AnyWireASLINK System Products Guide

ASLINKSENSOR
BS-K1118-M□□-3012

Smartclick

Smartclick is a registered trademark of OMRON Corporation.

[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 before attempting to mount or replace. ○ 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, keep the transmission lines and I/O cables away from high-voltage and power cables.
	○ Connectors and terminals
	   - Pay careful attention to the cable length and how to fix the cable so as to avoid stress on the connector and connected cable, and prevent removal even if they are stressed.
	   - 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. 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 acordance with the specifications described in this User's Manual, 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.

[Type]

AnyWireASLINK proximity sensor: Amplifier built-in type, shield type with M12 connector

BS-K1118-M12-3012	M12, resin case (polyarylate)
BS-K1118-M18-3012	M18, resin case (polyarylate)
BS-K1118-M30-3012	M30, resin case (polyarylate)

[Function]

Model	ASLINK SENSOR 2-wire type (not-insulated)
Detection method	Inductive type
Function	Sensitivity adjustment value (threshold value)
	Hysteresis
	Alarm judgment value
	Alarm judgment time
	Normally open/normally close
	Delay timer
	Slave unit voltage drop
	Sensing level drop

[Items in Package]

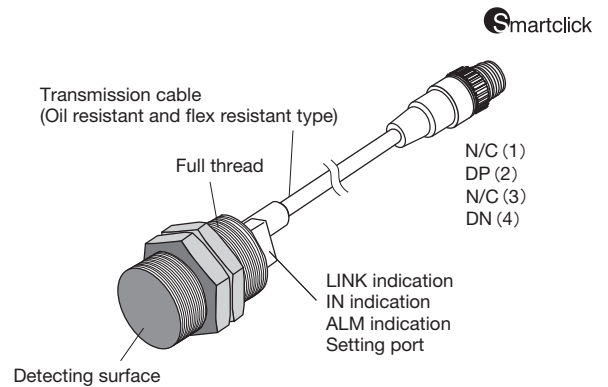| BS-K1118-M12-3012 BS-K1118-M18-3012 BS-K1118-M30-3012	Main body ····1 Nut ·········2

⚠ CAUTION	Make sure to use the attached nut for this equipment. If any other nut is fitted, main body may be damaged.

* Purchase the mounting fixture separately if required.

* "Address writer ARW-04(Ver04-101 or higher) or ARW-03(Ver2.10 or higher)" is required for setting to the main body. Prepare it together.

ARW-04

The version is displayed when POWER is on.

A "Ver. *.***" is described on this label.

Front   Back

[Name of each part]

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Transmission cable (Oil resistant and flex resistant type)

Full thread

N/C (1)
DP (2)
N/C (3)
DN (4)

LINK indication
IN indication
ALM indication
Setting port

Detecting surface
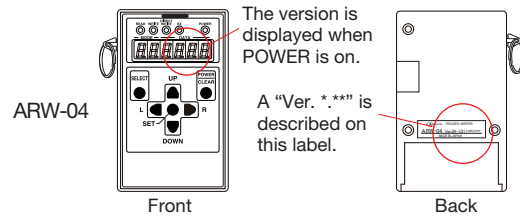
Example of BS-K1118-M18-3012

[How to connect AnyWireASLINK]

The AnyWireASLINK can employ a two-wire or four-wire terminal selectively depending on the load current.

This Products Guide describes a two-wire (non-isolated) terminal.

If the load current is small, using a two-wire (non-isolated) terminal allows for achieving simplified wiring without local power supply.
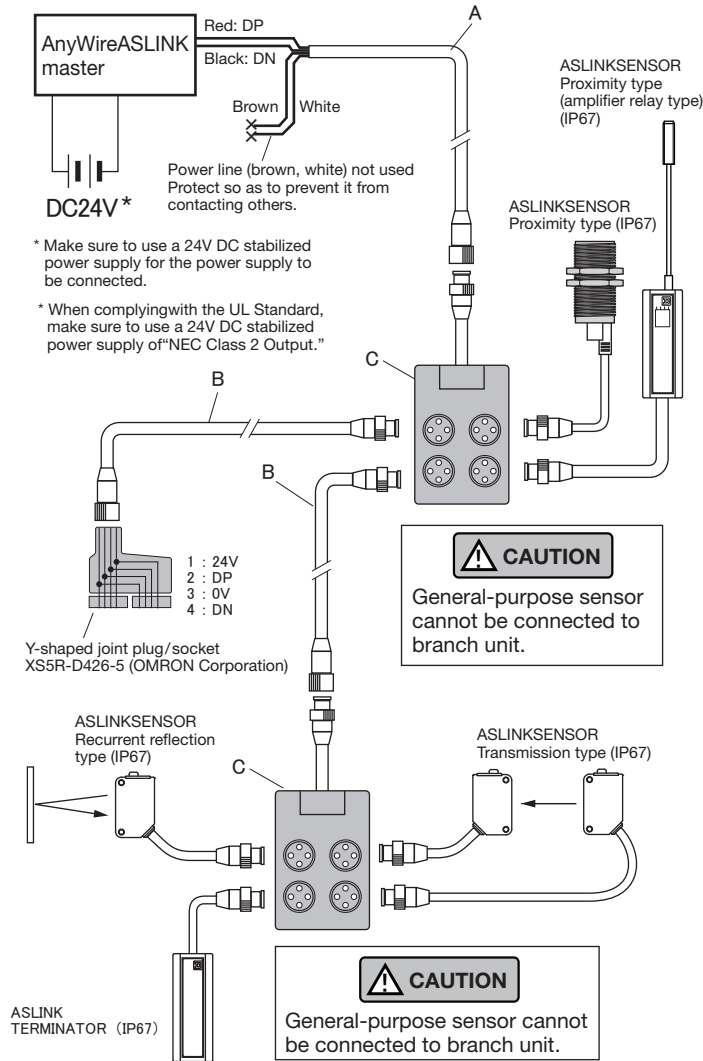
In the case of prioritizing the sites of concentrated loads and/or the number of connections, hybridization with a four-wire (isolated) terminal, which supports local power supply, is also possible.

Make sure to use a four-wire (isolated) terminal in the case of input and load driving using an external power supply.

In the case of hybridization, refer to the Four-Wire (Isolated) Terminal Products Guide separately.

[Connection example]

■ Connection with 2-wire type (not-insulated) terminal only

AnyWireASLINK master
Red: DP
Black: DN
Brown   White

Power line (brown, white) not used Protect so as to prevent it from contacting others.

DC24V *

* Make sure to use a 24V DC stabilized power supply for the power supply to be connected.

* When complyingwith the UL Standard, make sure to use a 24V DC stabilized power supply of"NEC Class 2 Output."

ASLINKSENSOR Proximity type (amplifier relay type) (IP67)

ASLINKSENSOR Proximity type (IP67)

Y-shaped joint plug/socket XS5R-D426-5 (OMRON Corporation)
1 : 24V
2 : DP
3 : 0V
4 : DN

ASLINKSENSOR Recurrent reflection type (IP67)

ASLINKSENSOR Transmission type (IP67)

ASLINK TERMINATOR （IP67）

⚠ CAUTION
General-purpose sensor cannot be connected to branch unit.

⚠ CAUTION
General-purpose sensor cannot be connected to branch unit.

A Waterproof trunk cable (1.25mm²)

Model	Description
BL2-0C1S-3K	One end discrete wire, straight M12 3m

C Waterproof branch unit

Model	Description
BL2109-04-22	4 ports
BL2109-08-22	8 ports

B Waterproof trunk cable (1.25mm²)

Model	Description
BL2-1S1P-3K	Both end straight M12 3.0m
BL2-1S1P-5K	Both end straight M12 5.0m
BL2-1S1P-10K	Both end straight M12 10m

■ 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 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 "BT0 (polar)" to the terminal on the transmission line farthest from the AnyWireASLINK master.

■ Example of mixture of 2-wire type (not-insulated) and 4-wire type (insulated) terminals
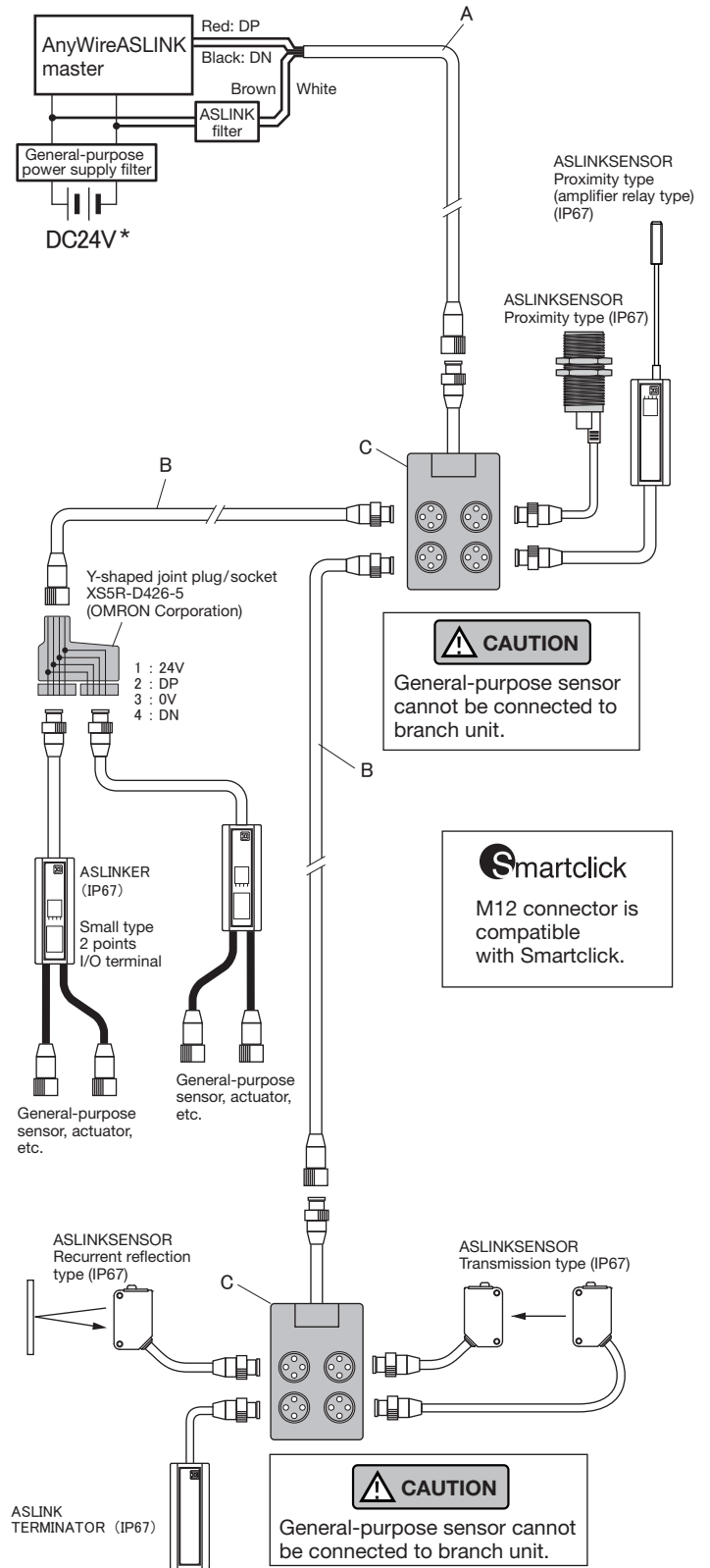
AnyWireASLINK master
Red: DP
Black: DN
Brown   White
ASLINK filter

General-purpose power supply filter

DC24V *

ASLINKSENSOR Proximity type (amplifier relay type) (IP67)

ASLINKSENSOR Proximity type (IP67)

Y-shaped joint plug/socket XS5R-D426-5 (OMRON Corporation)
1 : 24V
2 : DP
3 : 0V
4 : DN

ASLINKER （IP67）
Small type 2 points I/O terminal

General-purpose sensor, actuator, etc.

General-purpose sensor, actuator, etc.

⚠ CAUTION
General-purpose sensor cannot be connected to branch unit.

Smartclick
M12 connector is compatible with Smartclick.

ASLINKSENSOR Recurrent reflection type (IP67)

ASLINKSENSOR Transmission type (IP67)

ASLINK TERMINATOR （IP67）

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BL2-1S1P-10K	Both end straight M12 10m

⚠ CAUTION
In the case of connection to a load (e.g. input/output port) controlled by a different power supply than that used in the AnyWireASLINK, make sure to use a four-wire (isolated) terminal.
Otherwise, a malfunction may occur.

[Notes on Combined Use with 4-wire Type (Insulated) Terminal]

If any of the side-by-side lines of DP, DN, 24V and 0V exceeds the total length of 50m in a power supply system to be supplied, serially connect the "ASLINK filter [Type ANF-01]" or "filter of COSEL Co., Ltd. [Type EAC-06-472]" to 24V and 0V in the starting position of the side-by-side lines.

This will improve noise resistance, reduce the impact of crosstalk by transmission signals and stabilize the signals.

In any case of power supply to the entire system from the master driving power supply or power supply from the local power supply, insert a filter.

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

■ Filter allowable power current

Model	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

(The following is the explanatory connection diagram. Actual terminal arrangement should meet each device.)
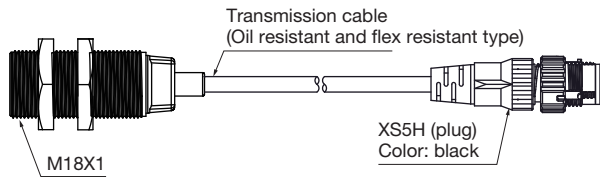
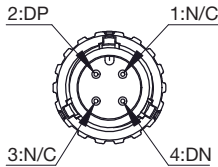① Power supply to the entire system -
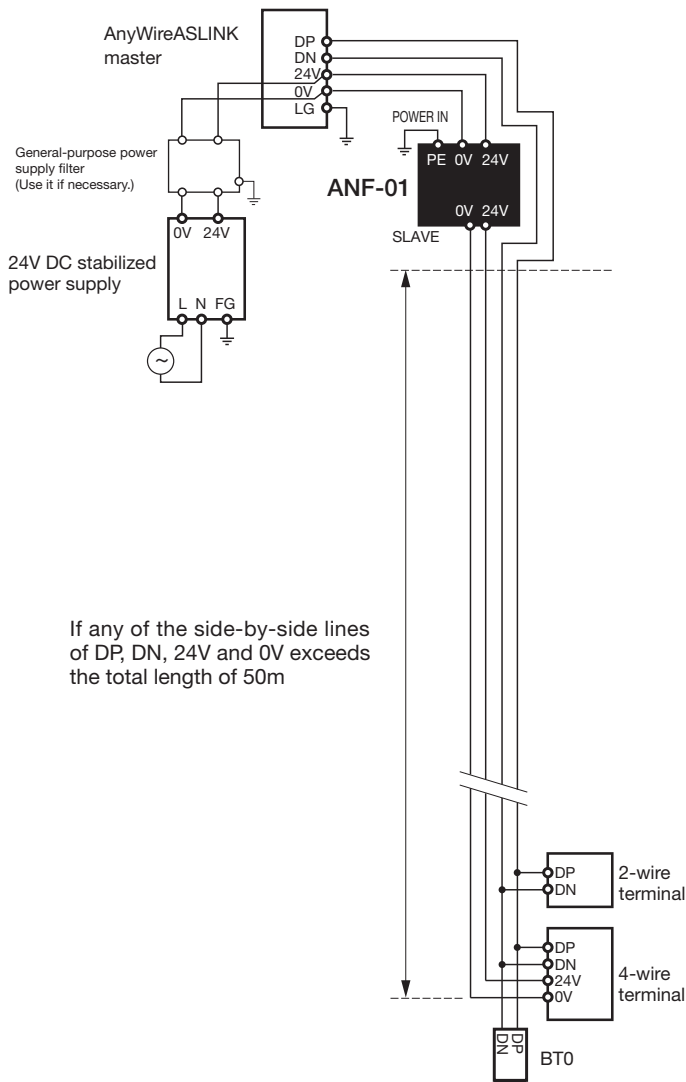
② Local power supply/branching -
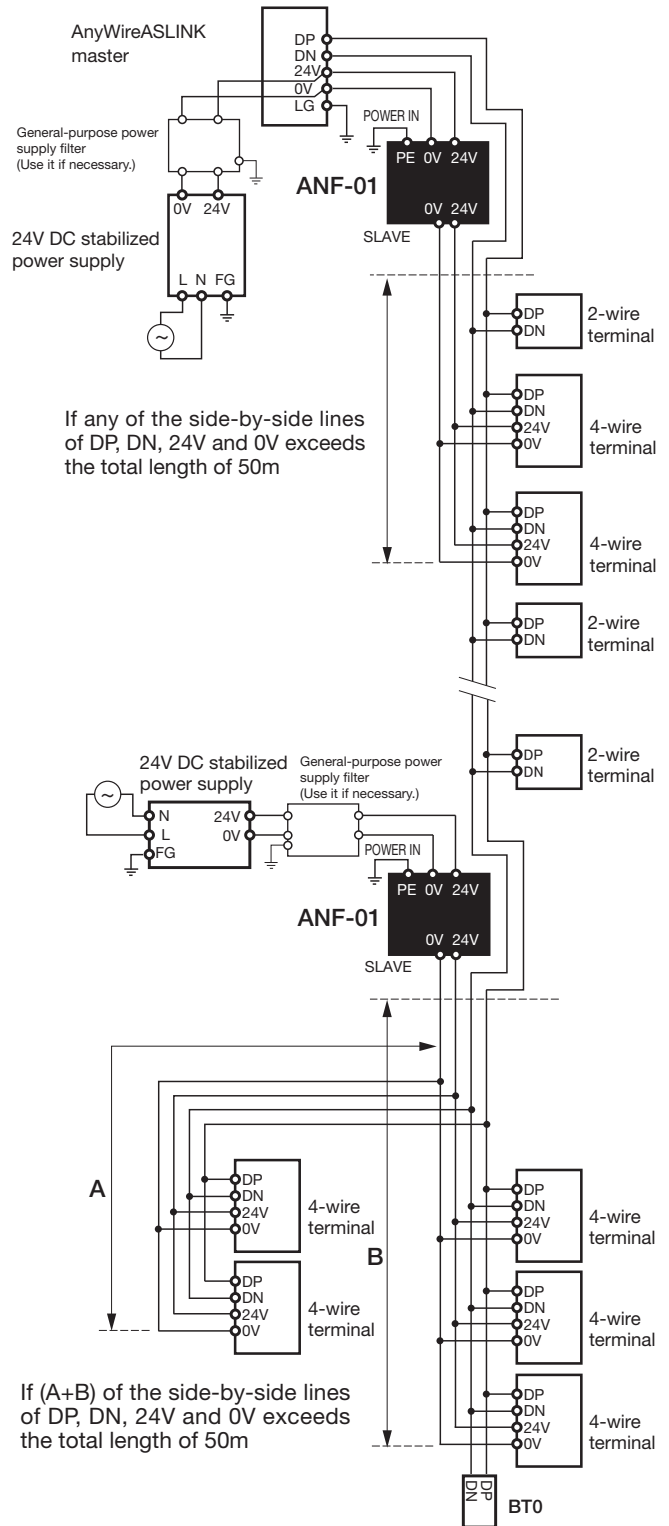
■COSEL Co., Ltd. Type: EAC-06-472 Connection example

(The following is the explanatory connection diagram. Actual terminal arrangement should meet each device.)

①Power supply to the entire system

AnyWireASLINK master

DP
DN
24V
0V
LG

General-purpose power supply filter
(Use it if necessary.)

24V DC stabilized power supply

0V 24V

L N FG

When using this filter, please be careful of the positions of LOAD and LINE.

LOAD

PE 0V 24V

EAC-06-472

0V 24V

LINE

If any of the side-by-side lines of DP, DN, 24V and 0V exceeds the total length of 50m

DP
DN
2-wire terminal

DP
DN
24V
0V
4-wire terminal

DP
DN
BT0

②Local power supply/branching

AnyWireASLINK master

DP
DN
24V
0V
LG

General-purpose power supply filter
(Use it if necessary.)

24V DC stabilized power supply

0V 24V

L N FG

When using this filter, please be careful of the positions of LOAD and LINE.

LOAD

PE 0V 24V

EAC-06-472

0V 24V

LINE

If any of the side-by-side lines of DP, DN, 24V and 0V exceeds the total length of 50m

DP
DN
2-wire terminal

DP
DN
24V
0V
4-wire terminal

DP
DN
24V
0V
4-wire terminal

DP
DN
2-wire terminal

DP
DN
2-wire terminal

24V DC stabilized power supply

General-purpose power supply filter
(Use it if necessary.)

N 24V
L 0V
FG

LOAD

PE 0V 24V

EAC-06-472*

0V 24V

LINE

A

DP
DN
24V
0V
4-wire terminal

DP
DN
24V
0V
4-wire terminal

B

DP
DN
24V
0V
4-wire terminal

DP
DN
24V
0V
4-wire terminal

DP
DN
24V
0V
4-wire terminal

DP
DN
BT0

If (A+B) of the side-by-side lines of DP, DN, 24V and 0V exceeds the total length of 50m

[About connection]

Cnnect with the AnyWireASLINK transmission line (DP, DN).

M18X1

Transmission cable
(Oil resistant and flex resistant type)

XS5H (plug)
Color: black

Example of BS-K1118-M18-3012

2:DP   1:N/C

3:N/C   4:DN

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[Installation example]

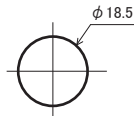When setting is expected to be changed again, install so that the setting port
can be observed.

<BS-K1118-M12-3012>
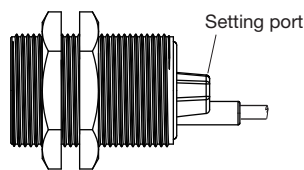
· Installation
  hole diameter

φ 12.5

Setting port
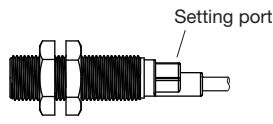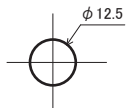
Tightening torque: 0.78 N·m

<BS-K1118-M18-3012>

· Installation
  hole diameter

φ 18.5

Setting port
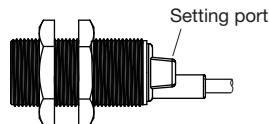
Tightening torque: 2.0 N·m

<BS-K1118-M30-3012>

· Installation
  hole diameter

φ 30.5

Setting port

Tightening torque: 2.0 N·m

⚠ CAUTION
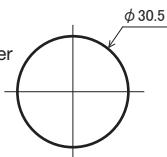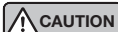
When fixing the main body, leave room for a margin so as not to stress
the cable and connecting connector.
Do not tighten screws excessively. Failure may result.

[Installation location]

- Location where the unit is not subject to vibration or shock
- Location where humidity is not condensed
- Location where the atmosphere is free of corrosive gas, flammable gas and sulfur
- Location where the unit is removed from high-voltage or high-current cables
- Location where the unit is removed from cables and controllers that generate servo,
  inverter or other high-frequency noise.
- Location not exposed to direct sunlight

[Precaution for use]

- This unit is used by connecting with the AnyWireASLINK transmission line.
  This unit does not operate even if this is directly connected to the I/O card of
  sequencer, etc.
- Use this unit within a proper voltage range.
- Also include the transmission line attached to the main body in the total length.

[Various settings]
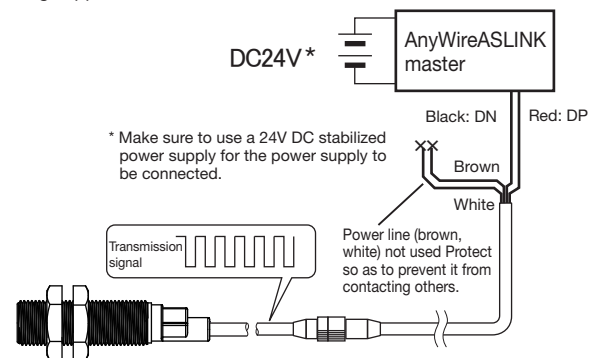
■ Items

| Address number setting | Teaching | Parameter setting |

■ Common procedure for address writer operation

To use the address writer, make sure to connect it to the
AnyWireASLINK master unit.
Address writer ARW-04(Ver04-101 or higher) or ARW-03
(Ver2.10 or higher) is required for operation.
For detailed operation procedures, refer to the product
guide of the address writer.

1. Connect the AnyWireASLINK slave to the AnyWireASLINK master unit.
   Make settings with the address writer, while transmission signals (DP, DN)
   are being supplied.

DC24V *

AnyWireASLINK
master

Black: DN   Red: DP

Brown

White

* Make sure to use a 24V DC stabilized
  power supply for the power supply to
  be connected.

Power line (brown,
white) not used Protect
so as to prevent it from
contacting others.

Transmission
signal

2. Setting is required for all AnyWireASLINK devices.

   Direct the address writer to the setting port (Fig.1) of the main body.
   Bring the light emitting/receiving part as close to the setting port as possible.

Setting port

Fig.1

Setting port
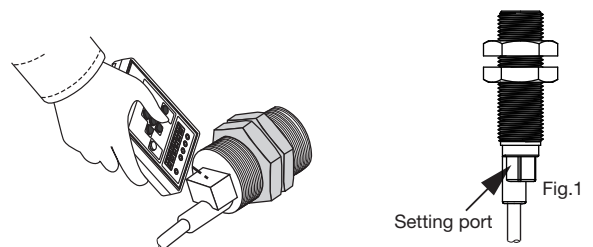
* When setting is changed in [WRITE] mode, the setting is reflected
  after the system is started up again.
  When setting is changed in [DIRECT WRITE] mode, the setting is
  reflected at a time when writing is completed.

* If this equipment is arranged in parallel, use the remote head (ARW-RH)
  together to prevent writing into an unintended terminal.

Address number setting

An address number indicates an allocation starting number in the transmission frame written in the terminal.
Set an address number between "0~254."

> ⚠️ **CAUTION** The factory setting of the terminal is "255," which means no setting.
> When the address number is set at 255, the terminal does not perform an input/output operation. Make sure to set an address number between "0~254" prior to use.
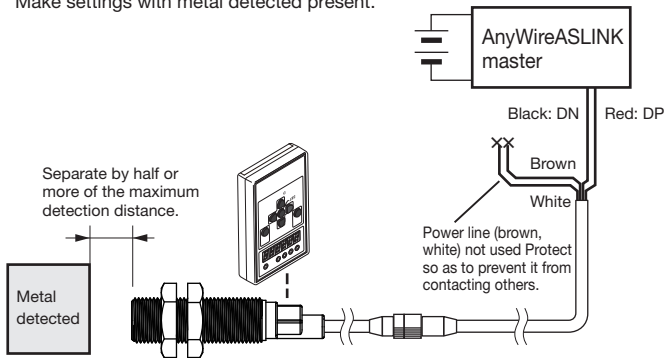
Teaching

Memorize a state with work/without work in ASLINKSENSOR.

> Make settings with work which is actually used.
> When setting, separate by 50% or more of the maximum detection distance.

[SET ON setting]
Make settings with metal detected present.

AnyWireASLINK master

Black: DN Red: DP
Brown
White
Power line (brown, white) not used Protect so as to prevent it from contacting others.

Separate by half or more of the maximum detection distance.

Metal detected

[SET OFF setting]
Make settings with metal detected present.

AnyWireASLINK master

Black: DN Red: DP
Brown
White
Power line (brown, white) not used Protect so as to prevent it from contacting others.
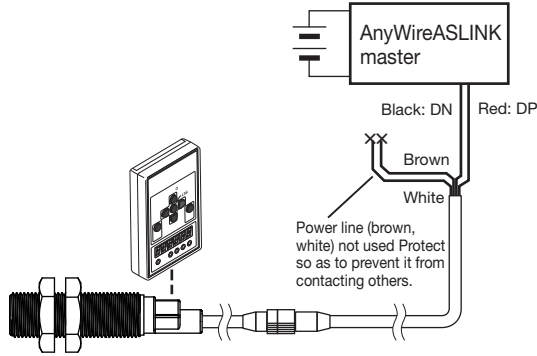
Parameter setting

■ Setting of threshold value

Set threshold value of sensing level to judge detected/not detected.
*Difference in detecting state memorized in teaching is determined to be 100%.

・Address writer (ARW-04, ARW-03): Parameter 01

Variable	Unit
0 - 100	%

Default: BS-K1118-M12-3012 : 6
BS-K1118-M18-3012 : 10
BS-K1118-M30-3012 : 12

■ Setting of hysteresis

Set sensing change amount necessary to turn detecting state ON to OFF from turning detecting state OFF to ON.

・Address writer (ARW-04, ARW-03): Parameter 02

Variable	Unit
0 - 100	%

Default: 5

■ Setting of alarm value Hi

Set upper limit value of alarm judgment value.

・Address writer (ARW-04, ARW-03): Parameter 03

Variable	Unit
0 - 100	%

Default: 80

* Set alarm value such that Hi>Lo.

■ Setting of alarm value Lo

Set lower limit value of alarm judgment value.

・Address writer (ARW-04, ARW-03): Parameter 04

Variable	Unit
0 - 100	%

Default: BS-K1118-M12-3012 : 7
BS-K1118-M18-3012 : 11
BS-K1118-M30-3012 : 13

* Set alarm value such that Hi>Lo.

■ Setting of alarm value monitoring time

Set monitoring time of alarm judgment value.

・Address writer (ARW-04, ARW-03): Parameter 05

Variable	Unit
3 - 255	%

Default: 50

■ Setting of normally open/normally close

Set normally open/normally close.

・Address writer (ARW-04, ARW-03): Parameter 06

Variable	Description	
0	Normally open	ON with work
1	Normally close	OFF without work

Default: 0

■ Setting of operation mode change

Set presence/absence of alarm diagnosis function.

・Address writer (ARW-04, ARW-03): Parameter 07

Variable	Description	
0	Simple mode	Alarm diagnosis function is disabled.
1	Normal mode	Alarm diagnosis function is enabled.

Default: 0

■ Setting of delay timer ON/OFF

Set ON delay timer/OFF delay timer.

・Address writer (ARW-04, ARW-03): Parameter 10

Variable	Description	
0	No delay timer	Delay timer is disabled.
1	ON delay timer	ON delay timer is enabled.
2	OFF delay timer	OFF delay timer is enabled.
3	ON/OFF delay timer	ON/OFF delay timer is enabled.

Default: 0

■ Setting of delay timer value

If delay timer is set with parameter 10, delay time can be set.

・Address writer (ARW-04, ARW-03): Parameter 11

Variable	Unit
0 - 255	10ms

Default: 0

> ⚠️ **CAUTION** Parameters [08, 09, 12 to 19] are items related to internal setting. Do not set them.

[Monitor Display]

Operating state of the main body is displayed by LED.

> Normal state: LINK flashing, ALM unlit, IN ON lit/OFF unlit

Name	Indication status		Description
LINK (Green)	Lit	▬▬▬	Transmission signal error
	Flashing	▪▪▪▪▪▪	Transmission signal is normally supplied.
	Unlit	☐	No transmission signal
ALM (Red)	Lit	▬▬▬	Sensing level drop*
	Flashing	▪ ▪ ▪ ▪	Slave unit voltage drop
	Unlit	☐	Normal
LINK ALM	Alternate flashing LINK ▪ ▪ ▪ ▪ ALM ▪ ▪ ▪ ▪		When master unit detects duplication of ID (address) of this unit or non-setting
IN (Orange)	Lit	▬▬▬	ON
	Unlit	☐	OFF

* Only when alarm diagnosis function is enabled.

LINK (Green)
IN (Orange)
ALM (Red)
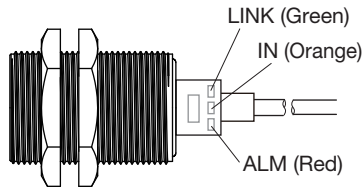
[Troubleshooting]

When the LED on the main body displays as follows, take measures as shown below.

LINK	IN	ALM	Cause	Measures
○ Unlit	○ Unlit	○ Unlit	· ASLINKSENSOR is not connected to the AnyWireASLINK system. · Power supply for the AnyWireASLINK system itself is not turned on.	· Confirm that there is no disconnection between the ASLINKSENSOR and the AnyWireASLINK system, and recover the connection. · Confirm the power status of the AnyWireASLINK system, and turn on the power.
● Lit	○ Unlit	○ Unlit	· Directly connected to 24-0V power supply.	· Reconnect anew to AnyWireASLINK system
◎ Flashing (0.5s alternate)	○ Unlit	◎ Flashing (0.5s alternate)	· ASLINKSENSOR remains at address 255 (factory setting).	· Set address other than 255.
			· ASLINKSENSOR has a duplicate address number with another unit.	· Look for any other unit which has the same error indication, and set any address number different from it.
—	—	◎ Flashing (0.2s lit, 1.0s unlit)	· Transmission signal level lowering is being sensed.	· Decrease the number of units connected to the same AnyWireASLINK system. · Shorten the transmission line between the ASLINKSENSOR and the master unit.
◎ Flashing	—	● Lit	· Sensing level lowers.	· Confirm state of ASLINKSENSOR, and adjust the position and clean the detecting surface.

When the following errors are indicated by the address writer, take measures as shown below.

Indication	Cause	Measures
【E-0303】	The set parameter is invalid.	Confirm the parameter and set a correct parameter.

Take the following measures in the following cases.

Symptom	Measures
Cannot detect.	- Is the metal detected in the proper position? → Make adjustment so that the metal detected is within the proper range from the ASLINKSENSOR detecting surface. - Is the wiring correct? → Confirm that the ASLINKSENSOR transmission wire is connected correctly to the AnyWireASLINK transmission line (DP, DN). - Is a power supply of proper capacity supplied to the AnyWireASLINK master unit and slave unit? - Was teaching performed? → Set teaching with work actually detected. - Is this used within the rated detecting range? → Use within the rated range.
Cannot set with address writer.	- Is the wiring correct? → Re-confirm connection of ASLINKSENSOR transmission wire. - Is power supplied to the AnyWireASLINK system? → Confirm the power supply. - Is the set parameter correct? → Confirm the parameter and set a correct parameter.

[Parameter and item]

Parameter	Variable	Description	Variable at factory setting
[01] Threshold value	0-100%	Set threshold value of sensing level to judge detected/not detected.	M12 : 6 M18 : 10 M30 : 12
[02] Hysteresis	0-100%	Set sensing change amount necessary to turn detecting state ON to OFF.	5
[03] Alarm value Hi	0-100%	Set upper limit value of alarm judgment value.	80
[04] Alarm value Lo	0-100%	Set lower limit value of alarm judgment value.	M12 : 7 M18 : 11 M30 : 13
[05] Alarm value Monitoring time	3-255	Set monitoring time of alarm judgment value. (1=100ms)	50
[06] Normally open/ Normally close	0	Normally open	0
	1	Normally close	
[07] Operation mode	0	Simple mode	0
	1	Normal mode	
[10] Delay timer ON/OFF	0	Delay timer is disabled.	0
	1	ON delay timer	
	2	OFF delay timer	
	3	ON/OFF delay timer	
[11] Delay timer value	0-255	Set delay time. (1=10ms)	0

[Specifications]

■ General Specifications

Operating ambient temperature/humidity	-10〜60℃, 10〜90%RH (No condensation)
Storage ambient temperature/humidity	-25〜70℃, 10〜90%RH (No condensation)
Operating atmosphere	No corrosive gas
Altitude for use *1	0〜2000m
Degree of contamination *2	2 or less

*1 AnyWireASLINK apparatus must not be stored or used under an environment pressurized higher than that of the atmospheric pressure at an altitude 0m. A malfunction will occur.
*2 This is an indicator to show the degree of occurrence of a conductive substance in an environment where the device is used.
At the degree of contamination 2, only non-conductive contamination occurs.
However, temporary conductivity may occur due to environment setting.

■ Transmission specification

Operating power supply voltage	Voltage DC24[V]+15〜10%(21.6〜27.6[V] DC) with a ripple 0.5[V]p-p max.
Transmission method	Full-duplex total frame/cyclic method
Synchronization method	Frame/bit synchronization method
Transmission procedure	Dedicated protocol
Connection mode	Bus type (Multi-drop method, T-branch method, Star, Tree branch method)
Number of connection points	Up to 512 points (IN 256 points + OUT 256 points)
Number of connection units	Up to 128 units
RAS function	Transmission wire disconnection sensing,
	transmission wire short-circuit sensing,
	transmission power decrease sensing,
	ID duplication, ID non-setting sensing

■ Individual specification

Number of occupying points	Input 1 point	
Consumption current	Received and supplied from the AnyWireASLINK transmission signal (DP,DN)	
	M12：6.9mA	M18：7.0mA
	M30：7.0mA	
Detection method	Electromagnetic induction detection	
With/without shield	Shield type	
Detection target	Magnetic metal	
Standard detected object	M12: Iron 12×12×1mm	M18: Iron 18×18×1mm
	M30: Iron 30×30×1mm	M08: Iron 30×30×1mm
Detection distance (at ambient temperature 23℃)	M12：2.0mm（max.）	M18：5.0mm（max.）
	M30：10.0mm（max.）	
Stable detection distance (within operating ambient temperature range)	M12：0〜1.6mm	M18：0〜4.5mm
	M30：0〜9.0mm	
Differential	Depending on parameter setting	
Response time *3	Maximum 10ms	
Influence of temperature (within operating ambient temperature range)	Use detection distance at 23℃ as a standard.	
	M12: within ±20%	M18: within ±10%
	M30: within ±10%	
Influence of voltage	Within ±1% of detection distance in a range of the AnyWireASLINK master supply power voltage 27.6 to 21.6V	
Protective structure *4	IP68	
Mass (main body, cable)	M12: Approx. 23g	M18：Approx. 30g
	M30：Approx. 62g	
Mass (nut)	M12：Approx. 1g	M18：Approx. 2g
	M30：Approx. 3g	

*3 The time from detection of ON or OFF to sending of a transmission signal.
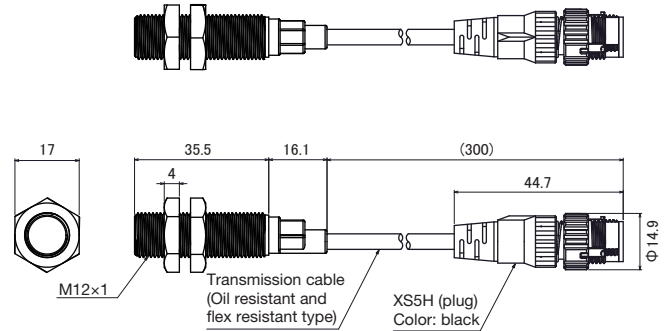This time + 2 transmission cycle times is the transmission delay time.
*4 ①Immerse in water under 2 atm for 24 hours, and no water shall enter.
②Repeat a heat shock cycle of immersion in cold water at 0℃ for one hour immersion in hot water at 70℃ for one hour 20 times, and confirm that detection distance and insulation resistance meet the performance level.
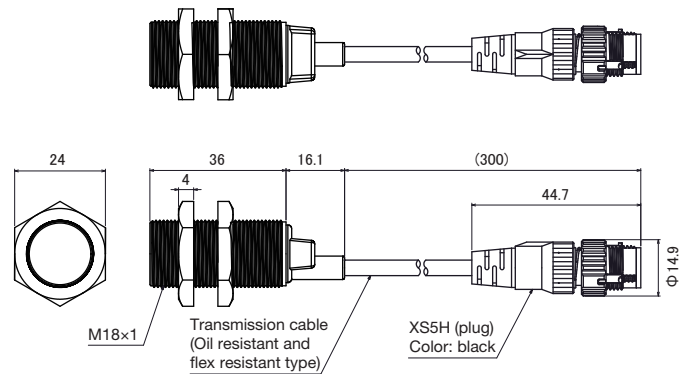
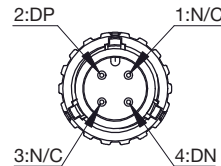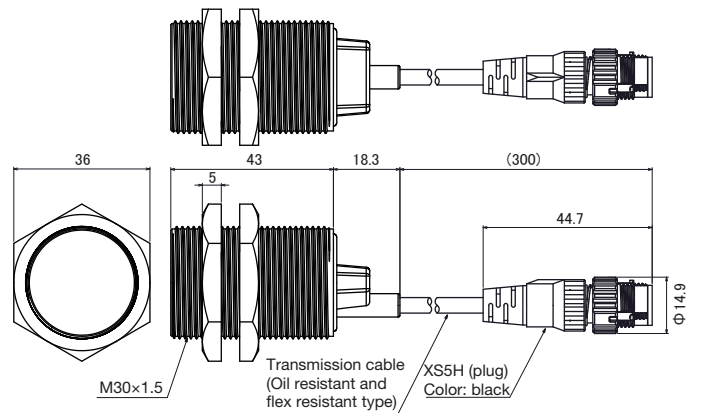# [Outside Dimensions]

Unit: mm

BS-K1118-M12-3012

17 | 35.5 | 16.1 | (300)
44.7
Φ14.9
M12×1
Transmission cable (Oil resistant and flex resistant type)
XS5H (plug) Color: black

BS-K1118-M18-3012

24 | 36 | 16.1 | (300)
44.7
Φ14.9
M18×1
Transmission cable (Oil resistant and flex resistant type)
XS5H (plug) Color: black

BS-K1118-M30-3012

36 | 43 | 18.3 | (300)
44.7
Φ14.9
M30×1.5
Transmission cable (Oil resistant and flex resistant type)
XS5H (plug) Color: black

2:DP — 1:N/C
3:N/C — 4:DN

Smartclick

Pin layout in connector is common to all.

[Address]

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