# AS-i Control - AS-i Master

Automatisierungstechnik

## AS-i Master with serial Interface

**1 or 2 AS-i Masters**

**With**
**Mini-PLC "AS-i Control"**

**RS 232C, RS 485 or**
**RS 422 interface**

**Advanced AS-i diagnostics**

**IP20**

**IP65**

### Function

The AS-i Masters with serial interface and with Mini-PLC serve to control an AS-i circuit as a stand-alone device or can be connected to a host via the serial interface. All AS-i functions can be called via the serial interface. The AS-i data can be transmitted by using the B+W protocol with a high transfer rate. With a rate of 57600 Baud short cycle times for the data exchange via the serial interface can be realized. There are AS-i Masters without mini-PLC on offer as well.

**AS-i Specification 2.1**

The AS-i Masters already fulfil the AS-i Specification 2.1. This means:

- Up to 62 AS-i slaves can be connected to each AS-i network.
- The transfer of analog signals via AS-i is integrated in the Masters.
- All further functions of the new specification as e. g. the diagnosis of the AS-i peripheral fault are implemented.

The AS-i Masters according to AS-i Specification 2.0 are still available.

**Advanced Diagnostics**

Diagnostics, which go far beyond the standard diagnostics facilitate the simple detection of the occassionally occuring configuration errors and further irritations towards the AS-i communication. So in case of an error the down time of machines can be minimized or you can initiate preventive maintenance.

**Two sorts of housing**

The devices can be delivered in a housing for cabinet mounting or in a field housing in IP65.

The gateways for cabinet mounting can be chosen to link one or two AS-i networks to the host.

The handling of AS-i Control in IP65 is identically with AS-i Control in IP20 with RS 485 interface. The high protection category IP65 makes the device suitable for applications in the extreme industrial environments frequently encountered in the field. AS-i is connected using the penetration technique of EMS (Electromechanical Interface). RS 485 is connected with heavy gauge terminals and cage clamp terminal blocks.

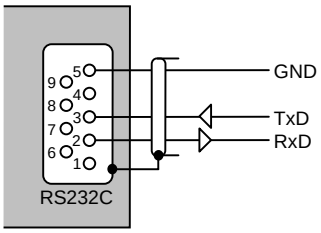
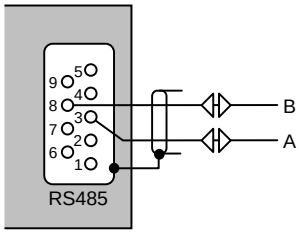
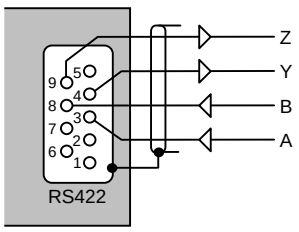
**Commissioning**

The AS-i Masters with serial interface can be commissioned respectively programmed with the help of the software "AS-i Control Tools".

Commissioning, debugging and setting up of the AS-i parameters can be accomplished without software just with the use of two push-buttons, the display and the LEDs directly at the device.

**Accessories**

- "AS-i Control Tools“ (art. no. BW1203)
- RS 232/RS 485 converter (art. no. BW1094)
- D-Sub-data cable (art. no. BW1058, art. no. 1097)

| RS 232C | RS 485 | RS 422 |
|---|---|---|
|  |  |  |

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## AS-i Master with serial Interface

**With**
**Mini-PLC "AS-i Control"**

**B+W protocol**
**for communication**
**with the host**

**Advanced AS-i diagnostics**

| **For Specification 2.1** | | | | | | |
|---|---|---|---|---|---|---|
| **Article no. (with Mini-PLC)** | **BW1247** | **BW1263** | **BW1265** | **BW1248** | **BW1264** | **BW1266** |
| **Article no. (without Mini-PLC)** | **BW1198** | **BW1267** | **BW1269** | **BW1199** | **BW1268** | **BW1270** |
| Serial interface | RS 232C | RS 485 | RS 422 | RS 232C | RS 485 | RS 422 |
| Operating current | Master power supply A<br>Approx. 200 mA out of the AS-i circuit | | | Master power supply N<br>Approx. 70 mA out of the AS-i circuit<br>Approx. 150 mA out of power supply | | |
| Operating voltage | AS-i voltage 30 V DC | | | 24 V DC (18-31,6 V DC) | | |
| Baud rates | 1200, 2400, 4800, 9600, 19200, 38400 or 57600 Baud,<br>automatic recognition | | | | | |
| AS-i cycle time | 150 µs*(Number of slaves + 1) | | | | | |
| Displays | | | | | | |
| LCD | Displaying slave addresses and error messages | | | | | |
| LED green (power) | Power on | | | | | |
| LED green (ser active) | Communication via serial interface | | | | | |
| LED red (config error) | Configuration error | | | | | |
| LED green (U AS-i) | AS-i voltage OK | | | | | |
| LED green (AS-i active) | AS-i normal operation active | | | | | |
| LED green (prg enable) | Automatic address programming enabled | | | | | |
| LED yellow (prj mode) | The Master is in configuration mode | | | | | |
| Push-buttons | 2 (mode/set) | | | | | |
| Voltage of insulation | ≥ 500 V | | | | | |
| EMC directions | EN 50082, EN 50081 | | | | | |
| Operating temperature | 0°C … +55°C | | | | | |
| Storage temperature | -25°C … +85°C | | | | | |
| Housing | Housing for DIN-rail mounting | | | | | |
| Dimensions (L, W, H) | 75 mm, 100 mm, 110 mm | | | | | |
| Protection category (DIN 40 050) | Housing IP40<br>Terminals IP20 | | | | | |
| Tolerable loading referring to impacts and vibrations | Screw-mounting: b ≤ 30 g, T ≤ 11 ms<br>Spring lock-mounting: b ≤ 15 g, T ≤ 11 ms<br>Screw-mounting: f ≤ 55 Hz, a ≤ 1 mm<br>Spring lock-mounting: f ≤ 55 Hz, a ≤ 0,5 mm | | | | | |
| Weight | 420 g | | | | | |

# AS-i Control - AS-i Master

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**AS-i Master with serial Interface**

**2 AS-i Masters**

**With Mini-PLC "AS-i Control"**

**B+W protocol for communication with the host**

**Advanced AS-i diagnostics**

**Masterpower supply N: only 1 Master + 1 AS-i power supply for 2 AS-i networks**

| **Article no. (with Mini-PLC)** | **BW1147** | **BW1148** | **BW1149** | **BW1150** | **BW1151** | **BW1152** |
|---|---|---|---|---|---|---|
| **Article no. (without Mini-PLC)** | **BW1135** | **BW1136** | **BW1137** | **BW1138** | **BW1139** | **BW1140** |
| Serial interface | RS 232C | RS 485 | RS 422 | RS 232C | RS 485 | RS 422 |
| Operating current | Master power supply A<br>with plug connectors:<br>Approx. 200 mA out of the AS-i circuit 1<br>Approx. 70 mA out of the AS-i circuit 2<br>without plug connectors:<br>Approx. 150 mA out of power supply<br>Approx. 70 mA out of each AS-i circuit | | | Master power supply N<br>Approx. 150 mA out of power supply<br>Approx. 70 mA out of the AS-i circuit 1<br>Approx. 70 mA out of the AS-i circuit 2 | | |
| Operating voltage | AS-i voltage 30 V DC | | | 24 V DC (18-31,6 V DC) | | |
| Baud rates | 1200, 2400, 4800, 9600, 19200, 38400 or 57600 Baud, automatic recognition | | | | | |
| AS-i cycle time | 150 µs*(Number of slaves + 1) | | | | | |
| Displays | | | | | | |
| LCD | Displaying slave addresses and error messages | | | | | |
| LED green (AS-i 1/AS-i 2) | Display of AS-i network 1 / AS-i network 2 | | | | | |
| LED green (ser active) | Communication via the serial interface | | | | | |
| LED red (config error) | Configuration error | | | | | |
| LED green (power) | Power on | | | | | |
| LED green (U AS-i) | AS-i voltage OK | | | | | |
| LED green (prg enable) | Automatic address programming enabled | | | | | |
| LED yellow (prj mode) | The Master is in configuration mode | | | | | |
| Push-buttons | 2 (mode/set) | | | | | |
| Voltage of insulation | ≥ 500 V | | | | | |
| EMC directions | EN 50082, EN 50081 | | | | | |
| Operating temperature | 0°C … +55°C | | | | | |
| Storage temperature | -25°C … +85°C | | | | | |
| Housing | Housing for DIN-rail mounting | | | | | |
| Maße (L, B, H) | 75 mm, 100 mm, 110 mm | | | | | |
| Protection category (DIN 40 050) | Housing IP40<br>Terminals IP20 | | | | | |
| Tolerable loading referring to impacts and vibrations | Screw-mounting: b ≤ 30 g, T ≤ 11 ms<br>Spring lock-mounting: b ≤ 15 g, T ≤ 11 ms<br>Screw-mounting: f ≤ 55 Hz, a ≤ 1 mm<br>Spring lock-mounting: f ≤ 55 Hz, a ≤ 0,5 mm | | | | | |
| Weight | 420 g | | | | | |
| AS-i Specification | 2.0 | | | | | |

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## AS-i Master in Protection Class IP65

**With**
**Mini-PLC "AS-i Control"**

**B+W protocol for**
**communication with the host**

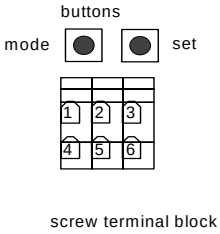
**Advanced AS-i diagnostics**

**Powered by AS-i**

| **For Specification 2.1** | **Article no. BW1276** |
|---|---|
| **For Specification 2.0** | **Article no. BW1105** |
| Connections | AS-i: electromechanical interface (penetration technique) |
| Serial interface | RS 485, with heavy gauge terminals and cage clamp terminals |
| Operating current | Master power supply A, approx. 200 mA out of the AS-i circuit |
| Operating voltage | AS-i voltage 30 V DC |
| Baud rates | 1200, 2400, 4800, 9600, 19200, 38400 or 57600 Baud, automatic recognition |
| AS-i cycle time | 150 µs*(Number of slaves + 1) |
| Displays | |
| LCD | AS-i slave addresses and error messages |
| LED green (power) | Power on |
| LED green (Bus active) | Communication via serial interface / control program active |
| LED red (config error) | Configuration error |
| LED green (U AS-i) | AS-i voltage OK |
| LED green (AS-i active) | AS-i normal operation active |
| LED green (prg enable) | Automatic slave programming enabled |
| LED yellow (prj mode) | The Master is in configuration mode |
| Push-buttons | 2 (mode/set) |
| Voltage of insulation | ≥ 500 V |
| EMC directions | EN 50082, EN 50081 |
| Operating temperature | 0°C … +55°C |
| Storage temperature | -25°C … +85°C |
| Housing | Housing for DIN-rail mounting |
| Dimensions (L, W, H) | 90 mm, 80 mm, 70 mm |
| Protection category (DIN 40 050) | Housing IP65 |

Connection of serial interface (RS 485) on cage clamp terminals and arrangement on circuit board

| | |
|---|---|
| 1 | PE |
| 2 | Shield |
| 3 | BUS A |
| 4 | BUS B |
| 5 | Gnd |
| 6 | PE |
| 7 | Shield |
| 8 | BUS A |
| 9 | BUS B |
| 10 | +5V |




screw terminal block