AnyWire DB A20 Series

AT2

Product Guide
(Product Manual)

Integration of bit control and information transmission

Sho-Haisen System

AnyWire DB A20 Series
INTRODUCTION

Thank you very much for purchasing our AnyWire product.
The AnyWire DB A20 series product is an epoch-making sensor bus that adopts a “double duplex communication chip” developed by Anywire Corporation. The unit is used in the Sho-Haisen system which features “high-speed bit control” and “long distance bit control.” Fully understand the functions and performance and use the product for the construction of the Sho-Haisen system.

● Requests
  • Use this product within the scope of the general specifications.
  • Make sure to turn off the system power before installation or replacement work.
  • In any of the following cases, pay attention to use with appropriate allowance for ratings and functions and implement safety measures such as fail-safe design and consult our staff in charge of sales.
    ① Use in the conditions or environment not described in this manual
    ② Use in nuclear power control, railroad facilities, air navigation facilities, vehicles, combustion equipment, medical equipment, entertainment machines, safety equipment, etc.
    ③ Use for applications predicted to have a great impact on human life or property, especially those which require safety
  • This manual describes information required for use of the AnyWire DB A20 series. Please read this manual carefully and fully understand it before use.

● Cautions
  • Do not turn on the 24V power before completing wiring and connection of the entire AnyWire DB A20 series.
  • Use a regulated 24V DC power supply for AnyWire DB A20 series equipment.
  • Although the AnyWire DB A20 series has high noise resistance, keep the transmission line and I/O cables away from high-voltage and power cables.
  • Make sure to prevent any waste metal from entering inside of the connectors, especially during wiring.
  • Miswiring may damage the equipment. Pay attention to the cable length and layout in order to prevent connectors and cables from being removed.
  • When connecting a strand cable to a terminal block, do not solder it. A contact failure may be caused due to loose connection.
  • The maximum length of the transmission line is 3km for the AnyWire DB A20 series. Of the transmission line, the power line may undergo a significant voltage drop due to power consumption by a remote terminal unit. In that case, connect a local 24V power supply to that section in order to ensure voltage.
■ Terminator (AT2)
Compliant with the AnyWire DB A20 series.
It is a dedicated composite element which stabilizes the transmission waveform of the AnyWire DB A20 series.

■ Connection of terminator (AT2)
In this document, a line extended from the master unit (wired to the very end) is the "main line" and a line wired by branching from the main line is a "branch."
For the connection of the terminator (AT2), one unit should always be connected to the very end of the main line (30m or more) for one master unit. When the main line is less than 30m, there will be basically no problem if the terminator is not connected. However, it is recommended to connect it to ensure more stable transmission quality.

- When extending a branch by branching
  *1: When the branch length is 200m or more
  Connect one terminator to the branch end.

  ![Fundamental form](image1)

  *2: When the branch transmission line is less than 200m
  The branch terminator can be omitted, but it is recommended to connect one terminator to the longest branch within the system.

  ![One branch, branch of less than 200m](image2)
*3 When branch transmission lines (less than 200m and 200m or more) are included
   It is recommended to connect one terminator to a branch with a length of 200m or more.

- To keep the entire system load balance
  - Up to two branches with a length of 200m or more are acceptable.
  - Recommended to have up to three terminators in one system.
   When four or more terminators are connected in the system, consult us.

■ Outer dimensions

Unit: mm

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HKV ribbon cable
0.75 mm² x 2 cables (2-core)
Black: Connect to transmission line G
Red: Connect to transmission line D

Dimensions of mounting hole drilling by mounting holder (ADP-A03)
Warranty

Warranty period
The warranty period of the delivered product shall continue to be effective for one (1) year after delivery to a location designated by the customer.

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

1. Improper handling or use of the product by the user;
2. A fault caused by other than the delivered product;
3. Unauthorized modification or repair of the product by any person other than the Company’s personnel; and
4. Any unusual occurrence of nature, disaster and other causes 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 of the product.

Repair at cost
The Company will conduct any cause investigation and repair at cost after the expiration of the warranty period. Even within the warranty period, any repair and cause investigation due to any reasons outside the scope of the warranty above will be accepted at cost.