

CWF-01/02/11/12

RS-232C/RS-422 type

Small size, light weight & middle distance (50m & 80m)

- This is smaller size and lighter weight than BWF series
- This is a middle distance type Serial Data Transmission Device with 50m and 80m.
- I/O signal with max.128 points can be transmitted with exclusive serial/parallel converter, ISP-A1C-C (16 points per unit).

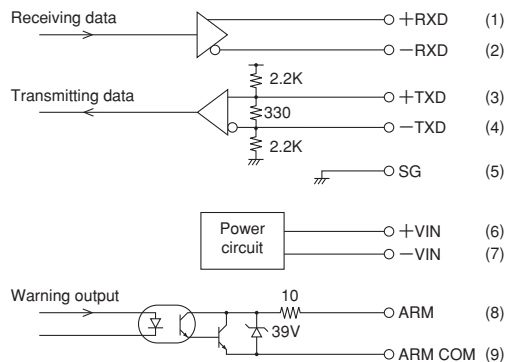


Specifications

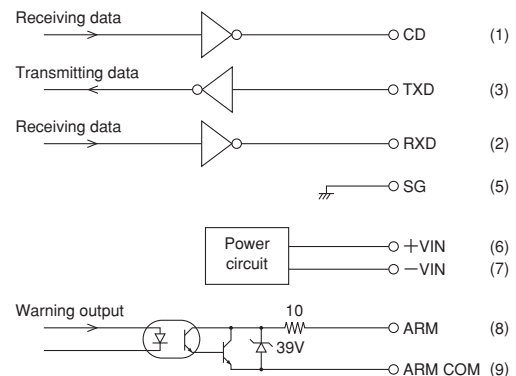
Type	Serial type			
	CWF-01A/01B	CWF-11A/11B	CWF-02A/02B	CWF-12A/12B
Model No.				
Transmission distance	50m	80m	50m	80m
Directional angle	$\pm 2^\circ$			
Transmission method	Full duplex two-way transmission			
Transmission speed	DC to 19.2kbps		DC to 9,600bps	
Input/Output interface	RS-422		RS-232C	
Modulation method	FSK modulation			
Modulation frequency	Type A (transmission 5.5MHz, reception 6.0MHz), Type B (transmission 6.0MHz, reception 5.5MHz)			
Power source	24VDC ($\pm 10\%$)	12 to 24VDC (10 to 30VDC)	24VDC ($\pm 10\%$)	12 to 24VDC (10 to 30VDC)
Current consumption	160mA (DC12V)/80mA (DC24V)			
Warning output (ARM)	Photo-coupler (35V, 50mA), ON when light-reception level margin is 1.5 times or more			
Connection	Connector (9pins D-sub connector)			
Ambient illuminance	20,000lux or less (Both halogen and incandescent lamp)			
Ambient temperature/humidity	-10 to +50°C, 85%RH or less (not icing, not condensing)			
Vibration resistance	Double amplitude 1.5mm, 10 to 55Hz, each 2 hour in X, Y and Z directions			
Impact resistance	490m/s ² , each 10 time in X, Y and Z directions			
Noise resistance	Impulse noise simulator, pulse width 1 μ s, 100ns Repeated cycle 100Hz Normal mode 1,000V Common mode 500V			
Protective structure	IP60 (IEC Standard)			
Case material	ABS resin (Cover: Polycarbonate)			
Weight	Approx. 240g			

Input/Output circuit

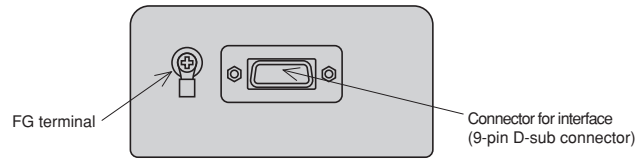
CWF-01A/01B /11A/11B (Interface: RS-422)



CWF-02A/02B /12A/12B (Interface: RS-232C)



Connection



CWF-01A/01B /11A/11B

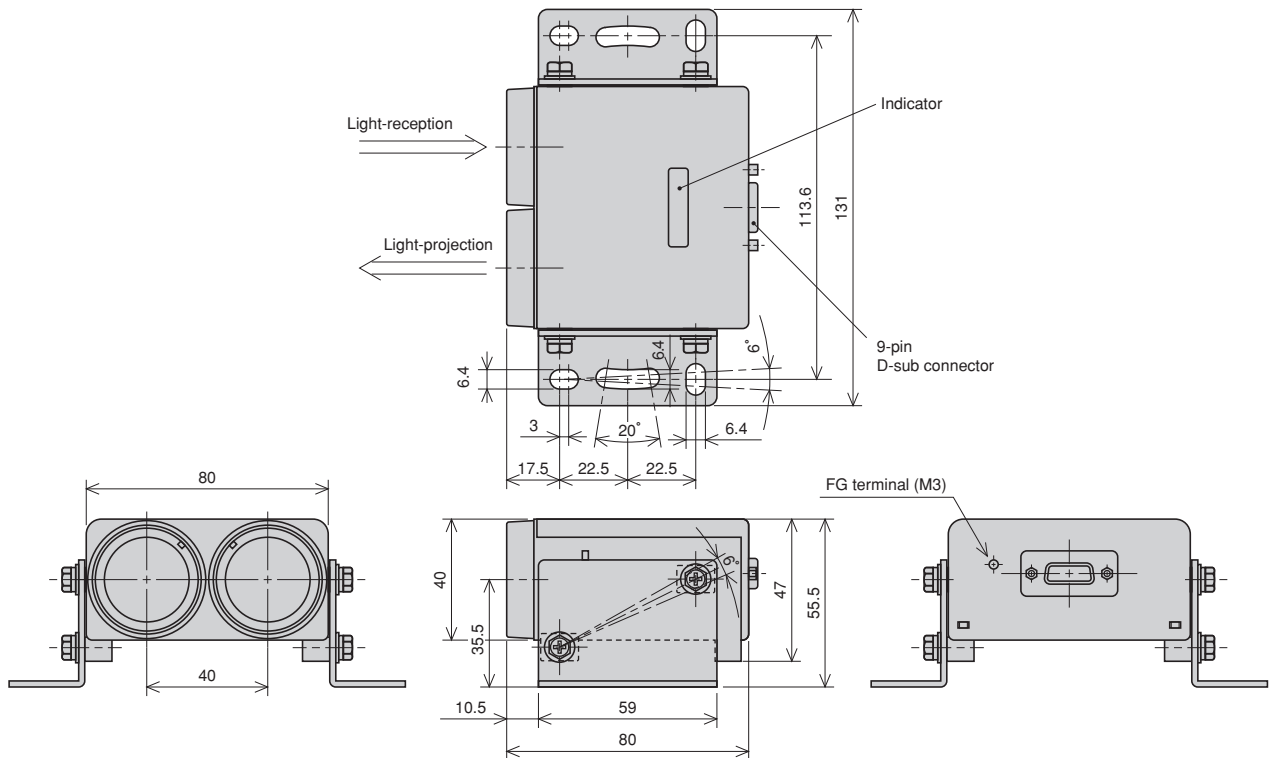
Interface	Pin No.	Symbols	Functions
RS-422	1	+RD	Reception data
	2	-RD	
	3	+SD	Transmission data
	4	+SD	
—	5	SG (0V)	GND for signal
Power source	6	+VIN	Power source (24VDC)
	7	-VIN (0V)	
Warning	8	ARM	Alarm output
	9	ARM COM	

CWF-02A/02B /12A/12B

Interface	Pin No.	Symbols	Functions
RS-232C	1	CD	Reception data (Carrier detection)
	2	RD	Reception data
	3	SD	Transmission data
	4	NC	Non connection
—	5	SG (0V)	GND for signal
Power source	6	+VIN	Power source (24VDC)
	7	-VIN (0V)	
Warning	8	ARM	Alarm output
	9	ARM COM	

(Note) Don't connect 0V for power source to ground for signal (SG).

External dimensions



EWF Series

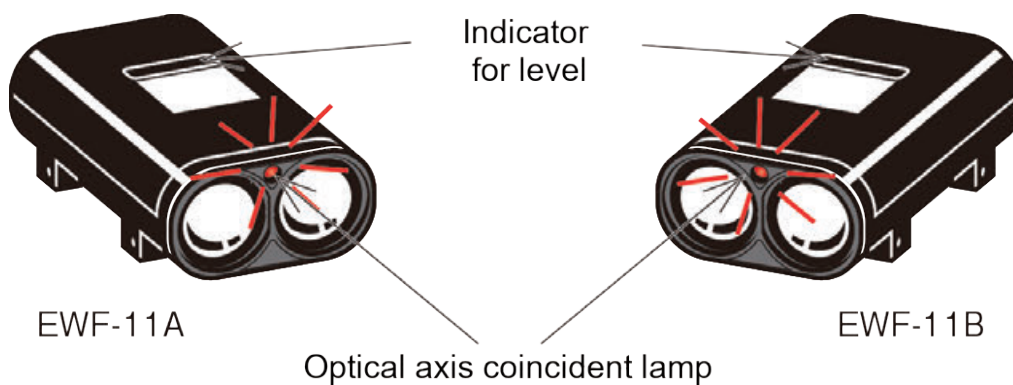
CE

EWF-11 Series



At a glance

- Supported Interfaces : RS422
- Transmission distance : 100m
- Easy alignment of the optical axis
- Compact (weight : 150g)



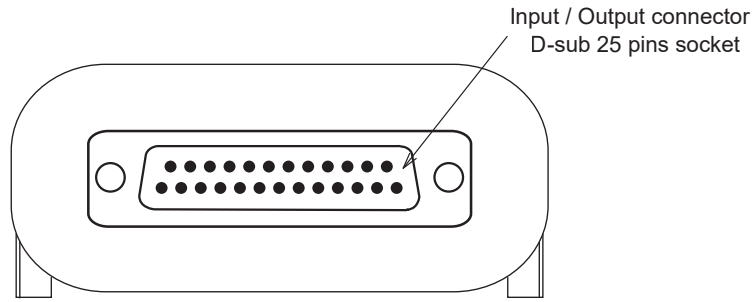
Product description

- A device that uses infrared light to transmit data wirelessly, enabling wireless communication.
- Visible LED indicator shows the status of communication and connections.
- Ideal for data communication between mobile and static equipments such as stacker cranes (automated storage systems), automated cranes, and traversers.

Specification

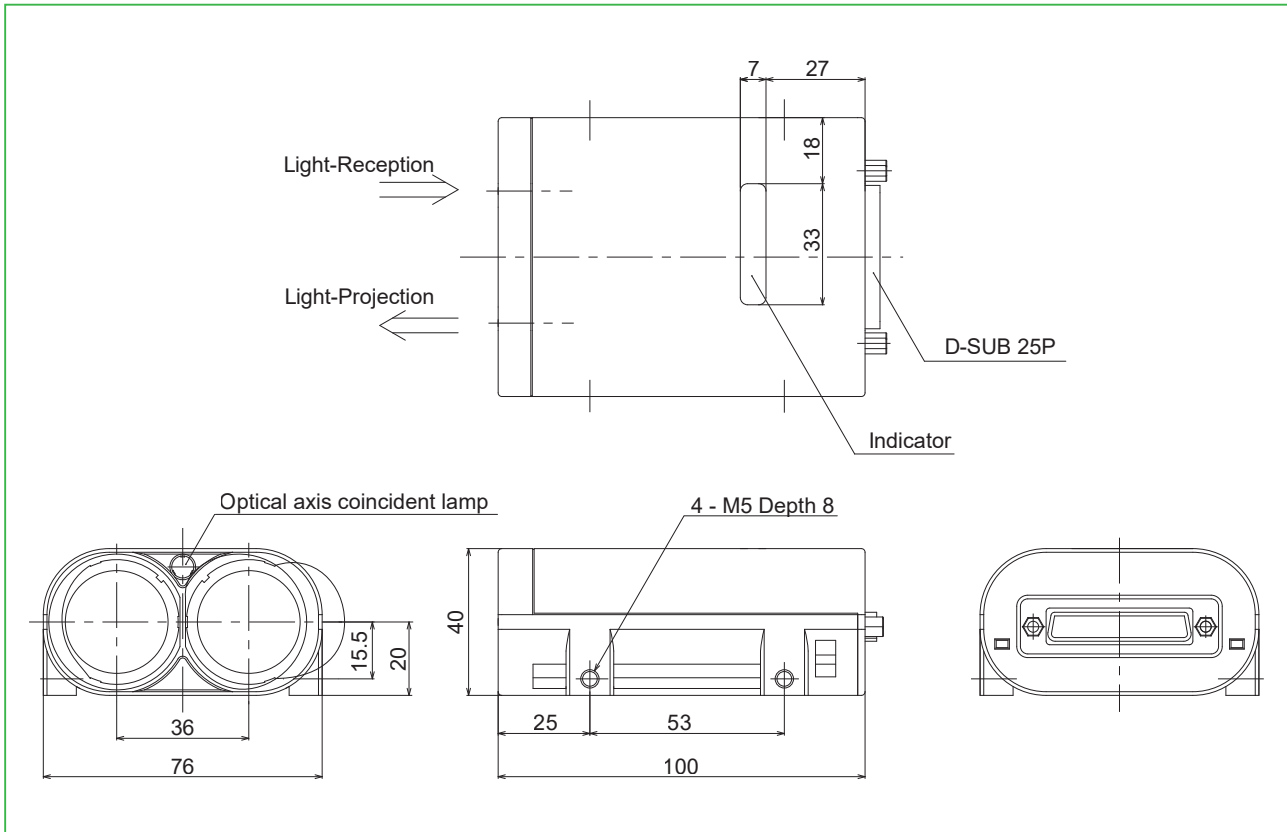
		EFW-11A / 11B
Electronics	Supply voltage	24VDC (± 10%)
	Current consumption	160mA (at DC12V), 80mA (at DC24V)
	Light source	LED (850nm)
	Modulated frequency	A type (Transmission: 5.5MHz, Reception: 6.0MHz) B type (Transmission: 6.0MHz, Reception: 5.5MHz)
Communication	Transmission distance	100m
	Directional angle	± 2°
	Transmission speed	up to 19.2kbps
	Interface	RS422
	Connection	D-sub connector 25 pins socket
Function	Reception output (ARM)	Photo-coupler open-collector (Withstand voltage 35V) ON when light-receiving level margin 1.5 times or more
	Carrier detection output (CD)	Photo-coupler open-collector ON when light-receiving
General	Ambient illuminance	20,000lx or less
	Ambient temprature and humidity	-10 to 50℃ , 85%RH or less (without dew, frost)
	Impact resistance	490m/s ² each 10 time in X, Y and Z directions
	Vibration resistance	Double amplitude 1.5mm 10 to 55Hz, each 2 hour in X, Y and Z directions
	IP protection	IP40
	Weight	150g
	Size W x D x H (mm)	76 x 100 x 40

Connection



Pin No.	Symbols	Functions
14	+SD	RS422 / Transmission data (+)
15	-SD	RS422 / Transmission data (-)
16	+RD	RS422 / Reception data (+)
17	-RD	RS422 / Reception data (-)
12	+SD OFF	RS422 / Transmission stop (+)
13	-SD OFF	RS422 / Transmission stop (-)
18	+CD	RS422 / Reception carrier detect (+)
19	-CD	RS422 / Reception carrier detect (-)
20	SG	Ground for signal
11	+VIN	DC Power (voltage 24VDC)
23	-VIN (OV)	
4	ARM	Warning output (ARM)
25	CDO	Reception carrier detect
6	COM	—

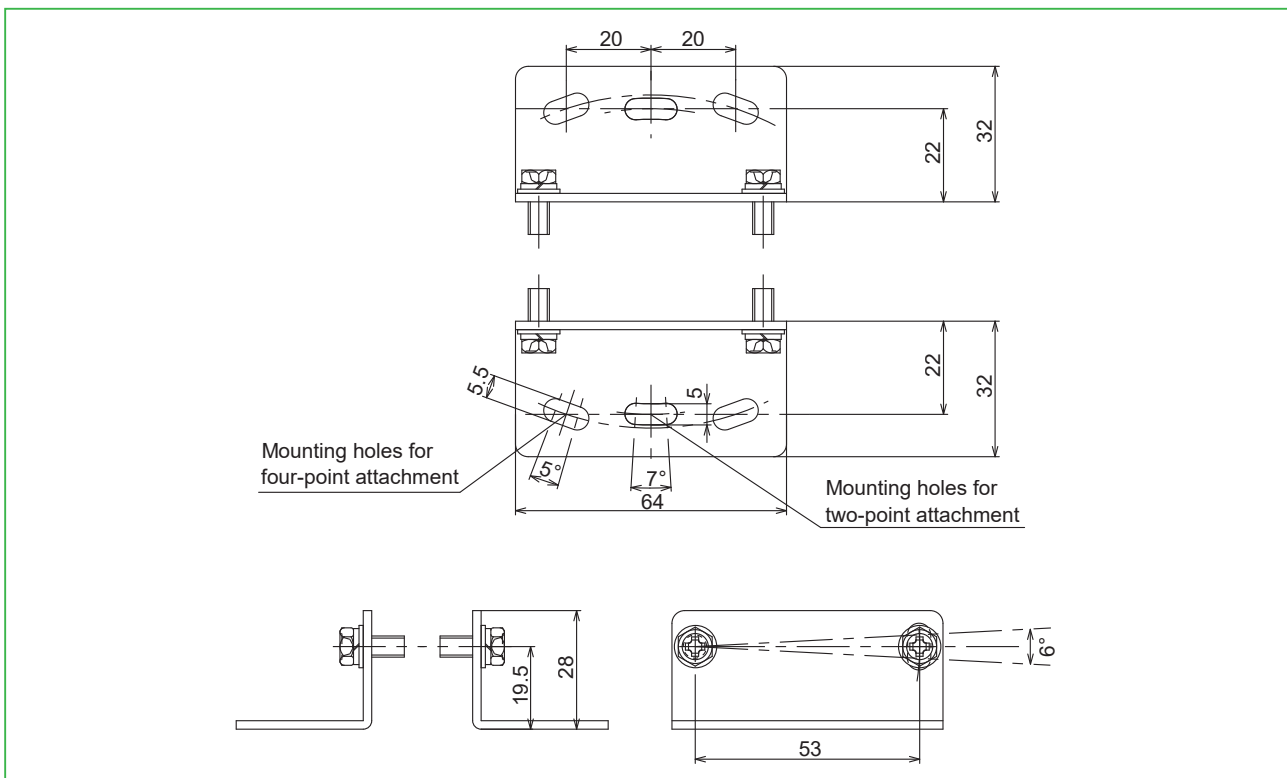
External dimension



Option

Bracket for EWF

Model	Code	Ref.
EFW BKT	WZ00029	2 pcs per set



EWF Series

CE EtherCAT

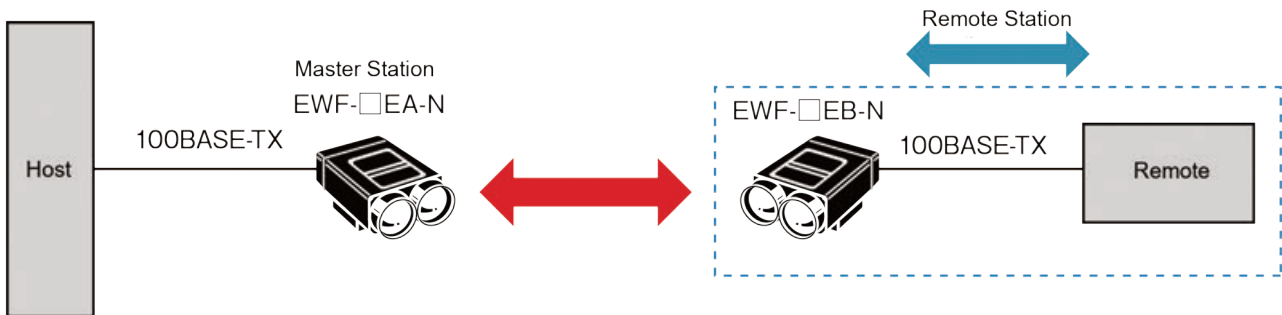
Open Network Type (Ethernet)

EWF-0E-N/1E-N



At a glance

- Supported Interface : Ethernet (100BASE-TX)
- Transmission distance : 50m or 100m
- Easy alignment of the optical axis
- Compact (size : 76 x 106 x 40 mm)



Product description

- A device that uses laser to transmit data wirelessly, enabling wireless communication.
- With Ethernet compatibility and high-speed 100 Mbps optical transmission, it enables smooth and reliable communication.
- Ideal for data communication between mobile and static equipments such as stacker cranes (automated storage systems), automated cranes, and traversers.

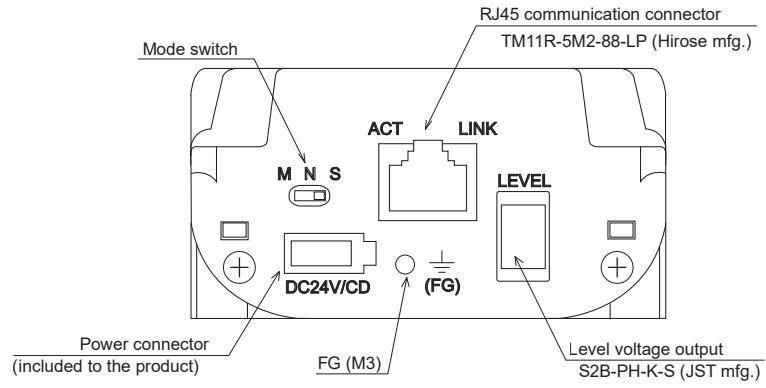
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Specification

		EWF-0EA-N / 0EB-N	EWF-1EA-N / 1EB-N
Electronics	Supply voltage	24VDC (± 10%)	
	Current consumption	120mA (24VDC)	
	Light source	Laser semiconductor (658nm), Laser class 1	
Communication	Transmission distance	50m	100m
	Directional angle	Full angle 1.4°	Full angle 1°
	Transmission speed	100Mbps	
	Interface	Ethernet (100BASE-TX)	
	Connection	Ethernet : RJ-45 modular jack Power / CD : 4 pins connector	
Function	Reception output (CD)	Photo-coupler open-collector (Withstand voltage 36V) ON when receiving light (Max.50mA, residual voltage 1.5V)	
	Level voltage output (Analog output)	Approx. 0.0 to 3.0V, connector S2B-PH-K-S (JST) This is available only for adjusting the optical axis. External wiring is forbidden.	
General	Ambient temprature and humidity	-10 to +50°C, 85%RH or less (without dew, frost)	
	Ambient illuminance	10,000lx or less	
	Impact resistance	490m/s ² , Each 10 times in X, Y and Z directions	
	Vibration resistance	Double amplitude 1.5mm, 10 to 55Hz, each 2 hours in X, Y and Z direction	
	IP protection	IP40	
	Size W x D x H (mm)	76 x 106 x 40	

Connection



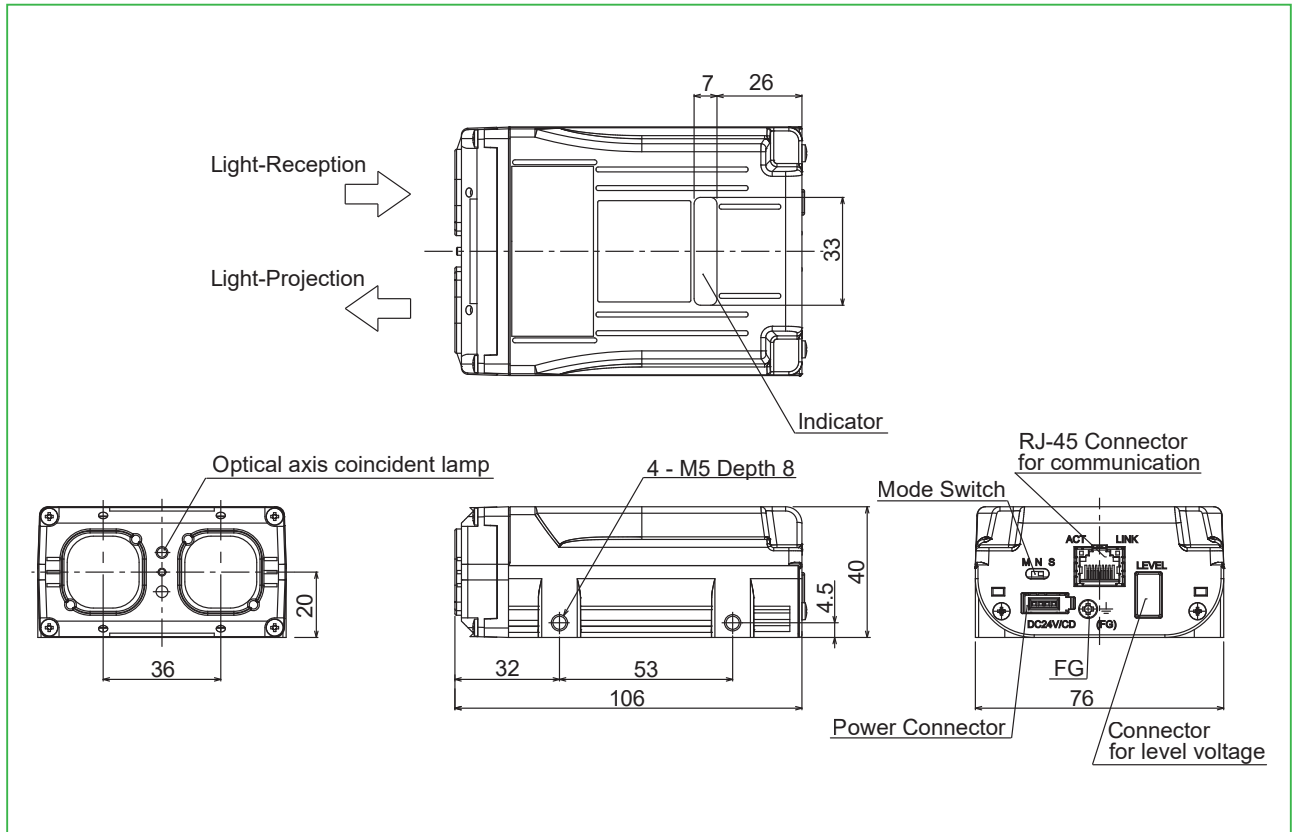
Power source connector : 37204-1BE0-004 (3M)

- Connector for connection (included to the product) : 37104-2206-000FL

Level voltage output connector : S2B-PH-K-S (JST)

Pin No.	Symbols
1	COM
2	CD
3	-VIN (0V)
4	+VIN (24VDC)

External dimension



Option

Bracket for EWF

Model	Code	Ref.
EWF BKT	WZ00029	2 pcs per set

