The AnyWire System Products Guide describes individual products. Refer to the Guide as necessary.

[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.

- **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.**

- **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 AnyWire Bitty Series has a high noise margin, keep 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.*
  *Short-circuits caused by metal objects or mis-wiring are likely to damage the device.*
- **Do not disconnect or reconnect between the transmission line and slave units**: A malfunction may be caused.
- **Do not use for power supply of AnyWire Bitty series and for switching parallel signal for SBC (Single Board Controller) and controller, etc.**: Commonalization of mutual power supply systems may result in system failure.

- **Use the AnyWire Bitty series within the range of the specifications and conditions shown below.**

[Features]

- This product is compatible with the AnyWire Bitty series.
- This product has a replaceable lever switch (input) and an indication to direct ejection (output) function.
- This product can be laid out with a φ28 pipe.
- Transmission and power supply can be connected with a 4-wire connection.
- This product has a flat cable equipped with a link connector for transmission line connection.
- The distance for transmission is 100 m, and up to 128 units can be connected.
- (Power supply to the entire system)
- The lever can be replaced.

[Type]

<table>
<thead>
<tr>
<th>Bit Operation</th>
<th>One point input</th>
<th>Eject check input</th>
</tr>
</thead>
<tbody>
<tr>
<td>A027XB-02G2-P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One point output</td>
<td>Eject indicator lamp (Green)</td>
<td></td>
</tr>
<tr>
<td>A027XB-02R2-P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One point output</td>
<td>Eject indicator lamp (Red)</td>
<td></td>
</tr>
</tbody>
</table>

[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 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.
**Connection Example**

Install an AnyWire dedicated power supply to supply to the entire system. 24V DC stabilized power supply set voltage 25-4V. Select capacity 1.3 times of required consumption current.

Transmission line consists of four wires including power supply by our flat cable (FK4-075-100). Under this condition, number of units of A027XB-02□□□-□□□ is up to 128 units per one system.

**Transmission distance within the maximum length of 100m**
- The total length refers to the total of the used cables.

When connecting 128 units, refer to the following configuration as an example of using power efficiency most efficiently.

When making the connection, make sure that the cable is not under tension. In addition, do not fix the unit while the cable is under tension.

- Transmission line (Bitty line)
  - Connect transmission lines DP and DN correctly.
- Installation of transmission lines
  - Keep route transmission lines away from high-voltage and power cables. Assign one transmission cable to one system of AB023-D1. If multiple systems are used, assign a cable to each system.
  - AnyWire transmission line error
    - When the transmission line is not working properly, output is reset.
- Power supply to the AnyWire System
  - Install an AnyWire system-dedicated power supply to provide 24V DC power.

**Wiring of POKA-YOKE Terminal**

- Use the cable with a connector protruding from the back of the unit.
- Connect the cable, being careful not to reverse the connection or cause a short circuit.
- When swaging by the link connector, we recommend using a dedicated tool that can realize stable work quality.

For details of link connector pressure welding work, refer to “How to pressure-weld link connector to flat cable” in our separate manual. (Contact our Sales Department.)

- Transmitter (AT0) is a composite element to stabilize the transmission wave form. Connect it at a position at the furthest end from the master in the transmission line. Note that it has own polarities. Improper connection may cause a malfunction or a failure.

- When connecting 128 units, refer to the following configuration as an example of using power efficiency most efficiently.

- The LED lights up in a normal state. Improper connection may cause a malfunction or a failure.
[Monitor Setting]

- This terminal has a monitor function.
- LINK indicator indicates the state of the system as shown in the table on the right.
- In cases other than normal indications, immediately turn off the power and eliminate the associated cause then turn on again after checking safety.

[Address Setting]

- Address numbers are used to correspond to the I/O memory map of the controller.
- Bit operation terminal
The numbers set with the address setting switch of the terminal correspond to the addresses of the "eject indicator lamp (output)" and the "eject check switch (input)," respectively.
- This terminal performs word-by-word data verification and update.
- You can set addresses on a point-by-point basis.
- The DIP switch value is set as the same address for the input and output.
- It is registered as the “Input unit” in registration by address automatic recognition operation on the AnyWire Master side.

[Specifications]

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated power supply voltage</td>
<td>24V DC (Power supply from AnyWire Master unit.)</td>
</tr>
<tr>
<td>Allowable power supply range</td>
<td>21.6V DC - 27.6V (24V DC +15% - -10%)</td>
</tr>
<tr>
<td>Ambient temperature use</td>
<td>0 - +55°C</td>
</tr>
<tr>
<td>Ambient humidity use</td>
<td>35 - 85%RH No condensation</td>
</tr>
<tr>
<td>Temperature/humidity storage</td>
<td>-20 - +70°C/35 - 95%RH</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>No corrosive gas</td>
</tr>
<tr>
<td>Noise resistance</td>
<td>1200Vp-p (Pulse width 1 μs)</td>
</tr>
<tr>
<td>Transmission method</td>
<td>DC power supply superimposed frame/cyclic method</td>
</tr>
<tr>
<td>Synchronization method</td>
<td>Frame/bit synchronization method</td>
</tr>
<tr>
<td>Transmission procedure</td>
<td>Dedicated protocol (AnyWire Bus)</td>
</tr>
<tr>
<td>Transmission clock</td>
<td>27.8kHz (when using AB023-□□□□)</td>
</tr>
<tr>
<td>Transmission cycle time</td>
<td>5.5ms (when setting input 128 points, output 128 points)</td>
</tr>
<tr>
<td>Connection mode</td>
<td>Bus type (Multi-drop method, T-branch method, Tree branch method)</td>
</tr>
<tr>
<td>Address setting range</td>
<td>0 - 255</td>
</tr>
<tr>
<td>Number of connection points</td>
<td>Up to 128 units (Connect to A027XB-□□□□ only)</td>
</tr>
<tr>
<td>Transmission distance</td>
<td>Up to 100 m (0.75mm² when using our flat cable)</td>
</tr>
<tr>
<td>Number of simultaneously output on points</td>
<td>128 points (When using an indication output test only)</td>
</tr>
<tr>
<td>Number of occupied data items</td>
<td>Input 1 bit/output 1 bit</td>
</tr>
</tbody>
</table>

[Power Consumption/Mass]

<table>
<thead>
<tr>
<th>Type</th>
<th>Power Consumption</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>A027XB-02□□2-P</td>
<td>During standby : 10mA</td>
<td>While the indication is ON : 20mA</td>
</tr>
</tbody>
</table>

Make sure to supply power to 24V DC line for A027XB-02□□2-P from the power supply which is supplied to the AnyWire Master.

[Installation Location]

* Location where the unit will not be subject to vibration or shock.
* Do not install the POKA-YOKE Terminal (A027XB-02□□2-P) lengthwise.
* Where the body is not exposed to waste metal or sputter.
* Location where the atmosphere is free of corrosive gas, flammable gas, and sulfur.
* Location where there are no high-voltage or high-current cables.
* Location where there are no cables and controllers that generate servo, inverter, or other high-frequency noise.

This unit does not have any special protective structure.
[How to Mount Fittings on the Pipe]

Hook the boss of fitting B onto the hinge part of the body.

Fitting B

Hook fitting B onto the pipe, and then pull the body to make the connection. When the body piece snaps into the flute of fitting B, a temporary fixing has been made.

Fitting B flute

Body

Body piece

Slide the body to adjust the position.

Once the position has been determined, fasten fitting B to the pipe with the provided bolts.

M6 bolt fastening torque: 1.5 - 2 N-m

[How to Replace the Lever]

■ Removal of Rubber Lever

(1) Push the black part of the retention ring for the rubber lever in the direction of B and release the stopper fitting to loosen the ring.

Front View

Retention ring for rubber lever

Rubber lever

View A

(2) Remove the rubber lever from the rubber lever fixture in order (1) → (2).

Rubber lever fixture

Rubber lever

① Retention ring for rubber lever

② Rubber lever

■ Mounting the Rubber Lever

(1) Ensure that a rubber lever fixture has been pushed completely into the boot section and place the retention ring over the rubber lever. Use a new retention ring for the rubber lever.

Front View

Rubber lever fixture

Rubber lever

① New rubber lever

② New retention ring for rubber lever

Rubber Lever Set for Replacement Type: A027-LSE-01-5P (5 sets)

(2) Mount the retention ring for the rubber lever to the (D) position (Rubber lever boot section) in the front view.

Fasten the outer circumference of the rubber lever boot section after pushing the black mark part in the direction of C with pliers, etc., and matching the stopper piece until D and E contact each other (Refer to F). After fastening, pull the lever and ensure that the lever is securely fixed.

Front View

Mounting position of the retention ring for the rubber lever (D)

Rubber lever fixture

Rubber lever

Retention ring for rubber lever

Outer circumference of rubber lever boot section

Example of fitting while fastening

View B
Commercially available round pipe φ28.0

Attached hex socket bolt (M6×15) M6 bolt fastening torque: 1.5 ~ 2 N·m

Fasten with hex socket bolt

HKV 4 wires×AWG18

Link connector
Sumitomo 3M Limited
38104-P018-P00FL

A027XB-02G2-P

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