

ASi-5 Module with integrated IO-Link Master with 4 Ports, IP20

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New standard ASi-5

Quadruple IO-Link master


Suitable for port class A and class B

Power supply of IO-Link ports out of AUX



(Figure similar)



Figure	Type	Number of IO-Link Ports	IO-Link Port Class A ⁽¹⁾	IO-Link Port Class B ⁽²⁾	Sensor supply (IO-Link supply and input/output voltage) ⁽³⁾	Actuator supply (for ports class B) ⁽⁴⁾	ASi connection ⁽⁵⁾	ASi address ⁽⁶⁾	Art. no.
	IP20, 22,5 mm x 114 mm, 6 x COM-BICON, ASi-5	4	configurable connectors	configurable connectors	out of AUX	out of AUX	Push-in terminals	ASi-5 address	BWU3843

(1) IO-Link Port Class A

Configurable connectors: Terminal assignment (C/Q, L+, L-, I) compatible with pin assignment of IO-Link port class A (M12). Connected IO-Link devices with port class B (M12) with a higher current consumption have to be supplied directly via a separate power supply. Compatible with 3 pol IO-Link devices (M8).

(2) IO-Link Port Class B

Configurable connectors: Terminal assignment (C/Q, L+, L-, I) compatible with pin assignment of IO-Link port class A (M12). Connected IO-Link devices with port class B (M12) with a higher current consumption have to be supplied directly via a separate power supply. Compatible with 3 pol IO-Link devices (M8).

(3) Sensor supply (IO-Link supply and input/output supply)

IO-Link and additional inputs/outputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, inputs can neither be connected to earth nor to external potential.

(4) Actuator supply (for ports class B)

Connection via M12: For ports class B the supply of actuators is provided by an additional (galvanically isolated) power supply by AUX (auxiliary 24 V power).

Connection via clamps: If connected IO-Link nodes with port class B need a higher current consumption, additionally they can be supplied directly via the power supply.

(5) ASi connection

The connection to ASi as well to AUX (auxiliary 24 V power) is made via yellow or black ASi profile cable with piercing technology or via M12 socket (in IP20 via clamps).

(6) ASi address

AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), single addresses (max. 31 single addresses/ASi network), 1 ASi-5 address (max. 62 ASi-5 addresses/ASi network), mixed use allowed.

For modules with 2 nodes, the 2nd node is switched off as long as the 1st node is addressed "0".

Upon request, nodes are available with specific ASi address profiles.

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Article no.	BWU3843	
Connection		
ASi / AUX connection	push-in terminals	
Periphery connection	push-in terminals	
Primary application	control cabinet	
Length of connector cable	I/O: max. 20 m	
ASi		
Address	1 ASi-5 address	
Operating voltage	30 V (18 ... 31.6 V)	
Required master profile	M5	
Since ASi specification	5	
ASi process data width	16 byte ⁽¹⁾	
Max. current consumption	35 mA	
Max. current consumption without sensor/actuator supply	35 mA	
AUX		
Voltage	24 V (18 ... 30 V)	
Max. current consumption	2 A	
IO-Link		
Number	4 ports class A 4 x C/Q (IO-Link communication or configurable as digital input or digital output) + 4 x digital inputs	
IO-Link data rate	COM1 / COM2 / COM3	
IO-Link data width	up to 32 byte process data + 1 byte PQI per IO-Link port	
IO-Link revision	1.1	
Switching threshold	U < 5 V (low) U > 15 V (high)	
Power supply	out of AUX	
Power supply of attached sensors (L+)	up to +40 °C	500 mA per port, $\Sigma(L+, C/Q)$ 2 A ⁽²⁾
	at +55 °C	400 mA per port, $\Sigma(L+, C/Q)$ 1,6 A ⁽²⁾
	at +70 °C	200 mA per port, $\Sigma(L+, C/Q)$ 0,8 A ⁽²⁾
IO-Link / input/output current (C/Q)	up to +40 °C	500 mA per port, $\Sigma(L+, C/Q)$ 2 A ⁽²⁾
	at +55 °C	400 mA per port, $\Sigma(L+, C/Q)$ 1,6 A ⁽²⁾
	at +70 °C	200 mA per port, $\Sigma(L+, C/Q)$ 0,8 A ⁽²⁾
Display		
LED ASI (green)	on: ASi voltage on flashing: ASi voltage on, but peripheral fault ⁽³⁾ or address 0 off: no ASi voltage	
LED FLT/FAULT (red)	on: ASi address 0 or node offline flashing: peripheral fault ⁽³⁾ off: node online	
LED AUX (red/green)	green: AUX voltage OK red: AUX voltage < 18 V	
LEDs C/Q1 ... C/Qx (red/green)	state of IO-Link ports 1 ... 4: green: IO-Link communication OK yellow: switching signal at input or output at terminal C/Q1 ... C/Q4 red: IO-Link communication error or short-circuit	
LEDs I1 ... Ix (yellow)	state of inputs I1 ... I4	

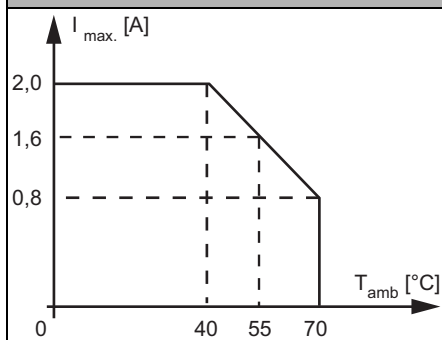
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Article no.	BWU3843
Environment	
Applied standards	EN 61000-2 EN 61000-3 EN 61131-2 EN 60529
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe	yes ⁽⁴⁾
Operating altitude	max. 2000 m
Operating temperature	-25 °C ... +55 °C (up to max. +70 °C) ^{(2) (5)} no condensation permitted
Storage temperature	-25 °C ... +85 °C
Housing	plastic, din-rail mounting
Pollution degree	2
Protection category	IP20
Tolerable loading referring to humidity	according to EN 61131-2
Insulation voltage	≥500 V
Weight	120 g
Dimensions (W / H / D in mm)	22,5 / 99 / 114

(1) The ASi-5 process data bandwidth depends on the ASi-5 profile. Further selectable profiles can be found in the hardware catalog of the Bihl+Wiedemann Suite or in the configuration manual.

(2)

BWU3843 Derating total current of sensor supply and IO-Link / input/output supply (L+, C/Q)



(3) **See table "Peripheral fault indication"**

(4) The module is suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors can be assumed for the connection of the two ASi and AUX potentials.

(5) Maximum ambient operating temperature +55 °C according UL certificate for the use in the USA and Canada.

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Wiring rules

Push-in terminals, 2 / 3 / 4 poles (pitch 5 mm)	
General	
Nominal cross section	2.5 mm ²
Conductor cross section	
Conductor cross section solid	0.2 ... 2.5 mm ²
Conductor cross section flexible	0.2 ... 2.5 mm ²
Conductor cross section flexible, with ferrule	without plastic sleeve: 0.25 ... 2.5 mm ²
	with plastic sleeve: 0.25 ... 2.5 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules	without plastic sleeve: 0.5 ... 1.5 mm ²
AWG	24 ... 14
Stripped insulation length	10 mm

Article no.	Peripheral fault indication			
	Overload sensor supply	Output short circuited	AUX voltage missing	IO-Link error/event
BWU3843	•	•	•	•

Programming

- ASi-5 bit assignment: default 2 byte per port, configurable over ASi-5.

Connections

BWU3843	Name	Explanation
	Ix	digital input x
	L+	IO-Link sensor supply out of external voltage, positive pole
	L-	IO-Link sensor supply, out of external voltage, negative pole
	C/Qx	connection x, optionally for IO-Link communication, input or output
	ASi+, ASi-	connection to ASi bus
	AUX+ _{ext.in}	External power supply, input, positive pole
	AUX- _{ext.in}	External power supply, input, negative pole
	ADDR	connection for ASi addressing device
	Note	
	<i>If connected IO-Link nodes with Port Class B need a higher current consumption, additionally they can be supplied directly via the power supply.</i>	

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Note

To achieve passive safety, the device must be installed in a switching cabinet with protection class IP54.

Accessories:

- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)