

Active Distributor ASi-5, IP67, 1 RGB/RGBW LED Stripe

Control of 1 x LED Stripe of the type SK6812


Periphery connection via
round cable with Micro-Fit cable plug with snap-in
lugs, single row 3 poles

ASi/AUX connection via
round cable with Micro-Fit cable socket, single row
4 poles

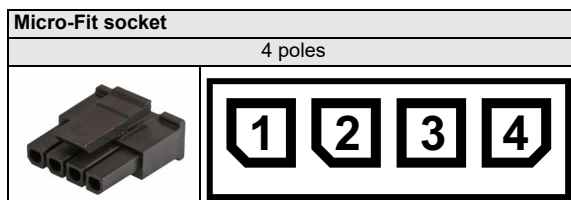


(Figure similar)

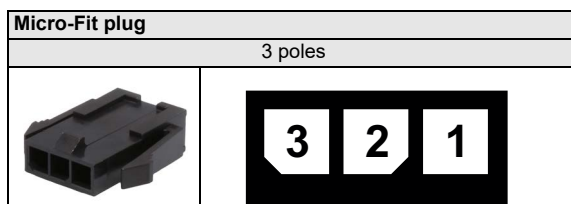


Figure	Type	Inputs digital	Outputs digital	Input voltage (sensor supply) ⁽¹⁾	Output voltage (actuator supply) ⁽²⁾	ASi/AUX connection ⁽³⁾	Connection ⁽⁴⁾	ASi address ⁽⁵⁾	Special function	Art. no.
	IP67, depth 35 mm	–	1 x RGB/RGBW LED Stripe	–	out of AUX	1 x round cable/Micro-Fit cable socket, single row 4 poles	1 x round cable/Micro-Fit cable plug with snap-in lugs, single row 3 poles	1 ASi-5 address	For connection from SK6812 or WS2812B at ASi	BWU4699

- (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) **ASi/AUX connection:** the connection to ASi as well to AUX (auxiliary 24 V power) is made via yellow resp. black ASi profile cable with piercing technology or via M12 socket (in IP20 via clamps). A connection variant via a Micro-Fit socket is also possible.



- (4) **Connection:** further connection options are available on request.



- (5) **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 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 communications profiles.

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Article No.		BWU4699
Connection		
ASi/AUX connection		1 x round cable/Micro-Fit cable socket, single row 4 poles
Periphery connection		1 x round cable/Micro-Fit cable plug with snap-in lugs, single row 3 poles
Round cable		ASi/AUX: 0,2 m, 0 V/D/5V: 0,2 m max. allowed tensile strain 10 N
ASi		
Address		1 ASi-5 address
Operating voltage		30 V (18 ... 31.6 V)
As of ASi specification		ASi-5
ASi process data width		7 byte ⁽¹⁾
Max. current consumption		35 mA
Max. current consumption without sensor/ actuator supply		35 mA
AUX		
Voltage		12 ... 30 V
Max. current consumption		1 A (24 V) / 1,8 A (12 V)
Output		
Number		1 x RGB/RGBW LED Stripe
Controller Type		SK6812 or WS2812B
Max. number LEDs		256
Bytes / LED		3 (RGB) or 4 (RGBW)
Actuator supply		5 V out of AUX, short circuit and overload proof, according to EN 61131-2
Max. output current	up to +40 °C	2 A out of AUX
	at +60 °C	1,6 A
	at +70 °C	1,2 A
Display		
LED ASi/FLT (red/green)		green: ASi voltage on, node online green/red: ASi voltage on, but node offline green flashing/red: address 0 alternating reen flashing/red flashing: peripheral fault ⁽²⁾ off: no ASi voltage
LED AUX (green)		AUX supply OK
LED 5 V (green)		on: 5 V actuator supply on flashing: overload/short circuit off: 5 V actuator supply off
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		no ⁽³⁾
Operating altitude		max. 2000 m
Ambient temperature		-30 °C ... +60 °C ⁽⁴⁾
Storage temperature		-25 °C ... +85 °C
Housing		plastic, for screw mounting, suitable for cable ducts (≥35 mm installation depth)
Pollution degree		2
Protection category		IP67 ⁽⁵⁾
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

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- (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) **see table "Peripheral fault indication"**
- (3) The module is not suitable for use in paths with a passively safe-switched AUX cable, since an exclusion of errors cannot be assumed for the connection of the two ASi and AUX potentials.
If the module is supplied from an unswitched AUX cable, this has no influence on the safety consideration for the paths with passively safe-switched AUX cable. In an ASi circuit, paths supplied from a passively safe-switched AUX cable and paths supplied from unswitched AUX potential can be used together.
- (4) Down to -25 °C with flexibly mounted cable, -30 °C only with fixed mounted cable.
- (5) Protection category IP67 can only be achieved if the used wire connection also conforms to IP67.

Article no.	Peripheral fault indication		
	Overload sensor supply	Output short circuited	AUX voltage missing
BWU4699	-	•	•

Programming notes (ASi bit assignment)

Profile no:	Byte	Bit							
		D7	D6	D5	D4	D3	D2	D1	D0
		output							
0x820110 (RGB)	0	RL-DIR	RL-CONT	RL	Flash		Mode	Freeze	
	1	First (UInt8)							
	2	Last (UInt8)							
	3	Red (UInt8)							
	4	Green (UInt8)							
	5	Blue (UInt8)							
0x820111 (RGBW)	0	RL-DIR	RL-CONT	RL	Flash		Mode	Freeze	
	1	First (UInt8)							
	2	Last (UInt8)							
	3	Red (UInt8)							
	4	Green (UInt8)							
	5	Blue (UInt8)							
	6	White (UInt8)							

Key

Bit Name	Values	Meaning
FIRST	0-255	First LED in the range to be activated
LAST	0-255	Last LED in the range to be activated
Red	0-255	Intensity of the red color
Green	0-255	Intensity of the green color
Blue	0-255	Intensity of the blue color
White	0-255	Intensity of the white color
Freeze	0	Apply current color values from the cyclic channel
	1	Freeze current color values
MODE	0	The LEDs in the addressed range change their color value, the rest is off
	1	The LEDs in the addressed range change their color value, the rest stays on the last value
FLASH	00	Continuously lit
	01	Flash 1
	10	Flash 2
	11	Flash 3
RL	0	Running light deactivated
	1	Running light activated; running light of the set RGB values from cyclic channel; other parameters are set acyclically
RL-CONT	0	Running light once only
	1	Continuous running light

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RL-DIR	00	Running light direction from first LED forwards
	01	Running light direction from last LED backwards
	10	Running light moves back and forth

Pin assignment

Signal name	Explanation
D _{out}	Communication to control the individual LEDs on the strip
5 V _{ext out}	supply voltage, generated from external voltage, positive pole (AUX, actuator supply)
0 V _{ext out}	supply voltage, generated from external voltage, negative pole (AUX, actuator supply)
24 V _{ext in}	power supply out of external voltage, input, positive pole
0 V _{ext in}	power supply out of external voltage, input, negative pole
ASi +, ASi -	connection to ASi bus
n.c. (not connected)	not connected

Connections: round cable/connection wires					
Article no.	Connection	Pin1 (BN)	Pin2 (BK)	Pin3 (BU)	
BWU4699	X1	5 V _{ext out}	D _{out}	0 V _{ext out}	
	Connection	Pin1 (BN)	Pin2 (WH)	Pin3 (BU)	Pin4 (BK)
	X2	ASi+	24 V _{ext in}	ASi-	0 V _{ext in}

Accessories:

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