

# 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!

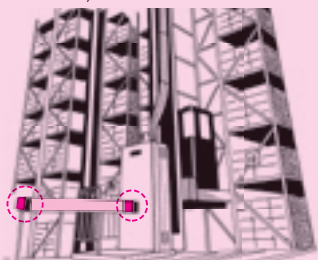
- Actual transmission distance is 2 times or more than rated value and data transmission with high reliability is realized.
- Many kinds of interface are lined up, RS-232C, RS-422, current-loop and RS-422/RS-485 multi-drop, etc.
- Level lowering warning output are provided due to prevent some troubles 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.



### Applications

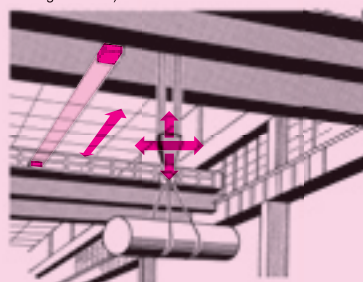
#### Control of stacker crane for Automated Storage Systems

(Instruction of address, main power ON/OFF, traveling and upturn/downturn etc.)



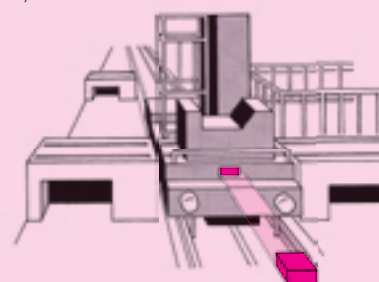
#### Control of OVERHEAD TRAVELING crane

(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 and etc.)



### Type/Models

Type	Interface	Model No.	Transmission distance	Power source
Serial type	RS-232C/RS-422	BWF-11A/BWF-11B	100m	10 to 30VDC
		BWF-21A/BWF-21B	200m	
		BWF-31A/BWF-31B	100m	85 to 110VAC
		BWF-41A/BWF-41B	200m	
	Current loop/RS-232C	BWF-12A/BWF-12B	100m	10 to 30VDC
		BWF-22A/BWF-22B	200m	
		BWF-32A/BWF-32B	100m	85 to 110VAC
		BWF-42A/BWF-42B	200m	
	RS-422/RS-485 Multi-drop	BWF-13A/BWF-13B	100m	10 to 30VDC
		BWF-23A/BWF-23B	200m	
	RS-232C/RS-422 Multi-channel type	BWF-110	100m	18 to 30VDC
		BWF-210	200m	
	CC-Link	BWF-17A/BWF-17B	100m	24VDC
		BWF-27A/BWF-27B	200m	
DeviceNet	BWF-1DA/BWF-1DB	70m	24VDC	
Ethernet	BWF-1EA/BWF-1EB	50m		
Controller Link	BWF-1FA-Z/BWF-1FB-Z	70m		
SafetyBUS p	BWF-1SA/BWF-1SB	70m		

Note) Make sure to use Type A and Type B in pair because transmission system is full-duplex two-way transmission. BWF-110/210 have provided 6kinds of frequency.

★BWF with CE mark and low temperature types are lined-up.

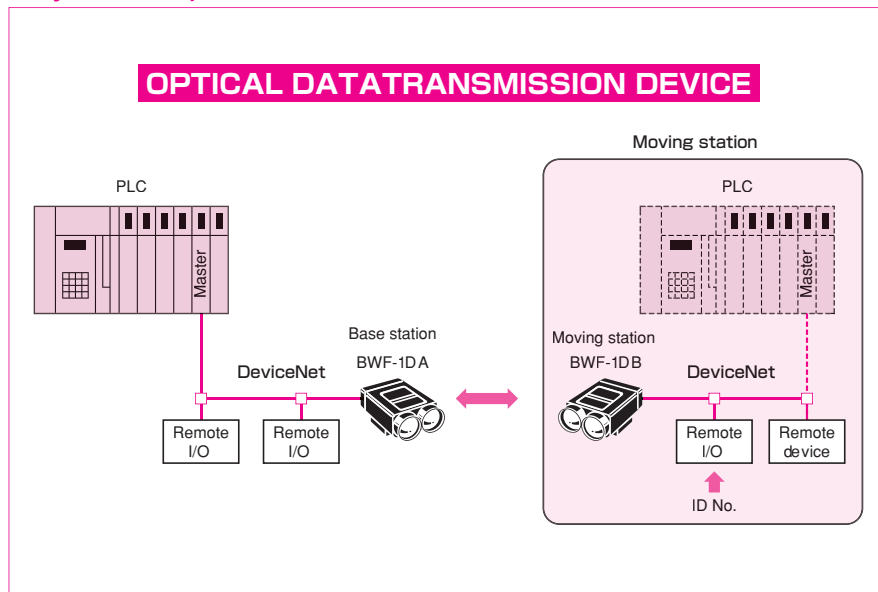
# BWF-1D

- To be used for DeviceNet in the main line.
- Communication with moving objects is possible by using Optical Data Transmission device.
- Easy wiring and low cost.

## Specifications

Type	Serial type		
Model No.	BWF-1DA	BWF-1DB	
Transmission delay	500nsec		
Optical Transmission part	Transmission distance	0 to 70m	
	Directional angle	Full angle 2°: 50m or less, Full angle 1°: 50m or more	
	Transmission system	Full-duplex two-way transmission device	
	Modulating system	FSK modulation	
	Modulating frequency	30M ±3MHz	45M ±3MHz
	Transmission speed	0 to 500kbps	
DeviceNet part	Connecting system	Multi-drop system	
	Communicating speed	Max. 250kbps	
	Communicating media	Exclusive cable 5 wires(Single 2 wires, power 2 wires, shield 1 wire)	
	Transmission distance	Transmission speed	Max. network length
250kbps		100m or more	
125kbps		350m or more	
Power source	24VDC(±15%)		
Power consumption	Max. 130mA(Input voltage 24VDC)		
Indication lamp	PW: Power lamp, RUN: Normal inner LCA lamp, SD: Carrier output lamp (Optical transmission part), RD: Carrier input lamp(Optical transmission part) S C: Main station carrier detection lamp 1: Main station light-reception level margin 1.5 times 2: Main station light-reception level margin 2.0 times 3: Main station light-reception level margin 2.5 times R C: Sub station carrier detection lamp 1: Sub station light-reception level margin 1.5 times 2: Sub station light-reception level margin 2.0 times 3: Sub station light-reception level margin 2.5 times		
Ambient illuminance	10,000 lux or less		
Ambient temperature/humidity	-10 to +50°C, 85%RH or less(not condensing)		
Protective structure	IP40(IEC Standard)		
Case	ABS resin		
Weight	Approx. 500g		

## System composition



## Connection

5 pins connector(DeviceNet)

Colors	Signals	Functions	Positions
Red	+24V	Power	1
White	Can+	Signal	2
Shield	Shield	—	3
Blue	Can-	Signal	4
Black	0V	Power	5