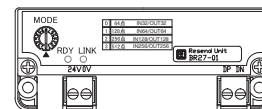


AnyWireASLINK System Product Guide

ASLINKMASTER [ASLINK Resend Unit]

BR27-01



This Product Guide is a document that describes an individual product. Read it carefully to understand the product.

■ Function list

Model	Specifications	Number of transmission points				
BR27-01	This unit enables input signal status to be reflected in the corresponding output, without necessity of a controller.	Input	32 points	64 points	128 points	256 points
		Output	32 points	64 points	128 points	256 points

[Notes on Safety]

Precautions that must be observed in order to use this system safely are indicated as shown below. You must observe these precautions.



A WARNING indicates a potentially hazardous situation which, if not handled correctly, could result in death or serious injury.



A CAUTION indicates a potentially hazardous situation which, if not handled correctly, may result in personal injury or property damage.



- System Safety
This system is intended for general industrial applications. It does not have functions for supporting applications requiring higher levels of safety such as safety-related devices or accident prevention systems. The product must not be used for these purposes.
- Always turn off the power in installing or replacing the system.
- Prolonged continuous flow of a rated load current or higher or a transit current due to load short-circuit, etc., in the hybrid unit including the output unit and the output circuit may result in smoking or firing. An external safety device such as a fuse must be installed.



- System power supply
Use a stable, 24V DC power supply. Use of an unstable power supply may cause problems with the system.
- Separately route high-voltage and power cables
Although the AnyWireASLINK has a high noise margin, install the transmission line and I/O cables away from high-voltage and power cables.
- Connectors and terminals
 - Pay careful attention to the length and installation of cable wiring to ensure that connectors and cables are neither overloaded nor disconnected.
 - Make sure to prevent any metal objects from getting inside the connectors or the terminal blocks.
 - Short-circuits caused by metal objects or mis-wiring are likely to damage the device.
- Do not impose any external loads on the units. Doing so may cause a failure.
- Do not disconnect or reconnect between the transmission line and slave units when the transmission line is active. A malfunction may occur.
- Use the AnyWireASLINK within the range of the specifications and conditions shown below.

[Warranty]

■ Warranty period

The warranty on the delivered Product shall continue to be effective for one (1) year after the delivery thereof to a location as designated by the original owner.

■ Scope of warranty

Should a defect occur in any part of the Product during the foregoing warranty period when it is used normally in accordance with the specifications described in this Product Guide, the Company shall replace or repair the defect free of charge, except when it arises as a result of:

- [1] Misuse or abuse of the Product by the owner;
- [2] Fault caused by other than the delivered Product;
- [3] The unauthorized modification or repair of the Product by any person other than the Company's personnel;
- [4] Any unusual force of nature, disaster or other cause beyond the Company's control.

The term "warranty," as used herein, refers to the warranty applicable to the delivered product alone. The Company shall not be liable for consequential or incidental damages resulting from any malfunction.

■ Repair at cost

After the expiration of the warranty period, the owner shall be responsible for all costs and expenses incurred for the troubleshooting and repair of the Product. Even during the warranty term, the Company shall repair any defects arising from causes other than within the scope of the warranty as specified above, at the owner's cost.

■ Changes in the product specifications and the descriptions in the manual

The descriptions in this manual may be subject to change without notice.

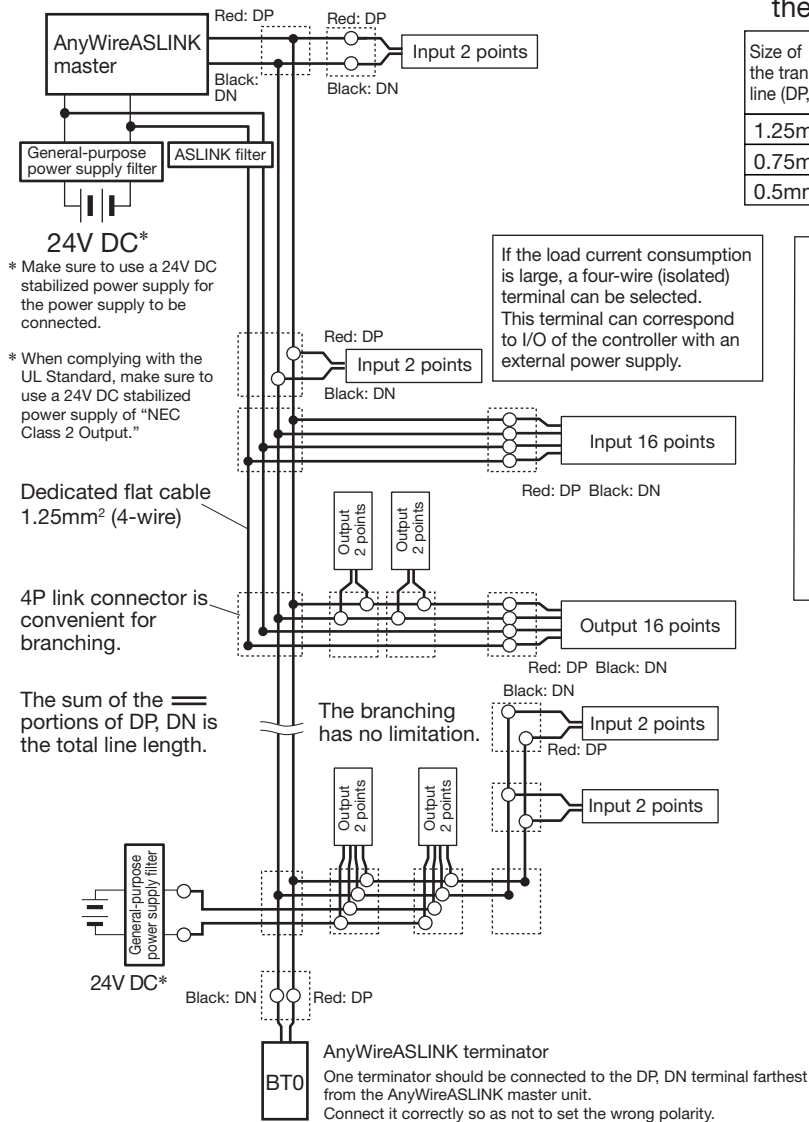
[Type]

BR27-01

[How to Connect AnyWireASLINK]

The AnyWireASLINK can employ a two-wire or four-wire terminal selectively depending on the load current. If the load current is small, using a two-wire (non-isolated) terminal allows for achieving simplified wiring without local power supply. In the case of prioritizing the sites of concentrated loads and/or the number of connections, hybridization with a four-wire (isolated) terminal, which supports local power supply, is also possible. Make sure to use a four-wire (isolated) terminal in the case of input and load driving using an external power supply.

[System Configuration Example]



Relationship between the size and length of the transmission line and the supply current (Table 1)

Size of the transmission line (DP, DN)	Supply current on the transmission line (DP, DN)		
	Total length: 50m or less	Total length: Over 50m, no longer than 100m	Total length: Over 100m, no longer than 200m
1.25mm²	MAX 2A	MAX 1A	MAX 0.5A
0.75mm²	MAX 1.2A	MAX 0.6A	MAX 0.3A
0.5mm²	MAX 0.8A	MAX 0.4A	MAX 0.2A

CAUTION

- Refer to Table 1 so that the size and length of the transmission line and the allowable supply current lie within an appropriate range.
- Connect the same symbols (DP, DN) correctly between the AnyWireASLINK master unit and each device.
- The branching length or branch number has no limitation.
- Include the length of the cable provided with the terminal in the "total line length."
- Connect the terminator (with polarity) to the DP, DN terminal farthest from the AnyWireASLINK master unit.

[Installation Location]

- Locations where this product is not directly subject to vibration or shock
- Locations where this product is not directly exposed to dust
- Locations where this product is not directly exposed to conductors, such as metal chips or spatters
- Locations without condensation
- Locations where the atmosphere is free of corrosive gases, flammable gases, and sulfur
- Locations far from high-voltage or high-current cables
- Locations far from servos, inverters, and other cables and controllers that generate high-frequency noise

[Notes on Combined Use with 4-Wire (Isolated) Terminal]

If the total length of the sections where all the DP, DN, 24V, and 0V lines run in parallel in the power supply system is more than 50m, connect an ASLINK filter (Type ANF-01) or a filter manufactured by COSEL Co., Ltd. (Type EAC-06-472) in series to the 24V and 0V lines at a position where these four lines start running in parallel.

This will improve noise resistance, suppress the adverse effects of crosstalk caused by transmitted signals, and stabilize signals.

The above filters must be inserted regardless of whether power is supplied to all terminals collectively from the power supply for the master or power is supplied to each terminal individually from their local power supply.

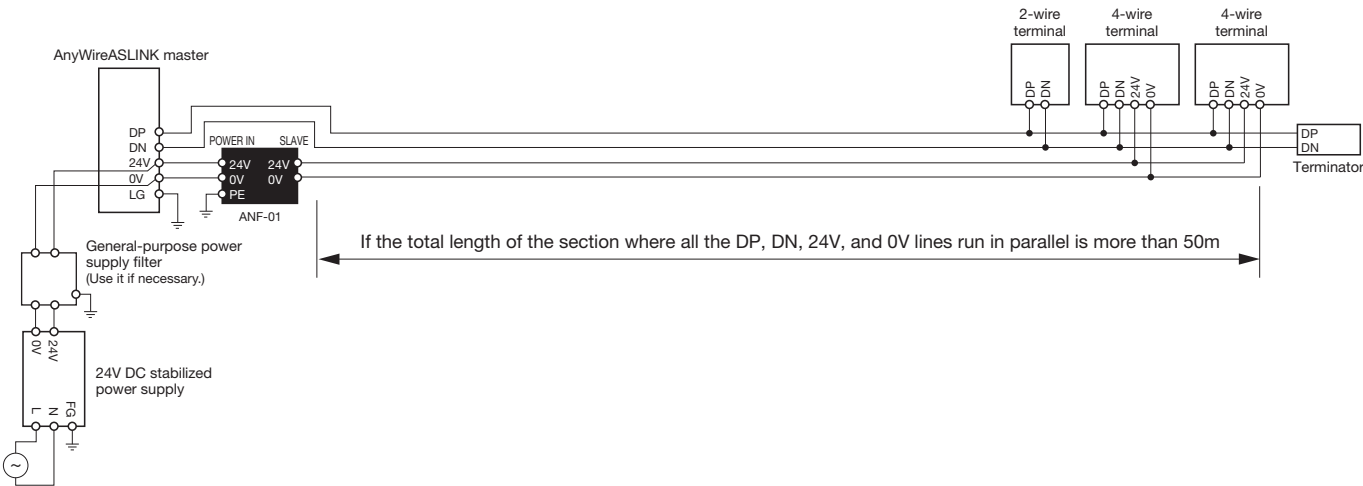
Insert the “ASLINK filter [Type ANF-01]” regardless of installation method and distance when complying with CE Standard.

■ Filter allowable current

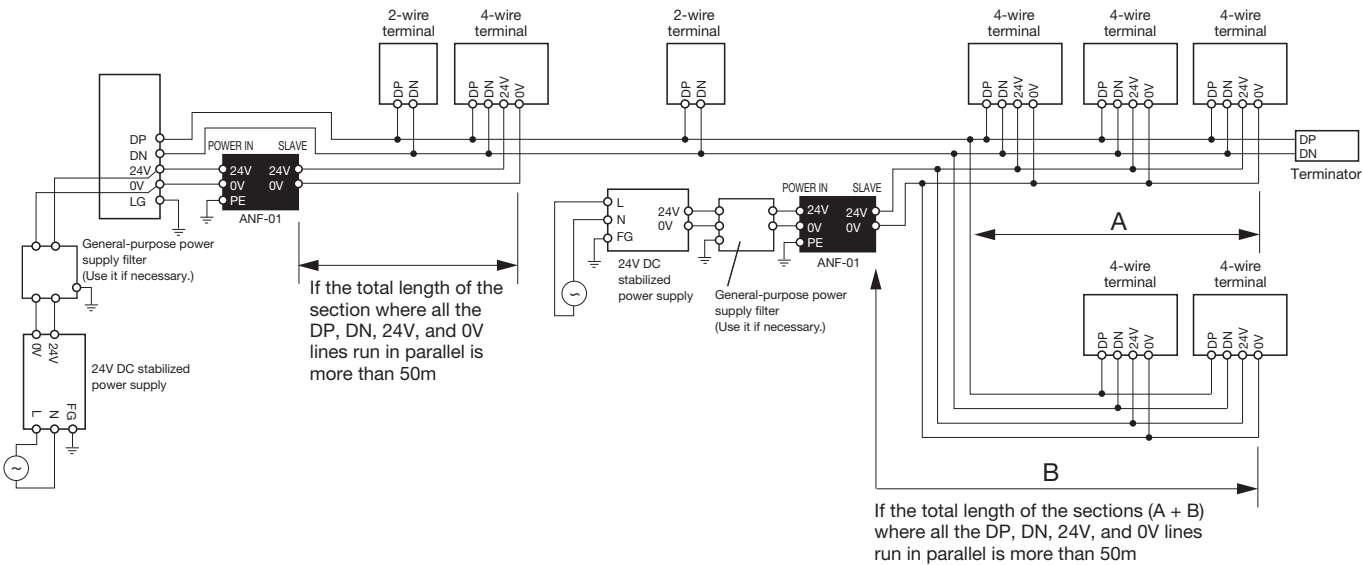
Product	Type	Allowable power current
ASLINK filter	ANF-01	MAX 5A/24V DC
Filter of COSEL Co., Ltd.	EAC-06-472	MAX 6A/24V DC

■ AnyWire Type: ANF-01 Connection example

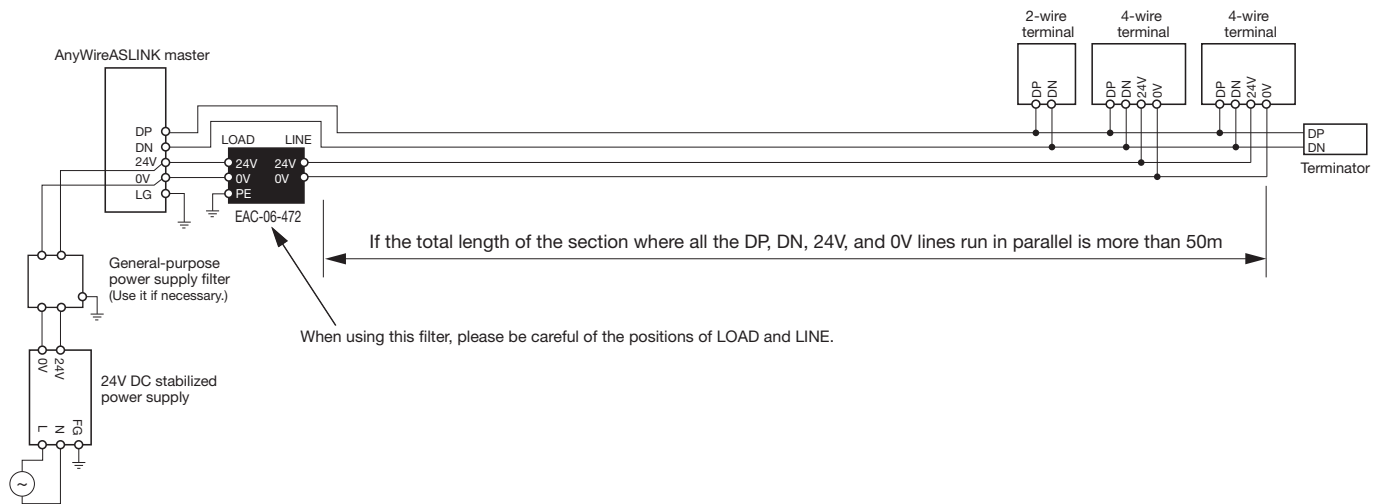
①Power supply to the entire system -----



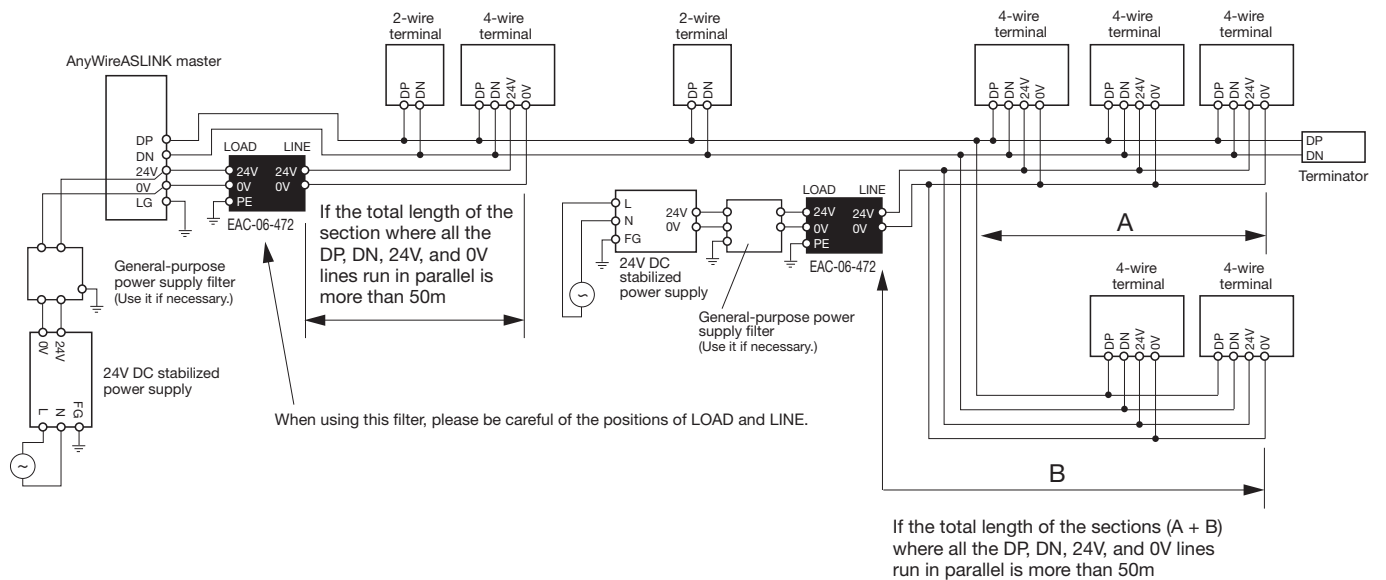
②Local power supply/branching -----



① Power supply to the entire system



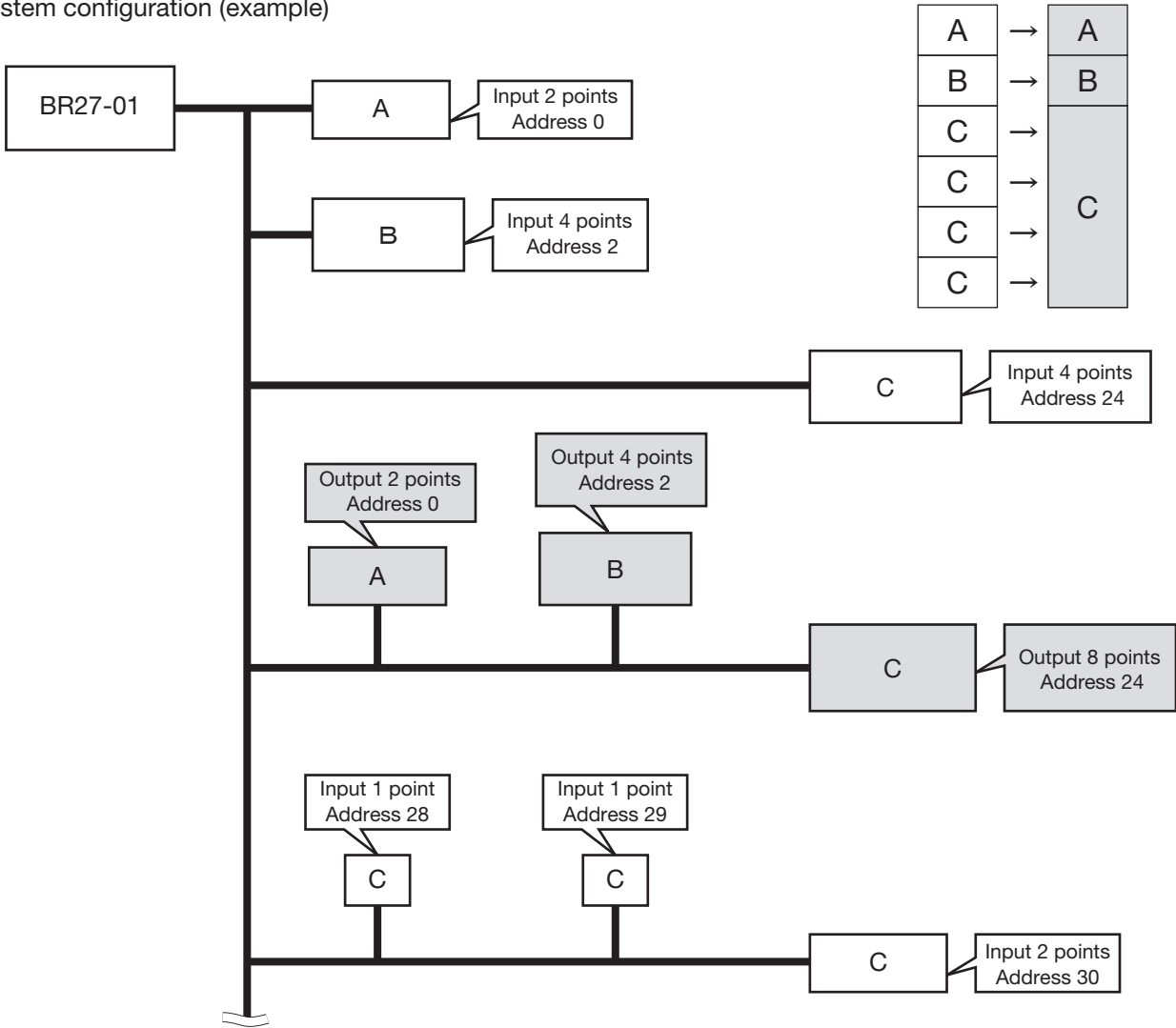
② Local power supply/branching



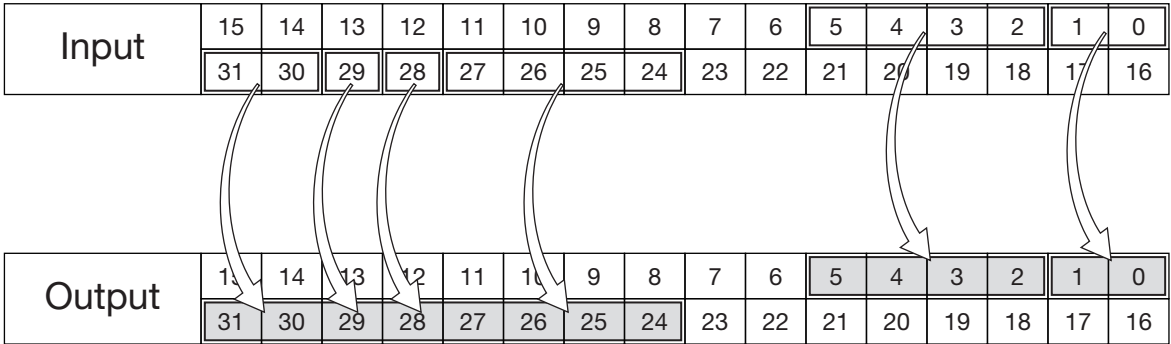
[Function]

This unit enables received input signal to be reflected in the output of the same address number, without necessity of a controller such as a PLC.
Positions and connection sequence of input and output terminals can be freely arranged within the specified total line length.
Transmission is enabled regardless of branching. * For details, refer to the AnyWireASLINK technical manual.

■ System configuration (example)

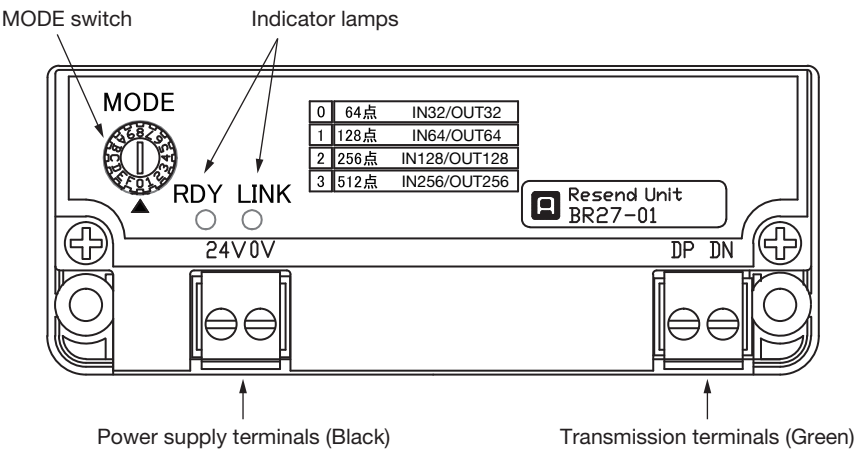


■ Input signals and corresponding output signals

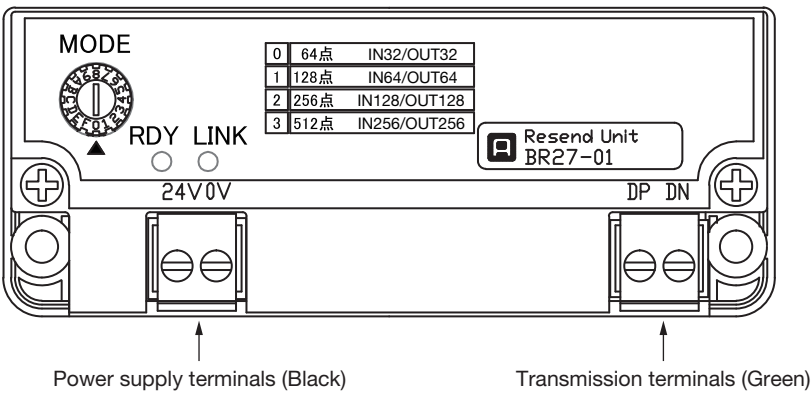


In principle, it is recommended that the system should comprise input slave unit and output slave unit.
To use an input/output mixed slave unit, understand the specifications of this unit thoroughly.

[Name of Each Part]



[Connection Method]



Name	Color	Terminal	Description	Manufacturer	Applicable wire diameter
Power supply terminals	Black	24V	Power supply terminals Supply 24V DC.	Tyco Electronics 1546105-2	0.05 to 3.0mm ² AWG30 to 12
		0V			
Transmission terminals	Green	DP	AnyWireASLINK transmission terminals DP (+), DN (-) To be connected to DP, DN terminals of slave unit.	Tyco Electronics 284041-2	
		DN			

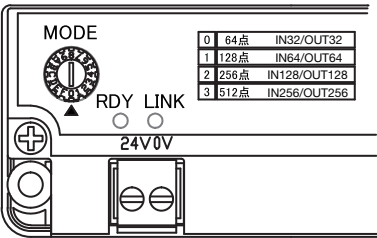
CAUTION

Do not short-circuit the DP, DN terminals. Short-circuiting these terminals may cause a fault of the equipment.

[Various Settings]

Setting the number of transmission points

To set the number of transmission points, use the rotary switch of the BR27-01 unit.








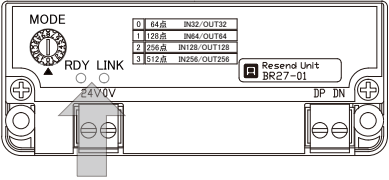
Rotary switch	Input	Output	Total
0	32	32	64
1	64	64	128
2	128	128	256
3	256	256	512

Factory setting: 0

* Do not set the switch at 4 to F.

[Monitor Display]

Indicator	Name	Display status	Description
RDY (Green)	Power supply indicator	Lit 	Power is supplied.
		Unlit 	Power is not supplied.
LINK (Green)	Transmission indicator	Flashing 	This unit is in operation.
		Lit 	Transmission is abnormal.
		Unlit 	



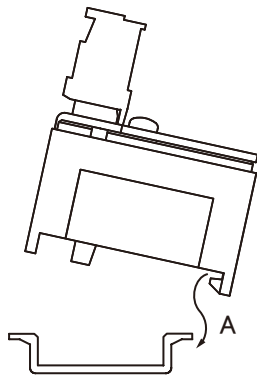
LED indicators

If an error is indicated, identify a cause of the error by checking lit/flashing status with the table on the left, and eliminate the cause of the error.

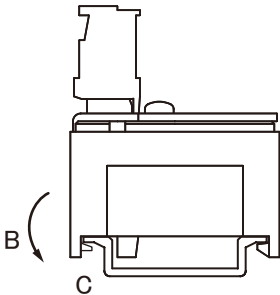
Once the cause of the error is eliminated, the error indication will be automatically reset.

[Installation]

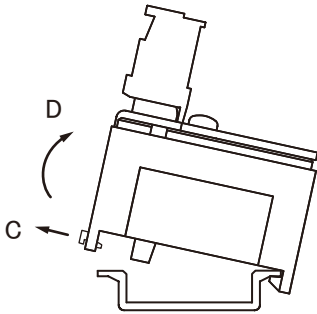
While holding the unit body, fit the fixed hook A on the DIN rail.



Lower the B side of the hook, and engage the DIN rail with the slide hook C.



To remove the unit, pull the slide hook C outward. After raising the unit body in the direction of D, remove the fixed hook A from the DIN rail.



[Specifications]

General specifications

Operating ambient temperature/humidity	0 – +55°C, 10 – 90%RH No condensation
Storing ambient temperature/humidity	-20 – +70°C, 10 – 90%RH No condensation
Atmosphere	No corrosive gas
Operating altitude*1	0 – 2000m
Pollution level*2	2 or less
Noise resistance	1200Vp-p (pulse width 1μs)

*1 Do not use or store AnyWireASLINK devices in an environment where the pressure exceeds the atmospheric pressure at an altitude of 0 meters. Doing so may result in malfunction.
*2 "Pollution level" is an index that indicates the degree of occurrence of conductive substances in the environment where the device is used.
Pollution level 2 means the occurrence of only pollution by non-conductive substances. In such an environment, however, electrical conduction could occur due to accidental condensation.

Transmission specifications

Service power supply voltage	24V DC +15% to -10% (21.6 to 27.6V DC) with a ripple of 0.5Vp-p or less
Transmission method	DC power supply superimposed total frame/cyclic method
Synchronization method	Frame/bit synchronization method
Transmission procedure	AnyWireASLINK protocol
Connection mode	Bus type (Multi-drop method, T-branch method, Tree branch method)
Number of connection points	512 max. (IN: 256, OUT: 256)
Number of connection units	Up to 128 units

Individual specifications

Current consumption	100mA
Weight	66g

Cycle time*3

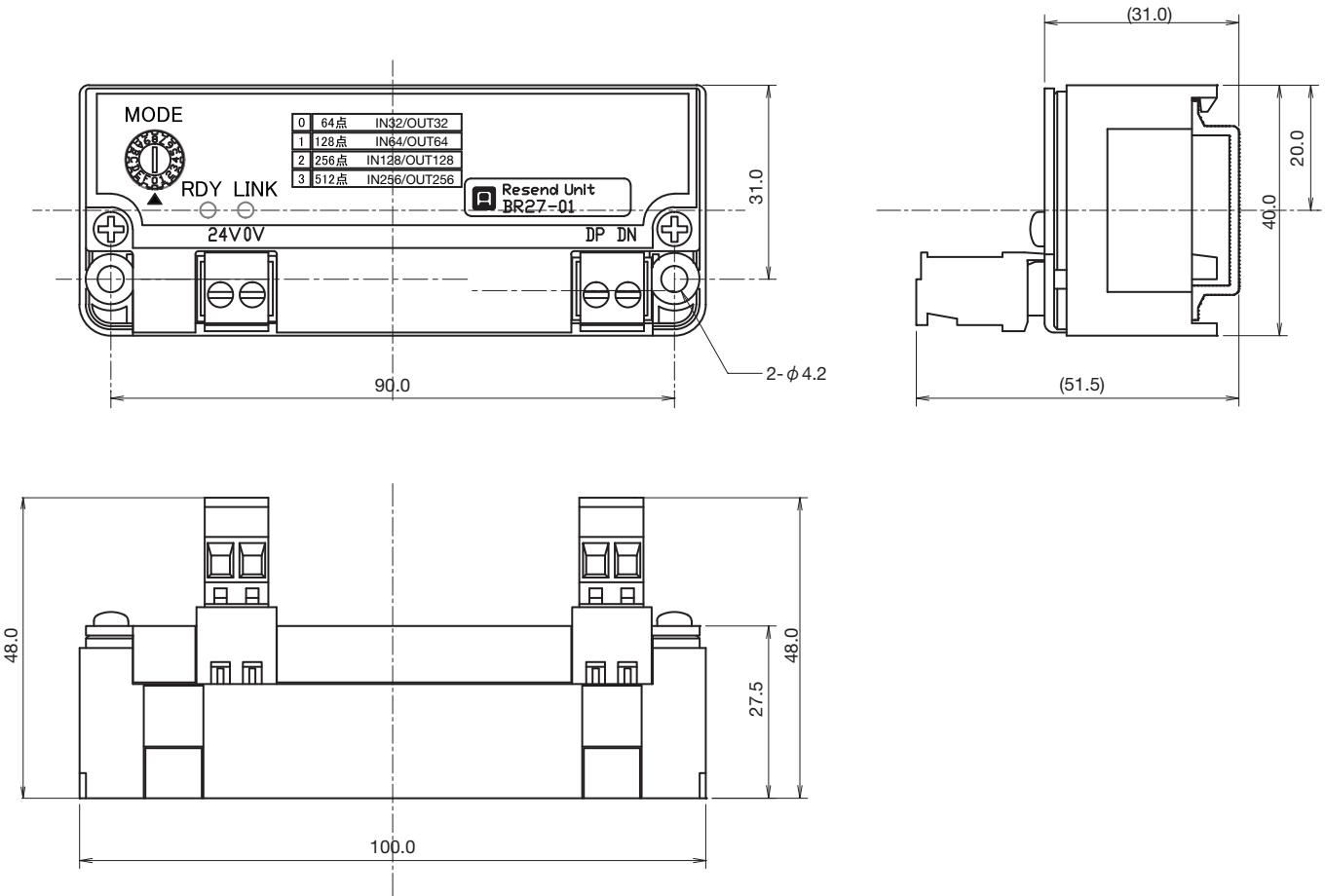
Number of transmission points	Transmission cycle time
64 points (Input: 32 points, Output: 32 points)	2.4
128 points (Input: 64 points, Output: 64 points)	3.6
256 points (Input: 128 points, Output: 128 points)	6.0
512 points (Input: 256 points, Output: 256 points)	10.7

Unit: ms

*3 Actually, there is a transmission delay time twice as long as the cycle time for input and output each, due to influence of double collation.
(There is a delay time four times as long as the cycle time at the maximum, until input ON status is reflected in the corresponding output.)

[Outside Dimensions]

Unit: mm



[Address]

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