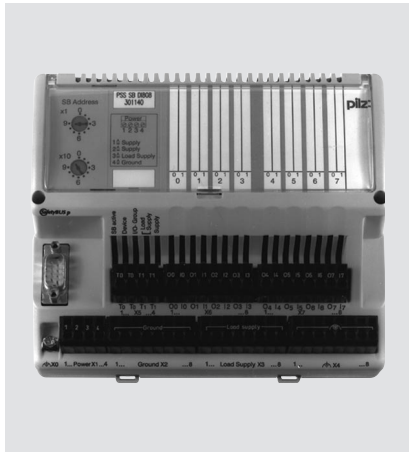


## Decentralised Digital I/Os for SafetyBUS p® PSS SB DI8O8






Digital inputs and output circuits with redundant design and integral software algorithms for safety-related functions.

### Features

- SafetyBUS p® connection
- 8 digital inputs
- 6 digital outputs (2 A), positive-switching
- 2 digital outputs (2 A), negative-switching
- 2 dedicated test pulses
- Flexible power supply
- Galvanic isolation for a high level of noise suppression between SafetyBUS p® and the I/Os
- Integral protection circuits for trouble-free installation
- Inputs and outputs can be allocated to a maximum of two groups on SafetyBUS p®

### Approvals

	PSS SB DI8O8
	●
	Pending
	●

Technical details		PSS SB DI8O8
Function	Digital I/O	
Application range	Failsafe applications conforming to EN 954-1, 11/94 up to Cat. 4 and DIN V 19 250, 01/89 up to AK 6	
Electrical data		
Supply	24 VDC, 150 mA plus load currents from the test pulse outputs	
Load supply	24 VDC, max. 10 A	
Tolerance range	20 ... 30 VDC including residual ripple	
Galvanic isolation	Yes (optocoupler), between I/Os and SafetyBUS p®	
Connection type for inputs and outputs	Spring-loaded terminals or plug-in screw connectors	
SafetyBUS p®		
Transmission rate	Max. 500 kBit/s	
Cable runs	Max. 3500 m	
Transmission type	Differential two-wire cable	
Connection	9-pin D-Sub coupling	
Outputs, positive-switching		
Number	6	
Potential isolation	Yes, between outputs and SafetyBUS p®	
Output current at "1"	2 A	
Permitted range	0 ... 2.5 A	
Short circuit protection	Electronic	
Limitation of inductive switch off	Approx. $U_B$ -60 VDC	
Simultaneity	100 % up to max. 10 A, all outputs	
Residual current at "0"-signal	0 mA	
Signal level at "0"	0 VDC	
Signal level at "1" and 2.5 A Load	$U_B$ -1 VDC	
Minimum output switch delay	50 µs	
Status indicator	Green LED	
Outputs, negative-switching		
Number	2	
Potential isolation	Yes, between outputs and SafetyBUS p®	
Output current at "1"	2 A	
Permitted range	0 ... 2.5 A	
Short circuit protection	Electronic	
Limitation of inductive switch off	Approx. $U_B$ 60 VDC	
Simultaneity	100 % up to max. 10 A, all outputs	
Residual current at "0"-signal	0 mA	
Signal level at "0"	$U_B$	
Signal level at "1" and 2.5 A load	< 1 VDC	
Minimum output switch delay	50 µs	
Status indicator	Green LED	
Inputs		
Number	8	
Potential isolation	Yes, between inputs and SafetyBUS p®	
Signal level at "0"	-3 ... +5 VDC	
Signal level at "1"	+15 ... +30 VDC	
Input current	Typ. 6 mA	
Input delay	< 1 ms	
Status indicator	Yellow LED	

## Decentralised Digital I/Os for SafetyBUS p® PSS SB DI8O8

### Description

The PSS can read and process the status of inputs and outputs in bits or bytes via SafetyBUS p®. The inputs and outputs on the PSS SB DI8O8 can be allocated to a maximum of 2 logical groups on SafetyBUS p®. Outputs may only belong to one of the groups. Each input and each output has space available for inscription and a status LED.

The inputs are suitable for connecting:

- Single-channel safety-related input devices, with or without test pulse
- Dual-channel safety-related input devices, with or without test pulses

The positive-switching outputs are fed from the actuator supply and are suitable:

- For connecting resistive and inductive loads with max. 2 A
- For connecting capacitive loads up to 1 µF
- To supply an input device, without a test pulse
- As a dual-pole output, when used in conjunction with a negative-switching output

The negative-switching outputs are suitable:

- For connecting resistive and inductive loads with a max. 2 A, when used in conjunction with a positive-switching output
- For non-safety-related applications, in which it is permitted to switch to earth

The dedicated test pulses are fed from the module supply and are suitable for:

- Testing input devices with a max. load of 0.5 A

When used in conjunction with the failsafe inputs on the PSS SB DI8O8, test pulses enable external wiring to be monitored for shorts across contacts and external voltage sources.

Dedicated test pulses	PSS SB DI8O8
Supply	From the module supply
Number	2 (one terminal pair per test pulse)
Output current at "1"	Max. 0.5 A per terminal
Total load capacity	Max. 0.5 A per terminal pair
Mechanical data	
Size (H x W x D)	140 x 170 x 65 mm
Weight	530 g
Environmental data	
Protection type (EN 60529, 10/91)	IP 20
Protection class (DIN VDE 0106, Part 1/A1, 04/90)	3
Mounting position	Any
Ambient temperature (DIN IEC 68-2-14, 06/87)	0 ... +60 °C
Storage temp. (EN 60068-2-1/2, 03/93)	-25 ... +70 °C
Climatic suitability (IEC 68-2-30, 09/86)	Max. 95% r.h.
Condensation	Not permitted
Vibration (EN 60068-2-6, 04/95)	Frequency range: 10 ... 100 Hz Amplitude: 0.1 mm, max. 5g
Vibration resistance (DIN IEC 68-2-29)	30g, 11 ms/10g, 16 ms
EMC	EN 50082-2, 03/95 EN 55011 A, 08/96

Order references	
System	SafetyBus p
Description	Order number
PSS SB DI8O8 with spring-loaded terminals	301 148
PSS SB DI8O8 with spring-loaded terminals and PSS SB SUB-D0 connector	301 138
PSS SB DI8O8 with plug-in screw connectors	301 149
PSS SB DI8O8 with screw connectors and PSS SB SUB-D0 connector	301 139
PSS SB DI8O8 without terminals	301 140

Order references accessories	
System	SafetyBus p
Description	Order number
Set of spring-loaded terminals	311 061
Set of plug-in screw connectors	311 060
Fixing bolts PSS SB DI(O)	311 068

The module address is established by setting the address switch. Input devices and loads are connected via plug-in screw connectors or spring-loaded terminals.

The module is connected to SafetyBUS p® via the PSS SB SUB-D0 connector.