020-UIR396S
33	30×30×2080	408	2040	05LCMF2080-E408S	05LCMF2080-2NR408S	05LCMF2080-2PR408S	05LCMF2080-2IR408S	05LCMF2080-2UR408S	05LCMF2080-UIR408S
34	30×30×2140	420	2100	05LCMF2140-E420S	05LCMF2140-2NR420S	05LCMF2140-2PR420S	05LCMF2140-2IR420S	05LCMF2140-2UR420S	05LCMF2140-UIR420S
35	30×30×2200	432	2160	05LCMF2200-E432S	05LCMF2200-2NR432S	05LCMF2200-2PR432S	05LCMF2200-2IR432S	05LCMF2200-2UR432S	05LCMF2200-UIR432S
36	30×30×2260	444	2220	05LCMF2260-E444S	05LCMF2260-2NR444S	05LCMF2260-2PR444S	05LCMF2260-2IR444S	05LCMF2260-2UR444S	05LCMF2260-UIR444S
37	30×30×2320	456	2280	05LCMF2320-E456S	05LCMF2320-2NR456S	05LCMF2320-2PR456S	05LCMF2320-2IR456S	05LCMF2320-2UR456S	05LCMF2320-UIR456S
38	30×30×2380	468	2340	05LCMF2380-E468S	05LCMF2380-2NR468S	05LCMF2380-2PR468S	05LCMF2380-2IR468S	05LCMF2380-2UR468S	05LCMF2380-UIR468S
39	30×30×2440	480	2400	05LCMF2440-E480S	05LCMF2440-2NR480S	05LCMF2440-2PR480S	05LCMF2440-2IR480S	05LCMF2440-2UR480S	05LCMF2440-UIR480S

◆ Optical axis spacing 10mm

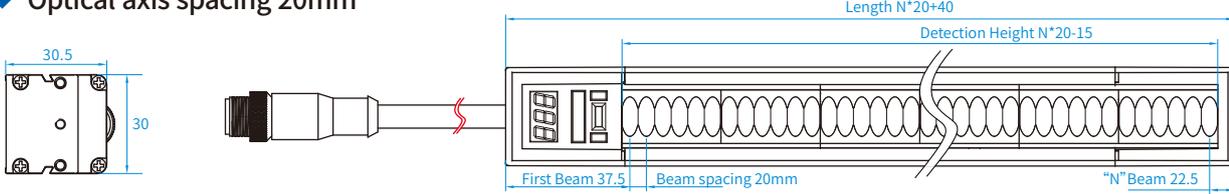


※ Due to the influence of product configuration and manufacturing process, the actual product size and weight may vary. Please refer to the actual product

N represents the number of optical axes

NO.	Dimension L*W*H (mm)	Beam Number	Detection Height (mm)	Model					
				Emitter	Receiver-2N	Receiver-2P	Receiver-2I	Receiver-2U	Receiver-UI
1	30×30×160	12	115	10LCMF0160-E012S	10LCMF0160-2NR012S	10LCMF0160-2PR012S	10LCMF0160-2IR012S	10LCMF0160-2UR012S	10LCMF0160-UIR012S
2	30×30×220	18	175	10LCMF0220-E018S	10LCMF0220-2NR018S	10LCMF0220-2PR018S	10LCMF0220-2IR018S	10LCMF0220-2UR018S	10LCMF0220-UIR018S
3	30×30×280	24	235	10LCMF0280-E024S	10LCMF0280-2NR024S	10LCMF0280-2PR024S	10LCMF0280-2IR024S	10LCMF0280-2UR024S	10LCMF0280-UIR024S
4	30×30×340	30	295	10LCMF0340-E030S	10LCMF0340-2NR030S	10LCMF0340-2PR030S	10LCMF0340-2IR030S	10LCMF0340-2UR030S	10LCMF0340-UIR030S
5	30×30×400	36	355	10LCMF0400-E036S	10LCMF0400-2NR036S	10LCMF0400-2PR036S	10LCMF0400-2IR036S	10LCMF0400-2UR036S	10LCMF0400-UIR036S
6	30×30×460	42	415	10LCMF0460-E042S	10LCMF0460-2NR042S	10LCMF0460-2PR042S	10LCMF0460-2IR042S	10LCMF0460-2UR042S	10LCMF0460-UIR042S
7	30×30×520	48	475	05LCMF0520-E048S	10LCMF0520-2NR048S	10LCMF0520-2PR048S	10LCMF0520-2IR048S	10LCMF0520-2UR048S	10LCMF0520-UIR048S
8	30×30×580	54	535	10LCMF0580-E054S	10LCMF0580-2NR054S	10LCMF0580-2PR054S	10LCMF0580-2IR054S	10LCMF0580-2UR054S	10LCMF0580-UIR054S
9	30×30×640	60	595	10LCMF0640-E060S	10LCMF0640-2NR060S	10LCMF0640-2PR060S	10LCMF0640-2IR060S	10LCMF0640-2UR060S	10LCMF0640-UIR060S
10	30×30×700	66	655	10LCMF0700-E066S	10LCMF0700-2NR066S	10LCMF0700-2PR066S	10LCMF0700-2IR066S	10LCMF0700-2UR066S	10LCMF0700-UIR066S
11	30×30×760	72	715	10LCMF0760-E072S	10LCMF0760-2NR072S	10LCMF0760-2PR072S	10LCMF0760-2IR072S	10LCMF0760-2UR072S	10LCMF0760-UIR072S
12	30×30×820	78	775	10LCMF0820-E078S	10LCMF0820-2NR078S	10LCMF0820-2PR078S	10LCMF0820-2IR078S	10LCMF0820-2UR078S	10LCMF0820-UIR078S
13	30×30×880	84	835	10LCMF0880-E084S	10LCMF0880-2NR084S	10LCMF0880-2PR084S	10LCMF0880-2IR084S	10LCMF0880-2UR084S	10LCMF0880-UIR084S
14	30×30×940	90	895	10LCMF0940-E090S	10LCMF0940-2NR090S	10LCMF0940-2PR090S	10LCMF0940-2IR090S	10LCMF0940-2UR090S	10LCMF0940-UIR090S
15	30×30×1000	96	955	10LCMF1000-E096S	10LCMF1000-2NR096S	10LCMF1000-2PR096S	10LCMF1000-2IR096S	10LCMF1000-2UR096S	10LCMF1000-UIR096S
16	30×30×1060	102	1015	10LCMF1060-E102S	10LCMF1060-2NR102S	10LCMF1060-2PR102S	10LCMF1060-2IR102S	10LCMF1060-2UR102S	10LCMF1060-UIR102S
17	30×30×1120	108	1075	10LCMF1120-E108S	10LCMF1120-2NR108S	10LCMF1120-2PR108S	10LCMF1120-2IR108S	10LCMF1120-2UR108S	10LCMF1120-UIR108S
18	30×30×1180	114	1135	10LCMF1180-E114S	10LCMF1180-2NR114S	10LCMF1180-2PR114S	10LCMF1180-2IR114S	10LCMF1180-2UR114S	10LCMF1180-UIR114S
19	30×30×1240	120	1195	10LCMF1240-E120S	10LCMF1240-2NR120S	10LCMF1240-2PR120S	10LCMF1240-2IR120S	10LCMF1240-2UR120S	10LCMF1240-UIR120S
20	30×30×1300	126	1255	10LCMF1300-E126S	10LCMF1300-2NR106S	10LCMF1300-2PR106S	10LCMF1300-2IR106S	10LCMF1300-2UR106S	10LCMF1300-UIR106S
21	30×30×1360	132	1315	10LCMF1360-E132S	10LCMF1360-2NR132S	10LCMF1360-2PR132S	10LCMF1360-2IR132S	10LCMF1360-2UR132S	10LCMF1360-UIR132S
22	30×30×1420	138	1375	10LCMF1420-E138S	10LCMF1420-2NR138S	10LCMF1420-2PR138S	10LCMF1420-2IR138S	10LCMF1420-2UR138S	10LCMF1420-UIR138S
23	30×30×1480	144	1435	10LCMF1480-E144S	10LCMF1480-2NR144S	10LCMF1480-2PR144S	10LCMF1480-2IR144S	10LCMF1480-2UR144S	10LCMF1480-UIR144S
24	30×30×1540	150	1495	10LCMF1540-E150S	10LCMF1540-2NR150S	10LCMF1540-2PR150S	10LCMF1540-2IR150S	10LCMF1540-2UR150S	10LCMF1540-UIR150S
25	30×30×1600	156	1555	10LCMF1600-E156S	10LCMF1600-2NR156S	10LCMF1600-2PR156S	10LCMF1600-2IR156S	10LCMF1600-2UR156S	10LCMF1600-UIR156S
26	30×30×1660	162	1615	10LCMF1660-E162S	10LCMF1660-2NR162S	10LCMF1660-2PR162S	10LCMF1660-2IR162S	10LCMF1660-2UR162S	10LCMF1660-UIR162S
27	30×30×1720	168	1675	10LCMF1720-E168S	10LCMF1720-2NR168S	10LCMF1720-2PR168S	10LCMF1720-2IR168S	10LCMF1720-2UR168S	10LCMF1720-UIR168S
28	30×30×1780	174	1735	10LCMF1780-E174S	10LCMF1780-2NR174S	10LCMF1780-2PR174S	10LCMF1780-2IR174S	10LCMF1780-2UR174S	10LCMF1780-UIR174S
29	30×30×1840	180	1795	10LCMF1840-E180S	10LCMF1840-2NR180S	10LCMF1840-2PR180S	10LCMF1840-2IR180S	10LCMF1840-2UR180S	10LCMF1840-UIR180S
30	30×30×1900	186	1855	10LCMF1900-E186S	10LCMF1900-2NR186S	10LCMF1900-2PR186S	10LCMF1900-2IR186S	10LCMF1900-2UR186S	10LCMF1900-UIR186S
31	30×30×1960	192	1915	10LCMF1960-E192S	10LCMF1960-2NR192S	10LCMF1960-2PR192S	10LCMF1960-2IR192S	10LCMF1960-2UR192S	10LCMF1960-UIR192S
32	30×30×2020	198	1975	10LCMF2020-E198S	10LCMF2020-2NR198S	10LCMF2020-2PR198S	10LCMF2020-2IR198S	10LCMF2020-2UR198S	10LCMF2020-UIR198S
33	30×30×2080	204	2035	10LCMF2080-E204S	10LCMF2080-2NR204S	10LCMF2080-2PR204S	10LCMF2080-2IR204S	10LCMF2080-2UR204S	10LCMF2080-UIR204S
34	30×30×2140	210	2095	10LCMF2140-E210S	10LCMF2140-2NR210S	10LCMF2140-2PR210S	10LCMF2140-2IR210S	10LCMF2140-2UR210S	10LCMF2140-UIR210S
35	30×30×2200	216	2155	10LCMF2200-E216S	10LCMF2200-2NR216S	10LCMF2200-2PR216S	10LCMF2200-2IR216S	10LCMF2200-2UR216S	10LCMF2200-UIR216S
36	30×30×2260	222	2215	10LCMF2260-E222S	10LCMF2260-2NR222S	10LCMF2260-2PR222S	10LCMF2260-2IR222S	10LCMF2260-2UR222S	10LCMF2260-UIR222S
37	30×30×2320	228	2275	10LCMF2320-E228S	10LCMF2320-2NR228S	10LCMF2320-2PR228S	10LCMF2320-2IR228S	10LCMF2320-2UR228S	10LCMF2320-UIR228S
38	30×30×2380	234	2335	10LCMF2380-E234S	10LCMF2380-2NR234S	10LCMF2380-2PR234S	10LCMF2380-2IR234S	10LCMF2380-2UR234S	10LCMF2380-UIR234S
39	30×30×2440	240	2395	10LCMF2440-E240S	10LCMF2440-2NR240S	10LCMF2440-2PR240S	10LCMF2440-2IR240S	10LCMF2440-2UR240S	10LCMF2440-UIR240S

◆ Optical axis spacing 20mm

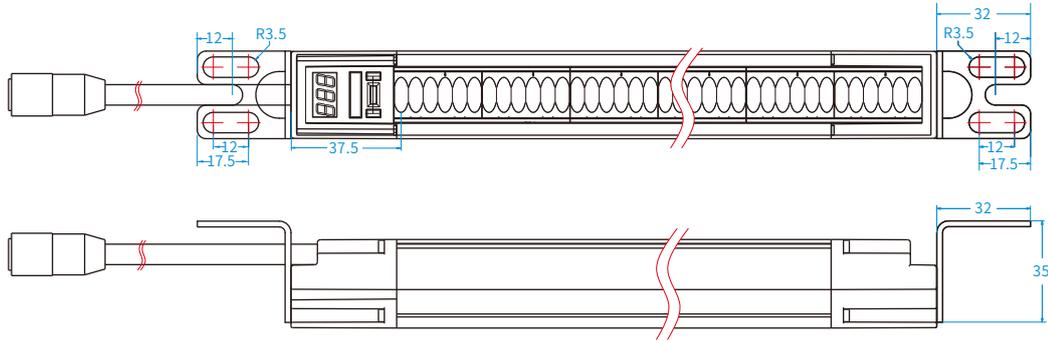


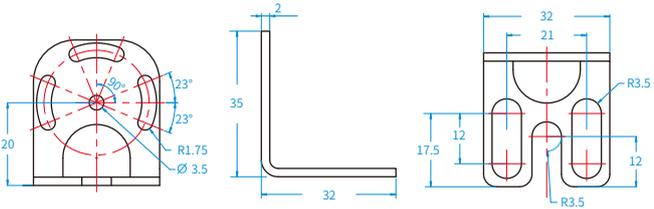
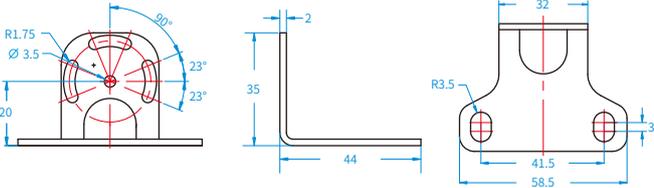
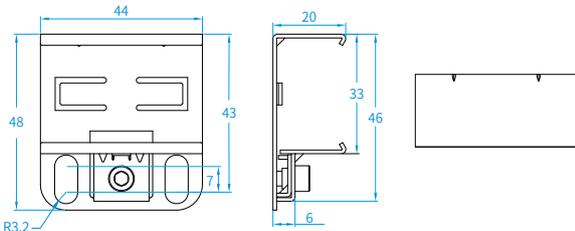
※Due to the influence of product configuration and manufacturing process, the actual product size and weight may vary. Please refer to the actual product

N represents the number of optical axes

NO.	Dimension L*W*H (mm)	Beam Number	Detection Height (mm)	Model					
				Emitter	Receiver-2N	Receiver-2P	Receiver-2I	Receiver-2U	Receiver-UI
1	30×30×160	6	105	20LCMF0160-E006S	20LCMF0160-2NR006S	20LCMF0160-2PR006S	20LCMF0160-2IR006S	20LCMF0160-2UR006S	20LCMF0160-UIR006S
2	30×30×220	9	165	20LCMF0220-E009S	20LCMF0220-2NR009S	20LCMF0220-2PR009S	20LCMF0220-2IR009S	20LCMF0220-2UR009S	20LCMF0220-UIR009S
3	30×30×280	12	225	20LCMF0280-E012S	20LCMF0280-2NR012S	20LCMF0280-2PR012S	20LCMF0280-2IR012S	20LCMF0280-2UR012S	20LCMF0280-UIR012S
4	30×30×340	15	285	20LCMF0340-E015S	20LCMF0340-2NR015S	20LCMF0340-2PR015S	20LCMF0340-2IR015S	20LCMF0340-2UR015S	20LCMF0340-UIR015S
5	30×30×400	18	345	20LCMF0400-E018S	20LCMF0400-2NR018S	20LCMF0400-2PR018S	20LCMF0400-2IR018S	20LCMF0400-2UR018S	20LCMF0400-UIR018S
6	30×30×460	21	405	20LCMF0460-E021S	20LCMF0460-2NR021S	20LCMF0460-2PR021S	20LCMF0460-2IR021S	20LCMF0460-2UR021S	20LCMF0460-UIR021S
7	30×30×520	24	465	20LCMF0520-E024S	20LCMF0520-2NR024S	20LCMF0520-2PR024S	20LCMF0520-2IR024S	20LCMF0520-2UR024S	20LCMF0520-UIR024S
8	30×30×580	27	525	20LCMF0580-E027S	20LCMF0580-2NR027S	20LCMF0580-2PR027S	20LCMF0580-2IR027S	20LCMF0580-2UR027S	20LCMF0580-UIR027S
9	30×30×640	30	585	20LCMF0640-E030S	20LCMF0640-2NR030S	20LCMF0640-2PR030S	20LCMF0640-2IR030S	20LCMF0640-2UR030S	20LCMF0640-UIR030S
10	30×30×700	33	645	20LCMF0700-E033S	20LCMF0700-2NR033S	20LCMF0700-2PR033S	20LCMF0700-2IR033S	20LCMF0700-2UR033S	20LCMF0700-UIR033S
11	30×30×760	36	705	20LCMF0760-E036S	20LCMF0760-2NR036S	20LCMF0760-2PR036S	20LCMF0760-2IR036S	20LCMF0760-2UR036S	20LCMF0760-UIR036S
12	30×30×820	39	765	20LCMF0820-E039S	20LCMF0820-2NR039S	20LCMF0820-2PR039S	20LCMF0820-2IR039S	20LCMF0820-2UR039S	20LCMF0820-UIR039S
13	30×30×880	42	825	20LCMF0880-E042S	20LCMF0880-2NR042S	20LCMF0880-2PR042S	20LCMF0880-2IR042S	20LCMF0880-2UR042S	20LCMF0880-UIR042S
14	30×30×940	45	885	20LCMF0940-E045S	20LCMF0940-2NR045S	20LCMF0940-2PR045S	20LCMF0940-2IR045S	20LCMF0940-2UR045S	20LCMF0940-UIR045S
15	30×30×1000	48	945	20LCMF1000-E048S	20LCMF1000-2NR048S	20LCMF1000-2PR048S	20LCMF1000-2IR048S	20LCMF1000-2UR048S	20LCMF1000-UIR048S
16	30×30×1060	54	1005	20LCMF1060-E051S	20LCMF1060-2NR051S	20LCMF1060-2PR051S	20LCMF1060-2IR051S	20LCMF1060-2UR051S	20LCMF1060-UIR051S
17	30×30×1120	54	1065	20LCMF1120-E054S	20LCMF1120-2NR054S	20LCMF1120-2PR054S	20LCMF1120-2IR054S	20LCMF1120-2UR054S	20LCMF1120-UIR054S
18	30×30×1180	57	1125	20LCMF1180-E057S	20LCMF1180-2NR057S	20LCMF1180-2PR057S	20LCMF1180-2IR057S	20LCMF1180-2UR057S	20LCMF1180-UIR057S
19	30×30×1240	60	1185	20LCMF1240-E060S	20LCMF1240-2NR060S	20LCMF1240-2PR060S	20LCMF1240-2IR060S	20LCMF1240-2UR060S	20LCMF1240-UIR060S
20	30×30×1300	63	1245	20LCMF1300-E063S	20LCMF1300-2NR063S	20LCMF1300-2PR063S	20LCMF1300-2IR063S	20LCMF1300-2UR063S	20LCMF1300-UIR063S
21	30×30×1360	66	1305	20LCMF1360-E066S	20LCMF1360-2NR066S	20LCMF1360-2PR066S	20LCMF1360-2IR066S	20LCMF1360-2UR066S	20LCMF1360-UIR066S
22	30×30×1420	69	1365	20LCMF1420-E069S	20LCMF1420-2NR069S	20LCMF1420-2PR069S	20LCMF1420-2IR069S	20LCMF1420-2UR069S	20LCMF1420-UIR069S
23	30×30×1480	72	1425	20LCMF1480-E072S	20LCMF1480-2NR072S	20LCMF1480-2PR072S	20LCMF1480-2IR072S	20LCMF1480-2UR072S	20LCMF1480-UIR072S
24	30×30×1540	75	1485	20LCMF1540-E075S	20LCMF1540-2NR075S	20LCMF1540-2PR075S	20LCMF1540-2IR075S	20LCMF1540-2UR075S	20LCMF1540-UIR075S
25	30×30×1600	78	1545	20LCMF1600-E078S	20LCMF1600-2NR078S	20LCMF1600-2PR078S	20LCMF1600-2IR078S	20LCMF1600-2UR078S	20LCMF1600-UIR078S
26	30×30×1660	81	1605	20LCMF1660-E081S	20LCMF1660-2NR081S	20LCMF1660-2PR081S	20LCMF1660-2IR081S	20LCMF1660-2UR081S	20LCMF1660-UIR081S
27	30×30×1720	84	1665	20LCMF1720-E084S	20LCMF1720-2NR084S	20LCMF1720-2PR084S	20LCMF1720-2IR084S	20LCMF1720-2UR084S	20LCMF1720-UIR084S
28	30×30×1780	87	1725	20LCMF1780-E087S	20LCMF1780-2NR087S	20LCMF1780-2PR087S	20LCMF1780-2IR087S	20LCMF1780-2UR087S	20LCMF1780-UIR087S
29	30×30×1840	90	1785	20LCMF1840-E090S	20LCMF1840-2NR090S	20LCMF1840-2PR090S	20LCMF1840-2IR090S	20LCMF1840-2UR090S	20LCMF1840-UIR090S
30	30×30×1900	93	1845	20LCMF1900-E093S	20LCMF1900-2NR093S	20LCMF1900-2PR093S	20LCMF1900-2IR093S	20LCMF1900-2UR093S	20LCMF1900-UIR093S
31	30×30×1960	96	1905	20LCMF1960-E096S	20LCMF1960-2NR096S	20LCMF1960-2PR096S	20LCMF1960-2IR096S	20LCMF1960-2UR096S	20LCMF1960-UIR096S
32	30×30×2020	99	1965	20LCMF2020-E099S	20LCMF2020-2NR099S	20LCMF2020-2PR099S	20LCMF2020-2IR099S	20LCMF2020-2UR099S	20LCMF2020-UIR099S
33	30×30×2080	102	2025	20LCMF2080-E102S	20LCMF2080-2NR102S	20LCMF2080-2PR102S	20LCMF2080-2IR102S	20LCMF2080-2UR102S	20LCMF2080-UIR102S
34	30×30×2140	105	2085	20LCMF2140-E105S	20LCMF2140-2NR105S	20LCMF2140-2PR105S	20LCMF2140-2IR105S	20LCMF2140-2UR105S	20LCMF2140-UIR105S
35	30×30×2200	108	2145	20LCMF2200-E108S	20LCMF2200-2NR108S	20LCMF2200-2PR108S	20LCMF2200-2IR108S	20LCMF2200-2UR108S	20LCMF2200-UIR108S
36	30×30×2260	111	2205	20LCMF2260-E111S	20LCMF2260-2NR111S	20LCMF2260-2PR111S	20LCMF2260-2IR111S	20LCMF2260-2UR111S	20LCMF2260-UIR111S
37	30×30×2320	114	2265	20LCMF2320-E114S	20LCMF2320-2NR114S	20LCMF2320-2PR114S	20LCMF2320-2IR114S	20LCMF2320-2UR114S	20LCMF2320-UIR114S
38	30×30×2380	117	2325	20LCMF2380-E117S	20LCMF2380-2NR117S	20LCMF2380-2PR117S	20LCMF2380-2IR117S	20LCMF2380-2UR117S	20LCMF2380-UIR117S
39	30×30×2440	120	2385	20LCMF2440-E120S	20LCMF2440-2NR120S	20LCMF2440-2PR120S	20LCMF2440-2IR120S	20LCMF2440-2UR120S	20LCMF2440-UIR120S

▶ Accessory size and selection table

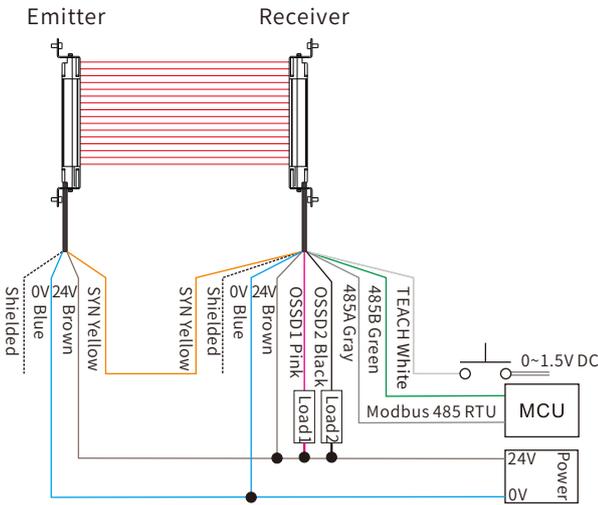


Type	Name	Shape	Dimension figure	Order number	Item
	Standard mounting brackets at both ends	 Model: 05LCMF-ZJ01		LOT05LCMFZJ01	4
Bracket	Reverse buckle mounting brackets at both ends	 Model: 05LCMF-ZJ02		LOT05LCMFZJ02	4
	Back mounting bracket	 Model: 05LCMF-ZJ03		LOT05LCMFZJ03	4
Cable	5m	05LCMF8-05	Cable type description 05LCMF 8 30 product line cable cores cable length 8:8 cores 05:5m 15:15m 30:30m Cable length can be customized (to be purchased separately)	LOT05LCMFXL05	2
	15m	05LCMF8-15		LOT05LCMFXL15	2
	30m	05LCMF8-30		LOT05LCMFXL30	2

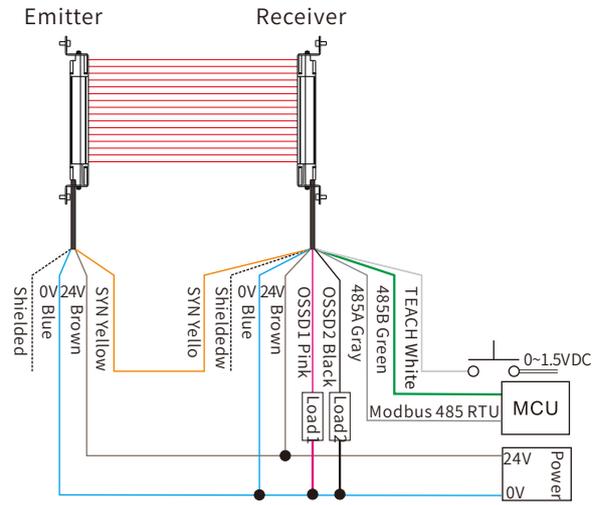
※Due to the influence of product configuration and manufacturing process, the actual product size and weight may be different. Please refer to the actual product

Application wiring diagram

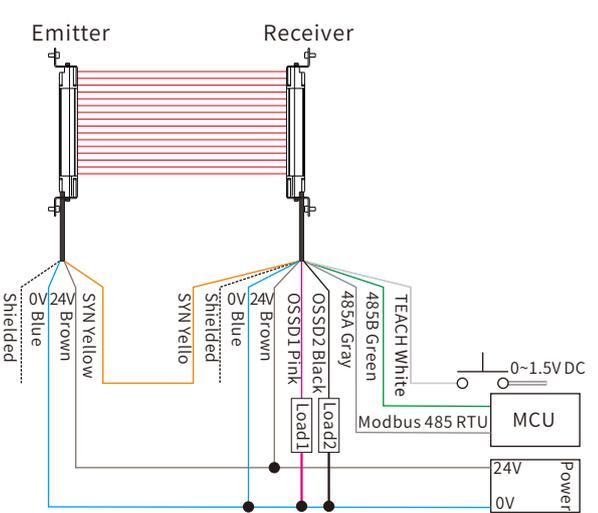
NPN type switch output wiring diagram



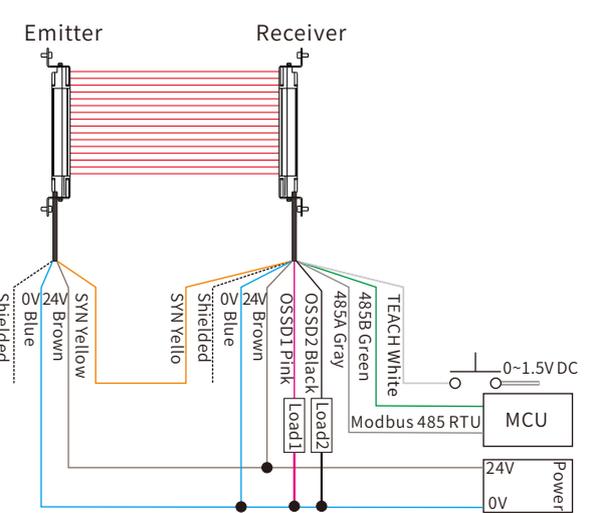
PNP type switch output wiring diagram



Voltage analog output wiring diagram



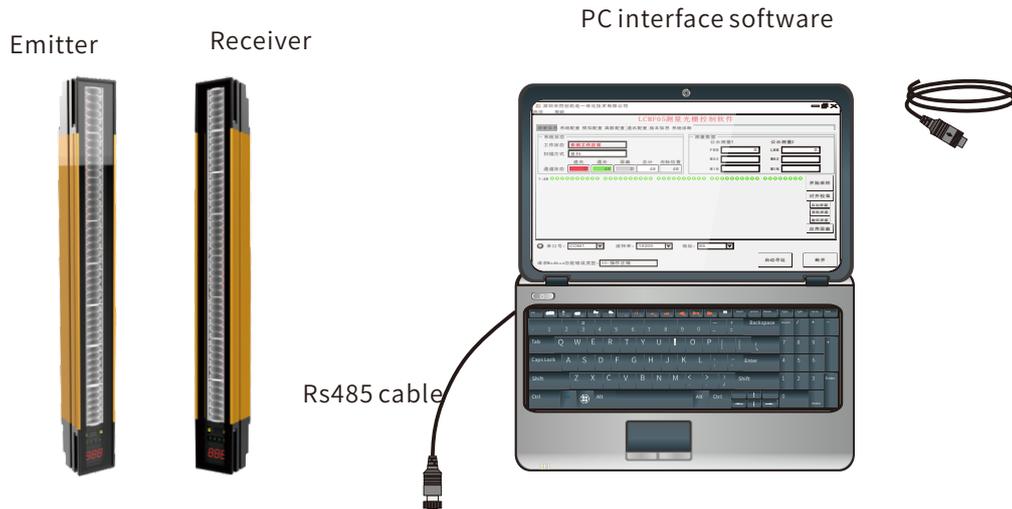
Current analog output wiring diagram



LCMF SERIES MEASURING LIGHT CURTAIN

System Components

The 05LCMF series light curtain is composed of emitter and receiver. Beam synchronization adopts line synchronization mode. The emitter and receiver need to share the power ground. Comprehensive data is available to a process controller via a combination of five outputs: two analog, two discrete, and one Modbus 485-RTU serial. Digital measurement results are accessed through serial communication. Simple Settings can be set by remote line (white) or android APP. Advanced Settings and detailed data access via computer software.



The 05LCMF series light curtain system diagram

Scanning Method

There are three scanning methods for this light curtain:

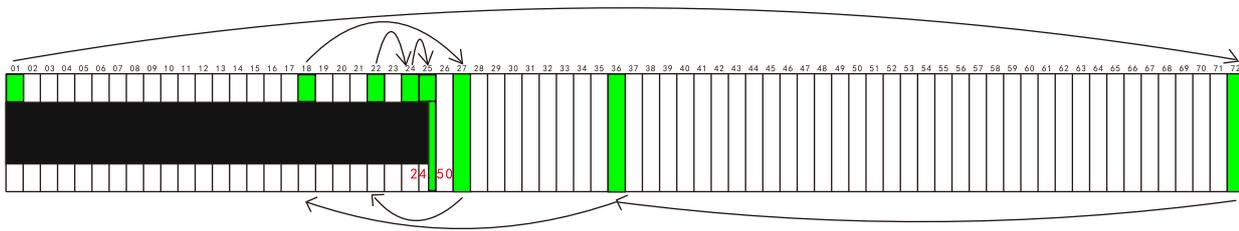
- Straight scan
- Single-edge scan
- Double-edge scan (1, 2, 4, 8, 16, or 32 steps)

◆ Straight scan

Straight Scan is the default mode, in which all beams are scanned in sequence, from the display end to the far end of the array. This scanning method provides the smallest object detection size. Straight scan is used when low-contrast sensitivity is selected or when single-edge and double-edge scan cannot be used. The edge resolution is 5 mm. When low-contrast sensing is selected (used when measuring semitransparent objects), the minimum object detection size is 5 mm diameter. When high-excess-gain sensing is selected, the minimum object detection size is 10 mm.

◆ Single-edge scan

Single-Edge Scan is used to measure the height of a single object. This scanning method is commonly used for box height measurement. For single-edge scan, the receiver always activates the first beam channel (or “bottom” beam, nearest the display). When the first beam is blocked, the sensor performs a binary search to hunt for the last beam blocked. Taking 72 channels as an example, the execution scan steps are shown in the follow figure.



Taking channel 72 as an example, the scanning sequence of unilateral scanning:

01→72→36→18→27→22→24→25

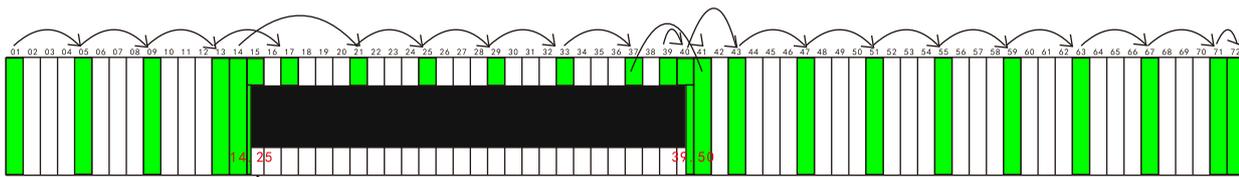
Single-edge scan can be used only for single, solid objects that block the first beam (closest to the display).

Because the receiver checks only the first beam until it is blocked, single-edge scan will not function when the item to be measured does not block the first beam. Single-edge scan is also ineffective if the object does not present a continuous blocked pattern. Single-edge scan works only when the high-excess-gain setting is enabled. When single-edge scan is selected, the sensor object detection size is 10 mm and edge resolution is 2.5 mm.

◆ Double-edge scan

Double-Edge Scan is used to detect two edges of a single object, for example, to determine box width measurements. Double-edge scan requires the selection of a step size: 1, 2, 4, 8, 16 or 32 beams.

The light curtain will skip some beams and scan according to the step size..



Taking channel 72 as an example, the scanning sequence of bilateral scanning beam:

01→05→09→13→17→15→14→21→25→29→33→37→41→39→40→43→47→51→55→59→63→67→71→72

Similar to single-edge scan, double-edge scan has some restrictions: the object should provide a solid obstruction; the size of the object determines the maximum step size.

Double-edge scan can be used to detect up to three objects.

Bilateral tracing works in high gain mode, and setting low gain is invalid for it.

The minimum object size of bilateral scanning is related to the scanning step, and the edge resolution is 2.5mm.

Scanning Method	Straight Scan		Single EdgeScan	Double-Edge Scan (per Edge)					
	Low Contrast	High Excess Gain		Step Size (Number of Beams)					
				1	2	4	8	16	32
Minimum Object Detection Size	5mm	10mm	10mm	10mm	20mm	30mm	50mm	90mm	170mm
Edge Resolution	5mm	5mm	2.5mm	2.5mm	2.5mm	2.5mm	2.5mm	2.5mm	2.5mm

The effect of scan mode and step size on minimum object detection size and edge resolution

Maximum Scan Times (in milliseconds)								
Channel Number	Straight Scan	Single-Edge Scan	Double-Edge Scan(step1)	Double-Edge Scan(step2)	Double-Edge Scan(step4)	Double-Edge Scan(step8)	Double-Edge Scan(step16)	Double-Edge Scan(step32)
24	2.5	1.4	2.5	3.8	3.6	2.8	2.8	2.1
36	3.1	1.5	3.1	4.4	3.9	3.5	2.9	2.6
48	3.7	1.5	3.7	5.0	4.2	4.1	3.0	3.0
60	4.3	1.5	4.3	5.4	4.4	4.2	3.6	3.5
72	4.9	1.5	4.9	5.8	4.6	4.3	4.3	4.3
84	5.5	1.5	5.5	6.4	4.8	4.4	4.3	4.3
96	6.1	1.5	6.2	7.0	5.0	4.4	4.3	4.3
108	6.7	1.6	6.8	7.3	5.3	4.6	4.3	4.3
120	7.3	1.6	7.4	7.6	5.5	4.7	4.4	4.3
132	7.9	1.6	8.0	8.3	5.9	5.0	4.7	4.4
144	8.5	1.6	8.6	8.9	6.3	5.2	5.0	4.5
156	9.1	1.7	9.2	9.2	6.5	5.4	5.0	4.7
168	9.7	1.7	9.8	9.5	6.6	5.5	5.0	4.9
180	10.3	1.7	10.4	10.2	7.1	5.7	5.3	5.0
192	10.9	1.7	11.0	10.9	7.5	5.9	5.5	5.0
204	11.5	1.7	11.6	11.5	7.7	6.0	5.5	5.3
216	12.1	1.7	12.2	12.1	7.9	6.1	5.5	5.5
228	12.7	1.7	12.8	12.3	8.0	6.2	5.6	5.6
240	13.3	1.7	13.4	12.4	8.1	6.3	5.8	5.8
252	13.9	1.7	14.0	12.8	8.2	6.3	5.8	5.8
264	14.6	1.7	14.7	13.2	8.2	6.3	5.8	5.8
276	15.2	1.7	15.3	13.8	8.5	6.5	5.8	5.8
288	15.8	1.7	15.9	14.4	8.8	6.6	5.9	5.8
300	16.4	1.7	16.5	15.0	9.1	6.7	5.9	5.8
312	17.0	1.7	17.1	15.6	9.3	6.8	5.9	5.8
324	17.6	1.7	17.7	16.0	9.6	6.9	6.0	5.8
336	18.2	1.7	18.3	16.4	9.8	7.0	6.0	5.8
348	18.8	1.7	18.9	16.9	10.1	7.3	6.3	5.9
360	19.4	1.7	19.5	17.3	10.4	7.5	6.5	5.9
372	20.1	1.8	20.1	17.9	10.6	7.7	6.5	6.0
384	20.6	1.8	20.7	18.2	10.7	7.8	6.5	6.0
396	21.2	1.8	21.3	18.8	11.0	7.9	6.6	6.0
408	21.8	1.8	21.9	19.3	11.3	8.0	6.7	6.0
420	22.4	1.8	22.5	19.8	11.6	8.2	6.7	6.0
432	23.0	1.8	23.2	20.2	11.8	8.3	6.7	6.0
444	23.7	1.8	23.8	20.7	12.3	8.6	6.9	6.1
456	24.3	1.8	24.4	21.2	12.7	8.8	7.0	6.2
468	24.9	1.8	25.0	21.9	13.1	8.9	7.0	6.3
480	25.5	1.8	25.6	22.6	13.4	8.9	7.0	6.3

Maximun scan times for stiaight ,single-edge and double-edge

Gain Configuration

Light curtain provides two gain configuration options for direct scanning: high gain and low gain. The gain option can be configured through the upper computer, Android APP and remote setting line (white).

The high gain is suitable for detecting opaque objects, and detecting objects 10mm or larger in a more hostile environment. High gain is always applied in single side scan or bilateral scan. The high gain option is the minimum occlusion judgment threshold, providing reliable object perception.

Low gain is used to detect translucent objects or objects that can detect a minimum of 5mm (direct scanning). The low gain provides 9 different levels of occlusion judgment threshold lines, ranging from 10% to 50%, with one level every 5%. The user selects the appropriate low gain contrast according to the actual situation.

Gain Setting	Low Contrast			High Excess Gain		
	Straight Scan	Single EdgeScan	Double Edge Scan (per Edge)	Straight Scan	Single EdgeScan	Double Edge Scan (per Edge)
Minimum Object Detection Size	5mm	—	—	10mm	10mm	Depends on step size
Edge Resolution	5mm	—	—	5mm	2.5mm	2.5 mm / edge 5 mm total (both edges)

Effects of Gain selection on minimum object detection size and sensing resolution

Alignment and Calibration

The purpose of Light curtain alignment calibration is to adjust the luminous power level of the transmitter to maximize the performance of the sensor. Perform the calibration process during installation. When the transmitter or receiver is moved, the calibration process must be performed again.

During calibration, the receiver measures each beam channel, adjusts the gain of each channel more appropriately, and stores it in a non-volatile memory.

The calibration process can be carried out through the upper computer, Android app or remote setting line (white).

Blanking

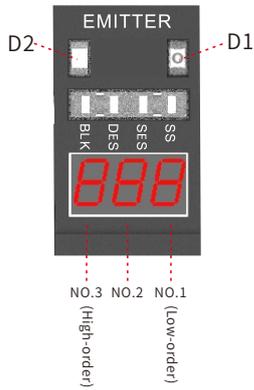
In the process of Light curtain operation, if a machine or equipment blocks one or more beam channels, these beam channels can be shielded. The status of shielded beam channels and gratings will be ignored during scanning and measurement calculation.

The shielding can be set through the upper computer, Android APP or remote setting line (white) at the computer end.

For quantitative measurements (such as TBB, TBM, CBB, CBM), shielded channels or unshielded channels will affect analog output. When calculating the analog output size, the total amount needs to subtract the number of shielded channels.

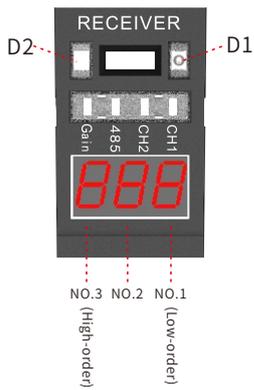
Status Indicators

Emitter Display Panel



When power on, the 3-digit display shows the number of emitter channels and then extinguish. During normal operation, the 3-digit display will extinguish. When the emitter is working incorrectly, the error code "EXX" is displayed. D1-- the green light is always on, and the system works normally. D2-- red light flashing, system working abnormal. Check the cause of the error by the error code. SS-- green light, Straight scan mode. SES- green light, Single-edge scan mode. DES- green light, Double-edge scan mode. When SS/SES/DES flashes simultaneously, it works in calibration mode. BLK- green light, Some channels are blocked.

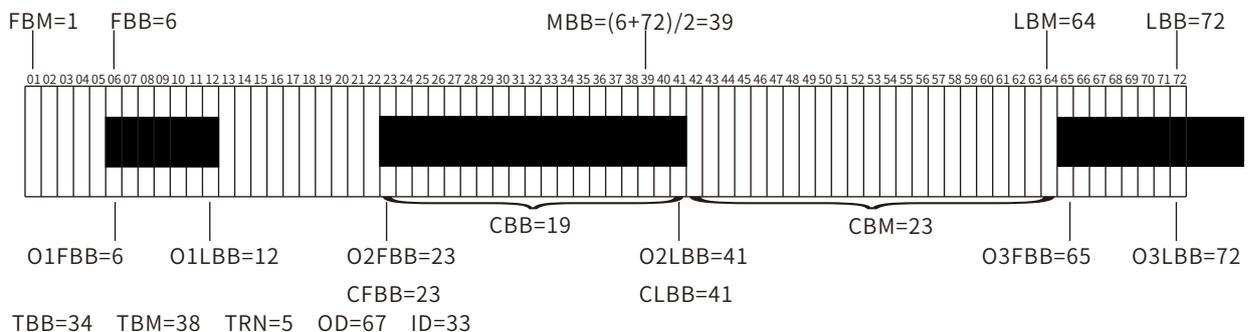
Receiver Display Panel



When power on, the 3-digit display shows the number of receiver channels. When the receiver is working normally, the Public Measurement1 value is displayed. In Gate mode, last Public Measurement1 value and "---" are shown alternately when there is no valid measurement over 1S. When the receiver is working incorrectly, the error code "EXX" is displayed. D1: The green light is always on, the system works normally, and all channels are clear. D2: The red light is always on, the system works normally, but some channels are blocked. when red light flashing, system working abnormal. Check the cause of the error by the error code. CH1: Green light, discrete output1 indication. When the light flashing, discrete output1 is overloading. CH2: Green light, discrete output2 indication. When the light flashing, discrete output2 is overloading. 485: Green light, Modbus communication indication. The green light flashes when there is data transmission. Gain: Green light, Gain indication. Light means working in high gain mode and off means working in low gain mode.

Measurement Data

Light curtain has 20 kinds of measurement data, which can be divided into beam position, beam number, or edge counting. All measured data can be read out through the serial interface. Refer to the description of Modbus RTU register for details. Not all measured data are valid, which is related to the current scanning method. The first 14 types of measurement data can be configured for public measurement 1 and public measurement 2, but invalid measurement data cannot be allocated for use. Users need to configure the scanning method and public measurement 1/2 correctly, or the configuration will fail.



Sample measurement data

Measuring type		Description	Scan Method Limitation	Remark
FBB	First Beam Blocked	Position of the first blocked beam	Straight/Single-edge/Double-edge	Beam Position type
FBM	First Beam Made	Position of the first conducting beam	Straigh	
LBB	Last Beam Blocked	Position of the last blocked beam	Straight/Single-edge/Double-edge	
LBM	Last Beam Made	Position of the last conducting beam	Straigh	
MBB	Middle Beam Blocked	The location of the beam midway between the first and last blocked beams.	Straight/Single-edge/Double-edge	
TBB	Total Beams Blocked	The total number of blocked beams.	Straight/Single-edge/Double-edge	Beam Number type
TBM	Total Beams Made	The number of beams made.	Straigh	
CBB	Contiguous Beams Blocked	The largest number of consecutively blocked beams.	Straight/Single-edge/Double-edge	
CBM	Contiguous Beams Made	The largest number of consecutively made beams.	Straigh	
TRN	Transitions	The number of edges, from conduction to occlusion or from occlusion to conduction, is regarded as an edge	Straight/Single-edge/Double-edge	
OD	Outside Dimension	Number of beams between the first occluded beam and the last occluded beam	Straight/Double-edge	
ID	Inside Dimension	The number of made beams, between the first and last blocked beams.	Straight/Double-edge	
CFBB	Contiguous First Beam Blocked	The location of the first blocked beam in the largest group of adjacent blocked beams.	Straight/Single-edge/Double-edge	Other type
CLBB	Contiguous Last Beam Blocked	The location of the last blocked beam in the largest group of adjacent blocked beams.	Straight/Single-edge/Double-edge	
O1FBB	Object 1 First Beam Blocked	The location of the first blocked beam of the first object.	Straight/Single-edge/Double-edge	
O1LBB	Object 1 Last Beam Blocked	The location of the last blocked beam of the first object.	Straight/Single-edge/Double-edge	
O2FBB	Object 2 First Beam Blocked	The location of the first blocked beam of the second object.	Straight/Double-edge	
O2LBB	Object 2 Last Beam Blocked	The location of the last blocked beam of the fsecond object.	Straight/Double-edge	
O3FBB	Object 3 First Beam Blocked	The location of the first blocked beam of the third object.	Straight/Double-edge	
O3LBB	Object 3 Last Beam Blocked	The location of the last blocked beam of the third object.	Straight/Double-edge	

NOTE: FBB and LBB of 3 objects can berecorded at most. If more than 3 objects are recorded,FBB and LBB of the first 3 objects are taken to calculate CFBB and CLBB

Public Measurement

There are many measurement data, so two kinds of measurement data need to be selected as the output reference of two discrete quantities and two analog quantities, which are divided into public measurement 1 and public measurement 2. Under different scanning methods, different measurement data can be selected.

Scan Method	The Public Measurement Data Source
Straight	FBB、LBB、TBB、TRN、CBB、FBM、LBM、TBM、CBM、MBB、OD、ID、CFBB、CLBB
Single-edge	FBB、LBB、TBB、TRN、CBB、MBB、CFBB、CLBB
Double-edge	FBB、LBB、TBB、TRN、CBB、MBB、OD、ID、CFBB、CLBB

The relationship between the published measurement data and the scanning method

Teach setup line

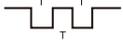
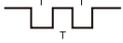
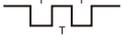
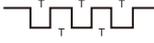
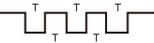
The receiver white line (remote setting) is used to simulate a key. By simulating the action of keys, you can set common functions of raster. A normally open switch is connected between the white line and the ground, or the designated pulse sequence is sent through the PLC output port to control.

Low level: 0V~2V; High level: 10V~30V.

The remote setting line has four functions: disable (default), remote setting, alignment calibration, and gating mode. Select one of the functions through upper computer software setting or serial communication.

◆ Remote Teach

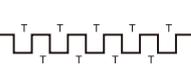
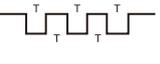
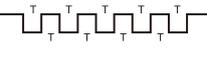
0.05s ≤ T ≤ 0.8s. If you enter any setting state and there is no next Teach line action for more than 60s, you will exit the setting state and restore the original parameters. Low level: 0V~2V; High level: 10V~30V.

state 0	wire action	state 1	wire action	state 2	wire action	state 3	
Normal working		go to Blank Settings "A" appears on 3-digit display		"nXX" appears on 3-digit display. XX represents the number of blank (blanked + current blocked)		Save the latest blank (current blocked channel) and return to state 1	
						Unsave, restore blank, return to state 1	
				return to state 0		Clear all blank, return to state 1	
				go to Gain Settings "LX" appears on 3-digit display X=1, High-excess-gain setting X=2, Low-contrast setting		"1" and "2" appears on 3-digit display. The sensor is measured according to the real-time gain.	
						"1" and "2" appears on 3-digit display. The sensor is measured according to the real-time gain.	
				Display inverts from previous state; sensor continues in run mode			
				Display IR function inverts from previous state; sensor continues in run mode			
				go to Scan Method Settings "SX" appears on 3-digit display X=1, Straight scan X=2, Single-edge scan X=3, Double-edge scan, step 1 X=4, Double-edge scan, step 2 X=5, Double-edge scan, step 4 X=6, Double-edge scan, step 8 X=7, Double-edge scan, step 16 X=8, Double-edge scan, step 32		The scanning method switches sequentially between 1 and 8, and the light curtain works according to the latest scanning method	
						Do not save, restore the original scan method, return to state 0	
						Save the new scan method, return to state 0	

Remote wire Teach procedures

◆ Alignment and Calibration

0.05s ≤ T ≤ 0.8s. After entering any set state, if there is no next Teach line action after 60s, the set state will exit and the original parameters will be restored. This mode is an abbreviated version of Remote Teach. It can perform the alignment and sensitivity adjustment functions.

state 0	wire action	state 1	wire action	state 2	wire action	state 3
Normal working		go to Alignment /Calibration Mode "AL" appears on 3-digit display		"XXX" appears on 3-digit display, represents the number of blocked channels		Save the latest calibration results return to state 0
						Do not save, restore the original calibration results return to state 0
				return to state 0		

Alignment and Calibration procedures

◆ Gate Mode

Gate Mode options can be selected via the PC interface only. The white wire provides a gate input pulse, typically from a dc device such as an NPN-output photoelectric sensor or a PLC discrete output.

- High level — The receiver scans whenever the gate is pulled high.
- Low level — The receiver scans whenever the gate is pulled low.
- Rising edge — The receiver scans once for each low-to-high gate transition. (Multiple transitions cannot be faster than the sensor's response for them to be reliably detected.)
- Falling edge — The receiver scans once for each high-to-low gate transition. (Multiple transitions cannot be faster than the sensor's response for them to be reliably detected.)

◆ Prohibit

Teach line has no function

▶ Analog Output

Analog output has two channels, independent output voltage (0-10v) or current (4-20ma). The two outputs are bound to public measurement 1 and public measurement 2 respectively. When the chosen public measurement involves the type of beam number, the output of the analog distribution is proportional to the number of beams scanned (the channel to remove the blanked). When the selected public measurement involves the beam position type, the output of the analog distribution is proportional to the total number of beams of the sensor. Beam number type measurement mode: TBB, TBM, CBB, CBM.

▶ Discrete Output

There are two discrete outputs, which can output NPN or PNP signals independently. The output of discrete output 1 can be bound to the measurement data, and the discrete output 2 can be chosen to indicate the working health state of the sensor in addition to the measurement data.

Serial Communication

When the PC interface is used, the receiver communicates with a process controller via a Modbus RTU-485 interface. The PC interface software has a Communications Settings menu that includes the selected sensor communications port, options and a read-only window that provides current communications status. Advanced settings are also accessible, including baud rate, timeout (in milliseconds), sensor address.

IrDA Communication

The light curtain receiver is equipped with a standard IrDA communication interface. After the USB port of the mobile phone is connected to a special converter, it can communicate wirelessly with the sensor through APP and set parameters.

Troubleshooting and Error Codes

If the red light of the receiver or transmitter flashes and the receiver nixie tube displays "Exx", it means that the light curtain has detected a fault and corrective measures need to be taken. The first step of all corrections is to check whether the power supply and wiring are normal. Then power off and restart.

Receiver error code	Emitter error code	Error Reason	Corrective Action
E01	N/A	Receiver hardware failure	Replace the receiver.
E02	N/A	Receiver hardware failure	Replace the receiver.
E03	N/A	Emitter hardware failure	Check whether the power supply to the emitter is normal.
N/A	E03	Receiver hardware failure	Check whether the power supply to the receiver is normal.
E03	E03	Synchronous wire fault	Check the synchronous wire wiring.
E04	E04	Emitter hardware failure	Replace the emitter .
E05	N/A	Emitter and Receiver channels do not match	Check receiver and temitter models.
E06	N/A	Receiver panel display failure	Does not affect the sensor output and measurement work. If the display is required, replace the receiver.
N/A	E06	Emitter panel display failure	Does not affect the sensor output and measurement work. If the display is required, replace the Emitter .
E08	N/A	Receiver channel fault	Block the channel or replace the receiver.
E09	E09	Emitter channel fault	Block the channel or replace the Emitter
E10	N/A	Alignment does not end properly	re-align the sensor.
E11	N/A	Channel Dirty	Clean the sensor windows and perform the alignment procedure as necessary.
E12	N/A	Analog output 1 fault	Turn off analog output 1 or replace the receiver.
E13	N/A	Analog output 2 fault	Turn off analog output 2 or replace the receiver.
E14	N/A	Analog output 1 current break	Check the analog output 1 wiring.
E15	N/A	Analog output 2 current break	Check the analog output 2 wiring.
E16	N/A	Discrete output 1 overload	Check the discrete output 1 wiring.
E17	N/A	Discrete output 2 overload	Check the discrete output 2 wiring.

Error codes and corrective actions