

NEW PRODUCTS

HOKUYO

SERIAL TYPE OPTICAL DATA TRANSMISSION DEVICE LONG DISTANCE TYPE

BWF series

High Performance In Compact And Light Weight
Of Handy Size, 44 x 84 x 130.3mm!

Long Distance, 100m And 200m!

400m Type Is Also Available In The Same Size!

*Actual transmission distance is 2 times or more than rated value and data transmission with high reliability is realized.

*Many kinds of interface are lined up, RS-232C, RS-422, current-loop and RS-422/RS-485 multi-drop, etc.

*Level lowering warning output are provided due to prevent some troubles such as dislocation of optical axis or dirty lens surface.

*It can be easy to check optical axis adjustment with optical checker or checking terminal.



Specifications(RS-232C/RS-422 type)

Model No.	BWF-11A/11B	BWF-21A/21B	BWF-31A/31B	BWF-41A/41B
Transmission distance	100m	200m	100m	200m
Directional angle	+/- 2 degrees	+/- 1 degree	+/- 2 degrees	+/- 1 degree
Transmission method	Full duplex two-way transmission			
Transmission speed	DC to 19.2Kbps			
Input/output interface	RS-232C/RS-422			
Modulation method	FSK modulation			
Modulated frequency	A type(Transmission 5.5MHz, reception 6.0MHz) B type(Transmission 6.0MHz, reception 5.5MHz)			
Power source	12 to 24VDC(10 to 30VDC)		100VAC 50/60Hz(85 to 110VAC)	
Current consumption	150mA or less(at 12VDC), 80mA or less(at 24VDC)		40mA	
Indication lamps	Power source, carrier detect, data input, data output, light-reception level margin(Red LED) POW(Power lamp) : Light-up when power source ON CD(Carrier detect lamp) : Light-up when light-reception, light-reception margin level 1 SD(Data input lamp) : Light-up when transmission data input RD(Data output lamp) : Light-up when reception data output L1(Light-reception level lamp) : Light-up when margin 1.5 times L2(Light-reception level lamp) : Light-up when margin 2 times L3(Light-reception level lamp) : Light-up when margin 2.5 times			
Warning output	Photo-coupler(35V, 50mA), ON when light-reception level margin 1.5 times or more and OFF when light-reception level margin 1.5 times or less			
Light-reception level output	0 to 5V(in proportion to light reception amount)			
Connection	Connector type(25 pins D-sub connector) but M3 screw terminal at power source			
Ambient illuminance	20,000lux or less(Both sun light and incandescent lamp)			
Ambient temperature/humidity	-10 to +50 degrees C, 85%RH or less(Not frozen)			
Vibration resistance	Double amplitude 1.5mm, 10 to 30Hz, each 2 hour in X, Y and Z directions			
Impact resistance	500m/s ² each 10 time in X, Y and Z directions			
Case/weight	ABS resin/approx. 500g			
Protective structure	IP60(IEC standard), available up to IP64 as option			

Specifications(Current-loop/RS-422 type)

Model No.	BWF-12A/12B	BWF-22A/22B	BWF-32A/32B	BWF-42A/42B
Transmission distance	100m	200m	100m	200m
Directional angle	+/- 2 degrees	+/- 1 degree	+/- 2 degrees	+/- 1 degree
Transmission method	Full duplex two-way transmission			
Transmission speed	DC to 9,600bps(But 19.2Kbps for RS-232C)			
Input/output interface	Current-loop/RS-232C			
Modulation method	FSK modulation			
Modulated frequency	A type(Transmission 5.5MHz, reception 6.0MHz) B type(Transmission 6.0MHz, reception 5.5MHz)			
Power source	12 to 24VDC(10 to 30VDC)		100VAC 50/60Hz(85 to 110VAC)	
Current consumption	150mA or less(at 12VDC), 80mA or less(at 24VDC)		40mA	
Indication lamps	Power source, carrier detect, data input, data output, light-reception level margin(Red LED) POW(Power lamp) : Light-up when power source ON CD(Carrier detect lamp) : Light-up when light-reception, light-reception margin level 1 SD(Data input lamp) : Light-up when transmission data input RD(Data output lamp) : Light-up when reception data output L1(Light-reception level lamp) : Light-up when margin 1.5 times L2((Light-reception level lamp) : Light-up when margin 2 times L3(Light-reception level lamp) : Light-up when margin 2.5 times			
Warning output	Photo-coupler(35V, 50mA), ON when light-reception level margin 1.5 times or more and OFF when light-reception level margin 1.5 times or less			
Light-reception level output	0 to 5V(in proportion to light reception amount)			
Connection	Connector type(25 pins D-sub connector) but M3 screw terminal at power source			
Ambient illuminance	20,000lux or less(Both sun light and incandescent lamp)			
Ambient temperature/humidity	-10 degrees to +50 degrees C, 85%RH or less(Not frozen)			
Vibration resistance	Double amplitude 1.5mm, 10 to 30Hz, each 2 hour in X, Y and Z directions			
Impact resistance	500m/s ² each 10 time in X, Y and Z directions			
Case/weight	ABS resin/approx. 500g			
Protective structure	IP60(IEC standard), available up to IP64 as option			

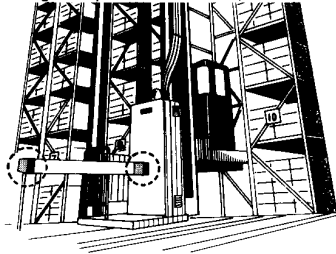
Specifications(RS-422/RS-485 Multi-drop type)

Model No.	BWF-13A/13B	BWF-23A/23B
Transmission distance	100m	200m
Directional angle	+/- 2 degrees	+/- 1 degree
Transmission method	Full duplex two-way transmission	
Transmission speed	DC to 19.2Kbps	
Input/output interface	RS-422/RS-485 Multi-drop	
Modulation method	FSK modulation	
Modulated frequency	A type(Transmission 5.5MHz, reception 6.0MHz) B type(Transmission 6.0MHz, reception 5.5MHz)	
Power source	12 to 24VDC(10 to 30VDC)	
Current consumption	150mA or less(at 12VDC), 80mA or less(at 24VDC)	
Indication lamps	Power source, carrier detect, data input, data output, light-reception level margin(Red LED) POW(Power lamp) : Light-up when power source ON CD(Carrier detect lamp) : Light-up when light-reception, light-reception margin level 1 SD(Data input lamp) : Light-up when transmission data input RD(Data output lamp) : Light-up when reception data output L1(Light-reception level lamp) : Light-up when margin 1.5 times L2((Light-reception level lamp) : Light-up when margin 2 times L3(Light-reception level lamp) : Light-up when margin 2.5 times	

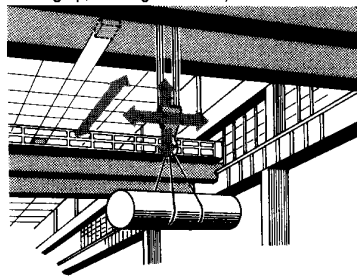
Warning output	Photo-coupler(35V, 50mA), ON when light-reception level margin 1.5 times or more and OFF when light-reception level margin 1.5 times or less
Light-reception level output	0 to 5V(in proportion to light reception amount)
Connection	Connector type(25 pins D-sub connector) but M3 screw terminal at power source
Ambient illuminance	20,000lux or less(Both sun light and incandescent lamp)
Ambient temperature/humidity	-10 degrees to +50 degrees C, 85%RH or less(Not frozen)
Vibration resistance	Double amplitude 1.5mm, 10 to 30Hz, each 2 hour in X, Y and Z directions
Impact resistance	500m/s ² each 10 time in X, Y and Z directions
Case/weight	ABS resin/approx. 500g
Protective structure	IP60(IEC standard), available up to IP64 as option

Applications

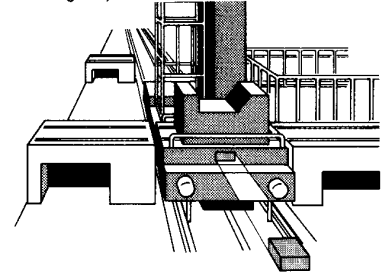
- **Control of stacker crane for Automated Storage Systems**
(Instruction of address, main power ON/OFF, traveling and upturn/downturn etc.)



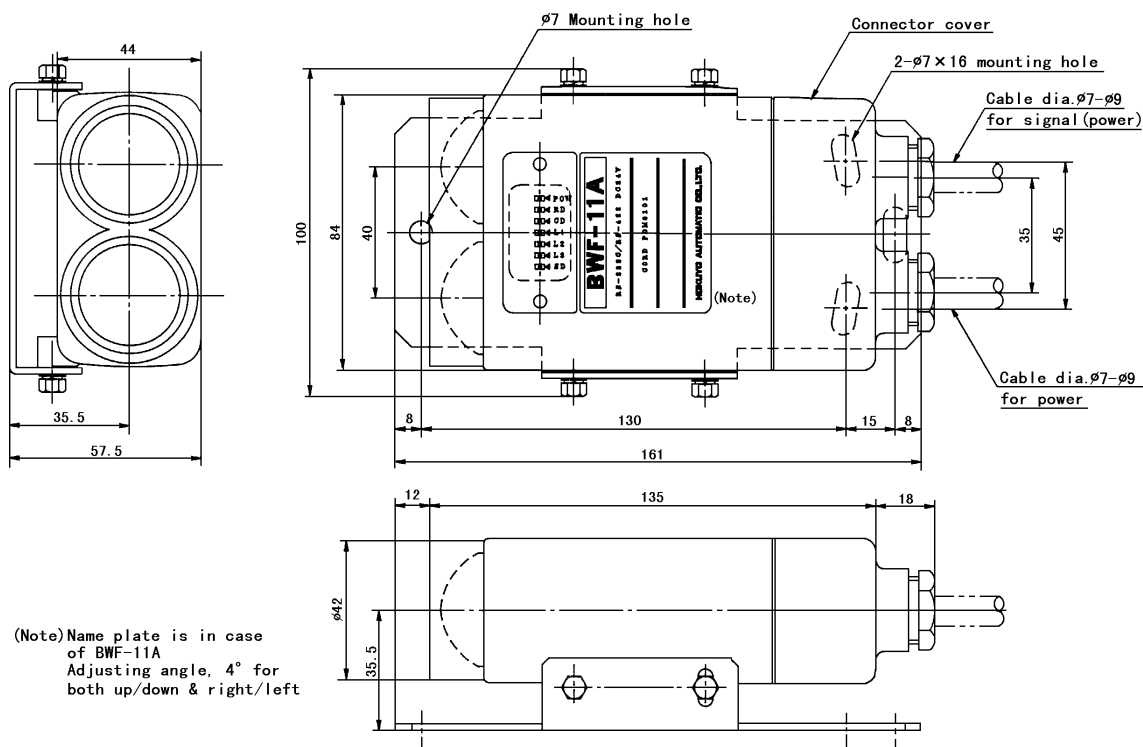
- **Control of overhead traveling crane**
(Instruction of advance, reverse, sideways traveling, hoisting up, winding down etc.)



- **Control of track type A.G.V.**
(Instruction of address, main power ON/OFF, traveling etc.)



External dimension



(Note) Name plate is in case of BWF-11A
Adjusting angle, 4° for both up/down & right/left

PHOTO SENSOR, LASER SENSOR, MICROWAVE SENSOR, COUNTER, AUTOMATIC DOOR



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