

ASi-5 Module with integrated IO-Link Master with 4 Ports, IP67, M12

ASi-5 Module with integrated IO-Link Master with 4 Ports, IP67, M12

new standard ASi-5

fourfold IO-Link Master

2 x IO-Link ports class A and
2 x IO-Link ports class B in one housing


power supply of IO-Link ports out of AUX resp. ASi

passive safety up to PLe



(Figure similar)



Figure	Type	Inputs digital	Outputs digital	M12 wiring (1)	Input voltage (sensor supply) (2)	Output voltage (actuator supply) (3)	ASi connection (4)	ASi address (5)	Art. no.
	IP67 4 x M12, ASi-5	2 x IO-Link ports class A + 2 x electronic	2 x IO-Link ports class B	IO-Link port class A + class B	out of ASi	out of ASi; actuator supply out of AUX	ASi profile cable	1 ASi-5 address	BWU3821

(1) **M12 wiring**

Port Class A: In this type Pin2 is assigned with an additional digital input.

Port Class B: This type provides an additional power supply and is suitable for the connection of devices that have an increased power demand. In this case, pins 2 and 5 are used to provide the additional power supply.

(2) **Input voltage (sensor supply)**

Inputs 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.

(3) **Output voltage (actuator supply)**

The supply of the outputs is made by ASi or by AUX (auxiliary 24 V power). By supply out of ASi there is no connection to earth or external potential allowed.

(4) **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).

(5) **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) ASi-5 address (max. 62 ASi-5 addresses/ASi network), mixed use allowed (upon request, ASi nodes are available with specific ASi address profiles).

ASi-5 Module with integrated IO-Link Master with 4 Ports, IP67, M12

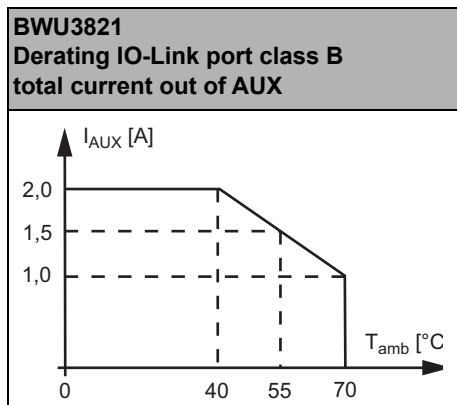
Article no.		BWU3821
Connection		
ASi/AUX connection		profile cable and piercing
Periphery connection		M12
Length of connector cable		I/O: max. 20 m
IO-Link		
Number		2 ports class A + 2 ports class B
Data rate		COM1 / COM2 / COM3
IO-Link revision		1.1
ASi		
Address		1 ASi-5 address
Operating voltage		30 V (18 ... 31.6 V)
Required master profile		M5
Since ASi specification		5
ASi process data width		8 byte ⁽¹⁾
Max. current consumption		250 mA
Max. current consumption without sensor / actuator supply		130 mA
AUX		
Voltage		24 V (18 ... 30 V)
Max. current consumption		2 A ⁽²⁾
Input		
Number		2 (via IO-Link port class A) + 2 x electronic
Power supply		out of ASi
Supply of attached sensors	up to +40 °C	200 mA per port, $\Sigma(\text{In/Out})$ max. 200 mA ⁽³⁾
	at +55 °C	140 mA per port, $\Sigma(\text{In/Out})$ max. 140 mA ⁽²⁾
	at +70 °C	120 mA per port, $\Sigma(\text{In/Out})$ max. 120 mA ⁽²⁾
Switching threshold		U < 5 V (low) U > 15 V (high)
Output		
Number		2 (via IO-Link port class B)
Power supply		output voltage out of ASi; actuator supply out of AUX ⁽¹⁾
Max. output current	up to +40 °C	200 mA per port, $\Sigma(\text{In/Out})$ max. 200 mA ⁽²⁾
	at +55 °C	140 mA per port, $\Sigma(\text{In/Out})$ max. 140 mA ⁽²⁾
	at +70 °C	120 mA per port, $\Sigma(\text{In/Out})$ max. 120 mA ⁽²⁾
Max. actuator supply	up to +40 °C	2 A per port, $\Sigma(\text{aux})$ 2 A ⁽¹⁾
	at +55 °C	1,5 A per port, $\Sigma(\text{aux})$ 1,5 A ⁽¹⁾
	at +70 °C	1 A per port, $\Sigma(\text{aux})$ 1 A ⁽¹⁾

ASi-5 Module with integrated IO-Link Master with 4 Ports, IP67, M12

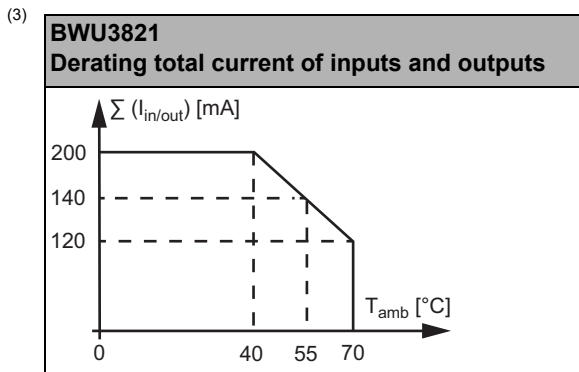
Article no.	BWU3821
Display	
LED ASI (green)	on: ASi voltage on flashing: ASi voltage on, but peripheral fault ⁽⁴⁾ or address 0 off: no ASi voltage
LED FLT/FAULT (red)	on: ASi address 0 or ASi node offline flashing: peripheral fault ⁽³⁾ off: ASi node online
LED AUX (red/green)	green: AUX voltage OK red: AUX voltage < 18 V
LEDs P1 ... Pn (red/green)	state of IO-Link port P1 ... P4 green: IO-Link communication OK yellow: switching signal at input / output at Pin4 red: IO-Link communication error
LEDs I1 ... In	state of input I1, I2
Environment	
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529
Operating altitude	max. 2000 m
Operating temperature	-30 °C ... +55 °C (up to max. +70 °C) ⁽¹⁾ ⁽²⁾ ⁽⁵⁾
Storage temperature	-30 °C ... +85 °C
Housing	plastic, for screw mounting
Pollution degree	2
Protection category	IP67
Tolerable loading referring to humidity	according to EN 61131-2
Max. tolerable shock load	30g, 11 ms, acc. EN 61131-2
Max. tolerable vibration stress	5 ... 8 Hz 50 mm _{pp} /8 ... 500 Hz 6g, acc. EN 61131-2
Insulation voltage	≥500 V
Weight	200 g
Dimensions (W / H / D in mm)	45 / 80 / 38 (without substructure)

⁽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⁾



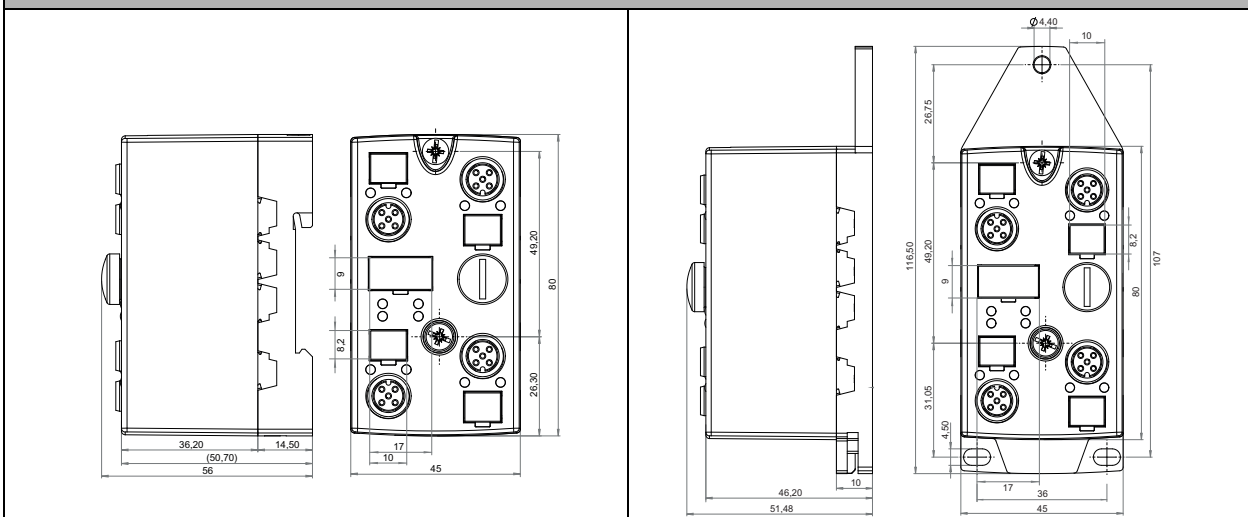
ASi-5 Module with integrated IO-Link Master with 4 Ports, IP67, M12



(4) See table "Peripheral fault indication"

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

Dimensional drawings



Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU3821	•	•	•

UL-specifications (UL508)

External protection	An isolated source with a secondary open circuit voltage of $\leq 30 V_{DC}$ with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed.
In general	UL mark does not provide UL certification for any functional safety rating or aspects of the above devices.

Programming

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

Pin assignment

Signal name	Explanation
24 V _{ext out}	power supply, out of external voltage, positive pole (AUX, actuator supply)
0 V _{ext out}	power supply, out of external voltage, negative pole (AUX, actuator supply)
I	digital input
L+ _{ASi out}	power supply, out of ASi, positive pole (IO-Link, sensor supply)
0 V _{ASi out}	power supply, out of ASi, negative pole (IO-Link, sensor supply)
I/O/Com	connection optionally for input, output or IO-Link communication

ASi-5 Module with integrated IO-Link Master with 4 Ports, IP67, M12

Connections								
Art. no.	M12 connection	Marking	Function	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3821	X1	P1/I1	IO-Link port class A P1	L+ _{ASi out}	I1	0 V _{ASi out}	I/O/Com1	n.c.
	X2	P2/I2	IO-Link port class A P2	L+ _{ASi out}	I2	0 V _{ASi out}	I/O/Com2	n.c.
	X3	P3	IO-Link port class B P3	L+ _{ASi out}	24 V _{ext out}	0 V _{ASi out}	I/O/Com3	0 V _{ext out}
	X4	P4	IO-Link port class B P4	L+ _{ASi out}	24 V _{ext out}	0 V _{ASi out}	I/O/Com4	0 V _{ext out}
	ADDR (protection cap)	connection for ASi-5 addressing plug						

The diagram shows a blue PCB with four M12 ports labeled X1, X2, X3, and X4. X1 and X2 are IO-Link ports class A, while X3 and X4 are IO-Link ports class B. An ADDR protection cap is also shown with a detailed view of its five pins numbered 1 to 5.

Accessories:

- ASi substructure module for 4 channel module in 45 mm housing (art. no. BWU2349)
- ASi substructure module (CNOMO) for 4 channel module in 45 mm housing (art. no. BWU2350)
- Universal protection cap ASi-5/ASi-3 for M12 sockets, IP67 (art. no. BW4056)
- Sealing profile IP67 (IDC plug), 45 mm (art. no. BW3283)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)