AS-i Safety 4I/2O Module

AS-i Safety Module with 4 x 2-channels safe inputs and 2 x fast electronic safe outputs

- for floating contacts
- for antivalent switches [1]
- for OSSDs

Optimal costs for safety in- and outputs on AS-i

Module width of 22.5 mm, for optimal use of space in the service cabinet

Universal module for as many use cases, optimized for service and commissioning

Protection category IP20

(figure similar)

[1] Ident.No. ≥15197

Article no. BWU2314: AS-i Safety 4I/2O Module, 4 x 2-channels safe inputs and 2 x fast electronic safe outputs, IP20

Technical realization:

- It may be less signals are processed. The module uses only the necessary AS-i addresses.
- If the safety input I2 is not needed, the protection feedback can optionally connected on I2. The transfer occurs as usual on the diagnostic slave of the safety AS-i outputs.
- No limitation of cable length at safety inputs (the maximum loop resistance is 150 Ω).
- 8 / 4 safety inputs for floating contacts or antivalent switches, 2 / 1 safety input optionally for optical protective equipment.
- Fast preprocessing: The response time from the disconnection of the local OSSD input to the shutdown of the output is optionally less than 5 ms.

- A secure signal exchange of 2 signals between Safety Monitor and AS-i Safety Module as well as between two AS-i Safety Modules is possible.

Diagnosis and commissioning:

- LED displays according to other Safety Slaves or to the Monitor.
- Simple selection of AS-i Slaves with the help of two rotary switches. The addressing occurs, as usual, via an AS-i addressing device or the AS-i Master.
- Memory card for the simple exchange.
- Fixed Safety Code series for each AS-i address. Each module generates by same address programming same code series.

Article no.	BWU2314
Connection	
Connection	COMBICON clamp
Length of connector cable	unlimited [1]
AS-i	
Profile	safety input slaves: S-0.B.F.0 diagnostic slaves: S-7.A.5.E configuration slave: S-7.A.F.5
Address	depending on configuration
Voltage	18 ... 31,6 V
Max. current consumption	200 mA
Max. continuous operating current	125 mA
AUX	
Voltage	20 ... 30 V (PELV)
Max. current consumption	4 A max.

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Article no.	BWU2314
Input	
Number	4 x 2-channels safe inputs for floating contacts or antivalent switches I3 + I4 optionally for optical protective equipment
Power supply	out of 24 V auxiliary power
Switching current	15 mA (T = 100 µs), continuously 4 mA at 24 V
OSSD test pulses	0 ... 50 Hz
OSSD test pulse width	0 ... 51 ms, adjustable
Input level	10 mA, R < 150 Ω
Output	
Number	2 release circuits, 2 x fast electronic safe outputs
Max. contact load:	0,7 A DC-13 at 24 V
Supply voltage outputs	out of AUX
Max. output current for OSSD supply	1,4 A
Test pulse	when output is switched on minimal distance between 2 test pulses: 250 ms, pulse length up to 1 ms
Visualization	
LEDs S1 ... Sn (yellow)	state of input S1 ... S8
LED PWR (green)	AS-i power
LED FAULT (red)	AS-i error LED
LED O1 (yellow)	output 1 has switched
LED O2 (yellow)	output 2 has switched
Environment	
Applied standards	EN 60529 IEC 61508 SIL 3 EN 62061 SIL 3 EN ISO 13849-1 PLe cat. 4
Ambient temperature	0 °C ... +55 °C
Storage temperature	-25 °C ... +85 °C
Housing	plastic, for DIN-rail mounting
Protection class	IP20
Tolerable loading referring to humidity	according to EN 6131-2
Voltage of insulation	≥ 500 V
Weight	160 g
Dimensions (W / H / D in mm)	22,5 / 99 / 114,5

[1] loop resistance ≤ 150 Ω

Clamps	Description
S22, S21, S12, S11	terminal safety 2-channels input 1
S42, S41, S32, S31	terminal safety 2-channels input 2
S62, S61, S52, S51	terminal safety 2-channels input 3
S71, S72, S81, S82	terminal safety 2-channels input 4
$1.14_{ext.out}$	semiconductor output 1
$2.14_{ext.out}$	semiconductor output 2
$0\ V\ 1_{ext.out},$ $0\ V\ 2_{ext.out}$	mass connection for semiconductor output
AS-i+, AS-i-	connection to the AS-i-Bus
ADDR	address socket
$AUX+_{ext.in}$ $AUX-_{ext.in}$	power supply input

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Addressing		
SEL1	**SEL2**	**Description**
0	0	RUN
E	E	RUN with configuration slave [1]
1	1	addressing Safety Input 1
2	2	addressing Safety Input 2
3	3	addressing Safety Input 3, contacts
4	4	addressing Safety Input 4, contacts
5	5	addressing Safety Input 3, OSSD (see manual for details)
6	6	addressing Safety Input 4, OSSD (see manual for details)
7	7	addressing Safety Output 1
8	8	addressing Safety Output 1, diagnostic
9	9	addressing Safety Output 2
A	A	addressing Safety Output 2, diagnostic
D	D	reset to factory defaults

[1] Ident.No. ≥15197

Diagnostics (device colors)

Value	Color	Description	State change	LED O1/2
0	green	output on		on
1	green flashing	–		–
2	yellow	restart inhibit	auxiliary signal 2	1 Hz
3	yellow flashing	–		–
4	red	output off		off
5	red flashing	waiting for "reset of error condition" or AUX missing	auxiliary signal 1 or connect AUX	8 Hz
6	gray	internal error, such as "fatal error"	only via "Power ON" on device	all LEDs flashing
7	green/yellow	output released, but not switched on	switching-on by setting of O0	off

Accessories:

• **Safe contact expander, 1 or 2 independent channels (art. no. BWU2548 / BWU2539)**

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