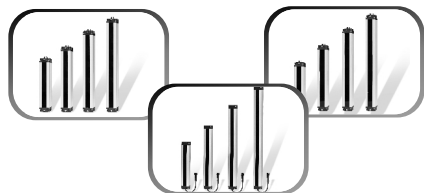


Light Curtain

Features

- Strong anti-interference ability to electromagnetic signal, stroboscopic signals, welding arc and other surrounding light sources.
- Excellent beam-focusing performance, good vibration resistance.
- long life-span and high reliability.
- Compact shape, easy installation.
- Selectable beam pitch of 20mm / 40mm.



Selection Guide / M-01

Introduction / M-02

GMDC series—standard type / M-03

GMDC/E series —standard type / M-06

GMDF series —economical type / M-09

GMDB series —mini type / M-12

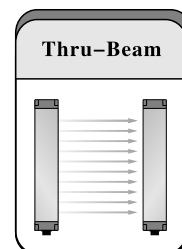
GMDE series —safety type / M-15

Light Curtain Controller / M-18

Wiring Diagram / M-19

Structure and Installation Note / M-20

Application/Note/Maintenance / M-21



GMDC-T5MNB-D04/4YV6/E

1: Light Curtain
GM: Light curtain

2: Sensing Mode
D: Thru-beam mode

3: Light Curtain Type
B: B series (Mini light curtain)
C: C series (Standard light curtain)
E: E series (Safety light curtain)
F: F series (Economical light curtain)

4: Switch Mode
E: Thru-Beam (Emitter)
T: Thru-Beam (Receiver)

5: Sensing Distance
2M: 2 Meter 5M: 5 Meter
10M: 10 Meter
.....

6: Output Mode
P: PNP
N: NPN

7: Output Status
A: N.O.
B: N.C.
C: N.O.+N.C.
Y: N.O.+N.O.
Z: N.C.+N.C.

13: Others

E: The shell is the same as
Safety Light Curtain
(only for Standard
Light Curtain)
.....

12: Connection

Cable type: 2: 2m 3: 3m 5: 5m
10: 10m

Connector type:

V5: Aviation plug, M12 ,3-pin
V6: Aviation plug, M12 ,4-pin
V8: M12 pigtail connector
.....

11: Protection

Y: Short circuit , overload
protection and reversed polarity
protection

10: Beam Pitch

2: 20mm
4: 40mm

9: Beams

4: 4 beams
6: 6 beams
8: 8 beams
10: 10 beams
.....

8: Operating Voltage

D: DC12-24V

Brief introduction

Light curtain is a widely applied autocontrol product which adopts infrared ray scan technology. Fix the emitter on one side and the receiver on the other side. When the infrared ray scans with high speed, it will form a curtain. When there is any object or person come into this curtain area, the control system will output a signal and the load works. But when the object or person leaves curtain area, the load will be off automatically. Light Curtain can be used in highway, machinery equipments, subway, automatic gate.

Operating Principle

There are several infrared emitter on one side, and the same number infrared receivers on the other side. Every emitter are matched with one receiver. They are installed on the same line. When there is no obstacle between the matched emitter and receiver, the light signal sent out from the emitter will be received by the receiver. The inner circuit will output a low level signal. But when there is an obstacle between the matched emitter and receiver, the light signal sent out from the emitter will not be received by the receiver. The inner circuit will output a high level signal. In this way, light curtain can be used for presence detection by analyzing the different output signal.

Characters

- 1.Strong anti-jamming ability.
- 2.Compact shape, convenient installation.
- 3.Two kinds of beam pitch, 20mm / 40mm.
- 4.Selectable connection, cable and connector.
- 5.Excellent anti-vibration performance, long life span.
- 6.Imported core comeponents, SMT technology to ensure high stability.
- 7.Wide supply voltage and low power consumption.

PICTURE

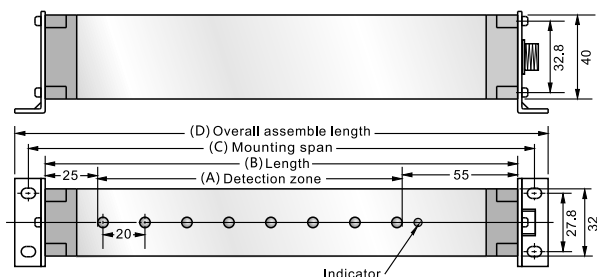
Features:

- beam pitch: 20mm
- Min. detectable object: ϕ 25mm
- High reliability
- Short circuit protection and revised polarity protection



Emitter	GMDC-E5M-D04/2YV5	* 01	GMDC-E10M-D04/2YV5	* 01
Receiver:				
DC-4 wires NPN N.O.	GMDC-T5MNA-D04/2YV6	* 02	GMDC-T10MNA-D04/2YV6	* 02
DC-4 wires NPN N.C.	GMDC-T5MNB-D04/2YV6	* 02	GMDC-T10MNB-D04/2YV6	* 02
DC-4 wires PNP N.O.	GMDC-T5MPA-D04/2YV6	* 03	GMDC-T10MPA-D04/2YV6	* 03
DC-4 wires PNP N.C.	GMDC-T5MPB-D04/2YV6	* 03	GMDC-T10MPB-D04/2YV6	* 03
Protected area width	5m		10m	
Min detectable objects	Opaque object: ϕ 25mm(used for presence detection)			
Supply voltage	DC12...24V			
Current consumption	$\leq 150\text{mA}$			
Output status	All light channel light on			
Cable length	3M			
Light source	Infrared light			
Protection circuit	Short circuit and Reversed polarity protection			
Residual voltage(V_p)	0.8V max.			
Leakage current	0.1mA max.			
Display	Power: Green LED; Output status: Red LED			
Response time	<20ms			
Reset time	<20ms			
Anti light interference	>5000LUX(Angle of incidence>5°)			
Protection	IP65			
Connection	Round socket , M12 connector			
Housing material	Aluminum alloy, Top and bottom cover: nylon			
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)			
Insulation resistance	$\geq 50\text{M}\Omega$			
Vibration resistance	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours			

Dimensional drawing



Remark

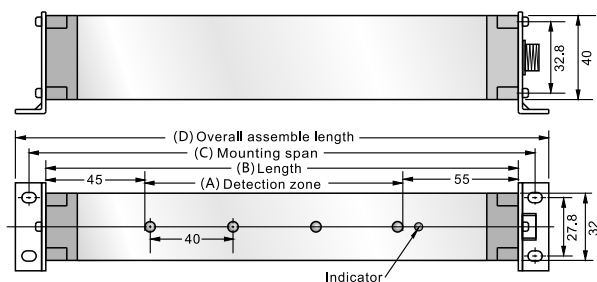
01 . 02 . 03—NO of wiring diagram(refers to page K-19)

PICTURE

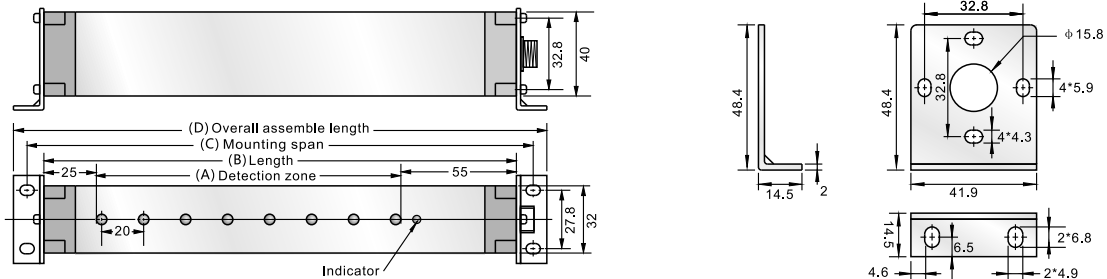
Features:

- beam pitch: 40mm
- Min. detectable object: ϕ 45mm
- High reliability
- Short circuit protection and revised polarity protection

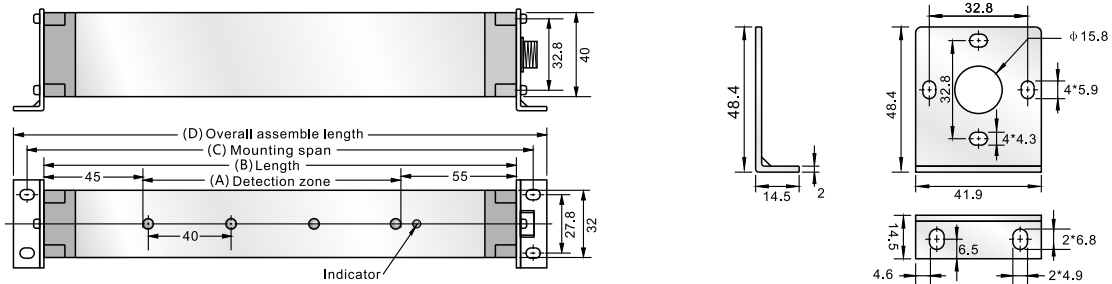
Emitter	GMDC-E5M-D₀₄/4YV5	* 01	GMDC-E10M-D₀₄/4YV5	* 01
Receiver:				
DC-4 wires NPN N.O.	GMDC-T5MNA-D₀₄/4YV6	* 02	GMDC-T10MNA-D₀₄/4YV6	* 02
DC-4 wires NPN N.C.	GMDC-T5MNB-D₀₄/4YV6	* 02	GMDC-T10MNB-D₀₄/4YV6	* 02
DC-4 wires PNP N.O.	GMDC-T5MPA-D₀₄/4YV6	* 03	GMDC-T10MPA-D₀₄/4YV6	* 03
DC-4 wires PNP N.C.	GMDC-T5MPB-D₀₄/4YV6	* 03	GMDC-T10MPB-D₀₄/4YV6	* 03
Protected area width	5m		10m	
Min detectable objects	Opaque object: ϕ 45mm(used for presence detection)			
Supply voltage	DC12...24V			
Current consumption	$\leq$ 150mA			
Output status	All light channel light on			
Cable length	3M			
Light source	Infrared light			
Protection circuit	Short circuit and Reversed polarity protection			
Residual voltage(V_r)	0.8V max.			
Leakage current	0.1mA max.			
Display	Power: Green LED; Output status: Red LED			
Response time	<20ms			
Reset time	<20ms			
Anti light interference	>5000LUX(Angle of incidence>5°)			
Protection	IP65			
Connection	Round socket , M12 connector			
Housing material	Aluminum alloy, Top and bottom cover: nylon			
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)			
Insulation resistance	$\geq$ 50M Ω			
Vibration resistance	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours			

Dimensional drawing

Remark

01 . 02 . 03—NO of wiring diagram(refers to page K-19)

Dimension (Unit: mm)
20mm beam pitch


Type	GMDC-E5M-D4/2YV5 GMDC-T5M[N][B]-D4/2YV6	GMDC-E5M-D8/2YV5 GMDC-T5M[N][B]-D8/2YV6	GMDC-E5M-D12/2YV5 GMDC-T5M[N][B]-D12/2YV6	GMDC-E5M-D16/2YV5 GMDC-T5M[N][B]-D16/2YV6	GMDC-E5M-D20/2YV5 GMDC-T5M[N][B]-D20/2YV6	GMDC-E5M-D24/2YV5 GMDC-T5M[N][B]-D24/2YV6	GMDC-E5M-D28/2YV5 GMDC-T5M[N][B]-D28/2YV6
A (mm)	60	140	220	300	380	460	540
B (mm)	140	220	300	380	460	540	620
C (mm)	156	236	316	396	476	556	636
D (mm)	169	249	329	409	489	569	649

40mm beam pitch


Type	GMDC-E5M-D4/4YV5 GMDC-T5M[N][B]-D4/4YV6	GMDC-E5M-D6/4YV5 GMDC-T5M[N][B]-D6/4YV6	GMDC-E5M-D8/4YV5 GMDC-T5M[N][B]-D8/4YV6	GMDC-E5M-D10/4YV5 GMDC-T5M[N][B]-D10/4YV6	GMDC-E5M-D12/4YV5 GMDC-T5M[N][B]-D12/4YV6	GMDC-E5M-D14/4YV5 GMDC-T5M[N][B]-D14/4YV6	GMDC-E5M-D16/4YV5 GMDC-T5M[N][B]-D16/4YV6
A (mm)	120	200	280	360	440	520	600
B (mm)	220	300	380	460	540	620	700
C (mm)	236	316	396	476	556	636	716
D (mm)	249	329	409	489	569	649	729

Type	GMDC-E5M-D18/4YV5 GMDC-T5M[N][B]-D18/4YV6	GMDC-E5M-D20/4YV5 GMDC-T5M[N][B]-D20/4YV6	GMDC-E5M-D22/4YV5 GMDC-T5M[N][B]-D22/4YV6	GMDC-E5M-D24/4YV5 GMDC-T5M[N][B]-D24/4YV6	GMDC-E5M-D26/4YV5 GMDC-T5M[N][B]-D26/4YV6	GMDC-E5M-D28/4YV5 GMDC-T5M[N][B]-D28/4YV6
A (mm)	680	760	840	920	1000	1080
B (mm)	780	860	940	1020	1100	1180
C (mm)	796	876	956	1036	1116	1196
D (mm)	809	889	969	1049	1129	1209

Note: [N] NPN/PNP changeable; [B] N.O./N.C. Changeable.

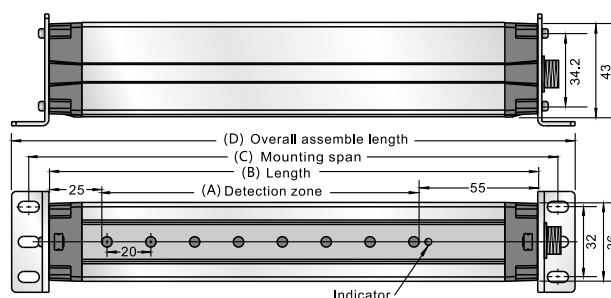
PICTURE

Features:

- beam pitch: 20mm
- Min. detectable object: ϕ 25mm
- High reliability
- Short circuit protection and revised polarity protection



Emitter	GMDC-E5M-D04/2YV5/E	* 01	GMDC-E10M-D04/2YV5/E	* 01
Receiver:				
DC-4 wires NPN N.O.	GMDC-T5MNA-D04/2YV6/E	* 02	GMDC-T10MNA-D04/2YV6/E	* 02
DC-4 wires NPN N.C.	GMDC-T5MNB-D04/2YV6/E	* 02	GMDC-T10MNB-D04/2YV6/E	* 02
DC-4 wires PNP N.O.	GMDC-T5MPA-D04/2YV6/E	* 03	GMDC-T10MPA-D04/2YV6/E	* 03
DC-4 wires PNP N.C.	GMDC-T5MPB-D04/2YV6/E	* 03	GMDC-T10MPB-D04/2YV6/E	* 03
Protected area width	5m		10m	
Min detectable objects	Opaque object: ϕ 25mm			
Supply voltage	DC12...24V			
Current consumption	$\leq$ 150mA			
Output status	All light channel light on			
Cable length	3M			
Light source	Infrared light			
Protection circuit	Short circuit and Reversed polarity protection			
Residual voltage(V_p)	0.8V max.			
Leakage current	0.1mA max.			
Display	Power: Green LED; Output status: Red LED			
Response time	<20ms			
Reset time	<20ms			
Anti light interference	>5000LUX(Angle of incidence>5°)			
Protection	IP65			
Connection	Round socket , M12 connector			
Housing material	Aluminum alloy, Top and bottom cover: nylon			
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)			
Insulation resistance	$\geq$ 50M Ω			
Vibration resistance	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours			

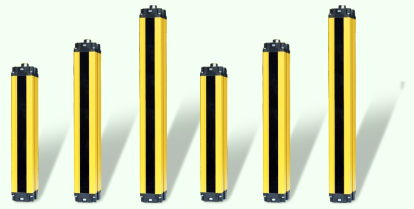
Dimensional drawing

Remark

01 . 02 . 03—NO of wiring diagram(refers to page K-19)

PICTURE

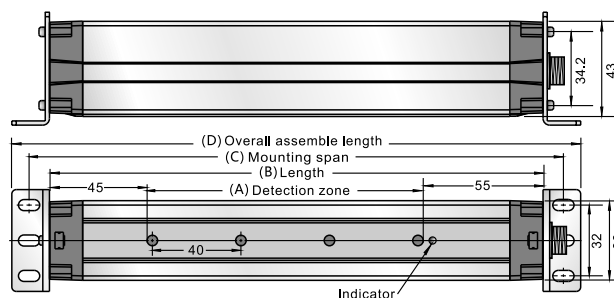
Features:

- beam pitch: 40mm
- Min. detectable object: $\phi 45\text{mm}$
- High reliability
- Short circuit protection and revised polarity protection



Emitter	GMDC-E5M-D04/4YV5/E	* 01	GMDC-E10M-D04/4YV5/E	* 01
Receiver:				
DC-4 wires NPN N.O.	GMDC-T5MNA-D04/4YV6/E	* 02	GMDC-T10MNA-D04/4YV6/E	* 02
DC-4 wires NPN N.C.	GMDC-T5MNB-D04/4YV6/E	* 02	GMDC-T10MNB-D04/4YV6/E	* 02
DC-4 wires PNP N.O.	GMDC-T5MPA-D04/4YV6/E	* 03	GMDC-T10MPA-D04/4YV6/E	* 03
DC-4 wires PNP N.C.	GMDC-T5MPB-D04/4YV6/E	* 03	GMDC-T10MPB-D04/4YV6/E	* 03
Protected area width	5m		10m	
Min detectable objects	Opaque object: $\phi 45\text{mm}$			
Supply voltage	DC12...24V			
Current consumption	$\leq 150\text{mA}$			
Output status	All light channel light on			
Cable length	3M			
Light source	Infrared light			
Protection circuit	Short circuit and Reversed polarity protection			
Residual voltage(V_p)	0.8V max.			
Leakage current	0.1mA max.			
Display	Power: Green LED; Output status: Red LED			
Response time	<20ms			
Reset time	<20ms			
Anti light interference	>5000LUX(Angle of incidence>5°)			
Protection	IP65			
Connection	Round socket , M12 connector			
Housing material	Aluminum alloy, Top and bottom cover: nylon			
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)			
Insulation resistance	$\geq 50\text{M}\Omega$			
Vibration resistance	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours			

Dimensional drawing

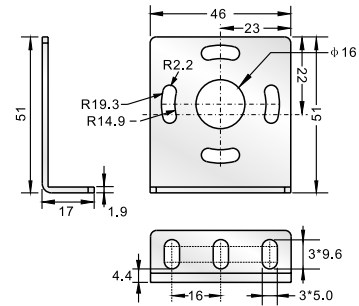
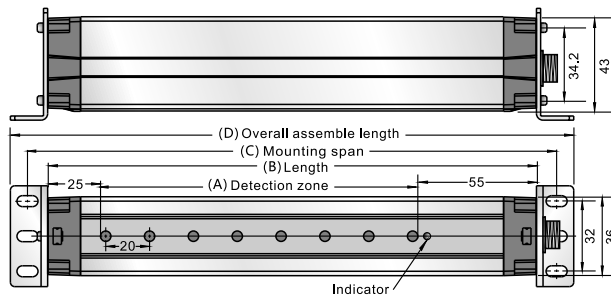


Remark

01 . 02 . 03—NO of wiring diagram(refers to page K-19)

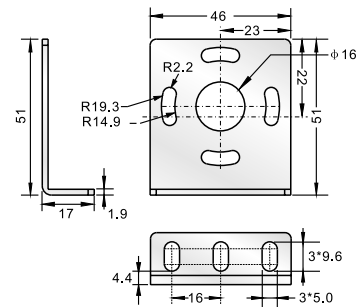
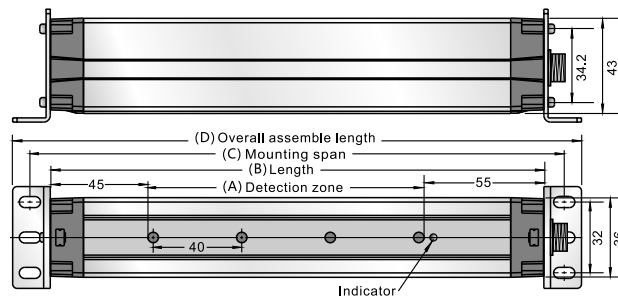
Dimension (Unit: mm)

20mm beam pitch



Type	GMDE-E5M-D04/2YV5 GMDE-T5M[N][B]-D04/2YV6	GMDE-E5M-D08/2YV5 GMDE-T5M[N][B]-D08/2YV6	GMDE-E5M-D12/2YV5 GMDE-T5M[N][B]-D12/2YV6	GMDE-E5M-D16/2YV5 GMDE-T5M[N][B]-D16/2YV6	GMDE-E5M-D20/2YV5 GMDE-T5M[N][B]-D20/2YV6	GMDE-E5M-D24/2YV5 GMDE-T5M[N][B]-D24/2YV6	GMDE-E5M-D28/2YV5 GMDE-T5M[N][B]-D28/2YV6
A (mm)	60	140	220	300	380	460	540
B (mm)	140	220	300	380	460	540	620
C (mm)	158	238	318	398	478	558	638
D (mm)	174	254	334	414	494	574	654

40mm beam pitch



Type	GMDE-E5M-D04/4YV5 GMDE-T5M[N][B]-D04/4YV6	GMDE-E5M-D06/4YV5 GMDE-T5M[N][B]-D06/4YV6	GMDE-E5M-D08/4YV5 GMDE-T5M[N][B]-D08/4YV6	GMDE-E5M-D10/4YV5 GMDE-T5M[N][B]-D10/4YV6	GMDE-E5M-D12/4YV5 GMDE-T5M[N][B]-D12/4YV6	GMDE-E5M-D14/4YV5 GMDE-T5M[N][B]-D14/4YV6	GMDE-E5M-D16/4YV5 GMDE-T5M[N][B]-D16/4YV6
A (mm)	120	200	280	360	440	520	600
B (mm)	220	300	380	460	540	620	700
C (mm)	238	318	398	478	558	638	718
D (mm)	254	334	414	494	574	654	734

Type	GMDE-E5M-D18/4YV5 GMDE-T5M[N][B]-D18/4YV6	GMDE-E5M-D20/4YV5 GMDE-T5M[N][B]-D20/4YV6	GMDE-E5M-D22/4YV5 GMDE-T5M[N][B]-D22/4YV6	GMDE-E5M-D24/4YV5 GMDE-T5M[N][B]-D24/4YV6	GMDE-E5M-D26/4YV5 GMDE-T5M[N][B]-D26/4YV6	GMDE-E5M-D28/4YV5 GMDE-T5M[N][B]-D28/4YV6
A (mm)	680	760	840	920	1000	1080
B (mm)	780	860	940	1020	1100	1180
C (mm)	798	878	958	1038	1118	1198
D (mm)	814	894	974	1054	1134	1214

Note: [N] NPN/PNP changeable; [B] N.O./N.C. Changeable.

PICTURE

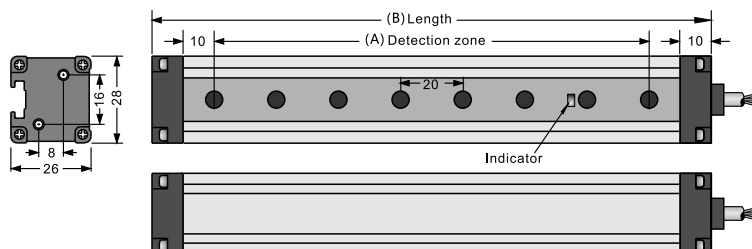
Features:

- beam pitch: 20mm
- Min. detectable object: ϕ 25mm
- High reliability
- Short circuit protection and revised polarity protection



Emitter	GMDF-E2M-D[08]/2YV8	* 04
Receiver:		
DC-3 wires NPN N.O.	GMDF-T2MNA-D[08]/2YV8	* 05
DC-3 wires NPN N.C.	GMDF-T2MNB-D[08]/2YV8	* 06
DC-3 wires PNP N.O.	GMDF-T2MPA-D[08]/2YV8	* 07
DC-3 wires PNP N.C.	GMDF-T2MPB-D[08]/2YV8	* 08
Protected area width	2m	
Min detectable objects	Opaque object: ϕ 25mm	
Supply voltage	DC12...24V	
Current consumption	$\leq 150\text{mA}$	
Output status	All light channel light on	
Cable length	3M	
Light source	Infrared light	
Protection circuit	Short circuit and Reversed polarity protection	
Residual voltage(V_p)	0.8V max.	
Leakage current	0.1mA max.	
Display	Power: Red LED; Output status: Green LED	
Response time	<20ms	
Reset time	<20ms	
Anti light interference	>5000LUX(Angle of incidence>5°)	
Protection	IP65	
Connection	Round socket , M12 connector	
Housing material	Aluminum alloy, Top and bottom cover: nylon	
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)	
Insulation resistance	$\geq 50\text{M}\Omega$	
Vibration resistance	10...55Hz(amplitude 1.5mm)X、 Y、 Z direction each 2 hours	

Dimensional drawing



Remark

04 . 05 . 06 . 07 . 08—NO of wiring diagram(refers to page K-19)

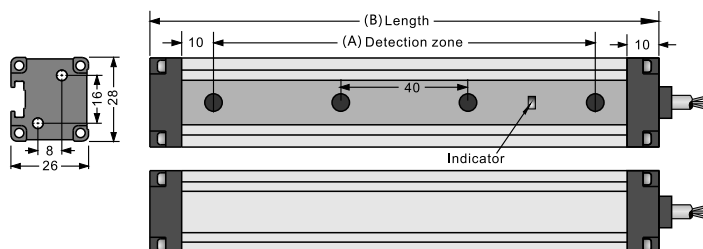
PICTURE

Features:

- beam pitch: 40mm
- Min. detectable object: $\phi 45\text{mm}$
- High reliability
- Short circuit protection and revised polarity protection



Emitter	GMDF-E2M-D04/4YV8	* 04
Receiver:		
DC-3 wires NPN N.O.	GMDF-T2MNA-D04/4YV8	* 05
DC-3 wires NPN N.C.	GMDF-T2MNB-D04/4YV8	* 06
DC-3 wires PNP N.O.	GMDF-T2MPA-D04/4YV8	* 07
DC-3 wires PNP N.C.	GMDF-T2MPB-D04/4YV8	* 08
Protected area width	2m	
Min detectable objects	Opaque object: $\phi 45\text{mm}$	
Supply voltage	DC12...24V	
Current consumption	$\leq 150\text{mA}$	
Output status	All light channel light on	
Cable length	3M	
Light source	Infrared light	
Protection circuit	Short circuit and Reversed polarity protection	
Residual voltage(V_p)	0.8V max.	
Leakage current	0.1mA max.	
Display	Power: Red LED; Output status: Green LED	
Response time	<20ms	
Reset time	<20ms	
Anti light interference	>5000LUX(Angle of incidence>5°)	
Protection	IP65	
Connection	Round socket , M12 connector	
Housing material	Aluminum alloy, Top and bottom cover: nylon	
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)	
Insulation resistance	$\geq 50\text{M}\Omega$	
Vibration resistance	10...55Hz(amplitude 1.5mm)X、 Y、 Z direction each 2 hours	

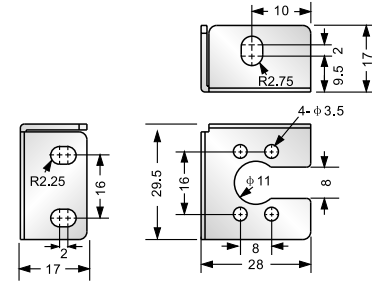
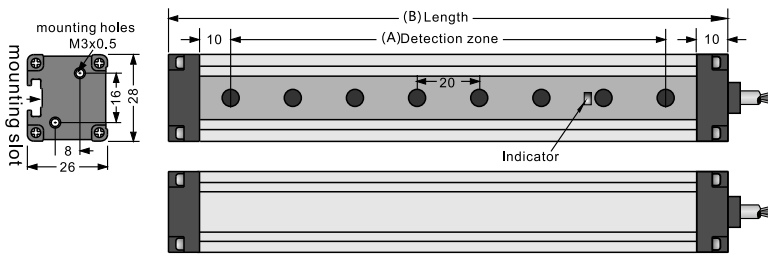
Dimensional drawing


Remark 04 . 05 . 06 . 07 . 08—NO of wiring diagram(refers to page K-19)

Dimension (Unit: mm)
20mm beam pitch

There are two ways of installation as below :
 (according to customer demands):

- 1.Back circular installation, 4pcs M4X10 screws, 4pcs M4X7 screws, 4pcs circular installation caps.
- 2.Up and down bracket installation: 8pcs M3X8 screws, 8pcs M4X10 screws, 4pcs brackets.

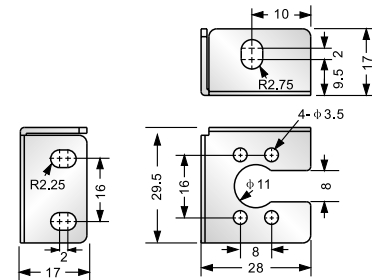
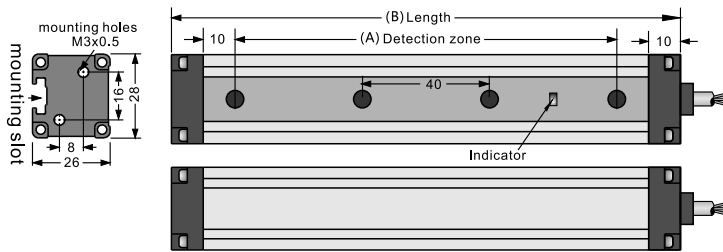


Type	GMDF-E2M-D08/2YV8	GMDF-E2M-D12/2YV8	GMDF-E2M-D16/2YV8	GMDF-E2M-D20/2YV8	GMDF-E2M-D24/2YV8	GMDF-E2M-D28/2YV8	GMDF-E2M-D32/2YV8
	GMDF-T2M[N][B]-D08/2YV8	GMDF-T2M[N][B]-D12/2YV8	GMDF-T2M[N][B]-D16/2YV8	GMDF-T2M[N][B]-D20/2YV8	GMDF-T2M[N][B]-D24/2YV8	GMDF-T2M[N][B]-D28/2YV8	GMDF-T2M[N][B]-D32/2YV8
A (mm)	140	220	300	380	460	540	620
B (mm)	180	260	340	420	500	580	660

40mm beam pitch

There are two ways of installation as below :
 (according to customer demands):

- 1.Back circular installation, 4pcs M4X10 screws, 4pcs M4X7 screws, 4pcs circular installation caps.
- 2.Up and down bracket installation: 8pcs M3X8 screws, 8pcs M4X10 screws, 4pcs brackets.



Type	GMDF-E2M-D04/4YV8	GMDF-E2M-D06/4YV8	GMDF-E2M-D08/4YV8	GMDF-E2M-D10/4YV8	GMDF-E2M-D12/4YV8	GMDF-E2M-D14/4YV8	GMDF-E2M-D16/4YV8
	GMDF-T2M[N][B]-D04/4YV8	GMDF-T2M[N][B]-D06/4YV8	GMDF-T2M[N][B]-D08/4YV8	GMDF-T2M[N][B]-D10/4YV8	GMDF-T2M[N][B]-D12/4YV8	GMDF-T2M[N][B]-D14/4YV8	GMDF-T2M[N][B]-D16/4YV8
A (mm)	120	200	280	360	440	520	600
B (mm)	160	240	320	400	480	560	640

Type	GMDF-E2M-D18/4YV8	GMDF-E2M-D20/4YV8	GMDF-E2M-D22/4YV8	GMDF-E2M-D24/4YV8	GMDF-E2M-D26/4YV8	GMDF-E2M-D28/4YV8	GMDF-E2M-D30/4YV8
	GMDF-T2M[N][B]-D18/4YV8	GMDF-T2M[N][B]-D20/4YV8	GMDF-T2M[N][B]-D22/4YV8	GMDF-T2M[N][B]-D24/4YV8	GMDF-T2M[N][B]-D26/4YV8	GMDF-T2M[N][B]-D28/4YV8	GMDF-T2M[N][B]-D30/4YV8
A (mm)	680	760	840	920	1000	1080	1160
B (mm)	720	800	880	960	1040	1120	1200

Note: [N] NPN/PNP changeable; [B] N.O./N.C. Changeable.

PICTURE

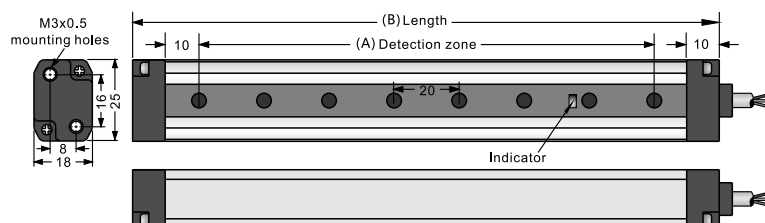
Features:

- beam pitch: 20mm
- Min. detectable object: ϕ 25mm
- High reliability
- Short circuit protection and revised polarity protection



Emitter	GMDB-E2M-D08 /2YV8	* 04
Receiver:		
DC-3 wires NPN N.O.	GMDB-T2MNA-D08 /2YV8	* 05
DC-3 wires NPN N.C.	GMDB-T2MNB-D08 /2YV8	* 06
DC-3 wires PNP N.O.	GMDB-T2MPA-D08 /2YV8	* 07
DC-3 wires PNP N.C.	GMDB-T2MPB-D08 /2YV8	* 08
Protected area width	2m	
Min detectable objects	Opaque object: ϕ 25mm	
Supply voltage	DC12...24V	
Current consumption	$\leq 150\text{mA}$	
Output status	All light channel light on	
Cable length	3M	
Light source	Infrared light	
Protection circuit	Short circuit and Reversed polarity protection	
Residual voltage(V_p)	0.8V max.	
Leakage current	0.1mA max.	
Display	Power: Red LED; Output status: Green LED	
Response time	<20ms	
Reset time	<20ms	
Anti light interference	>5000LUX(Angle of incidence>5°)	
Protection	IP65	
Connection	Round socket , M12 connector	
Housing material	Aluminum alloy, Top and bottom cover: nylon	
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)	
Insulation resistance	$\geq 50\text{M}\Omega$	
Vibration resistance	10...55Hz(amplitude 1.5mm)X、 Y、 Z direction each 2 hours	

Dimensional drawing



Remark

04 . 05 . 06 . 07 . 08—NO of wiring diagram(refers to page K-19)

PICTURE

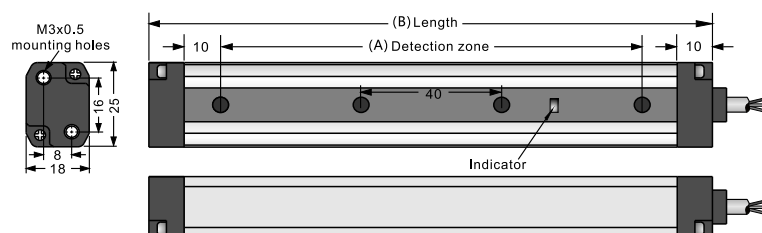
Features:

- beam pitch: 40mm
- Min. detectable object: $\phi 45\text{mm}$
- High reliability
- Short circuit protection and revised polarity protection



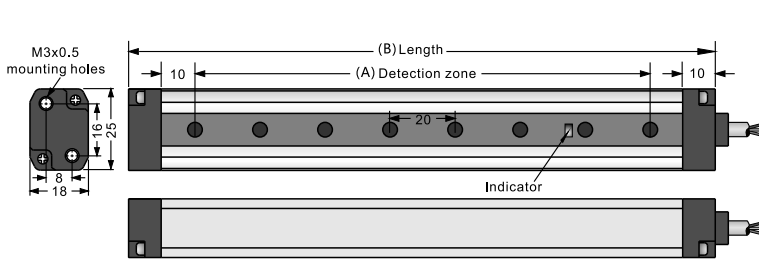
Emitter	GMDB-E2M-D04 /4YV8	* 04
Receiver:		
DC-3 wires NPN N.O.	GMDB-T2MNA-D04 /4YV8	* 05
DC-3 wires NPN N.C.	GMDB-T2MNB-D04 /4YV8	* 06
DC-3 wires PNP N.O.	GMDB-T2MPA-D04 /4YV8	* 07
DC-3 wires PNP N.C.	GMDB-T2MPB-D04 /4YV8	* 08
Protected area width	2m	
Min detectable objects	Opaque object: $\phi 45\text{mm}$	
Supply voltage	DC12...24V	
Current consumption	$\leq 150\text{mA}$	
Output status	All light channel light on	
Cable length	3M	
Light source	Infrared light	
Protection circuit	Short circuit and Reversed polarity protection	
Residual voltage(V_p)	0.8V max.	
Leakage current	0.1mA max.	
Display	Power: Red LED; Output status: Green LED	
Response time	<20ms	
Reset time	<20ms	
Anti light interference	>5000LUX(Angle of incidence>5°)	
Protection	IP65	
Connection	Round socket , M12 connector	
Housing material	Aluminum alloy, Top and bottom cover: nylon	
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)	
Insulation resistance	$\geq 50\text{M}\Omega$	
Vibration resistance	10...55Hz(amplitude 1.5mm)X、 Y、 Z direction each 2 hours	

Dimensional drawing

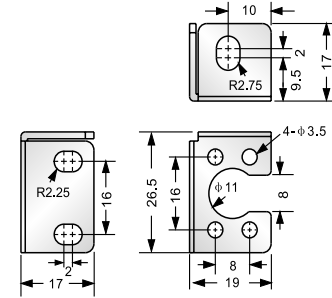


Remark

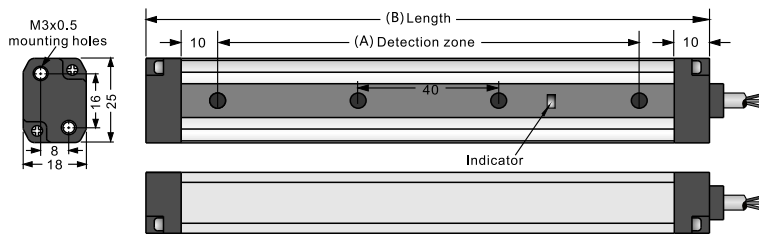
04 . 05 . 06 . 07 . 08—NO of wiring diagram(refers to page K-19)

Dimension (Unit: mm)
20mm beam pitch


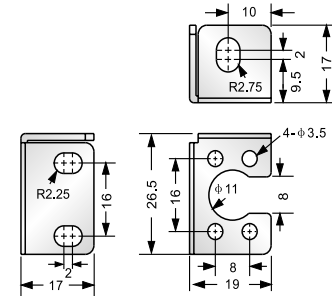
Installation accessories are as follows:
 Up and down bracket installation:
 8pcs M3X8 screws,
 8pcs M4X10 screws,
 4pcs brackets.



Type	GMDB-E2M-D08/2YV8	GMDB-E2M-D12/2YV8	GMDB-E2M-D16/2YV8	GMDB-E2M-D20/2YV8	GMDB-E2M-D24/2YV8	GMDB-E2M-D28/2YV8	GMDB-E2M-D32/2YV8
	GMDB-T2M[N][B]-D08/2YV8	GMDB-T2M[N][B]-D12/2YV8	GMDB-T2M[N][B]-D16/2YV8	GMDB-T2M[N][B]-D20/2YV8	GMDB-T2M[N][B]-D24/2YV8	GMDB-T2M[N][B]-D28/2YV8	GMDB-T2M[N][B]-D32/2YV8
A (mm)	140	220	300	380	460	540	620
B (mm)	180	260	340	420	500	580	660

40mm beam pitch


Installation accessories are as follows:
 Up and down bracket installation:
 8pcs M3X8 screws,
 8pcs M4X10 screws,
 4pcs brackets.



Type	GMDB-E2M-D04/4YV8	GMDB-E2M-D06/4YV8	GMDB-E2M-D08/4YV8	GMDB-E2M-D10/4YV8	GMDB-E2M-D12/4YV8	GMDB-E2M-D14/4YV8	GMDB-E2M-D16/4YV8
	GMDB-T2M[N][B]-D04/4YV8	GMDB-T2M[N][B]-D06/4YV8	GMDB-T2M[N][B]-D08/4YV8	GMDB-T2M[N][B]-D10/4YV8	GMDB-T2M[N][B]-D12/4YV8	GMDB-T2M[N][B]-D14/4YV8	GMDB-T2M[N][B]-D16/4YV8
A (mm)	120	200	280	360	440	520	600
B (mm)	160	240	320	400	480	560	640

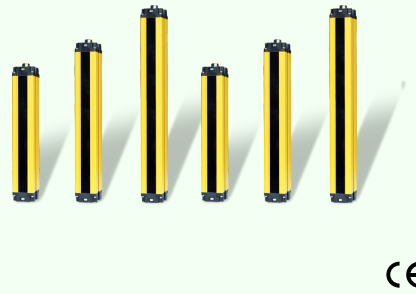
Type	GMDB-E2M-D18/4YV8	GMDB-E2M-D20/4YV8	GMDB-E2M-D22/4YV8	GMDB-E2M-D24/4YV8	GMDB-E2M-D26/4YV8	GMDB-E2M-D28/4YV8	GMDB-E2M-D30/4YV8
	GMDB-T2M[N][B]-D18/4YV8	GMDB-T2M[N][B]-D20/4YV8	GMDB-T2M[N][B]-D22/4YV8	GMDB-T2M[N][B]-D24/4YV8	GMDB-T2M[N][B]-D26/4YV8	GMDB-T2M[N][B]-D28/4YV8	GMDB-T2M[N][B]-D30/4YV8
A (mm)	680	760	840	920	1000	1080	1160
B (mm)	720	800	880	960	1040	1120	1200

Note: [N] NPN/PNP changeable; [B] N.O./N.C. Changeable.

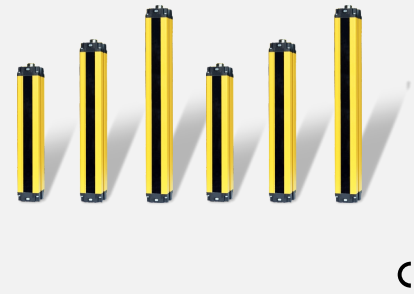
PICTURE

Features :

- beam pitch: 20mm
- Min. detectable object: ϕ 25mm
- High reliability
- Short circuit protection and revised polarity protection



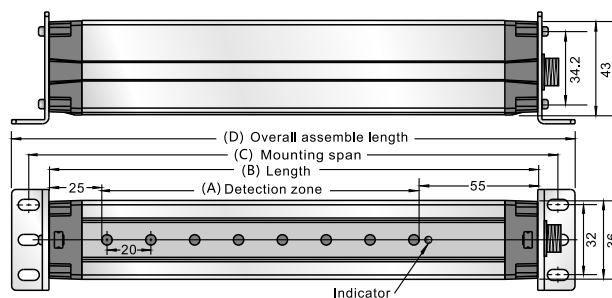
CE



CE

Emitter	GMDE-E5M-D04/2YV5	* 01	GMDE-E10M-D04/2YV5	* 01
Receiver:				
DC-4 wires NPN N.O.	GMDE-T5MNA-D04/2YV6	* 02	GMDE-T10MNA-D04/2YV6	* 02
DC-4 wires NPN N.C.	GMDE-T5MNB-D04/2YV6	* 02	GMDE-T10MNB-D04/2YV6	* 02
DC-4 wires PNP N.O.	GMDE-T5MPA-D04/2YV6	* 03	GMDE-T10MPA-D04/2YV6	* 03
DC-4 wires PNP N.C.	GMDE-T5MPB-D04/2YV6	* 03	GMDE-T10MPB-D04/2YV6	* 03
Protected area width	0.5-5m		0.5-10m	
Resolution	25mm(presence detection)			
Supply voltage	DC12...24V			
Current consumption	≤100mA			
Output status	All light channel light on			
Cable length	3M			
Light source	Infrared light			
Protection circuit	Short circuit and Reversed polarity protection			
Residual voltage(V_r)	0.8V max.			
Leakage current	0.1mA max.			
Display	Power: Green LED; Output status: Red LED			
Response time	<12ms			
Reset time	<20ms			
Anti light interference	>5000LUX(Angle of incidence>5°)			
Protection	IP65			
Connection	Round socket , M12 connector			
Housing material	Aluminum alloy, Top and bottom cover: nylon			
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)			
Insulation resistance	≥50MΩ			
Vibration resistance	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours			

Dimensional drawing



Remark

01 . 02 . 03—NO of wiring diagram(refers to page K-19)

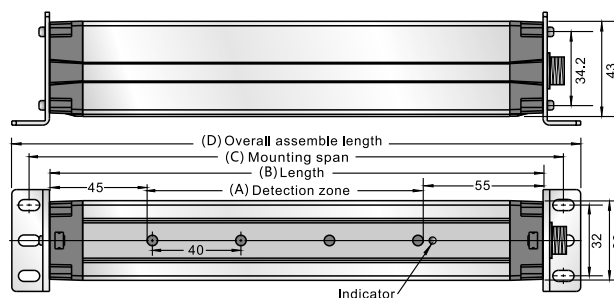
PICTURE

Features :

- beam pitch: 40mm
- Min. detectable object: ϕ 45mm
- High reliability
- Short circuit protection and revised polarity protection

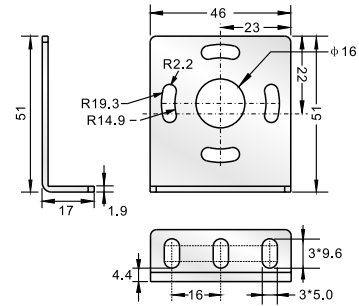
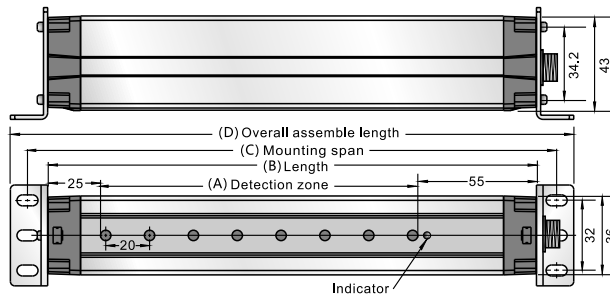
Emitter	GMDE-E5M-D₀₄/4YV5	* 01	GMDE-E10M-D₀₄/4YV5	* 01
Receiver:				
DC-4 wires NPN N.O.	GMDE-T5MNA-D₀₄/4YV6	* 02	GMDE-T10MNA-D₀₄/4YV6	* 02
DC-4 wires NPN N.C.	GMDE-T5MNB-D₀₄/4YV6	* 02	GMDE-T10MNB-D₀₄/4YV6	* 02
DC-4 wires PNP N.O.	GMDE-T5MPA-D₀₄/4YV6	* 03	GMDE-T10MPA-D₀₄/4YV6	* 03
DC-4 wires PNP N.C.	GMDE-T5MPB-D₀₄/4YV6	* 03	GMDE-T10MPB-D₀₄/4YV6	* 03
Protected area width	0.5-5m		0.5-10m	
Resolution	45mm(presence detection)			
Supply voltage	DC12...24V			
Current consumption	≤100mA			
Output status	All light channel light on			
Cable length	3M			
Light source	Infrared light			
Protection circuit	Short circuit and Reversed polarity protection			
Residual voltage(V_r)	0.8V max.			
Leakage current	0.1mA max.			
Display	Power: Green LED; Output status: Red LED			
Response time	<12ms			
Reset time	<20ms			
Anti light interference	>5000LUX(Angle of incidence>5°)			
Protection	IP65			
Connection	Round socket , M12 connector			
Housing material	Aluminum alloy, Top and bottom cover: nylon			
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)			
Insulation resistance	≥50MΩ			
Vibration resistance	10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours			

Dimensional drawing

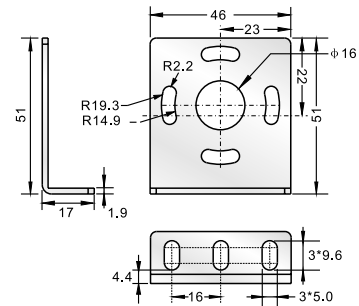
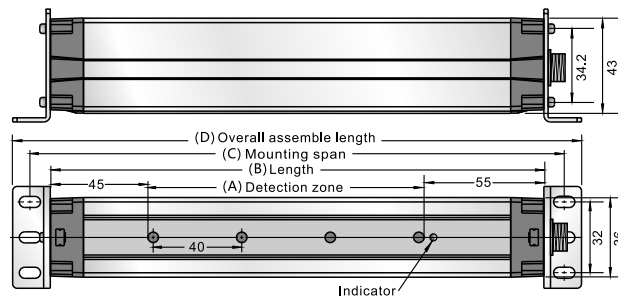


Remark

01 . 02 . 03—NO of wiring diagram(refers to page K-19)

Dimension (Unit: mm)
20mm beam pitch


Type	GMDE-E5M-D04/2YV5 GMDE-T5M[N][B]-D04/2YV6	GMDE-E5M-D08/2YV5 GMDE-T5M[N][B]-D08/2YV6	GMDE-E5M-D12/2YV5 GMDE-T5M[N][B]-D12/2YV6	GMDE-E5M-D16/2YV5 GMDE-T5M[N][B]-D16/2YV6	GMDE-E5M-D20/2YV5 GMDE-T5M[N][B]-D20/2YV6	GMDE-E5M-D24/2YV5 GMDE-T5M[N][B]-D24/2YV6	GMDE-E5M-D28/2YV5 GMDE-T5M[N][B]-D28/2YV6
A (mm)	60	140	220	300	380	460	540
B (mm)	140	220	300	380	460	540	620
C (mm)	158	238	318	398	478	558	638
D (mm)	174	254	334	414	494	574	654

40mm beam pitch


Type	GMDE-E5M-D04/4YV5 GMDE-T5M[N][B]-D04/4YV6	GMDE-E5M-D06/4YV5 GMDE-T5M[N][B]-D06/4YV6	GMDE-E5M-D08/4YV5 GMDE-T5M[N][B]-D08/4YV6	GMDE-E5M-D10/4YV5 GMDE-T5M[N][B]-D10/4YV6	GMDE-E5M-D12/4YV5 GMDE-T5M[N][B]-D12/4YV6	GMDE-E5M-D14/4YV5 GMDE-T5M[N][B]-D14/4YV6	GMDE-E5M-D16/4YV5 GMDE-T5M[N][B]-D16/4YV6
A (mm)	120	200	280	360	440	520	600
B (mm)	220	300	380	460	540	620	700
C (mm)	238	318	398	478	558	638	718
D (mm)	254	334	414	494	574	654	734

Type	GMDE-E5M-D18/4YV5 GMDE-T5M[N][B]-D18/4YV6	GMDE-E5M-D20/4YV5 GMDE-T5M[N][B]-D20/4YV6	GMDE-E5M-D22/4YV5 GMDE-T5M[N][B]-D22/4YV6	GMDE-E5M-D24/4YV5 GMDE-T5M[N][B]-D24/4YV6	GMDE-E5M-D26/4YV5 GMDE-T5M[N][B]-D26/4YV6	GMDE-E5M-D28/4YV5 GMDE-T5M[N][B]-D28/4YV6
A (mm)	680	760	840	920	1000	1080
B (mm)	780	860	940	1020	1100	1180
C (mm)	798	878	958	1038	1118	1198
D (mm)	814	894	974	1054	1134	1214

Note: [N] NPN/PNP changeable; [B] N.O./N.C. Changeable.

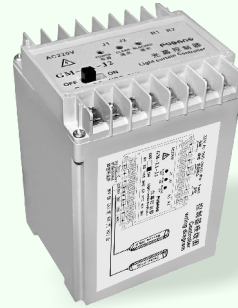
Notes for self-diagnosis indicator

	LED green	LED yellow	LED red	Output	Notes
Receiver	○	●	●	OFF	Stable reception
	○	○	●	OFF	Unstable reception
	●	○	○	ON	Unstable blocking
	●	●	○	ON	Stable blocking
	●	○	○	OFF	Excessive current
	▶	○	▶	OFF	Output fault
	○	○	○	OFF	Receiving circuit fault
	○	●	○	OFF	Emitting circuit fault
	○	○	○	OFF	Synchronous clock fault
	○	○	○	OFF	

	LED green	LED yellow	LED red	Output	Notes
Emitter	○	---	○	---	Slave mode
	○	---	●	---	Master mode
	○	---	○	OFF	test mode
	▶	---	▶	OFF	Emitting component fault
	○	---	○	OFF	Emitting circuit fault
	○	---	○	OFF	

Remark : ○ Light on ● Light off ◐ Alternately flashing
 ▶ Synchronous flashing

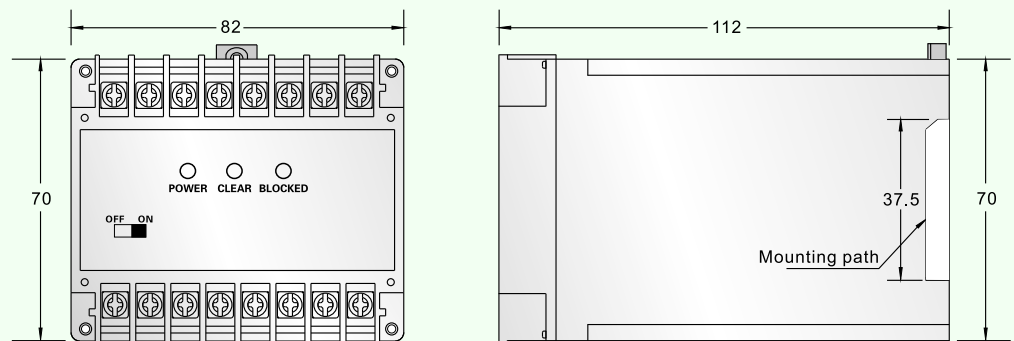
PICTURE



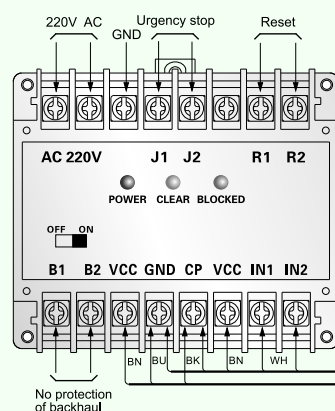
CE

Model	GM-2A-J2
Supply voltage(V)	AC:220V(50/60Hz)
Power consumption	<15W
Output contact capacity	AC250V/3A or DC30V/3A
Ambient temperature and humidity	-5℃...55℃ ; 25% ...85% RH(no condensation)
Response time	<20ms
Display	Red: power; Yellow: Clear; Green;Blocked
Insulation resistance	≥50MΩ
Insulation intensity	AC2000V, 50/60HZ, 1minute
Relay life span	> 1 million

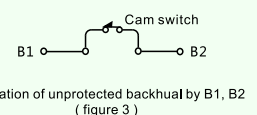
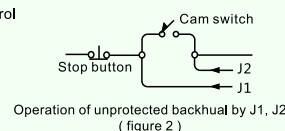
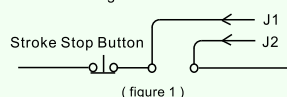
Dimensional drawing



Wiring Diagram



- The wires marked J1,J2 should be connected into control circuit as shown in figure 1



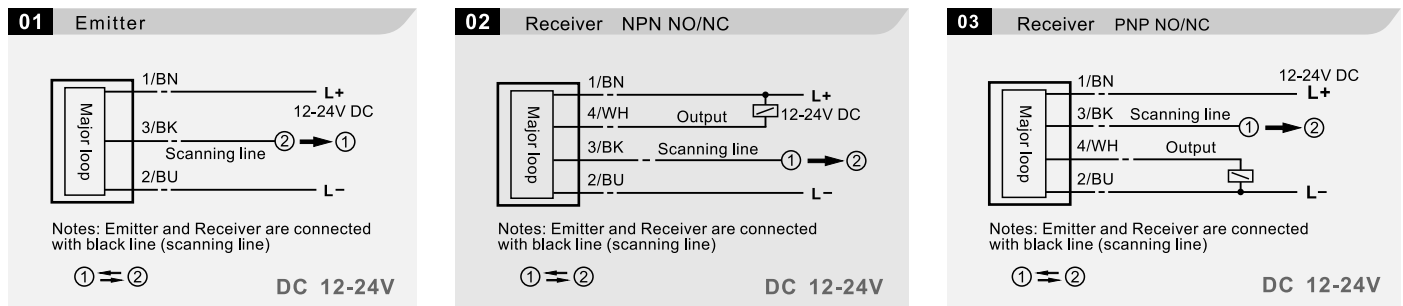
- R1,R2 contacts are reset contacts . They have been shorted sub with wires before shipment . Remove the wire , connect the reset contacts , then you can set up the self-protection function .
- B1, B2 contacts are unprotected backhaul contacts. They are passive contacts. No access to power input is allowed.
- How to operate unprotected backhaul function :
(1) If the unprotected backhaul function is provided by the machine tool itself , no extra wiring is needed .
(2) If the unprotected backhaul function is provided by other controller , there are 2 kinds of wiring as below :
A. Parallely connect the pair of NO contacts of cam switch with J1,J2 contacts . Shown in figure 2 .
B. Connect the pair of NC contacts of cam switch with B1,B2 contacts in series . Shown in figure 3 .

Remark

Light curtain controller is a specified product to ensure stable performance of light curtain and avoid any related damages . You are strongly suggested to purchase our matched light curtain controller and light curtain together .

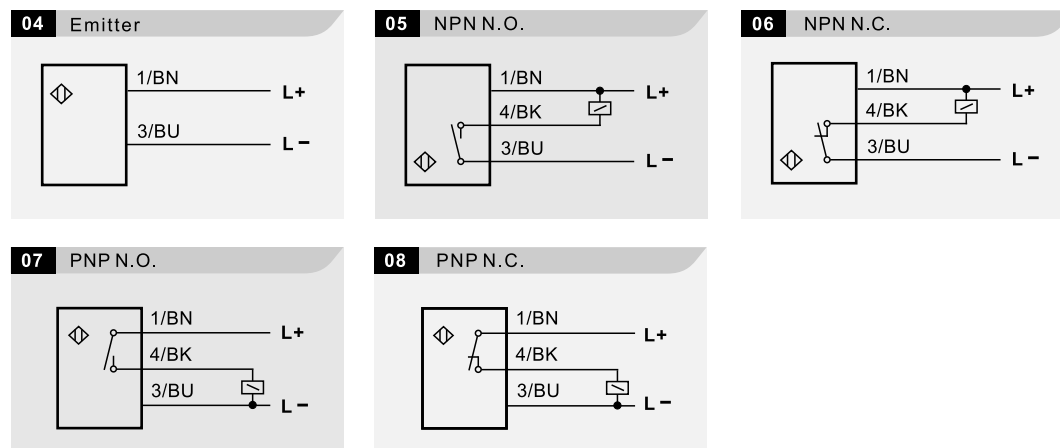
Standard Light Curtain and Safety Light Curtain

Connector type



Mini Light Curtain and Economical Light Curtain

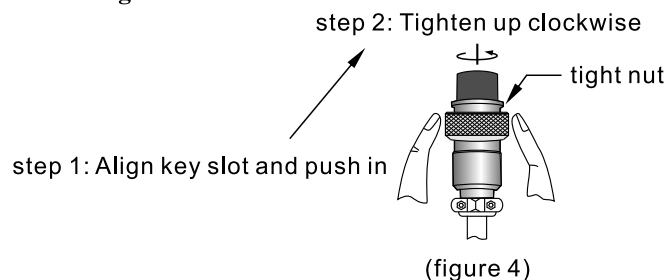
Cable type



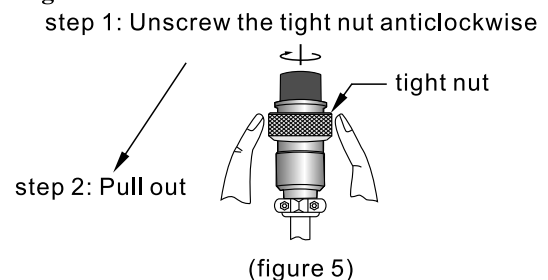
Transmission line connected between controller and light curtain

1. Please make sure the plug and socket are connected correctly before mounting .
Push the tail end slightly and tighten the tight nut clockwise .
2. Unscrew the tight nut by finger anticlockwise when dismantling . And then pull out the plug .

Mounting



Dismounting



Warnings : the operations below may damage the light curtain controller .

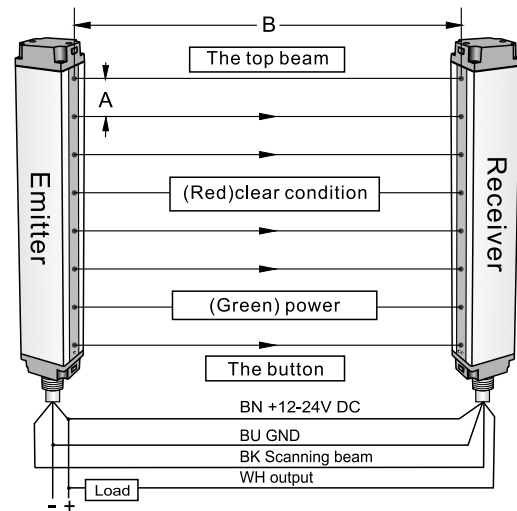
1. Incorrect mounting and dismantling against figure 4 and figure 5 .
2. Incorrect connection against the wiring diagram .
3. Mounting or dismantling with power-on .

Structure diagram

Example: GMDC Safety Light Curtain

A: beam pitch, 20mm, 40mm

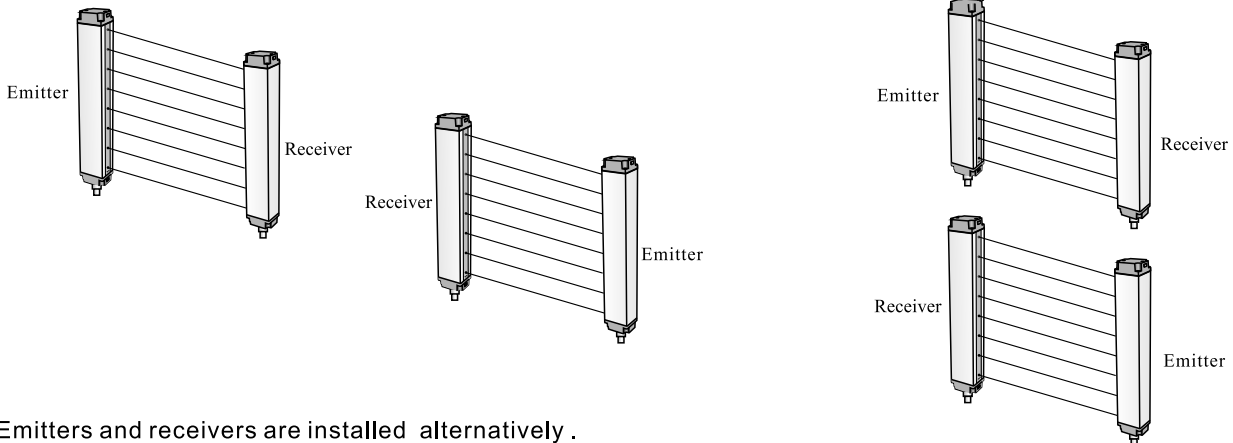
B: Protected area width



Attention

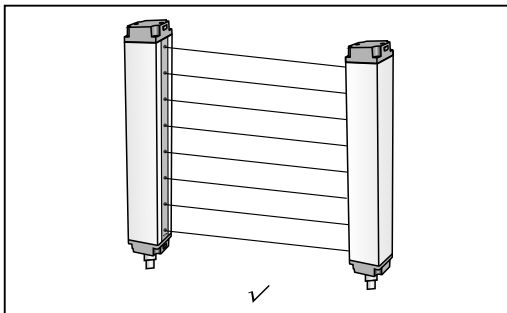
Anti-jamming installation

When more than one set of light curtains are installed together, you are advised to set the emitters & receivers as below to avoid optical interference.

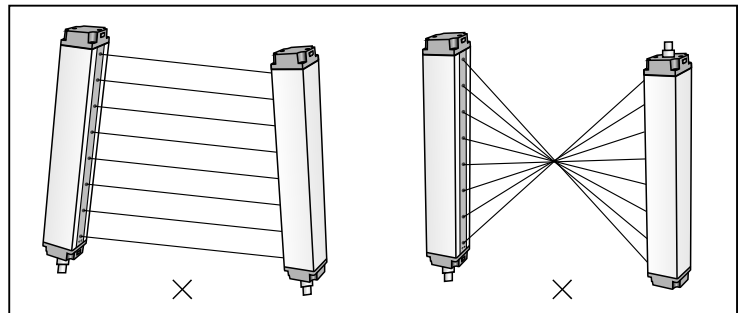


Correct installation

Emitter and receiver must be assembled parallelly. Ensure the emitter and the receiver lie in the same line, while keep the cable end in the same direction.

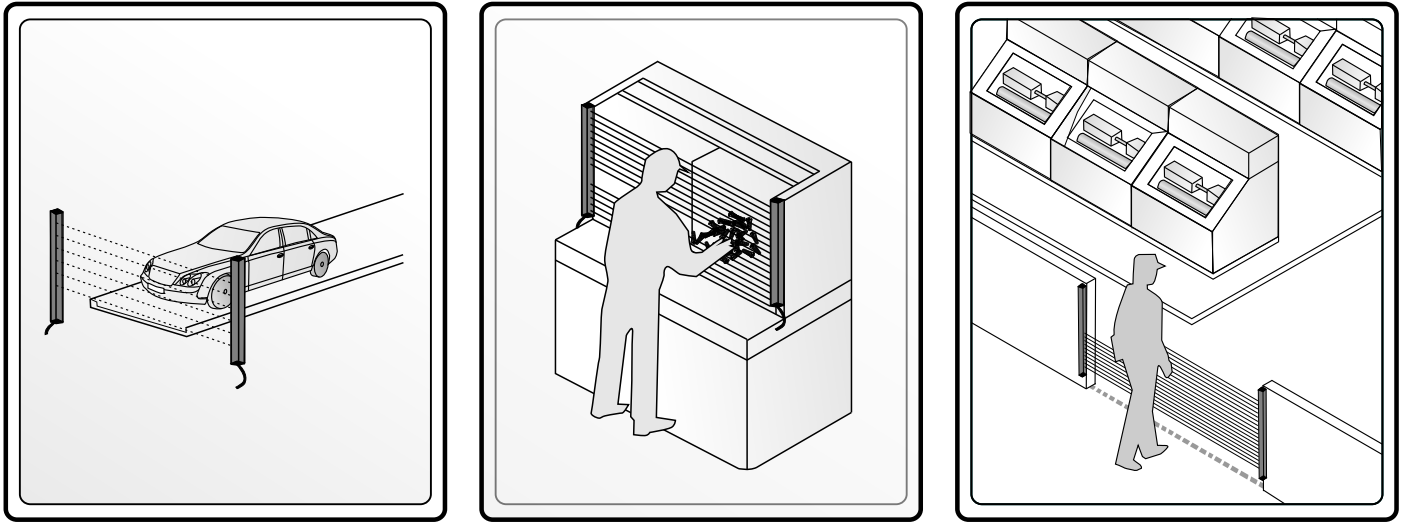


Right: parallel, face to face, keep the cable ends in the same direction



Wrong: unparallel, cable ends lie in different direction

Application



Warning: Light Curtain can't be used for dangerous machines , as it is not a kind of safety protection device .

Note and maintenance

Note

1. Be sure the input is within the rated supply voltage range. Or there might be damages like crack , burn-out to the light curtain . You are advised to match it with dedicated light curtain controller .
2. Pay attention to power polarity to avoid any damages to light curtain .

Maintenance

1. Confirm the normal control of light curtain to related machines .
2. Do not change the installation site of light curtain when it is in operation .
3. When there is a breakdown , the maintenance can only be operated by specialized technician. Not any repair , disassembling and modification without a qualified person is allowed .
4. When there is a need to adjust operation of related machine , the adjustment of protected width and installation of light curtain by a professional is required .
5. Make sure to turn down the power supply before disassembling light curtain and transmission cable .
6. It is recommended to regularly clean the front panes of emitter and receiver with clean ,damp cloth .
7. Avoid installation in wet , corrosive ,dusty place . If possible , you are suggested to mount a protective cover in harsh environment or outdoor areas .
8. To avoid any jamming , the light curtain should have separated power input , separated from the power line , high-voltage wire and high-frequence wire .
9. When there is a short circuit to the controller , please reset after troubleshooting .