

Active Distributor ASi, IP67



Periphery connection via
2 x M12 cable sockets, straight, 5 poles +
1 x M8 cable socket, straight, 3 poles



(Figure similar)

Figure	Inputs digital	Outputs digital	Input voltage (sensor supply) (1)	Output voltage (actuator supply) (2)	Connection (3)	ASi address (4)	Special function	Art. no.
	2	1 x electronic	out of AUX	out of AUX	2 x M12 cable sockets, straight, 5 poles + 1 x M8 cable socket, straight, 3 poles	1 AB address	—	BWU5159

- (1) **Input voltage (sensor supply):** inputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, inputs shall not be connected to earth or to external potential.
- (2) **Output voltage (actuator supply):** outputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, outputs shall not be connected to earth or to external potential
- (3) **Connection:** further connection options are available on request.

M12 cable socket, angled	M12 cable socket, straight	M8 cable socket, straight	round cable / connecting wires	Push in terminals
PUR line: oil resistant				

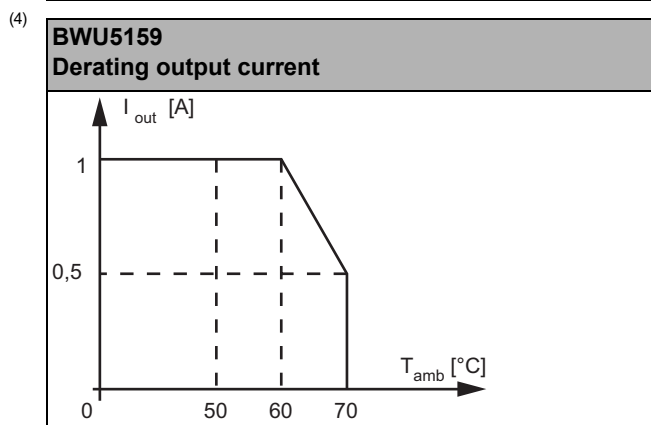
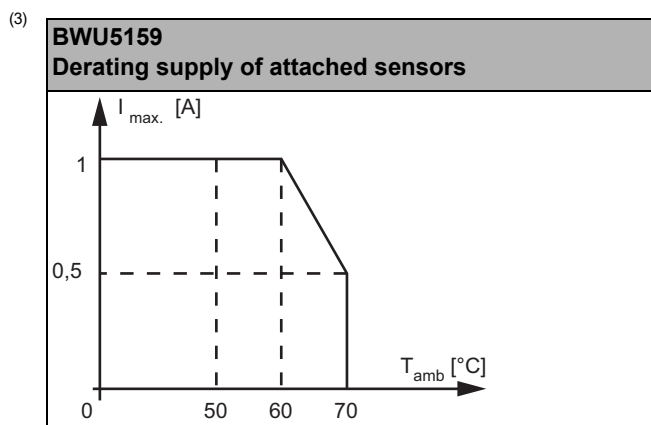
- (4) **ASi address:** 1 AB address (max. 62 AB addresses/ASi network), 2 AB addresses (max. 31 modules with 2 AB addresses), Single addresses (max. 31 Single addresses/ASi network), mixed use allowed. For modules with two ASi nodes the 2nd ASi node is turned off as long as the 1st ASi node is addressed to address "0". Upon request, ASi nodes are available with specific ASi node profiles.

Article No.	BWU5159
General data	
Device type	input/output
Connection	
ASi/AUX connection	profile cable and piercing technology
Periphery connection	2 x M12 cable sockets, straight, 5 poles (inputs) + 1 x M8 cable socket, straight, 3 poles (output)
M12 wiring (1)	—
Round cable	I: 1,0 m O: 1,0 m max. allowed tensile strain 10 N
ASi	
Profile	S-7.A.E (ID1=7 default)
Address	1 AB address
Required Master profile	≥M3
As of ASi specification	2.1
Operating voltage	=== 30 V (18 ... 31.6 V)
Max. current consumption	35 mA
Max. current consumption without sensor/ actuator supply	35 mA
AUX	
Voltage	=== 24 V (18 ... 30 V _{DC})
Max. current supply	2 A

Article No.		BWU5159
Input		
Number		2
Power supply		out of AUX
Power supply of attached sensors	up to +50 °C	1 A ⁽³⁾
	at +60 °C	
	at +70 °C	0.5 A ⁽²⁾
Switching threshold		U<5 V (low) U>15 V (high)
Output		
Number		1
Power supply		out of AUX
Max. output current	up to +50 °C	1 A ⁽⁴⁾
	at +60 °C	
	at +70 °C	0.5 A ⁽³⁾
Display		
LED ASI/FLT (red/green)		green: ASi voltage OK, ASi node online green/red: ASi voltage on, but ASi node offline green flashing/red: address 0 alternating green flashing/red flashing: peripheral fault ⁽⁵⁾ off: no ASi voltage
LED AUX (green)		on: 24 V _{DC} AUX off: no 24 V _{DC} AUX
LEDs I1, I2 (yellow)		state of inputs I1, I2
LED O1 (yellow)		state of output O1
UL specifications (UL61010)		
Model ⁽²⁾		PCO.DBA3-5159
External protection		The supply source to these devices shall meet the requirements of Class 2 of NEC, or Limited Energy of UL/CSA 61010-1, -2-201 or Limited Power Source of UL/CSA 60950/62368-1.
Environment		
Applied standards		EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529
It can be used with a switched AUX cable, which is passively safe up to SIL3/PLe		yes ⁽⁶⁾
Operating altitude		max. 2000 m
Ambient temperature		-30 °C ... +60 °C ^{(2) (7)}
Storage temperature		-25 °C ... +85 °C
Intended environment		for indoor use only ⁽⁸⁾
Housing		plastic, for screw mounting, suitable for cable ducts (≥35 mm installation depth)
Pollution degree		2
Protection category		IP67 ^{(9) (10)}
Overvoltage category		II
Maximum tolerable shock and vibration stress		≤15g, T≤11 ms 10 ... 55 Hz, 0,5 mm amplitude
Insulation voltage		≥500 V
Weight		100 g
Dimensions (W / H / D) in mm		60 / 45 / 35

- ⁽¹⁾ **M12 wiring:**
Single wiring: 1 input or output per connection.
Y wiring: 2 inputs or outputs per connection.
Mixed wiring: 1 input and 1 output per connection.

- ⁽²⁾ See reference of UL file E227214 "Programmable Controllers "Active Distributor Family""



- (5) see table "Peripheral fault indication"
- (6) The module is suitable for use in passively safe paths as it has no connection to an AUX potential.
- (7) Down to -25 °C with flexibly mounted cable, -30 °C only with fixed mounted cable.
- (8) Intended environment according to UL certificate for the use in the USA and Canada.
- (9) Protection category IP67 can only be achieved, if also the cable connector fulfills IP67
- (10) Manufacturer specification, IP rating not evaluated by UL.

Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU5159	–	–	•

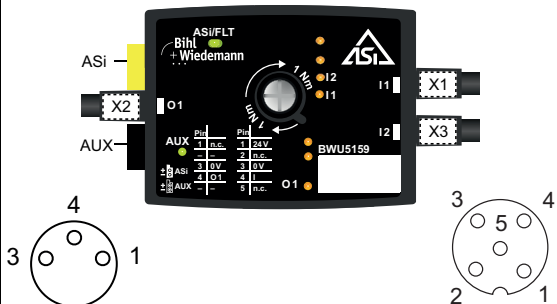
Programming	ASi bit assignment			
	D3	D2	D1	D0
	input			
BWU5159	–	–	I2	I1
	output			
BWU5159	–	–	–	O1

Programming	ASi bit assignment			
	parameter bit			
	P3	P2	P1	P0
BWU5159	not used	0= on / 1= off (synchronous I/O mode)	0= on / 1= off (data input filter 128 µs)	0= off / 1= on (Watchdog)

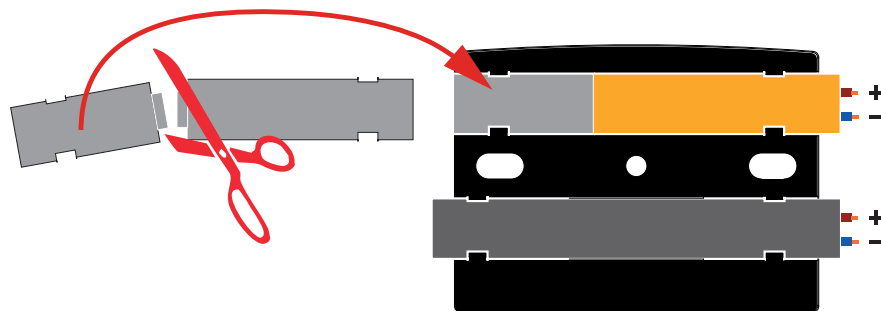
Pin assignment

Signal name	Explanation
Ix	digital input x
Ox	digital output x
24V _{ext out}	power supply, out of external voltage, positive pole (AUX, actuator supply)
0V _{ext out}	power supply, out of external voltage, negative pole (AUX, actuator supply)
ASi +, ASi -	connection to ASi bus
n.c. (not connected)	not connected

Connections: M8, M12 cable sockets

Article no.	M12 connection	Pin1	Pin2	Pin3	Pin4	Pin5	
BWU5159	X1	24V _{ext out}	n.c.	0V _{ext out}	I1	n.c.	
	X3	24V _{ext out}	n.c.	0V _{ext out}	I2	n.c.	
	M8 connection	Pin1	–	Pin3	Pin4	–	
	X2	n.c.	–	0V _{ext out}	O1	–	

Line termination with sealing profile



Accessories:

- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- ASi-5/ASi-3 Address Programming Device (art. no. BW4925)
- Bihl+Wiedemann Safety Suite License - Safety Software for Configuration, Diagnostics and Commissioning (art. no. BW2916)