

8.1 Technical details

Technical details	
Application range	Failsafe
Maximum achievable category in accordance with EN 954-1	4
Maximum achievable SIL value	SIL3
Module's device code	0C00h
Number of FS output bits	2
Support in system environment A	yes base type, T-type no R-type
from FS firmware version for other head modules	4 base type, T-type
from FS firmware version PSSu H F PN	1 base type, T-type
Support in system environment B	yes
from head module FS firmware version	1.0.0 base type, T-type 1.5.0 R-type
Electrical data	
Internal supply voltage (module supply)	
Supply voltage range of module supply	4.8 - 5.4 V
Module's current consumption	45 mA
Module's power consumption	0.23 W
Periphery's supply voltage (periphery supply)	
Voltage range	16.8 - 30.0 V
Module's current consumption with no load	30 mA
Module's power consumption with no load	0.72 W
Max. power dissipation of the module	1.50 W
Outputs	
Number of positive-switching single-pole semiconductor outputs	2
Short circuit-proof	yes
Potential isolation between semiconductor output and voltage for the internal module bus	yes
Typ. output current at "1" signal and rated voltage of semiconductor output	2.00 A
Monitoring threshold of semiconductor output	6.0 V
Permitted current range	0.00 - 2.50 A
Max. pulsed current for $t < 100$ ms	12 A
Residual current at "0" signal	0.02 mA
Max. duration of on time during self test	200 μs
Max. duration of off time during self test	350 μs
Permitted loads	inductive, capacitive, resistive
Times	
Max. processing time for semiconductor output when signal changes from "1" to "0"	0.020 ms
Max. processing time for semiconductor output when signal changes from "0" to "1"	0.010 ms

8.1 Technical details

Environmental data	
Climatic suitability	EN 50125-1, EN 50125-3, EN 60068-2-14, EN 60068-2-1, EN 60068-2-2, EN 60068-2-30, EN 60068-2-78
Ambient temperature in accordance with EN 60068-2-14 base type, T-type	-40 - 70 °C T-type 0 - 60 °C base type
Storage temperature in accordance with EN 60068-2-1/-2	-25 - 70 °C base type -40 - 70 °C T-type
Climatic suitability in accordance with EN 60068-2-30, EN 60068-2-78	93 % r. h. at 40 °C base type, T-type
Condensation	yes T-type no base type
EMC	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-6-2, EN 61000-6-4
Vibration to EN 60068-2-6 base type, T-type	
Frequency	10 - 150 Hz base type, T-type
Max. acceleration	1g base type, T-type
Broadband noise in accordance with EN 60068-2-64 T-type	
Frequency	5 - 500 Hz T-type
Max. acceleration	1.9grms T-type
Shock stress	
EN 60068-2-27 base type, T-type	15g base type, T-type 11 ms base type, T-type
EN 60068-2-29 base type, T-type	10g base type, T-type 16 ms base type, T-type
Protection type in accordance with EN 60529 base type, T-type	
Mounting (e.g. cabinet)	IP54 base type, T-type
Housing	IP20 base type, T-type
Terminals	IP20 base type, T-type
Airgap creepage in accordance with EN 60664-1 base type, T-type	
Overvoltage category	II base type, T-type
Pollution degree	2 base type, T-type
Environmental data for railway applications	
Installation location in accordance with EN 50125-3 R-type	Track area (1m – 3m) R-type
Installation location in accordance with EN 61373 R-type	Category 1, Class A + B R-type
Climatic suitability	50125-1, 50125-3, 50155
Max. operating height above sea level	2,000 m R-type
Ambient temperature in accordance with EN 50155 R-type	-40 ... +70 °C R-type
Ambient temperature in accordance with EN 50125-1 R-type, EN 50125-3 R-type	-40 ... +70 °C R-type
Shock stress EN 50125-3 R-type	2 g R-type 11 ms R-type
Vibration to 50125-3 R-type	0.23 g R-type 5 ... 2,000 Hz R-type
Shock stress EN 61373 R-type	5 g R-type 30 ms R-type

8.1 Technical details

Environmental data for railway applications	
Broadband noise in accordance with EN 61373 R-type	
Max. acceleration	0.79 g RMS R-type
Frequency	5 ... 150 Hz R-type
Protection type in accordance with EN 60529 R-type	
Mounting (e.g. cabinet)	IP51 R-type
Housing	IP20 R-type
Terminals	IP20 R-type
Airgap creepage in accordance with EN 50124-1 R-type	
Overvoltage category	OV2 R-type
Pollution degree	PD1 R-type
Supply interruptions in accordance with EN 50155 R-type	
S2, C1, C2 R-type	
Mechanical data	
Housing material	
Front	PC
Bottom	PC
Coding	PA
Dimensions	
Height	76.0 mm
Width	12.6 mm
Depth	60.2 mm
Weight	44 g
Mechanical coding	
Type	F
Colour	yellow

Safety characteristic data						
Unit	Operating mode	EN ISO 13849-1: 2006 PL	EN 954-1 Category	EN IEC 62061 SIL CL	PFH [1/h]	EN ISO 13849-1: 2006 T _M [year]
SC outputs (1-pin)	single-channel	PL d (Cat. 2)	Cat. 3	SIL CL 2	9.00E-09	20
SC outputs (1-pin)	dual-channel	PL e (Cat. 4)	Cat. 4	SIL CL 3	1.13E-09	20

All the units used within a safety function must be considered when calculating the safety characteristic data.

The standards current on **2009-10** apply.

8.2 Order reference

Order reference	
Description	Order no.
PSSu E F 2DO 2 (Electronic module, base type)	312 215
PSSu E F 2DO 2-T (Electronic module, T-type)	314 215
PSSu E F 2DO 2-R (Electronic module, R-type)	315 215
Base modules	Order no.
PSSu BP 1/8S (Base module without C-rail with screw terminals)	312 600
PSSu BP 1/8S-T (Base module without C-rail with screw terminals, T-type)	314 600
PSSu BP 1/8C (Base module without C-rail with cage clamp terminals)	312 601
PSSu BP 1/8C-T (Base module without C-rail with cage clamp terminals, T-type)	314 601
PSSu BP-C 1/8S (Base module with C-rail and screw terminals)	312 610
PSSu BP-C 1/8S-T (Base module with C-rail and screw terminals, T-type)	314 610
PSSu BP-C 1/8C (Base module with C-rail and cage clamp terminals)	312 611
PSSu BP-C 1/8C-T (Base module with C-rail and cage clamp terminals, T-type)	314 611
PSSu BP 1/12S (Base module without C-rail with screw terminals)	312 618
PSSu BP 1/12S-T (Base module without C-rail with screw terminals, T-type)	314 618
PSSu BP 1/12C (Base module without C-rail with cage clamp terminals)	312 619
PSSu BP 1/12C-T (Base module without C-rail with cage clamp terminals, T-type)	314 619
PSSu BP-C1 1/12S (Base module with C-rail and screw terminals)	312 622
PSSu BP-C1 1/12S-T (Base module with C-rail and screw terminals, T-type)	314 622
PSSu BP-C1 1/12C (Base module with C-rail and cage clamp terminals)	312 623
PSSu BP-C1 1/12C-T (Base module with C-rail and cage clamp terminals, T-type)	314 623