

ASi-5 PCB module with integrated IO-Link Master

ASi-5 PCB module with integrated IO-Link Master with 4 IO-Link Ports

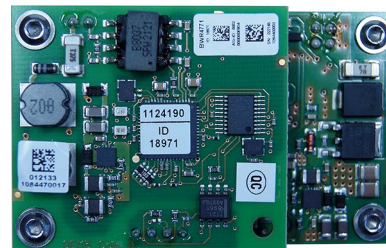
Quadruple IO-Link master

Suitable for port class A and port class B

Power supply of IO-Link ports out of AUX


ASi-5 – Great data bandwidth, short cycle times

Compatible with ASi modules of all ASi generations



(Figure similar)



Figure	Circuit board dimensions ⁽¹⁾	Number of IO-Link Ports	IO-Link Port Class A ⁽²⁾	IO-Link Port Class B ⁽³⁾	Connection	Coated ⁽⁴⁾	LED status display ⁽⁵⁾	Sensor supply (IO-Link supply and input/output voltage) ⁽⁶⁾	ASi address ⁽⁷⁾	Art.no.
	65 mm x 40 mm	4	configurable connectors	configurable connectors	wiring pins, straight	no	yes	out of AUX	1 ASi-5 address	BWR4771

(1) **Circuit board dimensions:** 2 holes for assembly angles.

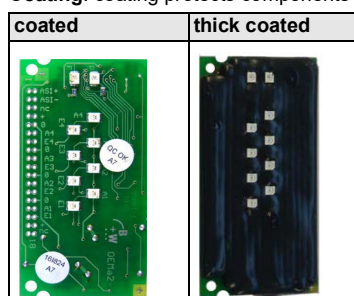
(2) **IO-Link Port Class A**

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).

(3) **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).

(4) **Coating:** coating protects components and circuit boards when touched.



(5) **LED status display:** status of in- and outputs is indicated by LEDs. In addition to that, both ASi LEDs (PWR green and FAULT red) show - as usual regarding the ASi nodes - the status of the ASi nodes. Uaux is indicated by a green LED.

(6) **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.

(7) **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), mixed use allowed. For modules with two ASi nodes the second ASi node is turned off as long as the first ASi node is addressed to address "0". Upon request, ASi nodes are available with specific ASi address profiles.

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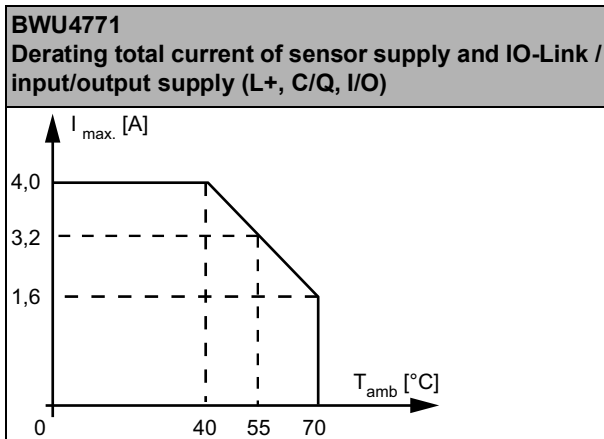
Article no.		BWR4771
General data		
Device type		IO-Link
Connection		
ASi /AUX connection		wiring pins, straight
peripheral connection		wiring pins, straight
Length of connector cable		I/O: max. 1,5 m ⁽¹⁾
ASi		
Address		1 ASi-5 address
Since ASi specification		ASi-5
Operating voltage		30 V (18 ... 31,6 V)
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
Configurable I/O's		
Number		4 x ports class A up to 4 C/Q for IO-Link communication up to 8 I/O (4 C/Q + 4 configurable I/Os)
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, $\Sigma(L+, C/Q, I/O)$ 4 A ⁽²⁾
	at +55 °C	400 mA per port, $\Sigma(L+, C/Q, I/O)$ 3,2 A ⁽²⁾
	at +70 °C	200 mA per port, $\Sigma(L+, C/Q, I/O)$ 1,6 A ⁽²⁾
IO-Link / input/output current (C/Q, I/O)	up to +40 °C	500 mA per port, $\Sigma(L+, C/Q, I/O)$ 4 A ⁽²⁾
	at +55 °C	400 mA per port, $\Sigma(L+, C/Q, I/O)$ 3,2 A ⁽²⁾
	at +70 °C	200 mA per port, $\Sigma(L+, C/Q, I/O)$ 1,6 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 ASi node offline flashing: peripheral fault ⁽³⁾ off: ASi node online
LED AUX (red/green)		green: AUX tension OK red: AUX tension < 18 V

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Article no.	BWR4771
Environment	
Applied standards	EN 61000-6-2 EN 61000-6-3 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
Ambient temperature	-25 °C ... +70 °C ⁽²⁾ , no condensation permitted
Pollution degree	2
Protection class	IP00
Coating	no
Allowed shock and vibration stress	≤15g, T≤11 ms, 10 ... 55 Hz, 0,5 mm amplitude
Weight	50 g
Dimensions (W / H / D in mm)	65 / 40 / 26,5

(1) loop resistance: ≤150 Ω

(2)



(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.

Article no.	Peripheral fault indication			
	Overload sensor supply	Output short circuited	AUX voltage missing	IO-Link event
BWR4771	•	•	•	•

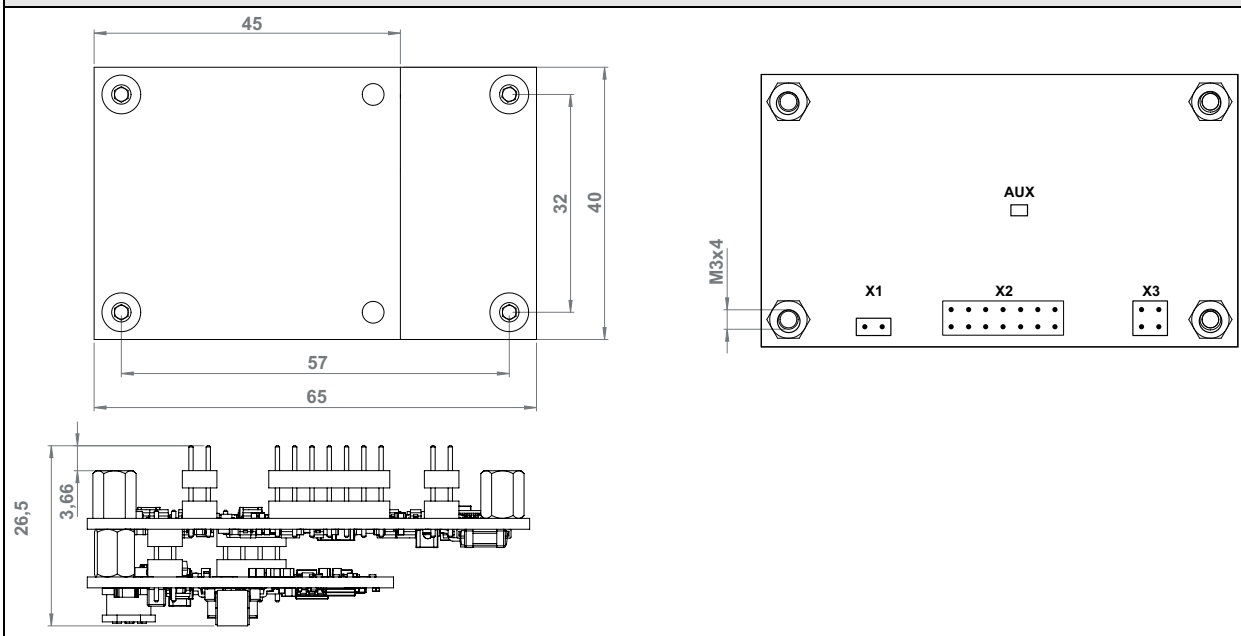
Programming

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

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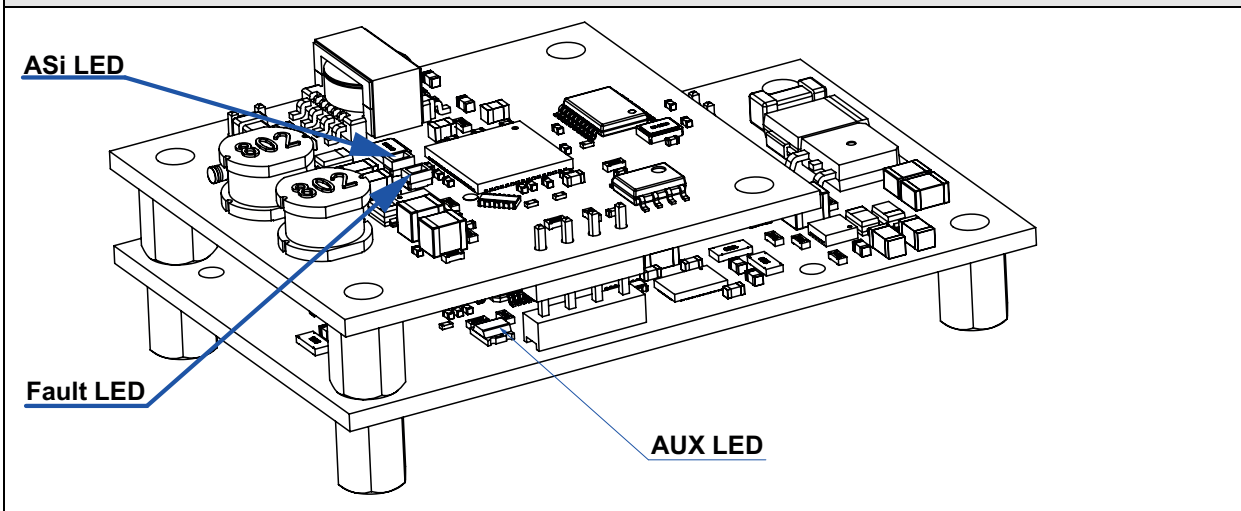
Dimensional drawings

BWR4771



LED assignment

BWR4771



Pin assignment

Signal name	Explanation
I/Ox	either digital input x or digital output x
24 V _{ext out}	power supply, out of external voltage, positive pole (AUX)
0 V _{ext out}	power supply, out of external voltage, negative pole (AUX)
Lx+	IO-Link sensor supply, IO-Link Port x, out of external voltage, positive pole
L-	IO-Link sensor supply out of external voltage, negative pole
C/Qx	IO-Link Port x, optionally for IO-Link communication, input or output
ASi +, ASi -	connection to ASi bus
AUX+, AUX-	connection to 24 V auxiliary power supply
n.c. (not connected)	not connected

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Notice

You shall not connect connecting wires with connections marked **n.c.** (not connected).

Connection assignment

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Pin	X1	X2	X3		
1	ASi+	C/Q4	0 V _{ext.in} ⁽¹⁾		
2	ASi-	I/O4	24 V _{ext.in} ⁽²⁾		
3	–	L4+	0 V _{ext.in} ⁽¹⁾		
4	–	L-	24 V _{ext.in} ⁽²⁾		
5	–	C/Q3	–		
6	–	I/O3	–		
7	–	L3+	–		
8	–	C/Q2	–		
9	–	I/O2	–		
10	–	L2+	–		
11	–	L-	–		
12	–	C/Q1	–		
13	–	I/O1	–		
14	–	L1+	–		

Note

If connected IO-Link nodes with Port Class B need a higher current consumption, additionally they can be supplied directly via the power supply.

(1) Pin 1 and Pin 3 internally bridged.

(2) Pin 2 and Pin 4 internally bridged.