

ASi-5 Slave/IO-Link Master with 4 IO-Link Ports, IP67, M12

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New standard ASi-5

Quadruple IO-Link master

4 x IO-Link port class A or

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

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.
	IP67 4 x M12, ASi-5	4	2	2	out of AUX	out of AUX	ASi profile cable	1 ASi-5 slave	BWU4067
	IP67 4 x M12, ASi-5	4	4	–	out of AUX	–	ASi profile cable	1 ASi-5 slave	BWU3819

(1) **Port class A (M12):** Pin 4 configurable (IO-Link/DI/DO), additional digital input at pin 2. Compatible with 3 pol IO-Link devices (M8).

(2) **Port class B (M12):** Pin 4 configurable (IO-Link/DI/DO), additional power supply (galvanically isolated) for IO-Link devices at pins 2 and 5. 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 slaves 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 slave (max. 62 AB slaves/ASi network), 2 AB slaves (max. 31 modules with 2 AB slaves), single slaves (max. 31 single slaves/ASi network), 1 ASi-5 slave (max. 62 ASi-5 slaves/ASi network), mixed use allowed.

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

Upon request, slaves are available with specific ASi slave profiles.

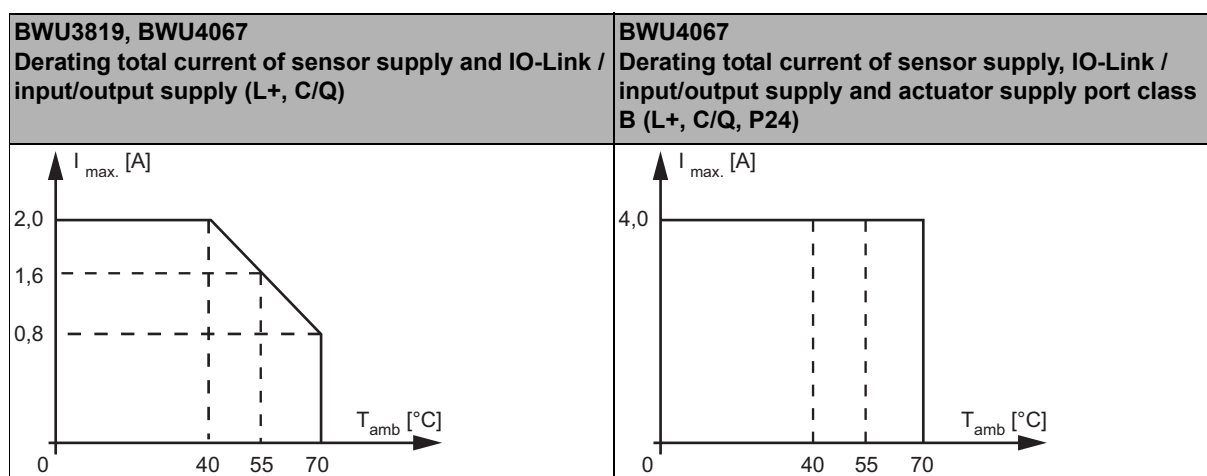
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Article no.		BWU4067	BWU3819
Connection			
AS-i/AUX connection		profile cable and piercing	
Periphery connection		M12	
Length of connector cable		I/O: max. 20 m	
ASi			
Address		1 ASi-5 slave	
Operating voltage		30 V (18 ... 31.6 V)	
Required master profile		M5	
Since ASi specification		5	
Process data width		8 ... 32 bytes	
Max. current consumption		35 mA	
Max. current consumption without sensor / actuator supply		35 mA	
AUX			
Voltage		24 V (18 ... 30 V)	
Max. current consumption		4 A	2 A
Configurable I/O's			
Number		2 x ports class A + 2 x ports class B	4 x ports class A
IO-Link data rate		COM1 / COM2 / COM3	
IO-Link data width		0 ... 32 bytes	
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, $\sum(L+, C/Q) 2 A, \sum(L+, C/Q, P24) 4 A^{(1)}$	500 mA per port, $\sum(L+, C/Q) 2 A^{(1)}$
	at +55 °C	400 mA per port, $\sum(L+, C/Q) 1,6 A, \sum(L+, C/Q, P24) 4 A^{(1)}$	400 mA per port, $\sum(L+, C/Q) 1,6 A^{(1)}$
	at +70 °C	200 mA per port, $\sum(L+, C/Q) 0,8 A, \sum(L+, C/Q, P24) 4 A^{(1)}$	200 mA per port, $\sum(L+, C/Q) 0,8 A^{(1)}$
IO-Link / input/output current (C/Q)	up to +40 °C	500 mA per port, $\sum(L+, C/Q) 2 A, \sum(L+, C/Q, P24) 4 A^{(1)}$	500 mA per port, $\sum(L+, C/Q) 2 A^{(1)}$
	at +55 °C	400 mA per port, $\sum(L+, C/Q) 1,6 A, \sum(L+, C/Q, P24) 4 A^{(1)}$	400 mA per port, $\sum(L+, C/Q) 1,6 A^{(1)}$
	at +70 °C	200 mA per port, $\sum(L+, C/Q) 0,8 A, \sum(L+, C/Q, P24) 4 A^{(1)}$	200 mA per port, $\sum(L+, C/Q) 0,8 A^{(1)}$
Max. actuator supply for port class B (P24)	up to +40 °C	4 A per port, $\sum(L+, C/Q, P24) 4 A^{(1)}$	–
	at +55 °C	4 A per port, $\sum(L+, C/Q, P24) 4 A^{(1)}$	
	at +70 °C	4 A per port, $\sum(L+, C/Q, P24) 4 A^{(1)}$	
Max. current per port	up to +40 °C	max. 1 A per port class A, $\sum(\text{class A}) 2 A,$ max. 4 A per port class B, $\sum(\text{class B}) 4 A,$ $\sum(\text{class A, class B}) 4 A$	max. 1 A per port class A, $\sum(\text{class A}) 2 A$
	at +55 °C	max. 0,8 A per port class A, $\sum(\text{class A}) 1,6 A,$ max. 4 A per port class B, $\sum(\text{class B}) 4 A$ $\sum(\text{class A, class B}) 4 A$	max. 0,8 A per port class A, $\sum(\text{class A}) 1,6 A$
	at +70 °C	max. 0,4 A per port class A, $\sum(\text{class A}) 0,8 A,$ max. 4 A per port class B, $\sum(\text{class B}) 4 A$ $\sum(\text{class A, class B}) 4 A$	max. 0,4 A per port class A, $\sum(\text{class A}) 0,8 A$

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Article no.	BWU4067	BWU3819
Display		
LED ASI (green)	on: AS-i voltage on flashing: AS-i voltage on, but peripheral fault ⁽²⁾ or address 0 off: no AS-i voltage	
LED FLT/FAULT (red)	on: slave address 0 or slave offline flashing: peripheral fault ⁽²⁾ off: slave online	
LED AUX (red/green)	green: AUX voltage OK red: AUX voltage < 18 V	
LEDs C/Q1 ... C/Qn (red/green)	state of IO-Link ports 1 ... 4: green: IO-Link communication OK yellow: switching signal at input or output at pin4 red: IO-Link communication error	
LEDs I1 ... In (yellow)	state of inputs I1, I2	state of inputs I1 ... I4
Environment		
Applied standards	EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529	
Passive safety (up to PLe/SIL 3)	yes ⁽³⁾	
Operating altitude	max. 2000 m	
Operating temperature	-30 °C ... +55 °C (up to max. +70 °C) ⁽¹⁾ ⁽⁴⁾	
Storage temperature	-30 °C ... +85 °C	
Housing	plastic, for screw mounting	
Pollution degree	2	
Protection category	IP67	
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)



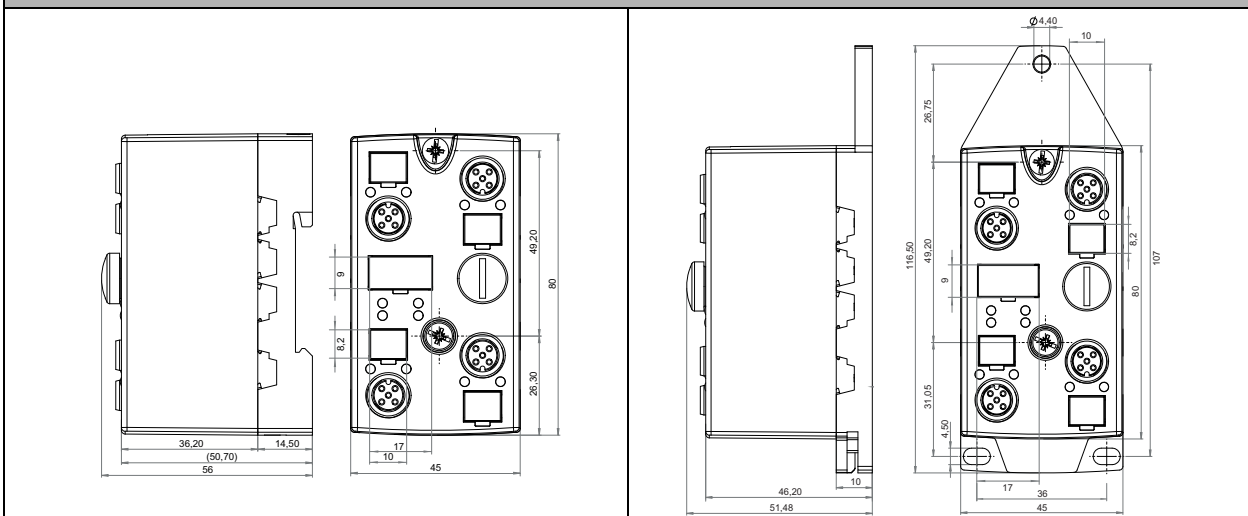
(2) See table "Peripheral fault indication"

(3) Exclusion of errors for the connection of the two ASi and AUX potentials can be assumed in the module. Passive safety for the application can only be achieved if this is ensured for all components used.

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

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Dimensional drawing



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.

Article no.	Peripheral fault indication			
	Overload sensor supply	Output short circuited	AUX voltage missing	IO-Link error/event
BWU3819	•	•	•	•
BWU4067	•	•	•	•

Programming

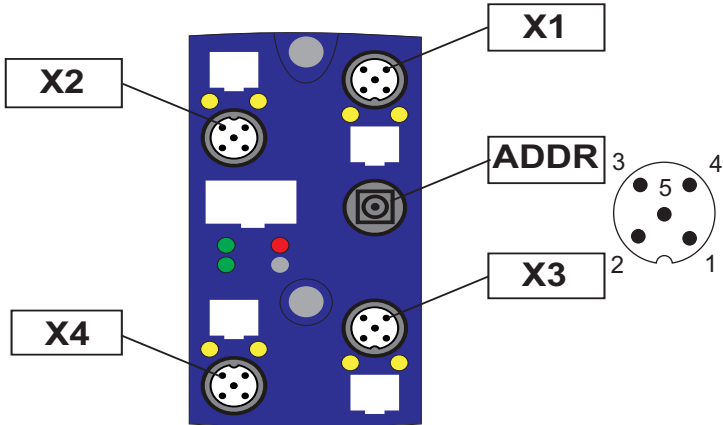
- ASi-5 bit assignment: default 2 byte per port, configurable via ASi-5.

Pin assignment

Signal name	Explanation
P24	actuator supply, out of external voltage, positive pole
N24	actuator supply, out of external voltage, negative pole
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

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Connections								
Art. no.	M12 connection	Marking	Function	Pin1	Pin2	Pin3	Pin4	Pin5
BWU3819	X1	C/Q1 / I1	IO-Link port class A	L+ ₁	I1	L- ₁	C/Q1	n.c.
	X2	C/Q2 / I2	IO-Link port class A	L+ ₂	I2	L- ₂	C/Q2	n.c.
	X3	C/Q3 / I3	IO-Link port class B	L+ ₃	I3	L- ₃	C/Q3	n.c.
	X4	C/Q4 / I4	IO-Link port class B	L+ ₄	I4	L- ₄	C/Q4	n.c.
	ADDR (dummy plug)	connection for AS-i addressing device						
BWU4067	X1	C/Q1 / I1	IO-Link port class A	L+ ₁	I1	L- ₁	C/Q1	n.c.
	X2	C/Q2 / I2	IO-Link port class A	L+ ₂	I2	L- ₂	C/Q2	n.c.
	X3	C/Q3	IO-Link port class B	L+ ₃	P24	L- ₃	C/Q3	N24
	X4	C/Q4	IO-Link port class B	L+ ₄	P24	L- ₄	C/Q4	N24
	ADDR (dummy plug)	connection for AS-i addressing device						



Accessories:

- ASi substructure module for 4 channel module in 45 mm housing (art. no. BWU2349)
- ASi substructure (CNOMO) for 4 channel module in 45 mm housing (art. no. BWU2350)
- Protection caps for unused M12 sockets (art. no. BW2368)
- Protection caps for ASi-5 addressing socket (art. no. BW4056)
- Sealing profile IP67 (IDC plug), 45 mm (Art. Nr. BW3283)