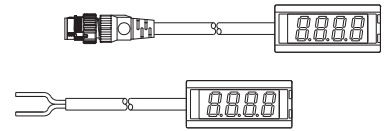


## ASLINKMONITOR [ASLINK monitor]



# B287-74DP01-□20



Smartclick is a registered trademark of OMRON Corporation.

- Note on use ⇒ A separate Address Writer is required to set addresses and other data.  
\* For more information, refer to [Various Settings] on page 6.

### [Type]

B287-74DP01-220	With M12 connector (IP67)
B287-74DP01-C20	Loose wires

### [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.

- WARNING** A WARNING indicates a potentially hazardous situation which, if not handled correctly, could result in death or serious injury.
- CAUTION** A CAUTION indicates a potentially hazardous situation which, if not handled correctly, may result in personal injury or property damage.

- WARNING**
  - 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.
  - Before installation and replacement of the product, be sure to turn OFF the power supply for 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.

- CAUTION**
  - 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 equipment.
  - Do not impose any external loads on the equipment. Doing so may cause a failure.
  - Do not disconnect or reconnect between the transmission line and remote 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 period of the delivered product shall be one year after delivery to the place specified by the customer.
- Scope of warranty  
If a fault occurs with the product under the normal operating conditions assumed in the product specifications and according to the instructions of this manual within the above warranty period, faulty parts shall be replaced or repaired free of charge.  
Note: The following cases are exempted from the scope of warranty:
  - (1) User's improper handling or use of the product
  - (2) When the fault is caused by any factor other than the delivered product
  - (3) When the fault is caused by modification or repair of the product by any person other than the supplier
  - (4) When the fault is caused by a natural disaster or other factor which is not attributable to the supplier

The term "Warranty" mentioned here means warranty of the delivered product only. We shall not be liable for incidental damage resulting from a fault of the delivered product.
- Repair at user's cost  
Investigations and repairs after elapse of the warranty period shall be conducted at user's cost.  
Even in the warranty period, we shall accept order of repair of a fault or investigation of a cause of a fault beyond the above scope of warranty at user'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.

### [About Pictogram\*1]

	Ver. 1.0*2		Compatible with Ver. 1.1*3
--	------------	--	----------------------------

- \*1 Note that the pictogram may not be printed (or pasted) depending on the product.
- \*2 AnyWireASLINK products not compatible with Ver. 1.1 (word transmission and single unit simplified replacement functions)  
Some products, not marked with the Ver. 1.1 pictogram, are compatible with the functions included in Ver. 1.1. Refer to the lot No. and the products guide for ultimate confirmation.
- \*3 For details of Ver. 1.1, refer to the subsequent pages.

## [About AnyWireASLINK Ver. 1.1]

---

New functions have been added to AnyWireASLINK products in May 2019 onward. Also, for the purpose of differentiation of compatible functions, indication of product lot number (lot No.) has been changed.

Compatible functions vary depending on lot No. Please understand the following description thoroughly to use each product.

Functions added to Ver. 1.1 are as follows:

Functions available with Ver. 1.1	Word transmission*1*2
	Single unit simplified replacement*1

\*1 To use these functions, the master unit compatible with each function is required.

For details, refer to this manual together with the manual for the master unit.

\*2 This function is available in connection to the AnyWireASLINK system for word transmission.

To handle word data, word address settings are required for remote units.

It depends on remote units whether word address setting is enabled or not.

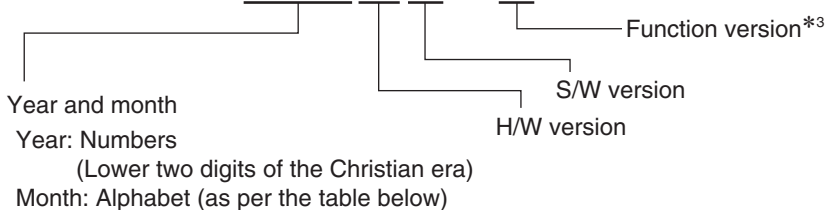
## [About Lot No.]

---

As a result of the addition of functions, indication of lot No. has been changed from 3 digits (conventional format: year and month only) to 6 digits or 7 digits.

Example:

Lot No. 19ECBNB



Alphabet	A	B	C	D	E	F	G	H	I	J	K	L
Month	1	2	3	4	5	6	7	8	9	10	11	12

“19E” means May 2019.

\*3 Some products have no indication of function version.

## [About Word Transmission]

---

The master unit compatible with the word transmission function provides areas for transmission and receiving of word data (numerical information) such as analog data and sensing level data.

Using this function enables reduction of occupancy of bit information area by word data.

To enable word transmission, it is necessary that the system should be configured only with remote units compatible with the word transmission function.

A remote unit incompatible with the word transmission function cannot be used in connection to the AnyWireASLINK system for word transmission.

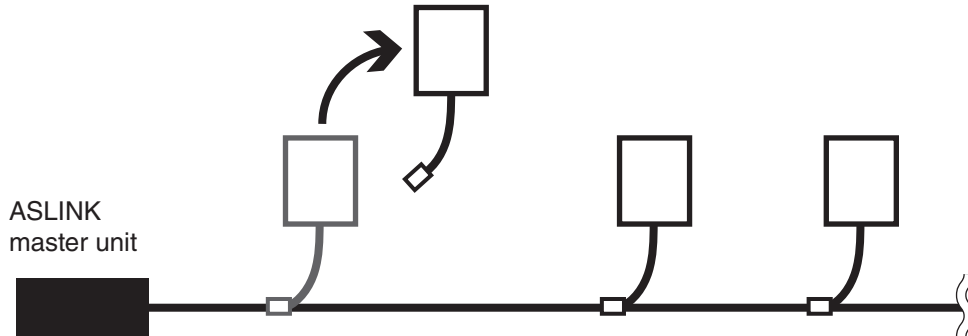
For remote units that handle word data, word address settings are required.

## [About Single Unit Simplified Replacement]

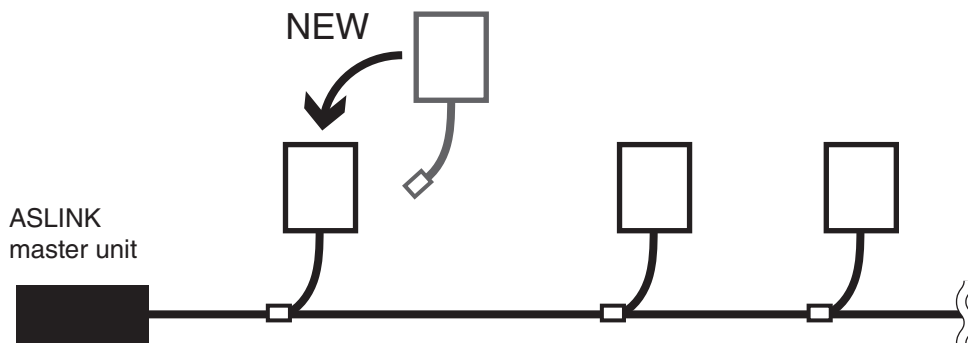
During replacement of a remote unit, this function enables automatic settings of address and parameters of the existing remote unit into a new remote unit. (After replacement of the remote unit, address and parameter setting procedure using the address writer is not required.)

■ Step 1 Turn OFF the 24V DC power supply for the master unit.

■ Step 2 Disconnect a remote unit to be replaced.



■ Step 3 Connect a new remote unit.



■ Step 4 Turn ON the 24V DC power supply to the master unit.



- It is necessary that both the master unit and remote unit should be compatible with the single unit simplified replacement function.
- Before disconnection and connection of the remote unit, be sure to turn OFF the power supply.
- For compatibility of a remote unit with the single unit simplified replacement function, see the lot No. and the manual for the remote unit.
- When a remote unit of a new function version is replaced with that of an old function version, the single unit simplified replacement function cannot be used.
- Operation is enabled in the case where the model of the remote unit before replacement is the same as that after replacement.
- If the model of the remote unit before replacement is different from that after replacement, a model mismatching error occurs, disabling address and parameter settings.
- Operation is enabled in the case where the address of the remote unit for replacement is the factory-set address (bit address 511).
- Several remote units cannot be simultaneously replaced. For replacement of several remote units, conduct the replacement procedure for each unit one by one.
- For a remote unit incompatible with the single unit simplified replacement function, set an address and parameters by using the address writer as in the conventional manner.
- For details of the single unit simplified replacement function (limitations, conditions, etc.), refer to the manual for the master unit.

■ Identification of function version

Function version information is given on the lot label.

\* The design and contents of the lot label may vary depending on the product model and lot No.

<b>Anywire Corporation</b>	
MODEL	
DATE	2019-05
Lot	19ECB4B
MADE IN JAPAN	

Function version:

When an equipment parameter is changed due to functional upgrading, etc., the function version will be updated (for example: A→B→C).

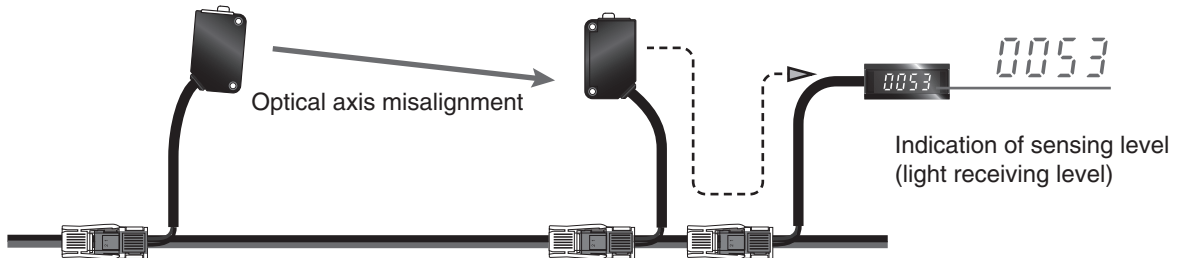
When a remote unit of a new function version is replaced with that of an old function version, the single unit simplified replacement function cannot be used.

## [Sensing Level Indication]

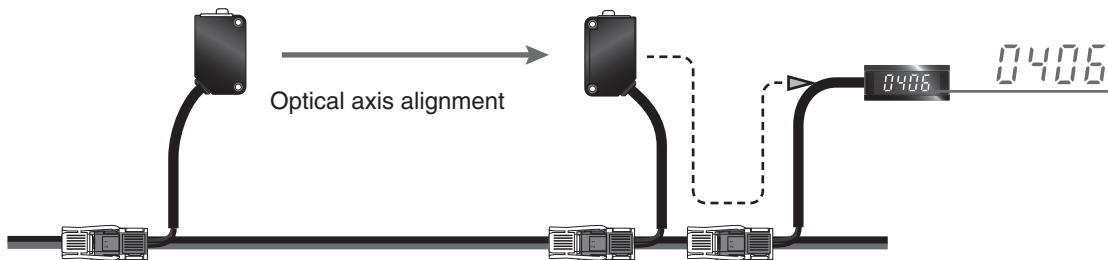
The monitor enables indication of sensing level of a specified remote unit in the AnyWireASLINK system. This function is useful for ASLINK sensors' positioning and optical axis alignment.

### ■ Example of use

① The user can see that the sensor's optical axis is not aligned.



② After optical axis adjustment, the sensor is fixed at the position where the sensing level becomes the maximum.



#### Key points

- This monitor has no specific address. Therefore, it need not be included in the number of remote units connected to the AnyWireASLINK system.
- When several monitors are connected, individual sensors' sensing levels can be indicated.
  - \* This function is enabled only when the monitors are set in the normal mode. (Several monitors cannot be used in connection if they are set in the adjustment mode.)

## [Functions]

Model	Specifications	Functions			
		Bit <sup>*1</sup> transmission	Word <sup>*2</sup> transmission	1024-bit <sup>*3</sup> transmission	IP67
ASLINKMONITOR 2-wire type (non-isolated) Small display unit	Arbitrary address Sensing level display unit	○	○ <sup>*4</sup>	○ <sup>*4</sup>	○ <sup>*5</sup>

\*1 This function is available in connection to the AnyWireASLINK system for bit transmission.

\*2 This function is available in connection to the AnyWireASLINK system for word transmission.

\*3 This function is available in connection to the AnyWireASLINK system for 1024-bit transmission.

\*4 It depends on lot No. whether this function is available or not.

\*5 This function is available only with B287-74DP01-220.

## [Function Availability by Lot No.]

This unit has undergone addition of functions and change of specifications according to version upgrading. Available functions and specifications of the unit vary depending on lot No.

Function	Lot No.
Word transmission	Available with S/W version "B" or later version (If lot No. is indicated in 3 digits (year and month only), these functions are not available.)
1024-bit transmission	
Address writing limitation	



If the model of S/W version "A" or with indication of 3-digit lot No. is connected to the AnyWireASLINK system for 1024-bit transmission, input error occurs.  
For connection to the AnyWireASLINK system for 1024-bit transmission, be sure to check the lot No.

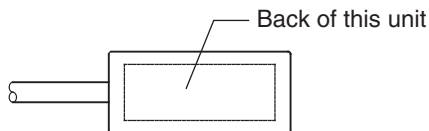
### ■ How to check

Lot No. is indicated on the lot label.

Example:

**Lot No. 19ECBNB**

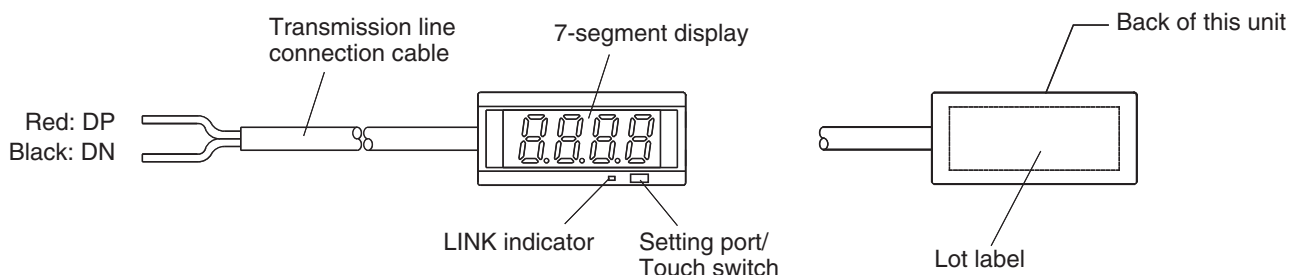
H/W version: 19  
S/W version: EC  
Function version: BN



## [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

## [Name of Each Part]



\* These figures show an example of B287-74DP01-C20.

## [Various Settings]

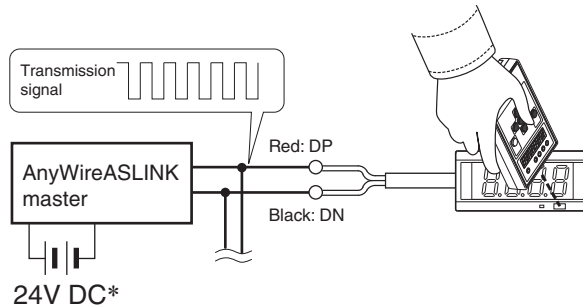
Address setting

Parameter setting

### ■ Common procedure for address writer operation

Be sure to connect to the AnyWireASLINK master unit to use.  
ARW-04 (address writer) of Rev. (Ver.) 1.01 or later version, or  
ARW-03 of Rev. (Ver.) 2.10 or later version is required for address setting.  
For details of the operating method, refer to the product guide for the address writer.

Connect this monitor to the AnyWireASLINK master unit.  
With the transmission signals (DP/DN) connected to this unit,  
set an address with the address writer.



\* For the power supply to be connected, be sure to use a 24V DC stabilized power supply.

Address setting

For this monitor, address setting is not required.  
To designate an address of the sensor subject to sensing level indication, use the equipment parameter.



For S/W version "A" or former version:

Address writing with the address writer is enabled. However, it does not have influence on operation of this monitor.  
To designate an address of the sensor subject to sensing level indication, use the equipment parameter.

For S/W version "B" or later version:

If address writing is executed with the address writer, error code "E-0306" is indicated on the address writer.

Parameter setting

### ■ Monitor address selection [Equipment parameter 1]

This parameter is used to designate an address of the remote unit subject to sensing level indication.

Variable	Description
0 to 511 <sup>*1</sup>	Address of remote unit 0 to 511 <sup>*1</sup>

Factory setting: 0

\*1 When the S/W version is "A" or the lot No. is indicated in 3 digits, the remote unit address setting range is 0 to 255.

<Determination of remote unit subject to sensing level indication>

The remote unit subject to sensing level indication is determined by designation of monitor address (equipment parameter 1)  
and selection of input/output type (equipment parameter 2).

(Example)

Monitor address designation (equipment parameter 1) : 10

Input/output type selection (equipment parameter 2): 1 → Address No. 10 of bit input type (or input/output mixed type) remote unit

## ■ Input/output type selection [Equipment parameter 2]

---

This parameter is used to specify the type of the remote unit subject to sensing level indication (input type or output type).

Variable	Description
0	Bit output
1	Bit input, or bit input/output mixed
2	Word output
3	Word input, or word input/output mixed

Factory setting: 0

<Determination of remote unit subject to sensing level indication>

The remote unit subject to sensing level indication is determined by designation of monitor address (equipment parameter 1) and selection of input/output type (equipment parameter 2).

(Example)

Monitor address designation (equipment parameter 1) : 24

Input/output type selection (equipment parameter 2): 1 → Address No. 24 of bit input or input/output mixed type remote unit

## ■ Monitor mode selection [Equipment parameter 3]

---

This parameter is used to specify the monitor mode.

Variable	Description
0	Adjustment mode
1	Normal mode

Factory setting: 1

<Adjustment mode>

This mode is used to directly monitor an AD value, instead of a sensing level of 0 to 100% that has been converted in the ASLINK sensor.

In the adjustment mode, several monitors cannot be connected.

Note: Some models of master units are not compatible with the adjustment mode.

[Master unit incompatible with the adjustment mode]

- QJ51AW12AL (Serial No. 1605\*\*\*\* or former model)
- LJ51AW12AL (Serial No. 1605\*\*\*\* or former model)
- B2G28-E1
- B2G78-E1

<Normal mode>

This mode is used to monitor a sensing level of 0 to 100% that has been converted in the ASLINK sensor.

In the normal mode, several monitors can be connected.



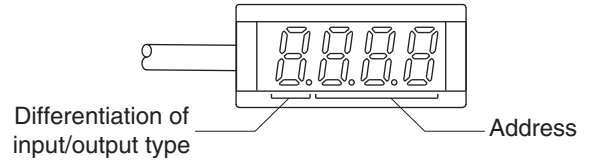
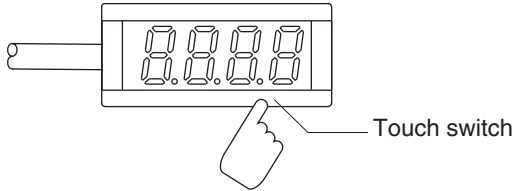
If the monitor that has been set in the adjustment mode is connected to the AnyWireASLINK system, the DP/DN disconnection detection and parameter communication functions of the master unit are disabled. After completion of adjustment, disconnect this monitor, or be sure to change the monitor's mode setting to the normal mode.

This parameter is used to specify whether the touch switch is active or inactive.

Variable	Description
0	Inactive
1	Active

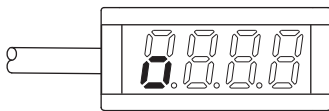
Factory setting: 1

With a touch of the touch switch, you can monitor differentiation of input/output type and address of the remote unit subject to sensing level indication.

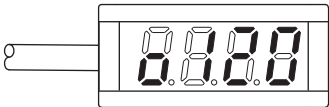


◆ Differentiation of input/output type

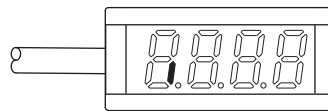
◇ Bit output



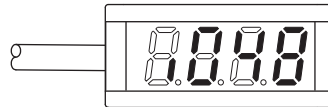
(Example) Address No. 120 of bit output type



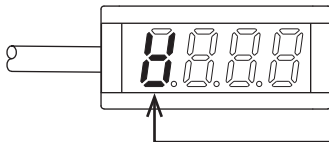
◇ Bit input, or bit input/output mixed



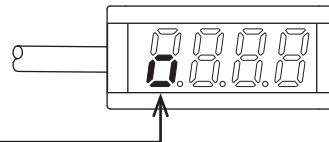
(Example) Address No. 48 of bit input type or bit input/output mixed type



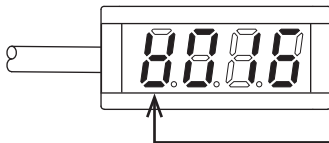
◇ Word output



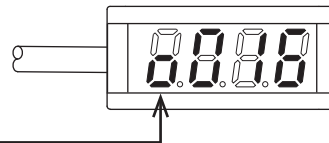
Alternately indicated with unlit status as interval



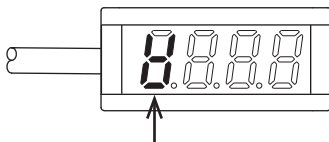
(Example) Address No. 16 of word output type



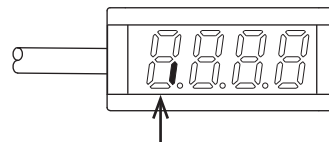
Alternately indicated with unlit status as interval



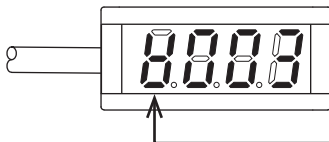
◇ Word input, or word input/output mixed



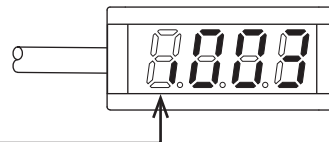
Alternately indicated with unlit status as interval



(Example) Address No. 3 of word input type or word input/output mixed type



Alternately indicated with unlit status as interval





<Sensitivity adjustment of the touch switch>

If the touch switch does not respond, you can conduct teaching by performing the “SET ON” setting with the address writer.

Procedure 1: Perform the “SET ON” setting with the address writer.




2: The device shifts to the sensitivity adjustment mode (for 8 seconds).

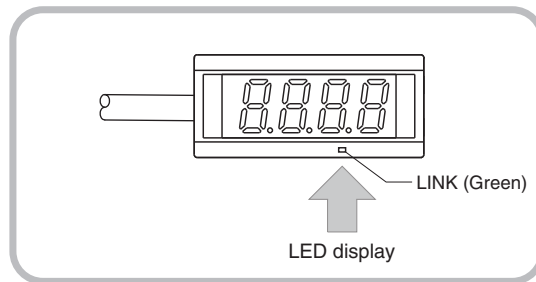
3: Repeat the touch and release of the touch switch.

4: Teaching is completed.

\* For more information on how to operate the address writer, refer to the product guide for the address writer.

## [Monitor Display]

LED name	Display status	Description
LINK (Green)	Lit 	Transmission signal error
	Flashing 	Transmission signal received
	Unlit 	No transmission signal (disconnection and reverse connection of DP and DN lines included)



## [Troubleshooting]

### <LINK does not flash>

Things to be checked	Remedy
Check the connection of this monitor.	Disconnect this monitor once, and then reconnect it.
Check conditions of the master unit and remote unit.	<ol style="list-style-type: none"> <li>1) If LINK on the master unit is flashing and LINK on the remote unit is lit, it is possible that the master unit has a fault, or that 24V-0V input is directly connected to the DP-DN pins of this monitor.</li> <li>2) If LINK on the master unit is flashing and LINK on this monitor is unlit, it is possible that the power (24V DC) is not supplied to the master unit, that a part of the transmission lines (DP, DN) is disconnected, or that this monitor has been damaged.</li> <li>3) If LINK on the master unit is not flashing, check the power supply to the master unit. Also, since there is a possibility that some system error has occurred, refer to the user's manual of the master unit.</li> <li>4) The model incompatible with Ver. 1.1 cannot be used in connection to the AnyWireASLINK system for word transmission. Check the settings of the master unit, lot No. of this monitor, etc.</li> </ol>

### <Sensing level indication failure>

Things to be checked	Remedy
Check if the remote unit subject to monitoring is correctly designated.	<ol style="list-style-type: none"> <li>1) To designate an address of the remote unit to be monitored, use equipment parameter 1. Even if an address of the remote unit is directly written in this monitor, monitoring is disabled.</li> <li>2) The remote unit subject to sensing level indication is determined by the settings of equipment parameter 1 and equipment parameter 2. Check if the settings of equipment parameter 1 and equipment parameter 2 are correct.</li> </ol>
Check if the master unit is compatible with the adjustment mode (when this monitor is used in the adjustment mode).	To use the adjustment mode, make sure that the master unit is compatible with the adjustment mode.
Check if several monitors (small display units) are not connected with the setting of the adjustment mode.	When several monitors are connected, they must be used in the normal mode. Check for connections of several monitors with the setting of the adjustment mode.

### <Master unit cannot detect DP/DN disconnection, Parameter communication failure>

Things to be checked	Remedy
Check the monitor mode of this monitor.	While this monitor is used in the adjustment mode, the master unit cannot detect DP/DN disconnection, and parameter communication is disabled. The adjustment mode is dedicated to sensor adjustment. After completion of adjustment, be sure to change the monitor's mode setting to the normal mode.

### <Input error occurs with the master unit>

Things to be checked	Remedy
Check the lot No. of this monitor.	If the AnyWireASLINK system to which this monitor is connected is the 1024-bit transmission type, be sure to check the lot No. of this monitor to use the S/W version "B" or later version. If a monitor of the S/W version "A" or with a lot No. indicated in 3 digits (which is incompatible with 1024-bit transmission) is connected to the AnyWireASLINK system for 1024-bit transmission, input error occurs.

## [Equipment Parameters and Their Settings]

---

Equipment parameter	Corresponding item	Item contents	Variable	Description
1	Monitor address selection	Designates an address of the remote unit subject to sensing level indication. Factory setting: 0000	0 to 511	Address of remote unit 0 to 511
2	Input/output type selection	Specifies the type of the remote unit subject to sensing level indication (input type or output type). Factory setting: 0000	0000	Bit output
			0001	Bit input, or bit input/output mixed
			0002	Word output
			0003	Word input, or word input/output mixed
3	Monitor mode selection	Specifies the monitor mode. Factory setting: 0001	0000	Adjustment mode
			0001	Normal mode
4	Touch switch function setting	Specifies whether the touch switch is active or inactive. Factory setting: 0001	0000	Inactive
			0001	Active
5 to 19	Spare			

# [Specifications]

## ■ General specifications

Operating ambient temperature/humidity	0 to +55°C, 10 to 90%RH No condensation
Storing ambient temperature/humidity	-25 to +75°C, 10 to 90%RH No condensation
Vibration resistance	Based on JIS B 3502 and IEC 61131-2
Shock resistance	Based on JIS B 3502 and IEC 61131-2
Atmosphere	No corrosive gas
Operating altitude* <sup>1</sup>	0 to 2000m
Pollution level* <sup>2</sup>	2 or less

\*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* <sup>3</sup>	Number of bit points: 1024 points max. (Input: 512 bits, Output: 512 bits)
Number of connection units* <sup>3</sup>	Number of word points: 1024 words max. (Input: 512 words, Output: 512 words)
RAS features	Up to 256 units Detection of transmission line disconnection, transmission line short-circuit, transmission power supply drop, and duplicated/unregistered ID

\*3 The number differs depending on the master unit. Be sure to refer to the manual of the master unit for the number.

## ■ Individual specifications

Weight	B287-74DP01-220: 21g B287-74DP01-C20: 10g
Protective structure	B287-74DP01-220: IP67 B287-74DP01-C20: No protection

## ■ Common specifications

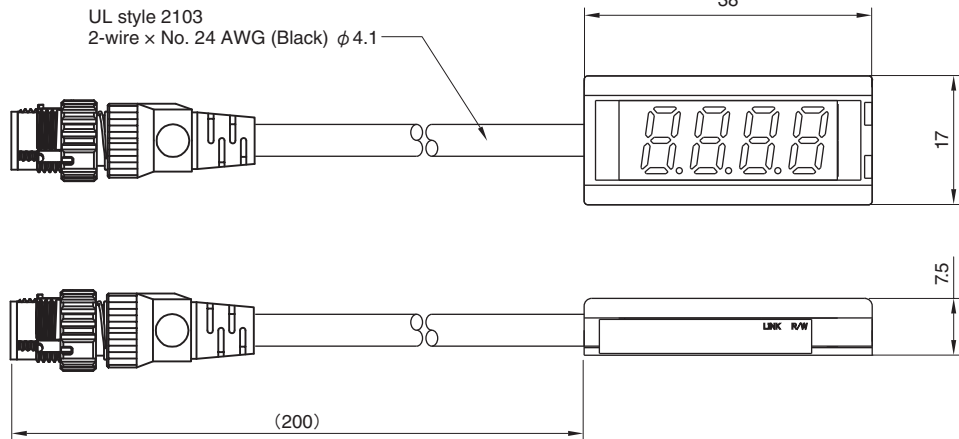
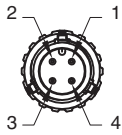
Current consumption	6.0mA
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# [Outside Dimensions]

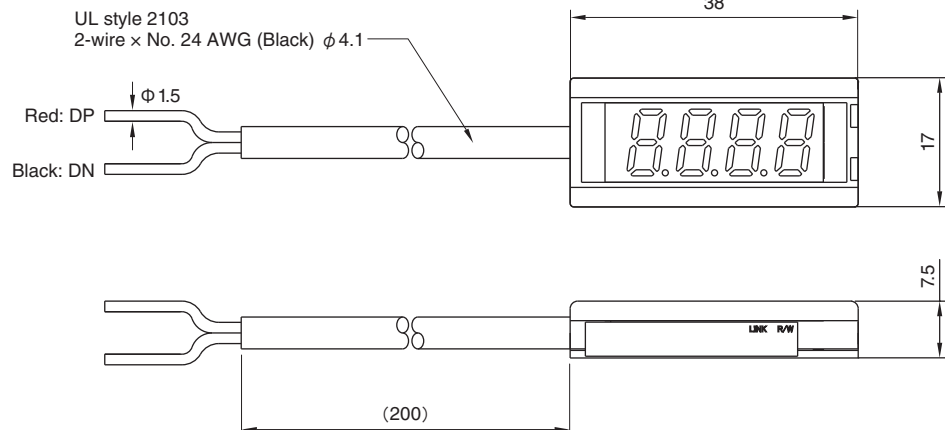
Unit: mm

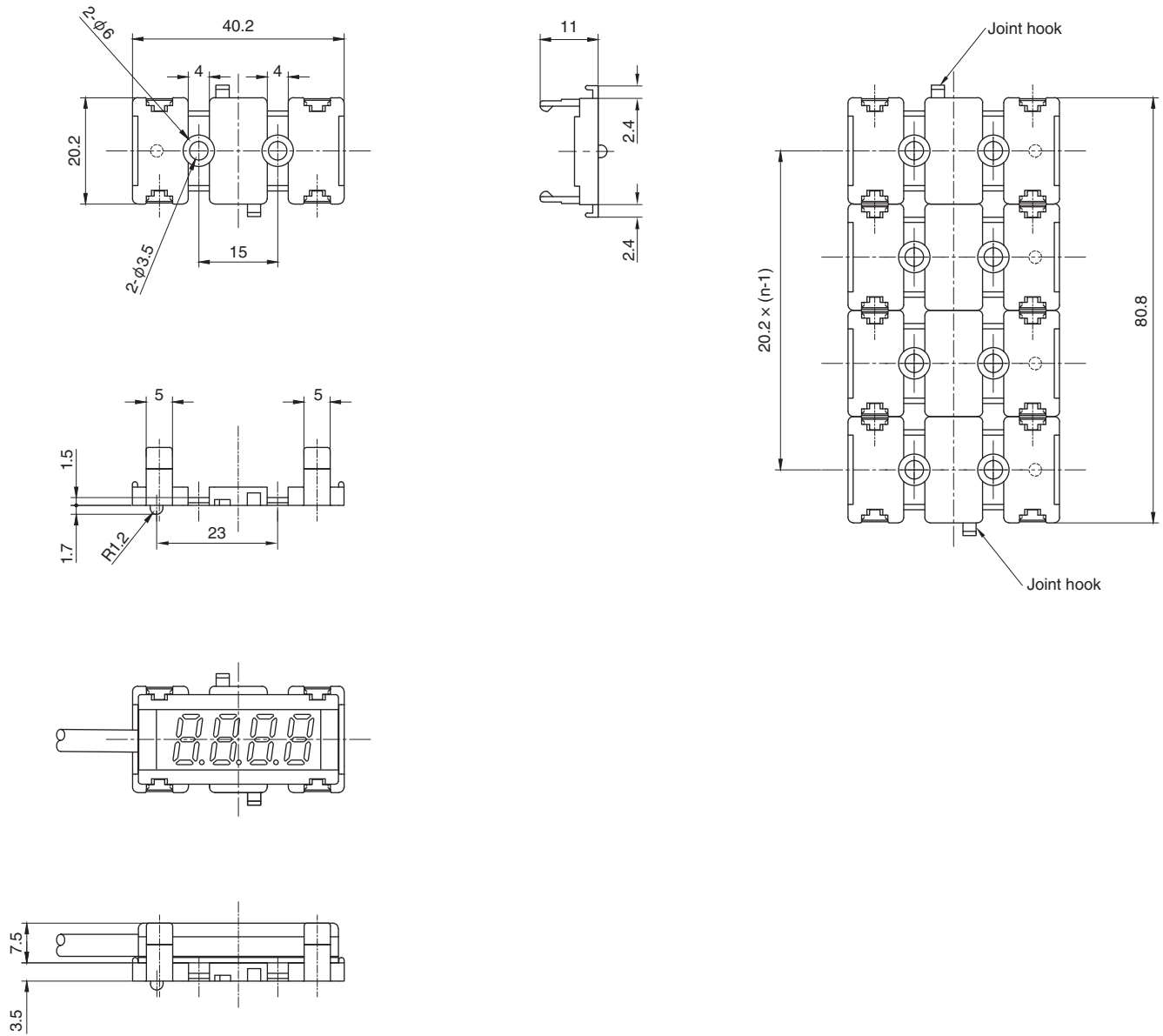
## ■ B287-74DP01-220

1	NC
2	DP
3	NC
4	DN



## ■ B287-74DP01-C20





## [Directive on Waste Electrical and Electronic Equipment (WEEE)]



Note: This symbol mark is for EU countries only.  
This symbol mark is according to the directive 2012/19/ EU Article 14 Information for users and Annex IX.

This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.

## 【中国版RoHS指令】

的产品中有害物质的名称及含量

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 [Cr (VI)]	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
安装基板	×	○	○	○	○	○
框架	○	○	○	○	○	○

本表格依据 SJ/T11364 的规定编制。  
○：表示该有害物质在该部件所有均质材料中的含量均在GB/T26572规定的限量要求以下。  
×：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T26572规定的限量要求。



基于中国标准法的参考规格：GB/T15969.2

## [Address]

**Anywire** Anywire Corporation

Headquarters :1 Babazusho, Nagaokakyo-shi, Kyoto 617-8550 JAPAN

Contact :Contact by mail info\_e@anywire.jp  
:Contact by website http://www.anywire.jp