Measuring Displacement Sensors

- Adopt the most advanced development technology and production technique to discern high resolution measurement.
- Successfully developed the smallest contact magnetic displacement sensors .

Triangulation Measuring(MLD17 Series)

- Ultra–compact mini shape, easy to integrate into various devices
- Excellent linear accuracy of five ten thousandths
- Configurable analog and switching output

P.F-15

Contact Displacement(MR-DT Series)

- Up to micron accuracy
- Various measuring ranges are available, suitable for different testing needs
- Configure serial port, analog and switch output

P.F-22

MINI Lidar Scanner(AS-11C)

- 20M sensing distance, small size
- 360 ° scanning range,no dead ends
- 12.5HZ (Max.)scanning frequency
- 0.5 ° (Max.) resolution

P.F-24

NEW!

Navigation Lidar(AS-100C)

- Height:72mm,scanningrange:360degrees
- Scanning frequency: 10Hz/20Hz, scanning angle resolution: 0.05 degree/0.1 degree
- Scanning distance: 20m (10% reflectivity), range: 0.2m–100m
- Millimeter–level distance data resolution, RSSI function, suitable for navigation and map surveying.

P.F-27

Repeat accuracy 5 μ m

Magnetic Displacement(MR-D Series)

- Repeat accuracy up to 5 μ m
- Selectable communication protocol, such as RS232/RS485/CAN, etc;
- Detection up to 60 million times;

P.F-19

NEW!

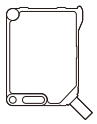
Color Confocal(ADV Series)

- First choice for automated precision measurement
- Any material can be measured stably
- The latest non–contact optical sensing technology

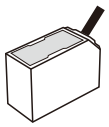
P.F-30

Guidance

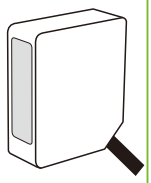
TOF Measurement Type

Appearance	Type	Sensing distance	Spot size	Model number		Pages
				Analog output type	3CH switch output type	
	Diffuse reflection	250~2500mm	ϕ10mm(Distance 2.5m)	MLD11-2500VA	MLD11-2500	F-07

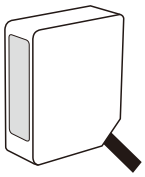
Triangulation Mini Digital Display

Appearance	Type	Center of sensing distance	Model number			Pages
			Analog current output	Analog voltage output	RS485	
	Diffuse reflection	15mm	MLD22-15A (HOT)	MLD22-15V	MLD22-15-485	F-09
		35mm	MLD22-35A	MLD22-35V	MLD22-35-485	
		100mm	MLD22-100A	MLD22-100V	MLD22-100-485	

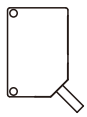
Triangulation Built-in Controller

Appearance	Type	Center of sensing distance	Model number		Pages
			NPN output	PNP output	
	Diffuse reflection	30mm	MLD33-30N	MLD33-30P	F-11
			MLD33-30NA	MLD33-30PA	
			MLD33-30NV	MLD33-30PV	
			MLD33-30N-422	MLD33-30P-422	
		50mm	MLD33-50N	MLD33-50P	
			MLD33-50NA	MLD33-50PA	
			MLD33-50NV	MLD33-50PV	
			MLD33-50N-422	MLD33-50P-422	
		85mm	MLD33-85N	MLD33-85P	
			MLD33-85NA	MLD33-85PA	
			MLD33-85NV	MLD33-85PV	
			MLD33-85N-422	MLD33-85P-422	
		120mm	MLD33-120N	MLD33-120P	
			MLD33-120NA	MLD33-120PA	
			MLD33-120NV	MLD33-120PV	
			MLD33-120N-422	MLD33-120P-422	
		250mm	MLD33-250NA	MLD33-250PA	
			MLD33-250NV	MLD33-250PV	
			MLD33-250N-422	MLD33-250P-422	

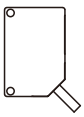
Built-in Controller Triangulation

Appearance	Center of sensing distance	Model number		Pages
		NPN output	PNP output	
	Regular Reflection 26.3mm	MLD33-L30NA	MLD33-L30PA	F-12
		MLD33-L30NV	MLD33-L30PV	
		MLD33-L30N-422	MLD33-L30P-422	
	47.3mm	MLD33-L50NA	MLD33-L50PA	
		MLD33-L50NV	MLD33-L50PV	
		MLD33-L50N-422	MLD33-L50P-422	
	82.9mm	MLD33-L85NA	MLD33-L85PA	
		MLD33-L85NV	MLD33-L85PV	
		MLD33-L85N-422	MLD33-L85P-422	

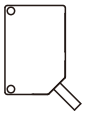
Built-in Controller Triangulation

Appearance	Type	Sensing distance	Model number				Pages
			Analog current output	Analog voltage output			
	Diffuse reflection	20~30mm	MLD17-10V-485	MLD17-10V-232	MLD17-10I-485	MLD17-10I-232	F-15
		20~45mm	MLD17-25V-485	MLD17-25V-232	MLD17-25I-485	MLD17-25I-232	
		30~80mm	MLD17-50V-485	MLD17-50V-232	MLD17-50I-485	MLD17-50I-232	
		55~155mm	MLD17-100V-485	MLD17-100V-232	MLD17-100I-485	MLD17-100I-232	
		65~315mm	MLD17-250V-485	MLD17-250V-232	MLD17-250I-485	MLD17-250I-232	
		105~605mm	MLD17-500V-485	MLD17-500V-232	MLD17-500I-485	MLD17-500I-232	

Built-in Controller Triangulation

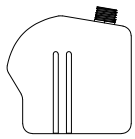
Appearance	Type	Sensing distance	Model number				Pages
			Analog current output	Analog voltage output			
	Diffuse reflection	15~20mm	MLD27-5V-485	MLD27-5V-232	MLD27-5I-485	MLD27-5I-232	F-16
		30~45mm	MLD27-15V-485	MLD27-15V-232	MLD27-15I-485	MLD27-15I-232	
		55~85mm	MLD27-30V-485	MLD27-30V-232	MLD27-30I-485	MLD27-30I-232	
		90~190mm	MLD27-100V-485	MLD27-100V-232	MLD27-100I-485	MLD27-100I-232	
		125~625mm	MLD27-500V-485	MLD27-500V-232	MLD27-500I-485	MLD27-500I-232	
		245~1245mm	MLD27-1000V-485	MLD27-1000V-232	MLD27-1000I-485	MLD27-1000I-232	

Built-in Controller Triangulation

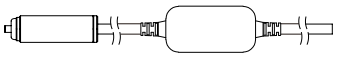
Appearance	Type	Sensing distance	Model number		Pages
			RS485	RS232	
	Diffuse reflection	15~20mm	MLD27-H5V-485	MLD27-H5V-232	F-17
		30~45mm	MLD27-H15V-485	MLD27-H15V-232	
		55~85mm	MLD27-H30V-485	MLD27-H30V-232	
		65~115mm	MLD27-H50V-485	MLD27-H50V-232	
		90~190mm	MLD27-H100V-485	MLD27-H100V-232	
		80~330mm	MLD27-H250V-485	MLD27-H250V-232	

Guidance

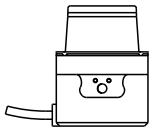
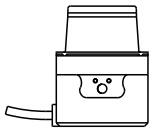
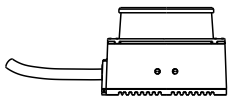
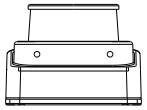
Linear Measurement Type

Appearance	Type	Sensing distance	Model number	Pages
	Diffuse reflection	10mm	ESX-G10	F-18
		50mm	ESX-G50	
		100mm	ESX-G100	
		250mm	ESX-G250	

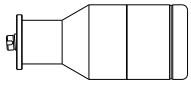
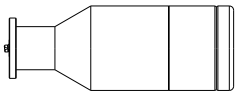
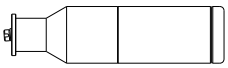
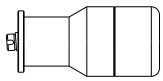
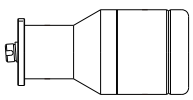
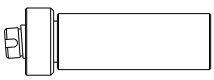
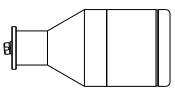
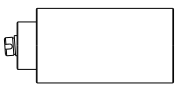
Magnetic Displacement

Appearance	Size	Sensing distance	Model number		Pages
	ϕ8X28mm	1mm	MR-D28		F-19
	135X36X20mm	15mm	MR-DT-L15	MR-DT-H15	F-20
	196X36X20mm	35mm	MR-DT-L35	MR-DT-H35	
	246.7X36X20mm	55mm	MR-DT-L55	MR-DT-H55	

LiDAR Scanner

Appearance	Size	Sensing distance	Model number	Pages
	83.5 × 85 × 104.9(mm)	20m	AS-21C	F-22
	83.5 × 85 × 104.9(mm)	40m	AS-41C	F-22
	86 × 85 × 59.5(mm)	40m	AS-11C	F-25
	110*96.5*71.5(mm)	100m	AS-100C	F-28

Color Confocal

Appearance	Size	Sensing distance	Model number	Pages
	Φ41*93.9(mm)	8±0.2mm	ACC-008L	F-31
	Φ98*266(mm)	11±1.2mm	ACC-011L	F-31
	Φ41*153.6(mm)	16±1mm	ACC-016L	F-31
	Φ34*153.6(mm)	18±1mm	ACC-018L	F-31
	Φ38*82(mm)	30±2mm	ACC-030L	F-31
	Φ18*55(mm)	33±2mm	ACC-033L	F-31
	Φ54*111.2(mm)	40±4mm	ACC-040L	F-31
	Φ33*75(mm)	55±3mm	ACC-055L	F-31

TOF Measurement Type

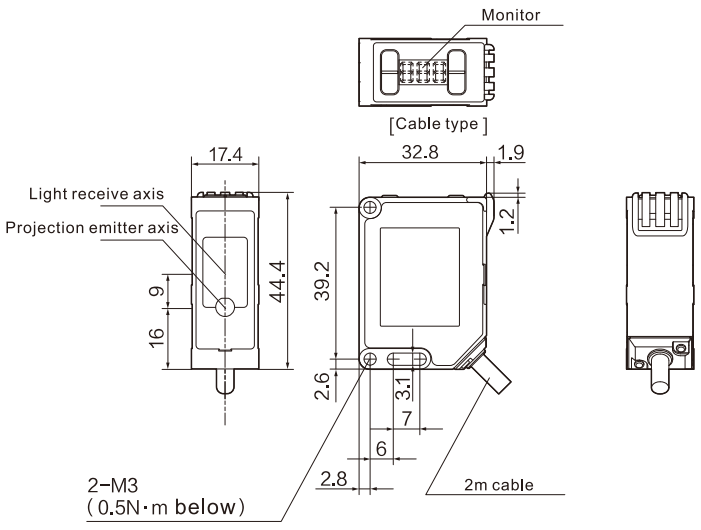
MLD11 Series

TOF principle

Appearance			
Type		Analog output type	3CH switch output type
Sensing type		Diffuse reflection	
Sensing distance		250~2500mm	
Light source	Medium. Wave length	Red semiconductor laser diode (wavelength: 650mm, maximum output power: 64mW, light–emitting pulse: 7ns, light–emitting period: 11.11MHz)	
	Average output power	Below 390 μ w	
Laser class		Class1(IEC/JIS/FDA)	
Beam size		ϕ10mm(when in 2.5m)	
Sampling period		below 200μs /0.5ms (When the average number of sampling is 1)	
Digital display		7–segment 3–digit LED	
Indicator		Output indicator: green Stability indicator: red Laser off indicator: light off	1 / 2CH output indicator: orange 3CH indicator: green Stability indicator: red Laser off indicator: light off
External input		Laser off control/external teach input can be switched	
Output	Analog current	4~20mA output, load resistance ⩽ 300Ω	–
	Analog voltage	0~10v output, output resistance 100Ω	–
	Switch output	Open–connector output(NPN/PNP switchable); Max: 100mA/30V DC; Voltage drop: 1.8V	
Current consumption		12~30V DC ±10%	10~30V DC ±10%
Operating current		⩽60mA	
Voltage output		0~10v output, output resistance 100Ω	
Connection Type		ϕ4.5mm / 2m cable	
Protective circuit		Reverse connection protection, over current protection	
Ambient parameters	Degree of protection	IP67	
	Ambient temperature	–10℃~+50℃, No freezing	
	Ambient humidity	35%~85%RH, No condensation	
	Ambient brightness	Sunlight⩽20000Lux, Incandescent lamp⩽3000Lux	
	Vibration resistance	10~55Hz Double amplitude1.5mm, XYZ three directions, 2 hours each	
	Shock resistance	500m/s²(Approx.50G), XYZ three directions 3 times each	
Material		Housing: PC, Lens: PMMA	
Weight		Cable type: ≈88g; Plug–in type: ≈48g	
Model No		MLD11-2500VA	MLD11-2500

Dimensions

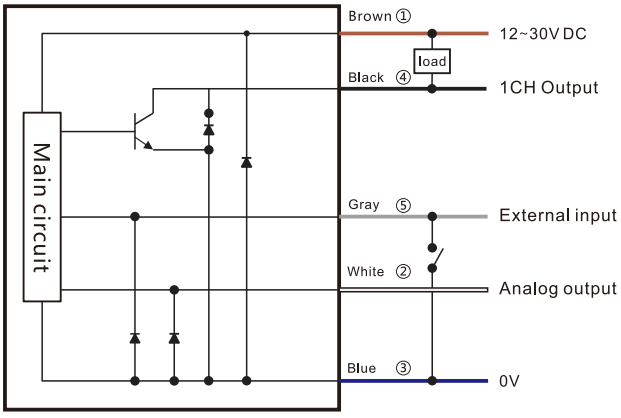
Unit: mm



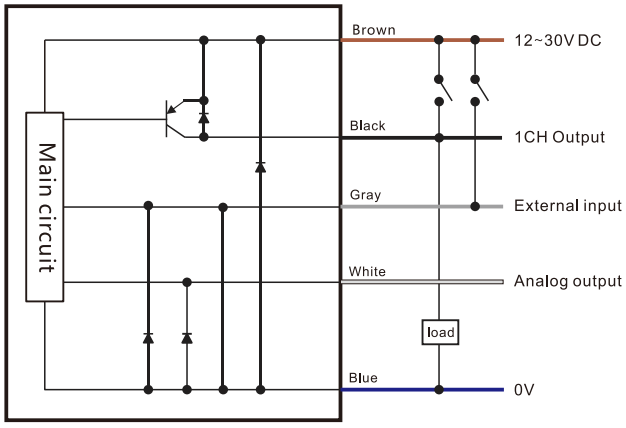
Circuit Diagram

■ Analog output type

■ NPN

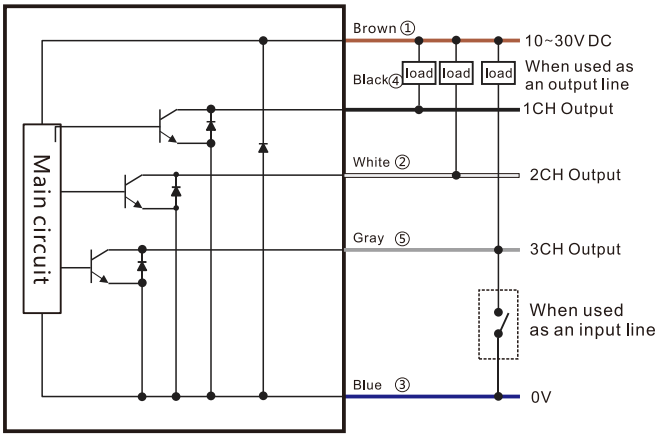


■ PNP

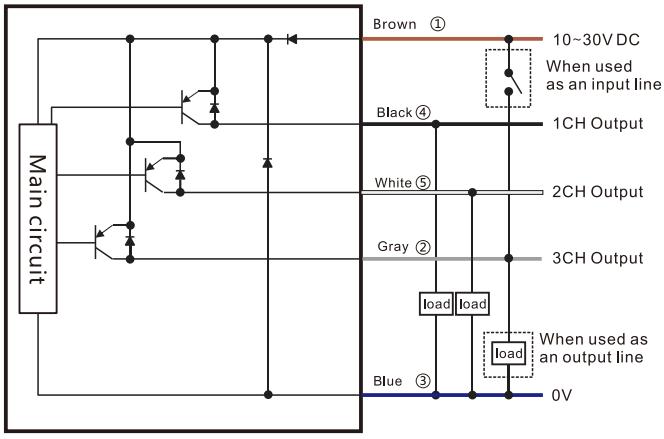


■ 3CH switch output type

■ NPN



■ PNP



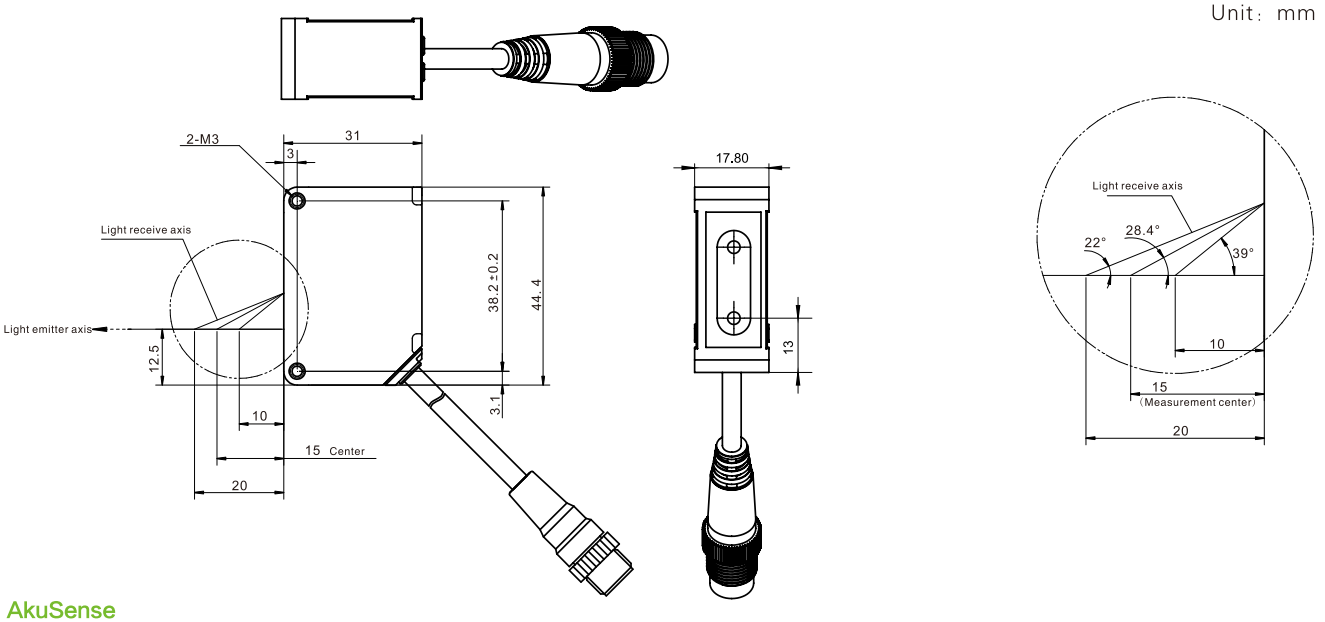
Mini Digital Display

MLD22 Series

Appearance				
Sensing type		Diffuse reflection		
Center of sensing distance		15mm	35mm	100mm
Sensing distance		10~20mm	20~50mm	50~150mm
F.S		10mm	30mm	100mm
Light source	Medium. Wave length	Red Semi-conductor laser Wave length: 655nm		
	Max. output power	390μW		1mW
Laser class	IEC/JIS	Class1		Class2
	FDA	Class2		
Beam size		0.5*0.7mm	0.45*0.8mm	0.6*0.7mm
Linearity		±0.1% F.S.		
Repeat accuracy		1μm	6μm	20μm
Sampling period		500μs/1000μs/2000μs/4000μs/AUTO		
Temperature drift		±0.02%F.S./℃		±0.05%F.S./℃
Indicator		Laser emission indicator (green)/zero reset indicator (red)/output indicator (orange)/mode indicator (red)		
External input		Laser OFF, teaching, sample & hold, one-shot, zero reset (selectable)		
Output	Analog current	4~20mA output, load impedance≤300Ω		
	Analog voltage	0~10v output impedance, output resistance 100Ω		
Switch output		NPN/PNP open collector (selectable by setting), Max. 100 mA / 30 VDC, residual voltage 1.8 V		
Operating voltage		Analog current: 12~24V Dc±10%; Analog voltage: 18~24V DC±10%		
Current consumption		<70mA		
Connectors		Cable with M12, 5-pin connector, 300 mm length		
Protective circuit		Reverse polarity Over-current		
Ambient parameters	Degree of protection	IP67		
	Ambient temperature	-10℃~+50℃, No freezing		
	Ambient humidity	35%~85%RH, No condensation		
	Ambient brightness	Sunlight≤20000Lux, Incandescent lamp≤3000Lux		
	Vibration resistance	10~55Hz Double amplitude1.5mm, XYZ three directions, 2 hours each		
	Shock resistance	3 times in each of the X, Y, and Z directions		
Material		Housing: die-cast aluminum; Front cover: PPSU; Display: PET; Cable: Oil-proof PVC		
Weight		Approx.60G(Including cable)		
Analog current output		MLD22-15A HOT	MLD22-35A	MLD22-100A
Analog voltage output		MLD22-15V	MLD22-35V	MLD22-100V
RS485		MLD22-15-485	MLD22-35-485	MLD22-100-485
Remarks		Optional Cable: CA12 Series		

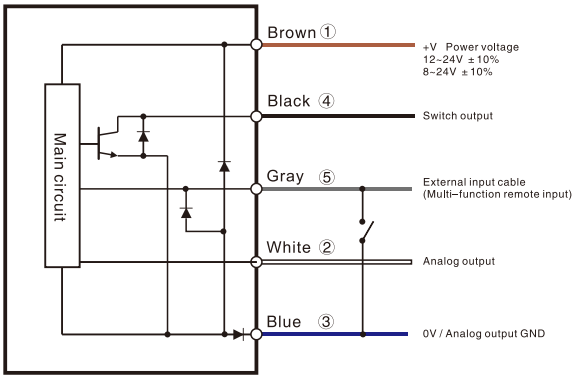
Dimensions

Unit: mm

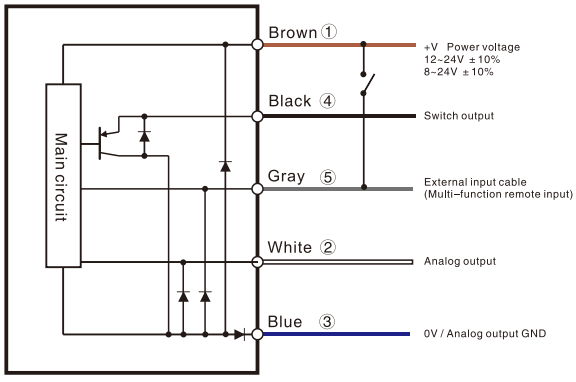


Circuit Diagram

NPN



PNP



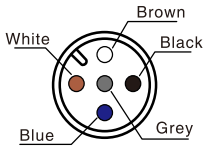
485

The pin configuration of the cable and cable connector is as follows:

Cable color	Function
Brown	DC12-24V ± 10%
Blue	0V
Grey	(N.C.)
Black	RS-485(A)
White	RS-485(B)

■ Connector pin configuration (sensor side)

M12 connector



MLD23 Series

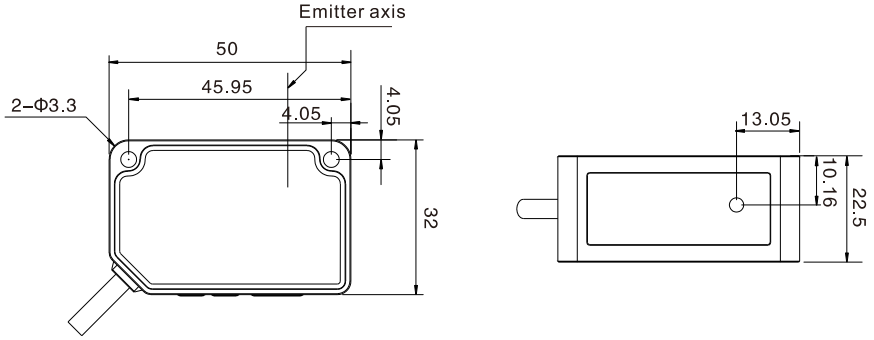
NEW!

Economy type

Appearance				
Principle		Diffuse reflection		
Center of sensing distance		30mm	100mm	200mm
Sensing distance		25~35mm	65~135mm	120~280mm
Repeat accuracy		10μm	70μm	200μm
Light source	Medium, wavelength	Red semiconductor laser, wavelength: 655nm		
	Max. output power	1mW		
	Laser class	Class2		
Standard		EMC		
Temperaturedrift		±0.03%/℃ F.S.		
Spot size		≈Φ0.05mm	≈Φ0.15mm	≈Φ0.3mm
Linearity		±0.1% F.S.		±0.2% F.S.
Supply voltage		12~24V DC±10%		
Current consumption		< 60 mA (24V DC), < 100mA (12V DC)		
Response time		1.5ms/5ms/50ms switchable		
Switch Output	NPN	NPN open–collector transistor, max. inflow current: 50mA; applied voltage: < 30V DC (between control output–0V), residual voltage: < 1.5V (inflow current < 50mA)		
	PNP	PNP open–collector transistor, max. source current: 50mA; applied voltage: < 30V DC (between control output and +V); residual voltage: < 1.5V (outflow current < 50mA)		
Analog output	Voltage	Output range: 0V ~ 5V (when alarm: +5.2V), output impedance: 100Ω		
	Current	Output range: 4mA ~ 20mA (when alarm: 0mA), load: less than 300Ω		
External input	NPN	Input conditions Invalid: +8V ~ +V DC or open, valid: 0V ~ +1.2V DC; input impedance: about 10kΩ		
	PNP	Input conditions Invalid: 0V ~ +0.6V DC or open, valid: +4V ~ +V DC; input impedance: about 10kΩ		
Ambient performance	Protection Degree	IP66		
	Ambient Temperature	–10℃~+45℃, No freezing		
	Ambient humidity	35%~85%RH, No condensation		
	Ambient light	Incandescent lamp: Illumination below 3000Lux on the light–receiving surface		
Cable		5–core 2M cable		
Material		Aluminum, acrylic		
Model	NPN	MLD23-30N	MLD23-100N	MLD23-200N
	PNP	MLD23-30P	MLD23-100P	MLD23-200P

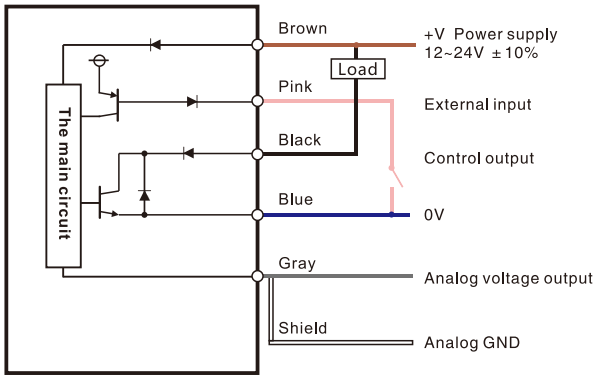
Dimensions

Unit: mm

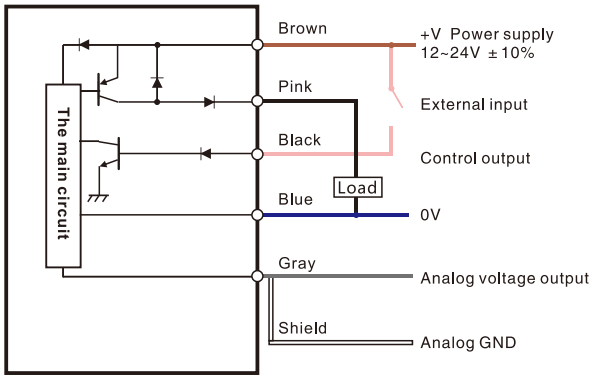


Circuit Diagram

NPN



PNP



Built-in Controller

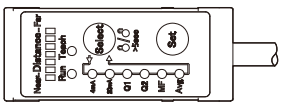
MLD33 Series

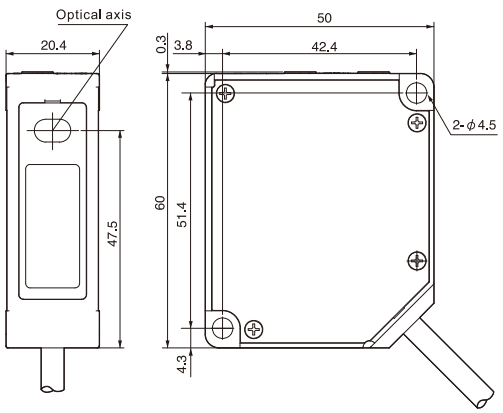
Appearance

Sensing type		Diffuse reflection				
Center of sensing distance		30mm	50mm	85mm	120mm	250mm
Sensing distance		26~34mm	40~60mm	65~105mm	60~180mm	100~400mm
F.S		8mm	20mm	40mm	120mm	300mm
Light source	Medium Wavelength	Red laser diode wavelength: 655mm				
	Max. ouput	1mW max				
Laser class	IEC/JIS	Class2				
	FDA	Class2				
Beam size	Close range	0.15*0.15mm	0.6*1.2mm	0.9*1.5mm	1.2*1.8mm	1.5*2.5mm
	Center	0.1*0.1mm	0.5*1.0mm	0.75*1.25mm	1.0*1.5mm	1.75*3.5mm
	Long range	0.15*0.15mm	0.4*0.9mm	0.6*1.0mm	0.5*0.8mm	2.0*4.5mm
Linearity		±0.1%F.S.				±0.3%F.S.
Repeat accuracy	Fast mode	4μm	8μm	15μm	45μm	100μm
	Others	2μm	5μm	10μm	30μm	75μm
Temperature drift		±0.08%F.S./℃				
Operating voltage		Switch/Current output: 12~24V DC(−5%, +10%), Voltage output: 18~24V DC(−5%, +10%)				
Current consumption		Switch/Voltage output: max.55mA(24V DC), Current output: max.85mA(24V DC)				
Output	Switch output	2 Channels output, NPN/PNP Open−connector output , ≤100/30V DC, Voltage drop≤1.8V				
	Analog output	Current output: 4~20mA; Voltage output: 0~10V				
Response time	Fast mode	max.5ms				
	Standard mode	max.12.5ms				
	High resolution mode	max.36.5ms				
	Sensitivity switch time	4ms max				
Indicator	Distance indicator	LED bar display on operation surface (25−step)				
	Output indicator	Q1 and Q2 LED lights up during output (orange)				
Ambient parameters	Degree of protection	IP67				
	Ambient temperature	−10℃~+45℃, No freezing				
	Ambient humidity	35%~85%RH, No condensation				
	Ambient brightness	Sunlight≤20000Lux，Incandescent lamp≤3000Lux				
	Vibration resistance	10~55Hz Double amplitude1.5mm, XYZ three directions, 2 hours each				
	Shock resistance	500m/s² (Approx.50G), XYZ three directions 3 times each				
Housing material		Housing: PBT,Front cover: PMMA				
Cable		Switch output: ϕ5mm 5core 2m cable; Analog output: ϕ5mm 6core 2m cable; Rs422 CI: ϕ5mm 8core 2m cable; Max.extended length:10m				
Weight		Approx.65G(Not Including cable)				
2CH+Analog current 4~20mA		MLD33-30NA/PA	MLD33-50NA/PA	MLD33-85NA/PA	MLD33-120NA/PA	MLD33-250NA/PA
2CH+Analog voltage 0~10V		MLD33-30NV/PV	MLD33-50NV/PV	MLD33-85NV/PV	MLD33-120NV/PV	MLD33-250NV/PV
1CH+RS422 CI		MLD33-30N/P-422 (HOT)	MLD33-50N/P-422	MLD33-85N/P-422	MLD33-120N/P-422	MLD33-250N/P-422
Remarks		N:NPN output; P:PNP output				

Dimensions

Unit： mm



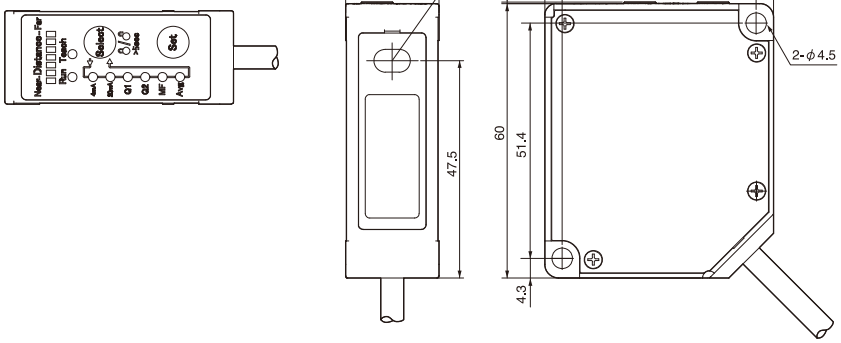


MLD33 Series

Appearance				
Sensing type		Regular Reflection		
Center of sensing distance		26. 3mm	47. 3mm	82. 9mm
Sensing distance		24.3~28.3mm	42.3~52.3mm	72.9~92.9mm
F.S		4mm	10mm	20mm
Light source	Medium Wavelength	Red laser diode wavelength: 655mm		
	Max. ouput	1mW max		
Laser class	IEC/JIS	Class 2		
	FDA	Class 2		
Beam size	Close range	0.15*0.15mm		
	Center	0.1*0.1mm		
	Long range	0.15*0.15mm		
Linearity		±0.2%F.S		
Repeat accuracy	Fast mode	.....		
	Others	1μm	2.5μm	5μm
Temperature drift		±0.08%F.S./℃		
Operating		Switch/Current output: 12~24V DC(−5%, +10%), Voltage output: 18~24V DC(−5%, +10%)		
Current consumption		Switch/Voltage output: max.55mA(24V DC), Current output: max.85mA(24V DC)		
Output	Switch output	Dual outputs, NPN/PNP Open−connector output , ≤100/30V DC, Voltage drop≤1.8V		
	Analog output	Current output: 4~20mA; Voltage output: 0~10V		
Response time	Fast mode	max.5ms		
	Standard mode	max.12.5ms		
	High resolution mode	max.36.5ms		
	Sensitivity switch time	4ms max		
Indicator	Distance indicator	Strip shaped LED display (7 units)		
	Output indicator	ON state: Orange Q1/Q2 indicator(Orange)on		
Ambient parameters	Degree of protection	IP67		
	Ambient temperature	−10℃~+45℃, No freezing		
	Ambient humidity	35%~85%RH, No condensation		
	Ambient brightness	Sunlight≤20000Lux, Incandescent lamp≤3000Lux		
	Vibration resistance	10~55Hz Double amplitude1.5mm, XYZ three directions, 2 hours each		
	Shock resistance	500m/s² (Approx.50G), XYZ three directions 3 times each		
Housing material		Housing: PBT,Front cover: PMMA		
Cable		Switch output: ϕ5mm 5core 2m cable; Analog output: ϕ5mm 6core 2m cable; Rs422 CI: ϕ5mm 8core 2m cable; Max.extended length:10m		
Weight		Approx.65g (Including cable)		
2CH+Analog current 4~20mA		MLD33-L30NA/PA	MLD33-L50NA/PA	MLD33-L85NA/PA
2CH+Analog voltage 0~10V		MLD33-L30NV/PV	MLD33-L50NV/PV	MLD33-L85NV/PV
1CH+RS422 CI		MLD33-L30N/P-422	MLD33-L50N/P-422	MLD33-L85N/P-422
Remarks		N: NPN output P: PNP output		

Dimensions

Unit: mm

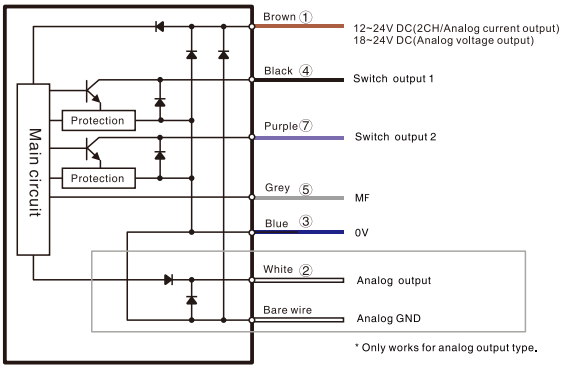


Built-in Controller

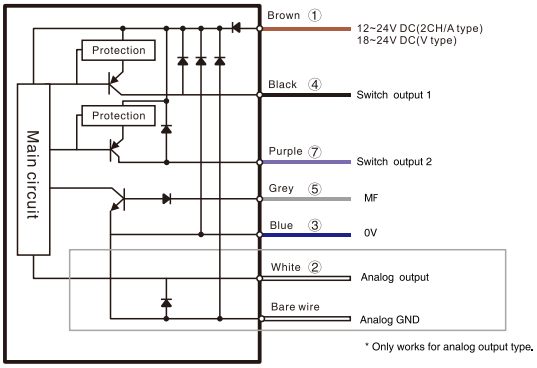
Circuit Diagram

■ Switch output/Analog output

■ NPN

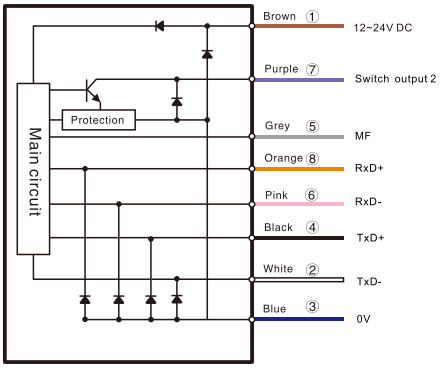


■ PNP

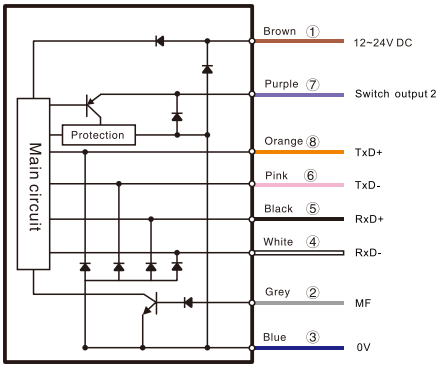


■ RS422

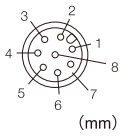
■ NPN



■ PNP



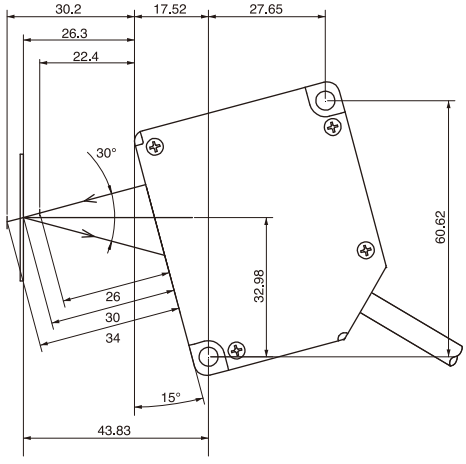
Connector pin line



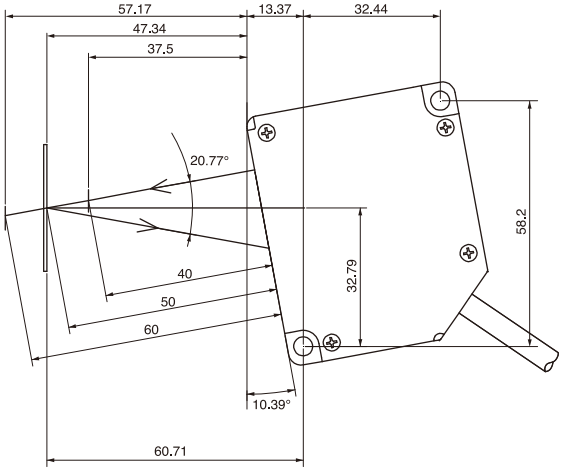
(mm)

Mounting-Reflection Type(Unit:mm)

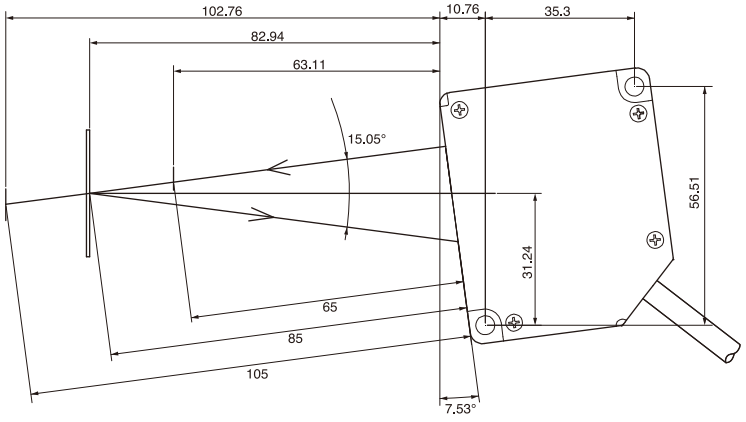
MLD33-L30



MLD33-L50



MLD33-L85



Built-in Controller

MLD17 Series

Appearance						
Sensing type	Diffuse reflection					
Sensing distance	20~30mm	20~45mm	30~80mm	55~155mm	65~315mm	105~605mm
F.S	10mm	25mm	50mm	100mm	250mm	500mm
Light source: Medium. Wave length	Red semiconductor laser wavelength: 660nm, blue semiconductor laser wavelength: 405nm					
Light source: Max. output power	⩽1mW					
IEC/JIS	Class2					
Linearity	±0.05%					±0.1%
Repeat accuracy	0.01%					0.02%
Sampling period	9400Hz					
Temperature drift	0.02%F.S./℃					
Output: Analog current	Output 4 ~ 20mA, allowable load resistance 500Ω					
Output: Analog voltage	0~10v output, output resistance 100Ω					
Digital output	RS232orRS485					
Operating voltage	9~36V					
Power consumption	2W					
Synchronous input	2.4~24V					
Logic output	Programming function,NPN:100mA Max,40V Max					
Ambient parameters: Degree of protection	IP67					
Ambient parameters: Ambient temperature	–10℃~+60℃，No freezing					
Ambient parameters: Ambient humidity	5%~95%RH，No condensation					
Ambient parameters: Ambient illuminance	10000Lux					
Ambient parameters: Vibration resistance	20g/10~1000Hz，6 hours in each direction of XYZ					
Ambient parameters: Shock resistance	30g/6ms					
Material	Housing: aluminum					
Weight	≈40g					
485 Voltage output	MLD17-10V-485	MLD17-25V-485	MLD17-50V-485	MLD17-100V-485	MLD17-250V-485	MLD17-500V-485
232 Voltage output	MLD17-10V-232	MLD17-25V-232	MLD17-50V-232	MLD17-100V-232	MLD17-250V-232	MLD17-500V-232
485 Current output	MLD17-10I-485	MLD17-25I-485	MLD17-50I-485	MLD17-100I-485	MLD17-250I-485	MLD17-500I-485
232 Current output	MLD17-10I-232	MLD17-25I-232	MLD17-50I-232	MLD17-100I-232	MLD17-250I-232	MLD17-500I-232

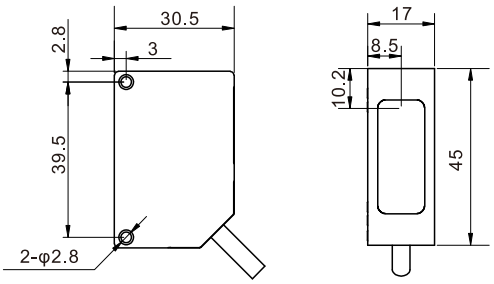
Fiber Optic
Slot Sensors
Photoelectric
Laser
Proximity
Displacement
Magnetic
Contact
Area
Ultrasonic
Vibration
Temperature
Cables
Tester

Guidance

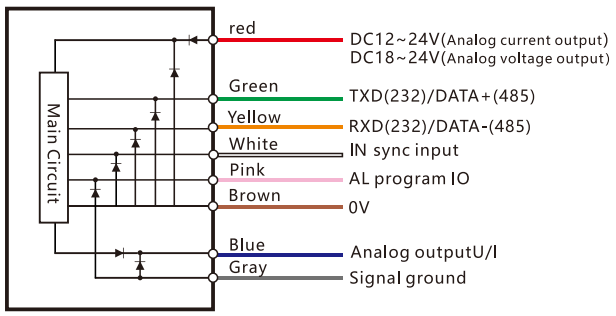
Displacement
TOF measurement
Mini digital display
Built-in controller
Linear measurement
Magnetic displacement
LiDAR Scanner
Color confocal

Dimensions

Unit: mm



Circuit diagram

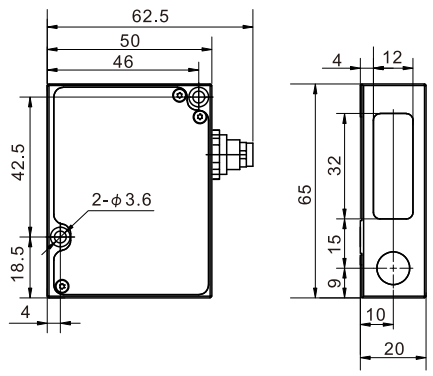


MLD27 Series

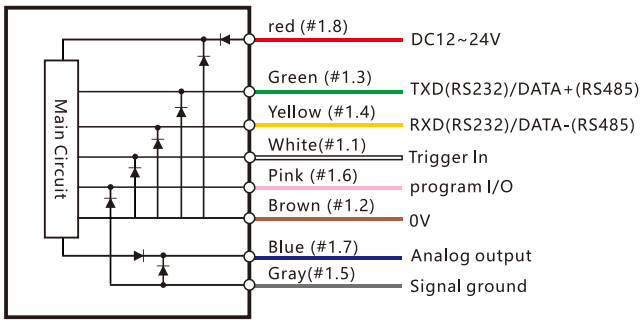
Appearance							
Sensing type		Diffuse reflection					
Sensing distance		15~20mm	30~45mm	55~85mm	90~190mm	125~625mm	245~1245mm
F.S		5mm	15mm	30mm	100mm	500mm	1000mm
Light source	Medium. Wave length	Red semiconductor laser wavelength: 660nm, blue semiconductor laser wavelength: 405nm					
	Max. output power	≤0.95mw（Low power），≤5mw，≤20mw（High power）					
IEC/JIS		class2（Low power），class3R，class3B（High power）					
Linearity		±0.05%					±0.1%
Repeat accuracy		0.01%					0.02%
Sampling period		9400Hz					
Temperature drift		0.02%F.S./℃					
Output	Analog current	Output 4 ~ 20mA, allowable load resistance 500Ω					
	Analog voltage	0~10v output, output resistance 100Ω					
Digital output		RS232orRS485					
Operating voltage		9~36V					
Power consumption		1.5~2W					
Synchronous input		2.4~24V					
Logic output		Programming function,NPN:100mA Max,40V Max					
Ambient parameters	Degree of protection	IP67					
	Ambient temperature	–10℃~+60℃，No freezing					
	Ambient humidity	5%~95%RH，No condensation					
	Ambient illuminance	10000Lux（Low power），30000lux，>30000lux（High power）					
	Vibration resistance	20g/10~1000Hz，6 hours in each direction of XYZ					
	Shock resistance	30g/6ms					
Material		Housing: aluminum					
Weight		≈100g					
485 Voltage output		MLD27-5V-485	MLD27-15V-485	MLD27-30V-485	MLD27-100V-485	MLD27-500V-485	MLD27-1000V-485
232 Voltage output		MLD27-5V-232	MLD27-15V-232	MLD27-30V-232	MLD27-100V-232	MLD27-500V-232	MLD27-1000V-232
485 Current output		MLD27-5I-485	MLD27-15I-485	MLD27-30I-485	MLD27-100I-485	MLD27-500I-485	MLD27-1000I-485
232 Current output		MLD27-5I-232	MLD27-15I-232	MLD27-30I-232	MLD27-100I-232	MLD27-500I-232	MLD27-1000I-232

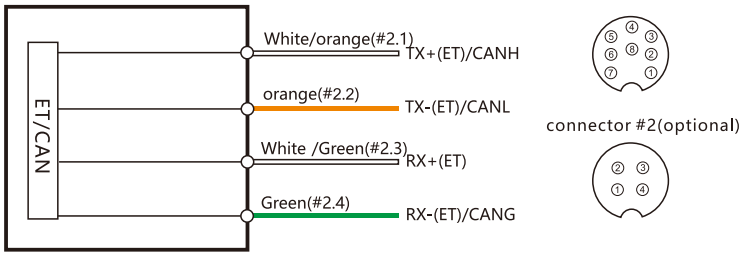
Dimensions

Unit: mm



Circuit diagram





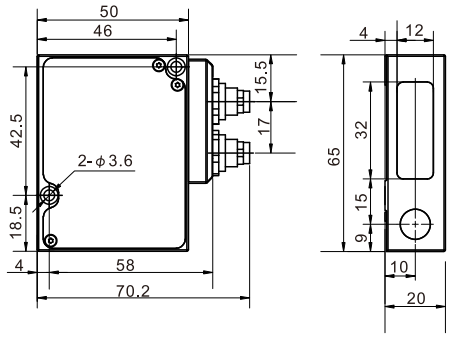
Built-in Controller

MLD27-H Series

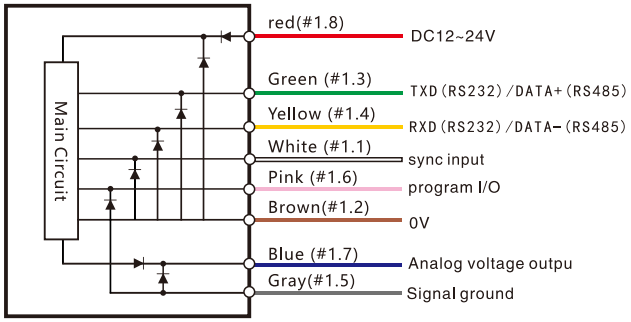
Appearance						
Sensing type	Diffuse reflection					
Sensing distance	15~20mm	30~45mm	55~85mm	65~115mm	90~190mm	80~330mm
F.S	5mm	15mm	30mm	50mm	100mm	250mm
Light source: Medium. Wave length	Red semiconductor laser wavelength (default) : 660nm, blue semiconductor laser wavelength: 405nm					
Light source: Max. output power	≤4.8mW			≤20mW		
IEC/JIS	3R			3B		
Linearity	±0.1 (60 kHz); ±0.2 (120 kHz); ±0.3 (180 kHz)					
Repeat accuracy	0.01 (60 kHz); 0.02 (120 kHz); 0.03 (180 kHz)					
Sampling period	60 or 120 or 180 kHz (default 60K)					
Temperature drift	0.02%F.S./℃					
Output	Output 0 ~ 10V, output impedance 100Ω					
Digital output	Parameters: RS232 or 485, data transmission: Ethernet (UDP)					
Operating voltage	9~36V					
Power consumption	4.8W					
Synchronous input	2.4~5V(CMOS, TTL)					
Logic output	Programming function,NPN:100mA Max,40V Max					
Ambient parameters: Degree of protection	IP67					
Ambient parameters: Ambient temperature	−10℃~+60℃，No freezing					
Ambient parameters: Ambient humidity	5%~95%RH，No condensation					
Ambient parameters: Ambient illuminance	30000Lux					
Ambient parameters: Vibration resistance	20g/10~1000Hz，6 hours in each direction of XYZ					
Ambient parameters: Shock resistance	30g/6ms					
Material	Housing: aluminum					
Weight	110g					
485 output	MLD27-H5V-485	MLD27-H15V-485	MLD27-H30V-485	MLD27-H50V-485	MLD27-H100V-485	MLD27-H250V-485
232 output	MLD27-H5V-232	MLD27-H15V-232	MLD27-H30V-232	MLD27-H50V-232	MLD27-H100V-232	MLD27-H250V-232

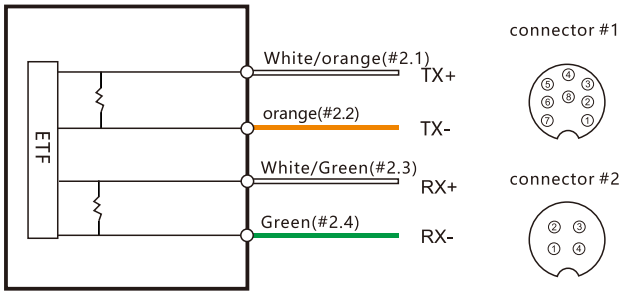
Dimensions

Unit: mm



Circuit diagram



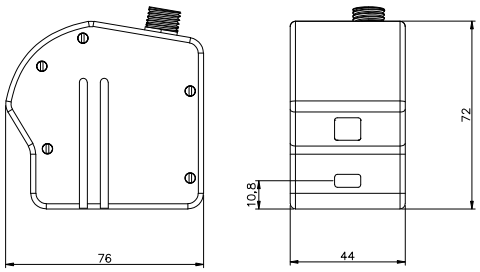


ESX series

Appearance					
Reference distance		35mm	125mm	170mm	340mm
Sensing range	MR(Range)	10mm	50mm	100mm	250mm
	SMR(Gauge)	25mm	75mm	70mm	90mm
	Xsmr(Near)	8mm	30mm	48mm	65mm
	xemr(Far)	11mm	41mm	82mm	180mm
Operating voltage		9~30V			
Power consumption		6W (without built-in heater)			
Communication		Ethernet/1000Mbps			
Synchronous input		RS422,3 channel			
Output		RS422, 1 channel			
Laser source		658nm or405nm or450nm or808nm			
Laser class		class 2M (IEC)			
Linearity	Z axis	±0.05% F.S. (standard mode); ±0.1% F.S. (DS mode)			
	X axis	±0.2%F.S			
Resolution	Z axis	0.01% F.S. (standard mode), 0.02% F.S. (DS mode)			
	X axis	648 or 1296 points (programmable value)			
Standard sampling rate (full working range)		484 profiles / sec (standard mode); 938 profiles / sec (DS mode)			
Maximum sampling rate (ROI mode)		5096 profiles / sec; 6800 profiles / sec (DS mode)			
Temperature drift		0.02%F.S/℃			
Enclosure rating		IP67			
Ambient luminance		Incandescent or fluorescent; Max.5000 lux			
Ambient temperature		–20℃~+40℃			
Relative humidity		5~95%			
Shock resistance		30g/6ms			
Vibration resistance		20g/10~1000Hz 6 hours in XYZ direction			
Material		Aluminum/Glass			
Storage temperature		–20℃~+70℃			
Weight		550g	600g		
Model No.		ESX-G10	ESX-G50	ESX-G100	ESX-G250

Dimensions

Unit: mm



connector #1

connector #2

Circuit diagram

connector #1

#	Assignment,100baseTX	Assignment,1000baseT
1		D4+
2		D3–
3		D3+
4	RX+	D2–
5	RX+	D2+
6	TX+	D1–
7	TX+	D1+
8		D4–

connector#2

#	Assignment	Note
1	OUT1–	RS422
2	IN3–	RS422
3	IN3+	RS422
4	IN2–	RS422
5	IN2+	RS422
6	NEXT_LAS_OFF	Laser OFF
7	IN2+	RS422
8	IN2–	RS422
9	OUT1+	RS422
10	V+	+9~30V,650mA max
11	GND	Grounding
12	0V	0V power supply(《–》)

Magnetic Displacement

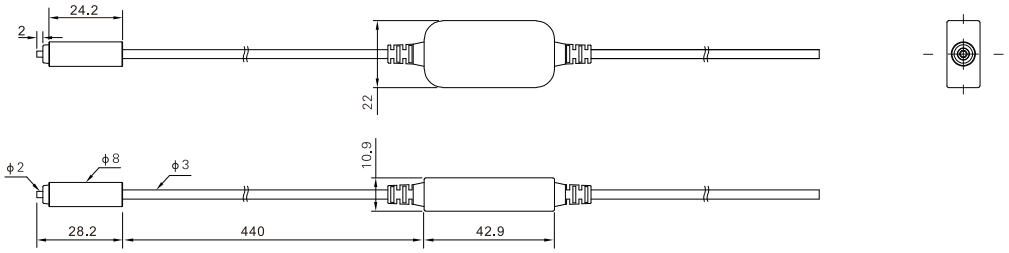
MR-D Series

Appearance		
Detection principle		Differential transformer
Measuring range		1mm
Resolution		0.2 μ m
Repeat accuracy		5 μ m
Measuring force	Downward mounting	1.0N
	Horizontal mounting	0.9N
	Upward mounting	0.8N
Sampling period		100ms
Mechanical response		40Hz
Operating voltage		12~24V
Indicator light		Monochrome LED
Degree of protection		IP67
Ambient temperature		(–10℃–+55℃)
Ambient humidity		10–85%RH,No freezing
Vibration resistance		10–55HZ Double amplitude 1.5mm,XYZ three directions,2 hour each
Shock resistance		1000m/s²
Material		SUS304.Cable between sensor and repeater:PVC,Relay amplifier:PPSU
Communication protocol		Modbus ASCLL
Weight		≈30g
Model No.		**MR-D28-485**

※ Values display when ambient temperature is 20℃
※ Customization is available at customer’s requests

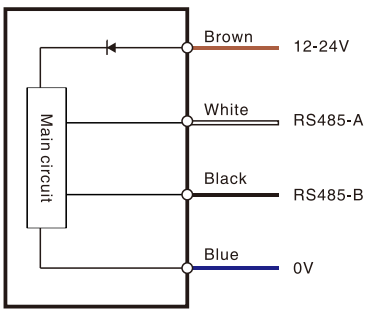
Dimensions

Unit: mm



Circuit diagram

■ 485



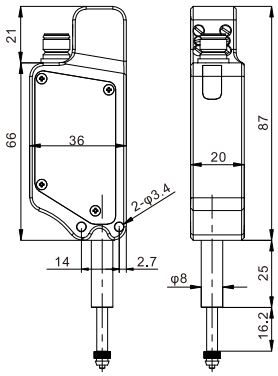
MR-DT Series

Appearance			
Detection principle	Scale pulse system (absolute value type)		
Measuring range	15mm	35mm	55mm
Resolution	0.1 μ m	0.5 μ m	1.0 μ m
Repeat accuracy	± 2 μ m	± 2 μ m	± 3 μ m
Operating Voltage	12V(No analog output) 15V(Analog output)		
Indicator light	2–color LED (red, green)		
Degree of protection	IP50		
Ambient humidity	(–10℃~+50℃)		
Power consumption	0.75W		
Logic output	NPN 100mA Max； 40V Max		
Analog output	4–20mA(Loaded by 50Ω)/0–10V		
Material	Aluminum		
Communication Interface	Rs485 and SSI or RS232		
Weigh	≈110g	≈150g	≈180g
Model No. 12V Voltage Type	MR-DT-L15- 485：RS485&SSI Output 232：RS232 Output	MR-DT-L35- 485：RS485&SSI Output 232：RS232 Output	MR-DT-L55- 485：RS485&SSI Output 232：RS232 Output
Model No. 15V Voltage Type	MR-DT-H15- A:Current output V:Voltage output 485：RS485&SSI Output 232：RS232 Output	MR-DT-H35- A:Current output V:Voltage output 485：RS485&SSI Output 232：RS232 Output	MR-DT-H55- A:Current output V:Voltage output 485：RS485&SSI Output 232：RS232 Output

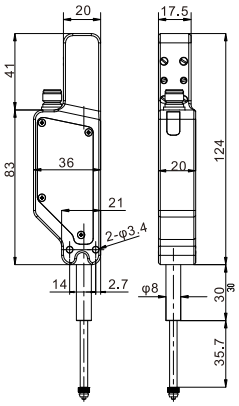
Dimensions

Unit：mm

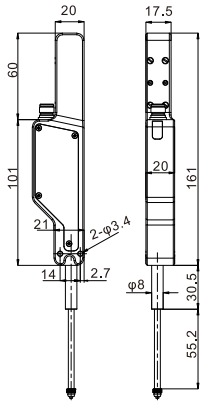
MR–DT–L/H15



MR–DT–L/H35

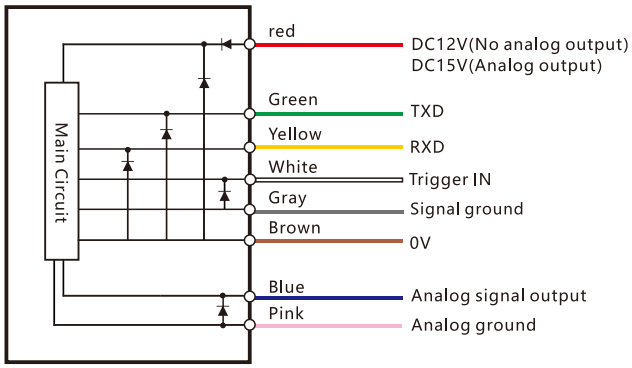


MR–DT–L/H55

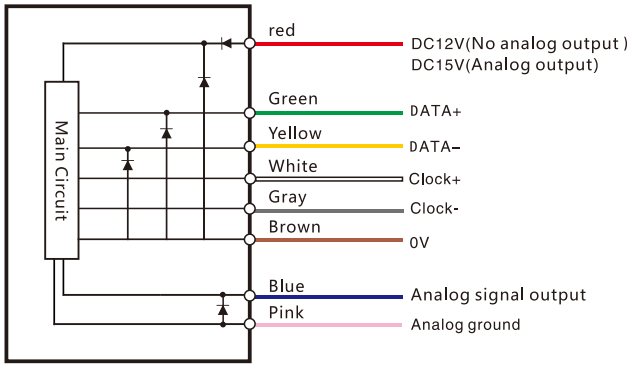


Circuit diagram

RS232



RS485-SSI



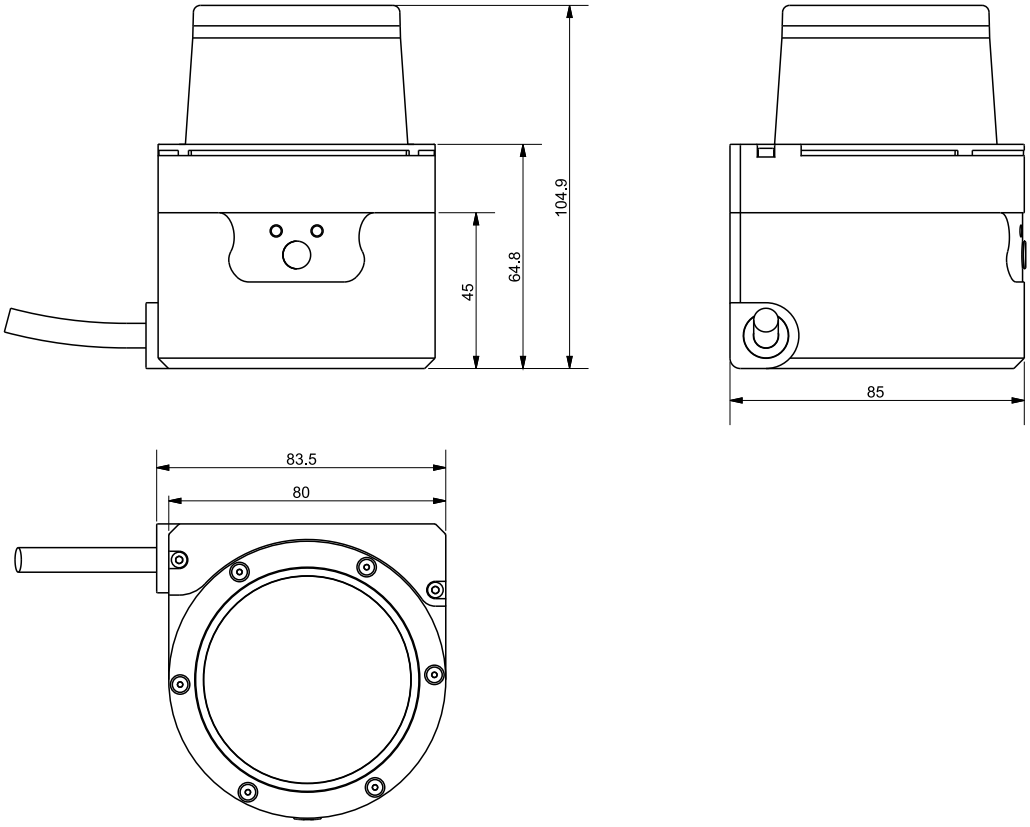
LiDAR Scanner

TOF LiDAR Scanner

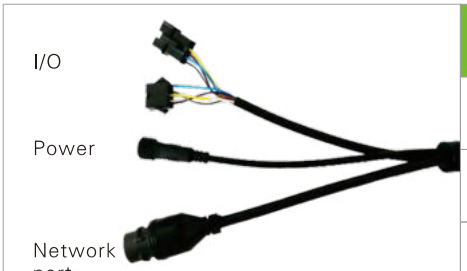
TOF principle

Appearance			
Light source		Infrared laser(905nm)	
Laser safety level		Class 1 (GB7247.1–2012, Eye–safe IEC)	
Laser spot light diameter		8mm	
Laser spot light scan angle		12.5 mrad	
Scanning angle range		300°	
Scanning frequency		25Hz(system default)/12.5Hz/6.25Hz	
Scanning angle resolution		0.5° (system default)/0.25° /0.125°	
Sensing range		0.1m ~ 20m	0.1m ~40m
10% reflectivity range		15m	30m
Outdoor performance		Anti–dusty, Anti–sunlight	
Rain fog and smoke penetration		Supported	
Measurement error	System error (typical)	±5cm	±5cm（1m~20m）;±10cm（20m~40m）
	Statistical error (1σ)	±2cm	±2cm（1m~20m）;±4cm（20m~40m）
Built–in application Regional monitoring		Monitoring mode: Point number monitoring / target width monitoring / contour monitoring	
		Monitor signal level: Attention / warning / alarm	
		Number of regional groups: 16 groups, support self–learning background exclusion	
		Concurrent work area group number: 16 (max)	
		Guide the network camera to monitor the target video positioning and tracking	
Self–test equipment		Contents:Transparent cover dirt / block / high temperature / low temperature Output mode: Indicator + TCP packets	
Ethernet		Rate: 10/100 Mbps; Network protocol: TCP/IP; Function: Device configuration / measurement data output /monitor signal output	
I/O Input		Quantity：4; Type: Switching level input; High level range：10V~28V DC; Low level range：0V~5V DC Preset function: Monitor area selection (0x0 – 0xF); Regional monitoring disarm / forced alarm, active level: high level	
I/O Output		Quantity: 4; Type: PNP switch output ; Output voltage: Supply voltage;Power on: OFF;Device ready (OUT), active state: pass (High level), zone detection signal output (OUT2/OUT3/OUT4) active state: configurable	
Indicator light		Quantity: 2; Definition: ERR (Device alarm: Fault/Abnormal ,Transparent cover dirty / block, high and low temperature, Dense fog); HTR (operation status indication: detection signal / self–learning)	
Front panel button		Quantity: 1; Definition: Shielded monitor signal output / start background self–learning /restart device	
Operating voltage		10V~ 28V DC	
Power		5W(measuring),3.6W@DC 12V/14.4W@DC 24V(heating)	
Outer covering protection rank(IP)		IP65(GB4208~2008)	
Insulation resistance		1MΩ(GB16796~2009.5.4.4)	
Dielectric strength		0.5KV(GB16796~2009.5.4.3)	
Weight		0.6kg	
Dimension(L×W×H)		83.5×85×104.9(mm)	
Electromagnetic compatibility (EMC)	Electrostatic discharge	6KV (GB/T17626.2~2006，class 3)	
	Fast bursts	1KV (GB/T17626.4~2008，class 2)	
	Electromagnetic field radiation immunity	GB/T17626.3~2006，class 2	
Surge immunity		GB / T17626.5–2008 Power interface: 1.2 / 50 μs, 2KV / 1KA (Class 3) Ethernet interface: 10 / 700 μs, 1KV / 25A (Class 2); I / O interface: 1.5 / 50 μs, 0.5KV / 0.25KA (Class 1)	
Impact		GB/T 2423.5	
Single impact		15g, 11ms	
Continuous impact		10g, 16ms	
Vibration		GB/T 2423.10	
Frequency Range		10Hz~150Hz	
Amplitude		5g	
Humidity		93%, +40℃, 2h（GB/T 2423.3）	
Operating temperature range		–25℃~+50℃	
Storage temperature range		–30℃~+70℃	
Ambient illumination range		≤70,000lux	
Model NO.		AS-21C	AS-41C

Unit:mm Dimensions



Power Interface



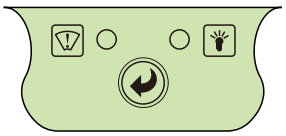
Socket	Type	Explanation
DC002	Power	Female 2 pin
Ethernet	RJ45 socket	4 pin
I/O	Cable	10 pin

Accessories

			Mounting screws, gasket and easy installation tool
Composite Bracket: AS-21C-AT 1 Piece	Power Cable: AS-21C-EC 1 Strip	Crystal Protective Cover: AS-21C-WJ 1 Piece	Accessories: M4x8 1 Set

LiDAR Scanner

Indicators and Operation Buttons

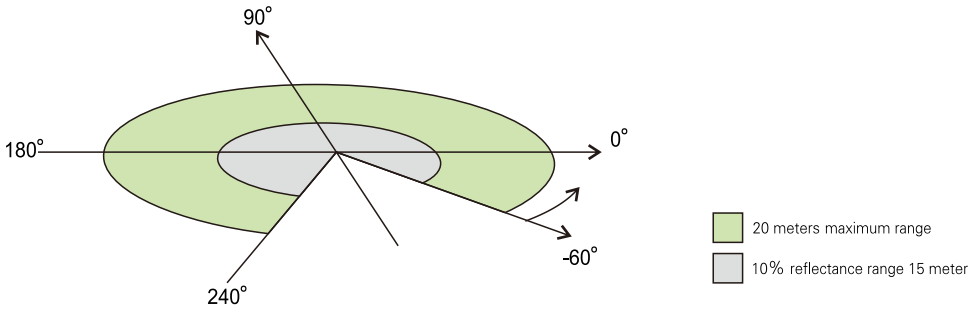


Name	Instructions
ERR	Work fault indicator ◆ Startup state：Light on(About 27s□ Always off：No fault ◆ Always on□ Internal fault ◆ Always on：Internal fault,Abnormal measurement ◆ Long flicker（0.25Hz）：High / low temperature alarm ◆ Short flicker(1Hz）：Transmissive cover is dirty/occluded[1]
HTR	Work status indicator ◆ Startup state：Off ◆ Off: The device does not start measuring/ready to restart ◆ Always on□ Equipment normal measurement ◆ Flash1 (0.5Hz）：Monitor Signal output ◆ Flash2 (1Hz）：Self–learning[2] ◆ Flash3 (2.5Hz）：Ready to start self–learning[2]
SLR	Operation button ◆short press（1s~5s□ Start background self–learning ◆Long press□ ⩾ 6s）：Delete background

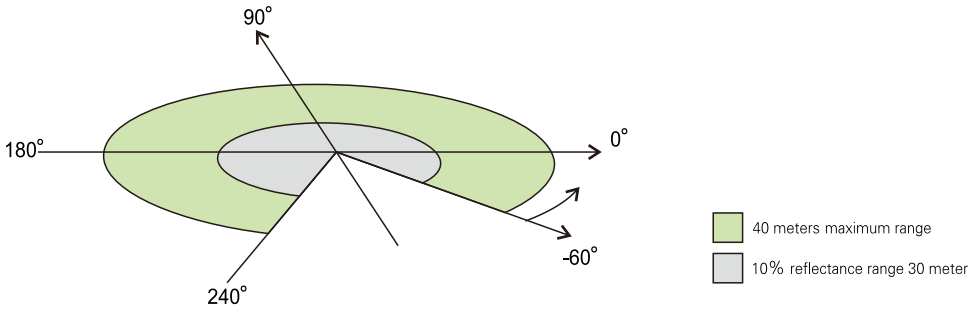
1:Including being blocked by dense fog or the detection area being blocked.
2:Including "background self–learning" and "normal goal self–learning"(customized function).

Measuring coordinate system/scan range/range

AS-21C



AS-41C



MINI LiDAR Scanner

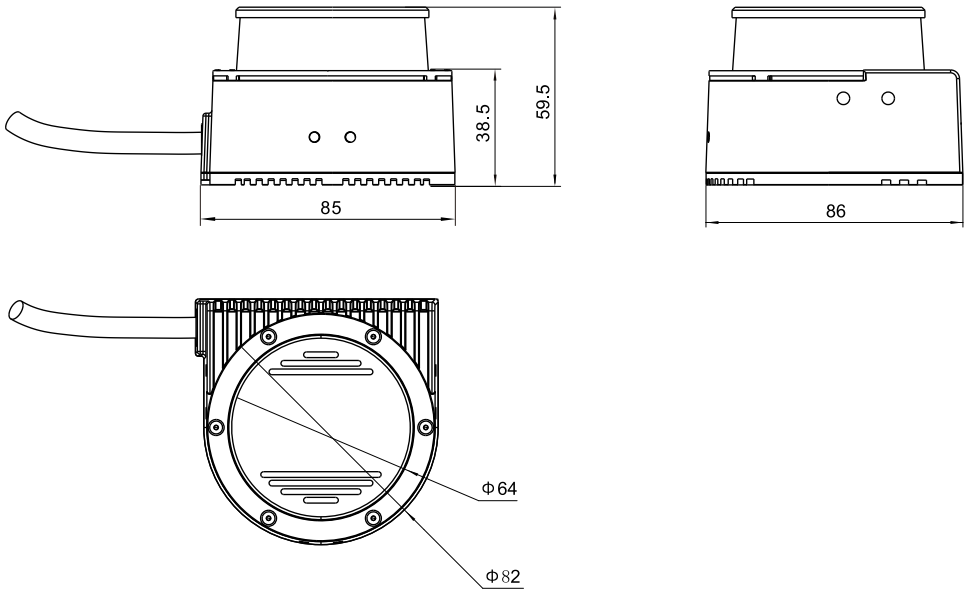
TOF principle

NEW!

Appearance		
Light source		Infrared laser(905nm)
Laser safety level		Class1(GB7247.1–2012,Eye–safe IEC)
Laser spot light diameter		10mm
Laser spot light scan angle		10.0(H) 2.0(V)mrad
Scanning angle range		360°
Scanning frequency		12.5Hz
Scanning angle resolution		0.5°
Sensing range		0.1m ~20m
10% reflectivity range		15m
Outdoor performance		Indoor, anti – light, anti – dirt
Rain fog and smoke penetration		Support
Measurement error	System error (typical)	± 5cm (1m~15m)
	Statistical error (1σ)	± 2cm (1m~15m)
Built–in application Regional monitoring		Monitoring mode: point number monitoring / target width monitoring / contour monitoring
		Monitoring signal type: attention / warning / alarm
		Number of regional groups: 16 groups
		Number of concurrent work area groups: 16 (max)
		Can detect targets of any shape, support normal target self–learning function
Self–test equipment		Contents: Dirty cover / blocking / high temperature / low temperature; output method: indicator + TCP message
Ethernet		Rate: 10/100 Mbps; network protocol: TCP / IP; function: device configuration / measurement data output / monitor signal output
I/O Input		Quantity: 4; Type: Level input; High level range: 10V~28V DC; Low level range: 0V~5V DC; Preset function: monitoring area selection (0x0 ~ 0xF); area monitoring disarm / force alarm, effective level: high level;
I/O Output		Quantity: 4; Type: PNP switch output; Output voltage: power supply voltage; Power–on state: off; Device ready (OUT), valid state: on, zone detection signal output (OUT2 / OUT3 / OUT4) valid state: configurable
Indicator light		Quantity: 2; Definition: ERR (equipment alarm: failure / abnormality, dirty / transparent cover, high and low temperature, dense fog); HTR (operation status indication: detection signal / self–learning)
Operating voltage		12V~28V DC
Power		4.5W@DC 24V
Outer covering protection rank(IP)		IP65(GB4208~2008)
Insulation resistance		1MΩ(GB16796~2009.5.4.4)
Dielectric strength		0.5KV(GB16796~2009.5.4.3)
Weight		0.5kg
Dimension(L×W×H)		86.0 × 85.0 × 59.5(mm)
Electromagnetic compatibility (EMC)	Electrostatic discharge	6KV (GB/T17626.2~2006, Class 3)
	Fast bursts	1KV (GB/T17626.4~2008, Class 2)
	Electromagnetic field radiation immunity	GB/T17626.3~2006, Class 2
Surge immunity		GB/T17626.5–2008; Power interface: 1.2/50μs, 2KV/1KA (Class 3); Ethernet interface: 10/700μs, 1KV/25A (Class 2); I/O interface: 1.5/50μs, 0.5KV/0.25KA (Class 1);
Impact		GB/T 2423.5
Single impact		15g, 11ms
Continuous impact		10g, 16ms
Vibration		GB/T 2423.10
Frequency Range		10Hz~150Hz
Amplitude		5g
Humidity		93%, +40℃, 2h (GB/T 2423.3)
Operating temperature range		–10℃~+45℃
Storage temperature range		–30℃~+70℃
Ambient illumination range		≤70,000lux
Model NO.		AS-11C

LiDAR Scanner

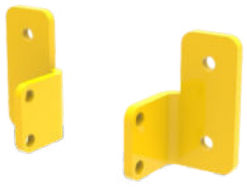
Dimensions Unit:mm



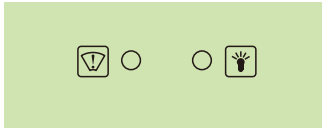
Power Interface

Socket	Type	Explanation
DC002	Power	Female 2 pin
Ethernet	RJ45 socket	4 pin
I/O	Cable	9 pin

Accessories

			Mounting screws, gasket and easy installation tool
Side bracket: A AS–11C–AT	Cable:A piece of AS–11C–EC	Network cable crystal head waterproof jacket: A AS–11C–WJ	Accessories:A set of M4x8

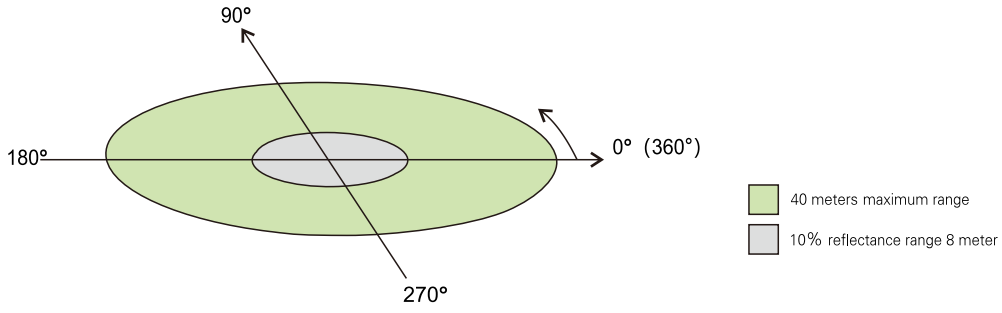
Indicators and Operation Buttons



Name	Instructions
ERR	Work fault indicator ◆Startup status: bright (About 27s) ◆Off: No fault ◆Steady light: Internal fault ◆Long flicker (0.5 Hz): High temperature / low temperature alarm ◆Short flicker (1Hz): Transmissive cover is dirty/occluded[1]
HTR	Work status indicator ◆Startup state: off ◆Off: The device does not start measurement/ready to reboot ◆Bright: Normal measurement of equipment ◆Flashing 1 (0.5Hz): Monitor signal output ◆Flashing 2 (1Hz): Self–learning[2] ◆Flashing 3 (2.5Hz) : Ready for self–learning[2]

1:Including being blocked by dense fog or the detection area being blocked.
2:Including "background self–learning" and "normal goal self–learning"(customized function).

Measuring coordinate system/scan range/range



LiDAR Scanner

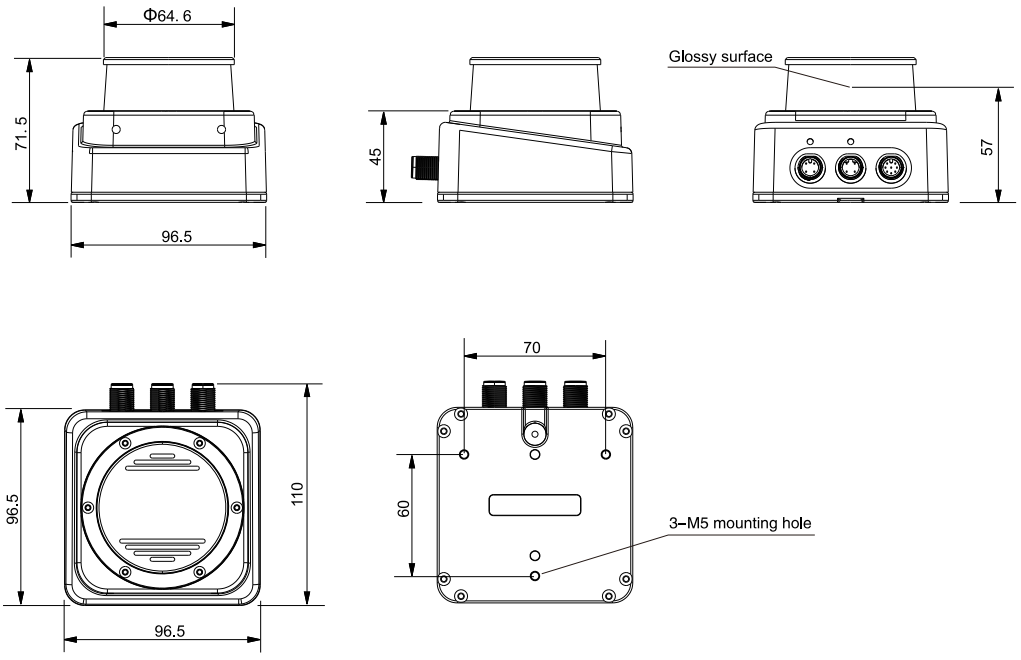
Navigation type

TOF principle

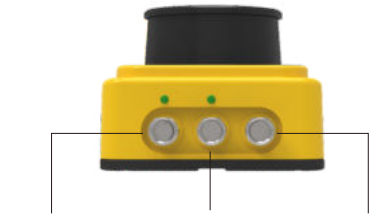
NEW!

Appearance		
Light source		Infrared laser (905nm)
Laser safety level		Class I (GB7247.1–2012, human eye safety)
Laser spot light diameter		10mm
Laser spot light scan angle		2.0(H)×8.0(V)mrad
Scanning angle range		360°
Scanning frequency		10Hz/20Hz
Scanning angle resolution		0.05° /0.1°
Sensing range		0.2m ~100m
RSSI Measurement Range		3%~1000%(reflector)
10% reflectivity range		20m
Outdoor performance		Anti–sunlight, anti–dirt, support smoke penetration, use under non–rainfall conditio
Measurement data		Composite data (distance + RSSI)
Measurement error	System error (typical)	Distance measurement：25mm(1m~20m) / 40mm(20m~50m)；RSSI measurement：2%(1m~20m) / 4%(20m~50m)
	Statistical error (1σ)	Distance measurement：10mm(1m~20m) / 20mm(20m~50m)；RSSI measurement：1%(1m~20m) / 2%(20m~50m)
Self–test equipment		Content: Dirty/blocking/high temperature/low temperature of the translucent cove
Ethernet		Rate: 10/100 Mbps; function: device configuration/measurement data output
I/O Input		Quantity: 3;Type:level input (vs. general input common ground "GND IN"); high level range: 9 V – 30V DC; low level range: 0V–0.7V DC;Preset function: power saving and life extension control (In2 / In3), effective level: high lev
I/O Output		Quantity: 3; Type: PNP switch output (vs. power supply positive terminal); Power–on state: off;Preset function: equipment on Thread (OUT), effective state: op
Indicator light		Quantity: 4; Definition: PWR: power indicator; LNK: Ethernet indicator; ERR: working failure indicator; HTR: normal measurement indicator
Operating voltage		9V~30V DC
Power		5W@DC 24V
Outer covering protection rank(IP)		IP65(GB4208~2008)
Insulation resistance		1MΩ(GB16796~2009.5.4.4)
Dielectric strength		0.5KV(GB16796~2009.5.4.3)
Weight		0.7kg
Dimension(L×W×H)		97.0×97.0×72.0(mm)
Electromagnetic compatibility (EMC)	Electrostatic discharge	6KV（GB/T17626.2~2006，Class 3）
	Fast bursts	1KV（GB/T17626.4~2008，Class 2）
	Electromagnetic field radiation immunity	GB/T17626.3~2006，Class 2
Surge immunity		GB/T17626.5–2008：Power interface：1.2/50μs, 2KV/1KA（Class 3）；Ethernet interface：10/700μs, 1KV/25A（Class 2）；I/O interface：1.5/50μs, 0.5KV/0.25KA（Class 1）；
Impact		GB/T 2423.5
Single impact		15g，11ms
Continuous impact		10g，16ms
Vibration		GB/T 2423.10
Frequency Range		10Hz~150Hz
Amplitude		5g
Humidity		93%，+40℃，2h（GB/T 2423.3）
Operating temperature range		–10℃~+50℃
Storage temperature range		–30℃~+70℃
Ambient illumination range		≤80,000lux
Model NO.		AS-100C

Unit:mm Dimensions

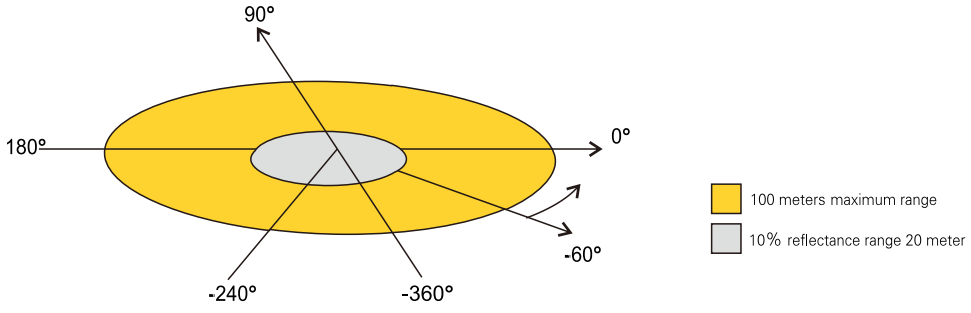


Power connector



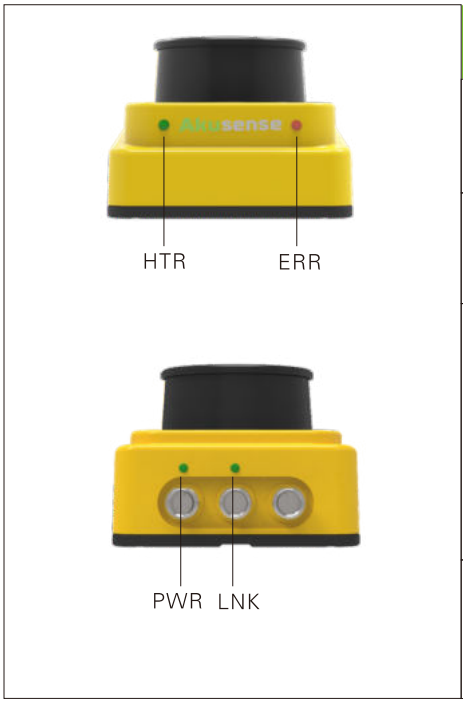
Socket	Types	Number of terminal
Power supply	M12(Type A)，Male	4
Etherne	M12(Type B)，Male	4
I/O	M12(Type B)，Male	8

Measuring coordinate system/scanning range/range



LiDAR Scanner

Indicator lights and operation buttons



Name	Description
PWR	Power Indicator ◆Normal off: no power / power is invalid ◆Constant light: power on
LNK	Ethernet indicator ◆Always off: no network connection ◆Always on: there is a network connection
ERR	Work failure indicator ◆Starting state: bright (about 24 seconds) ◆Always off: no fault ◆Always on: internal fault/measurement abnormal[1] ◆Long flashing (0.5Hz): high temperature/low temperature alarm ◆Short flashing (1Hz): Dirty/obstructed light transmission cover[2]
HTR	Normal measurement indicator ◆Starting state: off ◆Always off: the device has not started to measure ◆Always on: the equipment is measuring normally

1: Including measurement stop and motor stop;
2: Including being blocked by dense fog.

Accessories

					Mounting screws, washers And easy installation tools
Mounting bracket: AS–100C–AT set	M12 dust plug Comes with	Power cable: AS–100C–EC A	RJ45 network cable: AS–100C–IOCB A	I/O cable: AS–100C–IOCB A	Parts and accessories: M5x8 set

Probe




Sensing distance	8mm	11mm	16mm	18mm
Measuring range	±0.2mm	±1.2mm	±1mm	±1mm
Resolution[*1]	0.02μm	0.05μm	0.05μm	0.05μm
Linearity[*2]	±0.15μm	±0.45μm	±0.35μm	±0.3μm
Spot diameter[*3]	2μm	16μm	8μm	25μm
Maximum inclination[*4]	±40°	±60°	±30°	±22°
Probe size	Φ41*99mm	Φ98*266mm	Φ41*159mm	Φ34*75mm
Probe weight	220g	3250g	360g	105g
Degree of protection	IP40	IP40	IP40	IP40
Model NO.	ACC-008L	ACC-011L	ACC-016L	ACC-018L

Controller




Sensing distance	30mm	33mm	40mm	55mm
Measuring range	±2mm	±2mm	±4mm	±3mm
Resolution[*1]	0.07μm	0.2μm	0.12μm	0.1μm
Linearity[*2]	±0.45μm	±2μm	±0.5μm	±0.65μm
Spot diameter[*3]	9μm	40μm	40μm	45μm
Maximum inclination[*4]	±15°	±7°	±15°	±11°
Probe size	Φ38*82mm	Φ18*55mm	Φ54*116mm	Φ33*75mm
Probe weight	145g	24g	380g	122g
Degree of protection	IP40	IP40	IP40	IP40
Model NO.	ACC-030L	ACC-033L	ACC-040L	ACC-055L

Controller

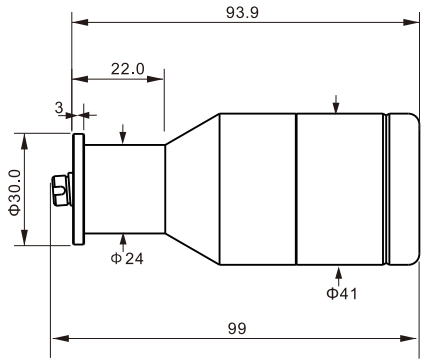
Light Source	White LED	
Size of controller(Lxwxh)	140*122*127mm	
Weight of controller	1.32kg	1.38kg
Rated voltage	24V DC	
External communication interface	RS-232:115200 bps(max.) Ethernet:100BASE-TX/10BASE-T	
Degree of protection	IP20	
Sampling frequency	4K HZ(Max)	
I/O function	Trigger input	Trigger input, encoder trigger
Number of encoder shafts	-	Incremental (A/B phase)
Encoder maximum trigger frequency	-	4K HZ(Max)
Fiber extension cord	Inner armor: ACC-OF-S (standard); Outer armor: ACC-OF-M(optional)	
Length	2/5/10(Standard)m	
Weight	ACC-OF-S: 23/40/69g; ACC-OF-M: 108/218/396g	
Minimum bending radius[*5]	50mm	
Operating temperature	5~40℃	
Environment humidity	35~80%	
Ambient illumination	<10000lx	
Clamp fixture	Customizable	
Model NO.	ADV-12CK	ADV-12CKS

*See P32 for instructions

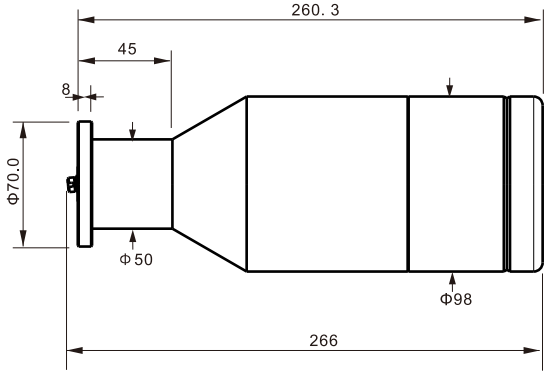
Color Confocal Displacement Sensor

Dimensions Unit:mm

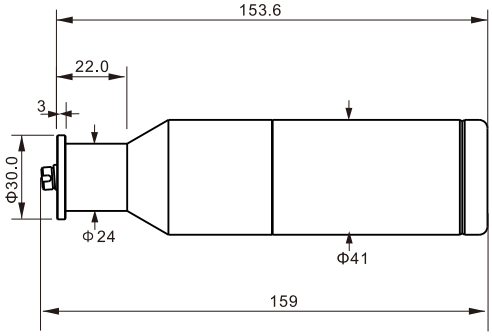
ACC-008L



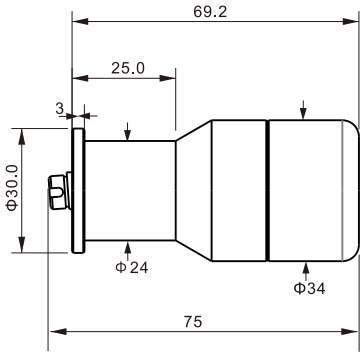
ACC-011L



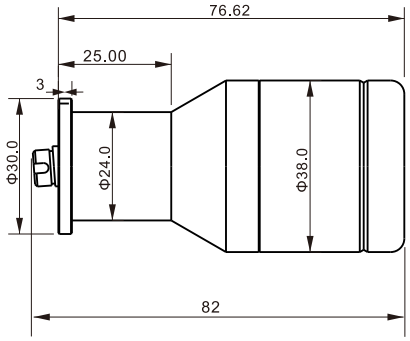
ACC-016L



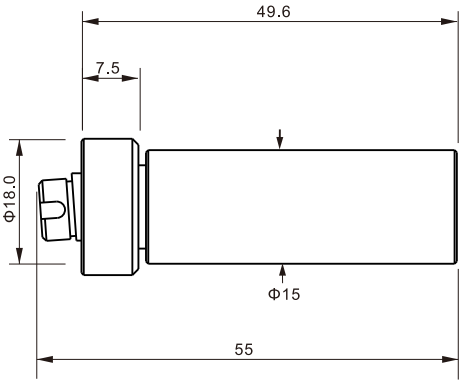
ACC-018L



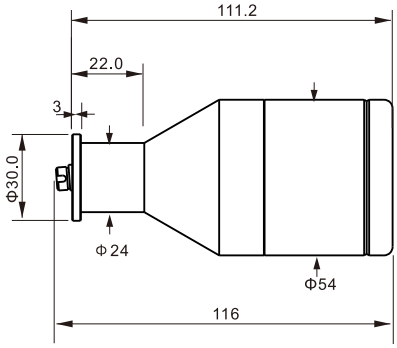
ACC-030L



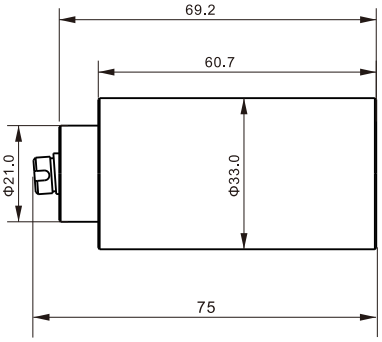
ACC-033L



ACC-040L

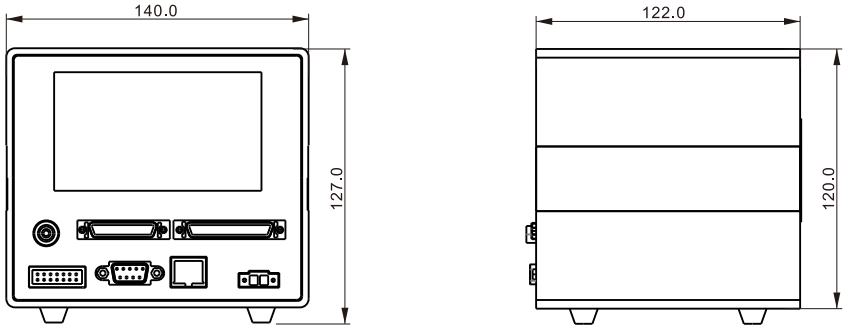


ACC-055L



Unit:mm Dimensions

ADV-12CK(S)



*1. Resolution: The average level of noise for the stationary workpiece at the zero center of the range center (opening the light intensity auto adjustment and 256 times averaging function)
*2. Linearity: Maximum error value for full-scale measurement of mirror standard parts after calibration (opening the light intensity auto adjustment and 256 times averaging function)
*3. Spot diameter: theoretical spot diameter value at the center of the range
*4. Maximum inclination: refers to the maximum acceptable optical signal angle under the mirror-reflective material workpiece. The diffuse reflection workpiece usually can reach 80 degrees.
*5. Minimum bending radius: The minimum radius of curvature that can be received when the fiber is crimped and stored. Below this value, it is easy to break and damage.