

ASi Analog Module, 2 inputs Pt100 + 4 digital inputs/outputs in IP67 (M12)

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2 ASi nodes in one housing

- 1 ASi node with 2 analog inputs PT100
- 1 ASi node with
 - 4 binary inputs
 - 4 binary outputs

Protection category IP67



Article no. BW2313: ASi Analog Module, 2 inputs Pt100 + 4 digital inputs/outputs in IP67 (M12)

The analog module has 2 analog inputs for Pt100 sensors.

The conversion of the measured value and the data transmission via ASi occurs according to ASi Profile 7.A.9. The digital module has 4 binary inputs and 4 binary outputs. Inputs and outputs are completely galvanic isolated. The ground of the binary outputs is connected to 0V ext.

The sensor-interfaces can be supplied by external voltage (according to PELV) via the black ribbon cable, 1A max. The resolution of the analog data is 14 or 12 bit. The connection of the sensors and actuators is done via M12 connectors.

Addressing is done through the addressing socket. Both devices use extended addressing (AB address).

Article no.	BW2313
Connection	flat cable and M12
ASi Profile	analog ASi node: S-7.A.9, ID1=7 (default) digital ASi node: S-7.A.7, ID1=7 (fixed)
ASi voltage	30 V (22 V ... 31,6 V)
Max. ASi current consumption	80 mA
AUX voltage	24 V (18 V ... 30 V)
Max. AUX current consumption	3 A
Number of analog inputs	2
Power supply of analog inputs	AUX voltage
Analog input level	Pt100, 15 ... 400 Ohm
Analog measuring range	-200°C ... +850°C in 0.1° resolution (-2000 ... +8500) or -120°C ... +130°C in 0.01° resolution (-12000 ... +13000)
Analog conversion speed	240 ms for both sides
Number of digital inputs	4
Power supply of digital inputs	AUX voltage
Digital input level	U < 5 V: low U > 15 V: high
Number of digital outputs	4
Power supply of digital outputs	AUX voltage
Max. digital output current	1 A, Σ 3 A max.
Power supply of attached sensors	1 A max.
Indicator	
LED yellow (AI1)	state of Pt100 sensor AI1
LED yellow (AI2)	state of Pt100 sensor AI2
LED yellow (DI1)	state of digital input DI1
LED yellow (DI2)	state of digital input DI2
LED yellow (DI3)	state of digital input DI3
LED yellow (DI4)	state of digital input DI4
LED yellow (DO1-2)	state of digital output DO1 and DO2
LED yellow (DO3-4)	state of digital output DO3 and DO4
LED green (ASi)	no ASi node has address 0 or peripheral fault
LED red (FLT)	state of ASi nodes
LED green (AUX)	AUX voltage on
Applied standards	EN 61 131-2, EN 61 000-6-2, EN 61 000-6-3
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	no ⁽¹⁾
Operating temperature	0°C ... +70°C
Storage temperature	-20°C ... +85°C
Protection class	IP67
Dimensions (L / W / H in mm)	151 / 60 / 31
Weight	200 g

Analog ASi node:

Analog input values:

CH0 Temperature AI1
CH1 Temperature AI2

Programming: (Bit-settings of ASi parameters)

Bit P0:

1: peripheral fault is indicated
0: peripheral fault is not indicated

Bit P1:

1: 2-wire mode
0: 4-wire mode

Bit P2:

1: -200 °C ... +850 °C / 0,1 °C
0: -120 °C ... +130 °C / 0,01 °C

Bit P3:

not used

Digital ASi node:

Digital input values:

DI0 Input DI1
DI1 Input DI2
DI2 Input DI3
DI3 Input DI4

Digital output values:

DO0 Output DO1
DO1 Output DO2
DO2 Output DO3
DO3 Output DO4

Programming:

(Bit-settings of ASi parameters)

Bit P0:

1: watchdog enabled
0: watchdog disabled

Bit P1:

1: 128µs input filter
0: no input filter

Bit P2:

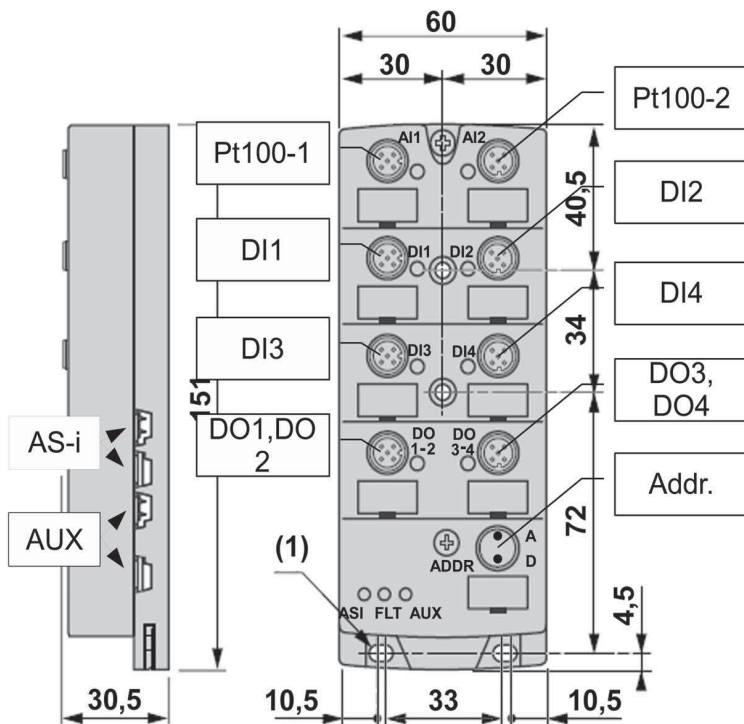
1: synchronous I/O mode disabled
0: synchronous I/O mode enabled

Bit P3:



















not used

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- (1) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.



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LEDs	State	Signal / Description
AI1 (yellow)		Pt100 sensor connected and in range
		no Pt100 sensor connected or sensor out of range
AI2 (yellow)		Channel deactivated or module offline
		Pt100 sensor connected and in range
		no Pt100 sensor connected or sensor out of range
DI1, DI2, DI3, DI4 (yellow)		Input off
		Input on
DO1-2 (yellow)		DO1 and DO2 off
		DO1 or DO2 on
DO3-4 (yellow)		DO3 and DO4 off
		DO3 or DO4 on
ASi (green)		no ASi node has address 0 or peripheral fault
		at least one ASi node has address 0 or peripheral fault
FLT (red)		both ASi nodes are online and no ASi node has peripheral fault
		at least one ASi node is offline
		at least one ASi node has peripheral fault
AUX (green)		no AUX voltage present
		AUX voltage present

 LED on  LED flashing  LED off

Accessories:

- ASi Substructure Module in IP67 (art. no. BWU2351)
- Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4708)