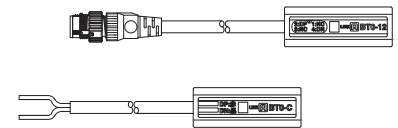## ASLINKTERMINATOR [ASLINK Terminator]

**S**martclick

# BT0-□□

S**martclick** is a registered trademark of OMRON Corporation.

This Products Guide describes individual products. To understand the products, please read the contents of this document.

## [Type]

| BT0-12 | Cable with M12 Smartclick connector |
|--------|-------------------------------------|
| BT0-C  | Loose wire cable |

## [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.
○ 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.

**⚠ 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 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 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 during use under normal operating conditions according to the description of this Products Guide and the product specifications within the above warranty period, we shall replace or repair the fault part of the equipment 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]

| **A** | Ver. 1.0*1 | **A.** | Compatible with Ver. 1.1*2 |

*1 AnyWireASLINK device 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 product guide for ultimate confirmation.
*2 For details of Ver. 1.1, refer to the subsequent pages.

Owing to the product characteristics, the BT0-□□ terminator can be used for the AnyWireASLINK system of both Ver. 1.0 and Ver. 1.1.

## [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 You can use this function with the word-transmission AnyWireASLINK unit connected.
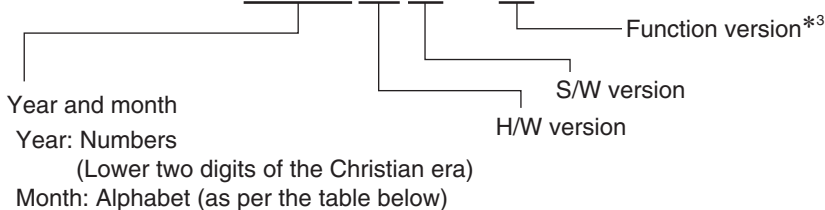   To handle word data, word address settings are required for slave units.
   It depends on slave units whether word address setting is enabled or not.

## [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

- Function version*3
- S/W version
- H/W version

Year and month
Year: Numbers
    (Lower two digits of the Christian era)
Month: Alphabet (as per the table below)

| 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 slave units compatible with the word transmission function.
A slave unit incompatible with the word transmission function cannot be connected to the AnyWireASLINK system to conduct word transmission.
For slave units that handle word data, word address settings are required.

> Owing to the product characteristics, the BT0-□□ terminator can be used for the AnyWireASLINK system of both Ver. 1.0 and Ver. 1.1.

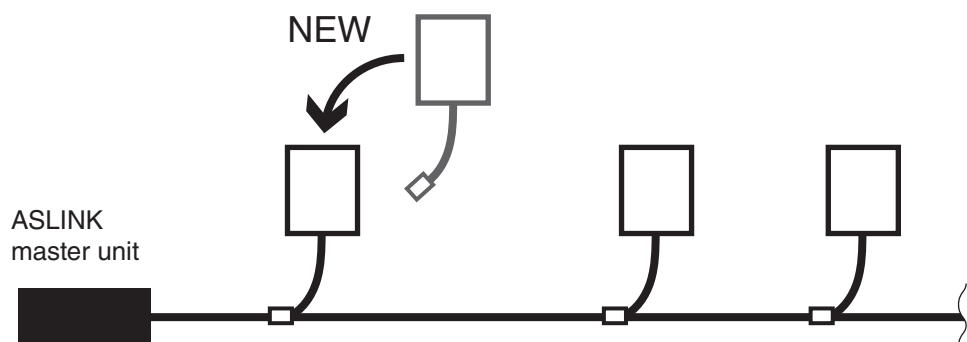# [About Single Unit Simplified Replacement]

During replacement of a slave unit, this function enables automatic settings of address and parameters of the existing slave unit into a new slave unit. (After replacement of the slave 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 slave unit to be replaced.

ASLINK
master unit
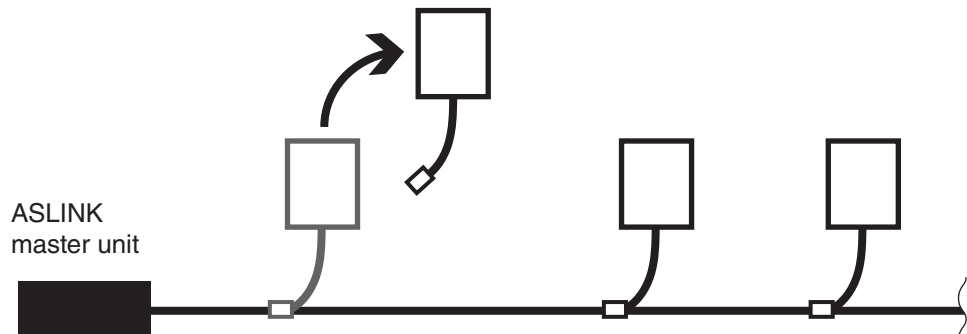
■Step 3   Connect a new slave unit.

NEW

ASLINK
master unit

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

⚠CAUTION
- It is necessary that both the master unit and slave unit should be compatible with the single unit simplified replacement function.
- Before disconnection and connection of the slave unit, be sure to turn OFF the power supply.
- For compatibility of a slave unit with the single unit simplified replacement function, see the lot No. and the manual for the slave unit.
- When a slave 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 slave unit before replacement is the same as that after replacement.
- If the model of the slave 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 slave unit for replacement is the factory-set address (bit address 511).
- Several slave units cannot be simultaneously replaced. For replacement of several slave units, conduct the replacement procedure for each unit one by one.
- For a slave 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.

**Anywire Corporation**
MODEL
DATE 2019-05
Lot   19ECB NB
🔟
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 slave unit of a new function version is replaced with that of an old function version, the single unit simplified replacement function cannot be used.

# [Functions]

| Model | Specification | Condition |
|---|---|---|
| ASLINKTERMINATOR Conforming to IP67 | Transmission waveform shaping | AnyWireASLINK system with 128 or fewer slave units connected[*1] |

*1 When the number of connected slave units is 129 or more, use BLT0.
The maximum number of connectable slave units varies depending on the 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

# [Name of Each Part]

Transmission cable

Black: DN
Red: DP

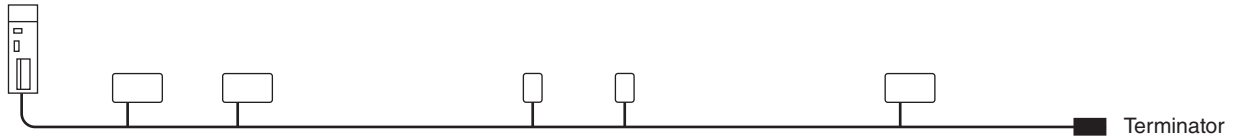LINK LED (Green)

DP:赤
DN:黒    LINK 目 BT0-C
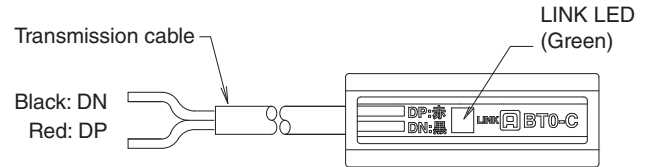
*This figure shows an example of BT0-C.

# [Connections]

The BT0 terminator can be used for the AnyWireASLINK system with 128 or fewer slave units connected.
Be sure to connect one BT0-□□ terminator at the farthest end of the transmission trunk line for one AnyWireASLINK master unit.
To extend a transmission line by branching it, connect one terminator to the end of the branch line with a length of 40m or longer.
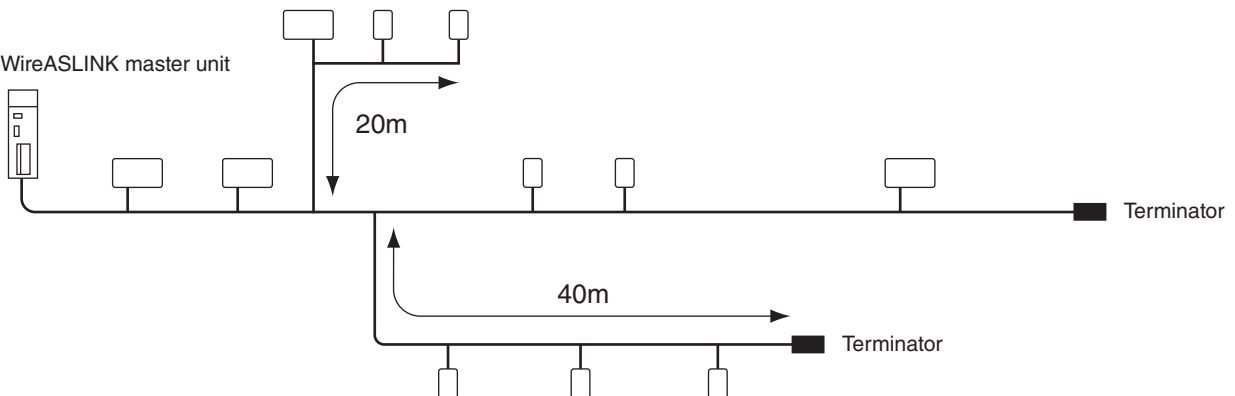Up to three terminators can be connected to the AnyWireASLINK system.

① Basic configuration - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

AnyWireASLINK master unit

Terminator

② Branching - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

AnyWireASLINK master unit

20m

40m

Terminator

Terminator

⚠ CAUTION

● The BT0-□□ terminator can be used for the AnyWireASLINK system with 128 or fewer slave units connected.
● When the number of connected slave units is 129 or more[*2], BLT0 is required, instead of BT0-□□.
● **Since each wire has polarity, ensure correct connection to a transmission line.**
  **Incorrect connection causes a transmission failure, which may result in unexpected operation.**
● When this unit is normally connected and a transmission signal is supplied, the LED (green) is lit.

*2 The maximum number of connectable slave units varies depending on the master unit.

# [Specifications]

## ■General specifications

| | |
|---|---|
| Operating ambient temperature/humidity | 0 – +55°C, 10 – 90%RH  No condensation |
| Storing ambient temperature/humidity | -25 – +75°C, 10 – 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*1 | 0 – 2000m |
| Pollution level*2 | 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*3 | Number of bit points: 512 points max. (Input: 256 bits, Output: 256 bits) Number of word points: 1024 words max. (Input: 512 words, Output: 512 words) |
| Number of connection units*3 | Up to 256 units |
| RAS function | 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.
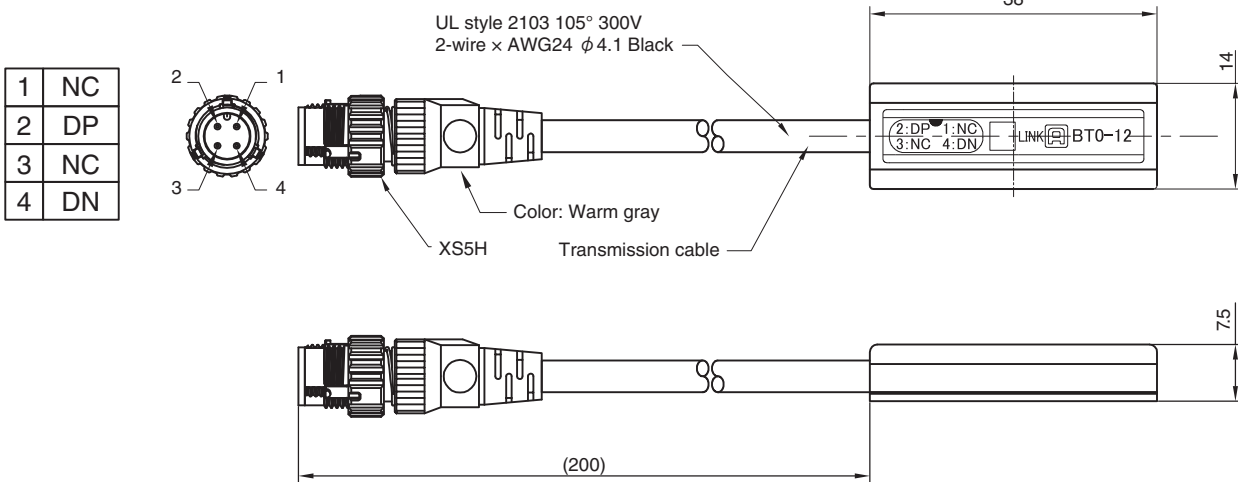
## ■Individual specifications

| | | |
|---|---|---|
| Weight | BT0-12 | : 22g |
| | BT0-C | : 11g |

## ■Common specifications

| | |
|---|---|
| Protective structure | IP67 |
| Current consumption | 2mA |

# [Outside Dimensions]

Unit: mm

## ■BT0-12



| 1 | NC |
|---|---|
| 2 | DP |
| 3 | NC |
| 4 | DN |

## ■BT0-C

■ADP-81(Dedicated mounting adapter) ＊Optionally available

Unit: mm

2-φ6

40.2

4

4

17.2

10.2

2-φ3.5

15

10.4

1

3.5

1

2.4

5

5

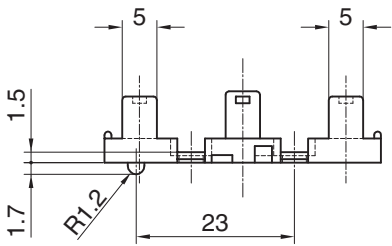1.5
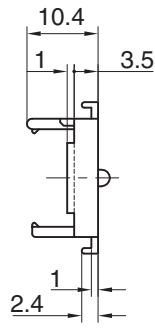
1.7

R1.2

23

Connection hook

17.2×(n-1)

68.8

Connection hook

7.5

3.5
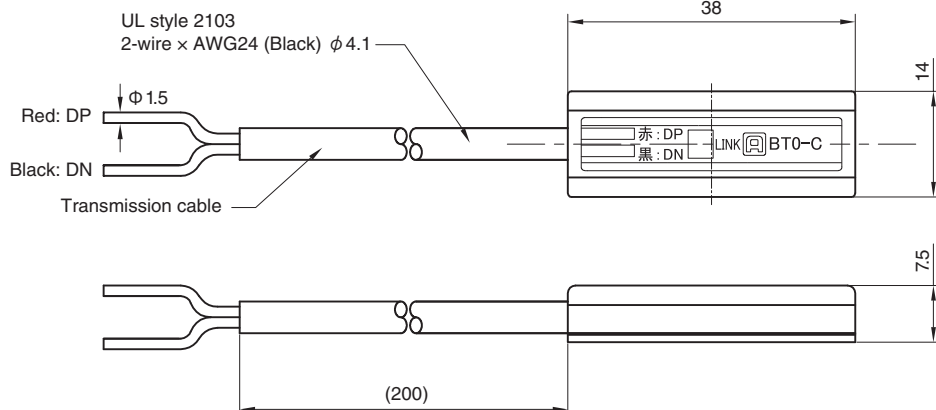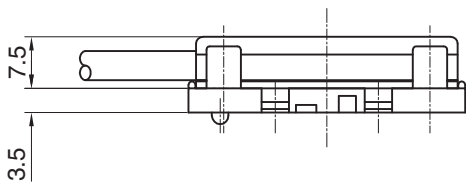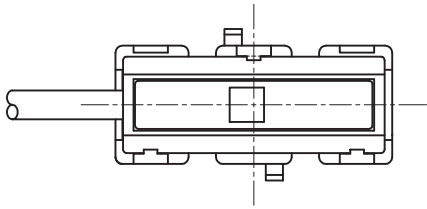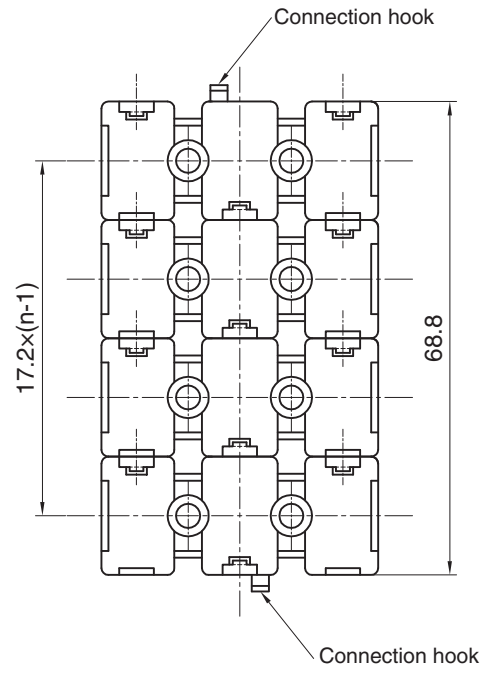
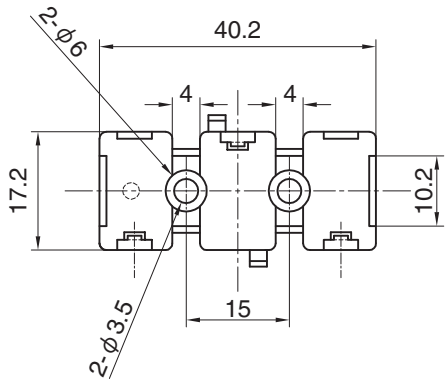## [Directive on Waste Electrical and Electronic Equipment (WEEE)]

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<br>(Pb) | 汞<br>(Hg) | 镉<br>(Cd) | 六价铬<br>[Cr(Ⅵ)] | 多溴联苯<br>(PBB) | 多溴二苯醚<br>(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]

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