

EC-Type Examination Certificate

No. M6A 020132 0294 Rev. 00

Holder of Certificate: Pilz GmbH & Co. KG
Felix-Wankel-Str. 2
73760 Ostfildern
GERMANY

Product: Automation Equipment, Safety Related
Safety related automation device

Model(s): Automation Systems PSS u2

Parameters: Power supply: 24V DC
Protection class: IP20

The report and the user documentation in the current valid revision are mandatory part of this certificate. The product complies with the below listed safety requirements only if the specifications documented in the currently valid revision of this report are met. The certified components are listed in the report PO89790T: safety related modules according to the currently valid revision.

This EC Type Examination Certificate is issued according to Article 12(3) b or 12(4) a of Council Directive 2006/42/EC relating to machinery. It confirms that the listed Annex-IV equipment complies with the principal protection requirements of the directive. It refers only to the sample submitted to TÜV SÜD Product Service GmbH for testing and certification. For details see: www.tuvsud.com/ps-cert

Test report no.: PO97934C

Valid until: 2026-12-19

Date, 2021-12-20



(Christian Dirmeier)



Product Service

CERTIFICATE

No. Z10 020132 0293 Rev. 00

Holder of Certificate: Pilz GmbH & Co. KG
Felix-Wankel-Str. 2
73760 Ostfildern
GERMANY

Certification Mark:



Product: Automation Equipment, Safety Related
Safety related automation device

Model(s): Automation Systems PSS u2

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The report and the user documentation in the current valid revision are mandatory part of this certificate. The product complies with the below listed safety requirements only if the specifications documented in the currently valid revision of this report are met. The certified components are listed in the report PO89790T: safety related modules according to the currently valid revision.

Tested according to: EN 62061:2005/A2:2015
EN ISO 13849-1:2015 (up to Cat.4 PL e)
EN 61508-1:2010 (up to SIL 3)
EN 61508-2:2010 (up to SIL 3)
EN 61508-3:2010 (up to SIL 3)
EN 61131-2:2007
EN 298:2012
EN 13851:2019

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: www.tuvsud.com/ps-cert

Test report no.: PO97934C
Valid until: 2026-12-19

Date, 2021-12-20

(Christian Dirmeier)



Add value.
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Liste zur Verfolgung der Versionsfreigaben der sicherheitsgerichteten Baugruppen des Automatisierungssystems:

List for tracking the version releases of safety related modules
of the automation system:

PSS u2

Hersteller / Manufacturer:

Pilz GmbH & Co. KG
Felix-Wankel-Straße 2
D-73760 Ostfildern

Bericht-Nr. / Report No.: **PO89790T**

Revision: **1.20**

Datum / Date: **2026-05-05**

Zertifikat / Certificate: **Z10 020132 0293 Rev. 00**

Testing Laboratory for Safety Components:

TÜV SÜD Rail GmbH
Rail Automation
Westendstr. 199
D-80686 Munich

Certification Body:

TÜV SÜD Product Service GmbH
Ridlerstr. 65
D-80339 Munich

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Änderungen zur Vorgängerversion / Changes to the previous version:

Kapitel / Chapter	Baugruppe / Device	Version Alt / old	Version Neu / new
3.3	PSS u2 EF 2AI I (328200)	01.x / 01.00.x	02.x / 01.01.x
3.3	PSS u2 EF 2AI I -R (327200)	-	01.x / 01.01.x
Zertifikatsnummer auf Titelseite hinzugefügt / Added certification number on title page			

1 PAS (Pilz Automation Suite)

1.1 PASconfig

Typ / Type ¹⁾ (Sach-Nr. / Order No.)	Beschreibung Description	Version ²⁾	Internal Test Report
PASconfig	PASconfig dient der Konfigurierung von Steuerungen der Systemfamilie PSS u2. PASconfig is used to configure control systems of the PSS u2 system family.	3.0.x	PO93309T R1.0
		3.1.x	PO93309T R1.1
		4.0.x	PO93309T R1.2 PO93309T R1.3
		5.0.x	PO97153T R1.0
		5.1.x	PO97153T R1.1
		6.0.x	PO105247T R1.0
		6.1.x	PO105247T R1.1

2 PSS u2 - Kopfmodule / PSS u2 - Head module

Typ / Type ¹⁾ (Sach-Nr. / Order No.)	Beschreibung Description	Version ²⁾ HW / SW	Internal Test Report	Safety characteristic ³⁾	Sicherheits-Kennzahlen / Safety properties		
					PFD/PFH	T _{mission} = 10a	T _{mission} = 20a
PSS u2 P0 F/S PN (328061)	Kopfmodul mit Profinet-Slave - Anschaltung Head module with Profinet-Slave interface	03.x / 02.00.x	(PO89769T R1.0) PO92589T R1.0) PO94905T R1.0 PO97933T R1.0	SIL 3 Max. SIL 3 PL "e"	PFD Head PFH Head	5,40E-5 2,78E-9 [1/h]	8,91E-5 2,80E-9 [1/h]
PSS u2 P0 F/S PN2 (328062)	Kopfmodul mit Profinet-Slave - An- schaltung Head module with Profinet-Slave interface	03.x / 01.00.x	PO95951T R1.0 PO97933T R1.0	SIL 3 Max. SIL 3 PL "e"	PFD Head PFH Head	5,40E-5 2,78E-9 [1/h]	8,91E-5 2,80E-9 [1/h]
PSS u2 P0 F/S EIP (328071)	Kopfmodul mit Ethernet/IP Anschaltung und CIPSafety Head module with Ethernet/IP interface and CIPSafety	03.x / 01.01.x	(PO91431T R1.0) PO94905T R1.0 PO97933T R1.0	SIL 3 Max. SIL 3 PL "e"	PFD Head PFH Head	5,40E-5 2,78E-9 [1/h]	8,91E-5 2,80E-9 [1/h]

2 PSS u2 - Kopfmodule / PSS u2 - Head module

PSS u2 P0 F/S EIP2 (328072)	Kopfmodul mit Ethernet/IP Anschaltung und CIPSafety Head module with Ethernet/IP interface and CIPSafety	03.x / 01.01.x	PO95951T R1.1 PO97933T R1.0	SIL 3 Max. SIL 3 PL "e"	PFD Head PFH Head	5,40E-5 2,78E-9 [1/h]	8,91E-5 2,80E-9 [1/h]
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3 PSS u2 - Elektronikmodule / PSS u2 - Electronic modules

Typ / Type ¹⁾ (Sach-Nr. / Order No.)	Beschreibung / Description	Version ²⁾ HW / SW	Internal Test Report	Safety characteristic ³⁾	Sicherheits-Kennzahlen / Safety properties		
					PFD/PFH	T _{mission} = 10a	T _{mission} = 20a
PSS u2 EF 8DI (328101)	I/O-Modul, 8 digitale Eingänge, 4 Testtaktausgänge I/O Module, 8 digital Inputs, 4 test pulse outputs	01.x / 01.02.x	PO89769T R1.0 PO93724T R1.0 PO97933T R1.0 PO100927T R1.0	SIL 2 PL "d"	PFD single input PFH single input	1,02E-4 2,33E-9 [1/h]	2,04E-4 2,33E-9 [1/h]
				SIL 3 Max. SIL 3 PL "e"	PFH double input	5,40E-6 1,24E-10 [1/h]	1,09E-5 1,25E-10 [1/h]
				Mit Testtakt With test pulse: SIL 3 Max. SIL 3 PL "e"	PFD single input PFH single input	1,34E-5 3,03E-10 [1/h]	2,68E-5 3,05E-10 [1/h]
					PFD double input PFH double input	3,61E-6 8,28E-11 [1/h]	7,30E-6 8,40E-10 [1/h]
PSS u2 EF 8DO 0.5A (328131)	I/O-Modul, 8 digitale Ausgänge, einpoleig, 0,5 A I/O Module, 8 digital Outputs, single pole, 0,5 A	01.x / 01.00.x	PO89769T R1.0 PO97933T R1.0	SIL 2 Max. SIL 2 PL "d"	PFD single output PFH single output	5,79E-5 1,32E-9 [1/h]	1,16E-4 1,32E-9 [1/h]
				SIL 3 PL "e"	PFD doubleoutput PFH double output	8,52E-6 1,96E-10 [1/h]	1,72E-5 1,99E-10 [1/h]
PSS u2 EF 4DO 2A (328133)	I/O-Modul, 4 digitale Ausgänge, einpoleig, 2 A I/O Module, 4 digital Outputs, single pole 2 A	01.x / 01.02.x	PO89769T R1.0 PO97933T R1.0 PO100927T R1.0	SIL 2 Max. SIL 2 PL "d"	PFD single output PFH single output	5,79E-5 1,32E-9 [1/h]	1,16E-4 1,32E-9 [1/h]
				SIL 3 PL "e"	PFD double output PFH double output	8,52E-6 1,96E-10 [1/h]	1,72E-5 1,99E-10 [1/h]
PSS u2 EF 2DO TP 2A (328140)	I/O-Modul, 2 digitale, zweipolige Ausgänge, 2 A I/O Module, 2 digital outputs, dual pole, 2 A	01.x / 01.00.x	PO89769T R1.0 PO97933T R1.0	SIL 3 Max. SIL 3 PL "e"	PFD double output PFH double output	8,66E-6 1,99E-10 [1/h]	1,75E-5 2,02E-10 [1/h]

3 PSS u2 - Elektronikmodule / PSS u2 - Electronic modules

Typ / Type ¹⁾ (Sach-Nr. / Order No.)	Beschreibung / Description	Version ²⁾ HW / SW	Internal Test Report	Safety characteristic ³⁾	Sicherheits-Kennzahlen / Safety properties		
					PFD/PFH	T _{mission} = 10a	T _{mission} = 20a
PSS u2 EF 2DO R 8A (328150)	I/O-Modul, 2 Relaisausgänge, 8A I/O Module, 2 Relay outputs, 8A	02.x / 01.02.x	(PO89769T R1.0) PO94905T R1.0 PO97933T R1.0 PO100927T R1.0	No SIL PL "c"	PFD single output PFH single output	5,12E-5 1,17E-7 [1/h]	1,03E-2 1,17E-7 [1/h]
				SIL 2 Max. SIL 2 PL "d"	PFD double output PFH double output	1,04E-5 2,39E-10 [1/h]	2,10E-5 2,42E-10 [1/h]
PSS u2 EF 2AI I (328200)	I/O-Modul, 2 analoge Eingänge, 0 ... 25 mA I/O-Module, 2 Analogue Inputs 0 ... 25 mA	02.x / 01.01.x	PO102485T R1.0 PO106882T R1.0	SIL 2 Max. SIL 2 PL "d"	PFD single input PFH single input	9,35E-06 2,12E-10 [1/h]	1,87E-05 2,14E-10 [1/h]
				SIL 3 Max. SIL 3 PL "e"	PFD double input PFH double input	4,98E-06 1,14E-10 [1/h]	1,01E-05 1,16E-10 [1/h]

4 PSS u2 - Spannungsversorgungsmodule / PSS u2 - Powersupply modules

Typ / Type ¹⁾ (Sach-Nr. / Order No.)	Beschreibung Description	Version ²⁾ HW / SW	Safety ³⁾ characteristic
PSS u2 ES PSP (328080)	Spannungsversorgungs-Modul (Peripherie 24 V und System 5V) Powersupply module (Periphery 24 V and System 5V)	01.x / 01.01.x	Kein Sicherheitsteil No safety device

5 Zubehör / Accessories

Typ / Type ¹⁾ (Sach-Nr. / Order No.)	Beschreibung Description	Version ²⁾	Safety ³⁾ characteristic
PSS u2 B 1 (328811)	Modulträger für Elektronikmodule, 1 Steckplatz Module carrier, for electronic modules, 4 slots	01.x	Kein Sicherheitbauteil No safety device
PSS u2 B 4 (328810)	Modulträger für Elektronikmodule, 4 Steckplätze Module carrier, for electronic modules, 1 slot	01.x	Kein Sicherheitbauteil No safety device

6 Fußnote / Footnote

1) Typ / Type:

Sach.Nr.: Order No.:	Ergänzbar durch Zeichen im Bereich AA...ZZ und 00...99 / Can be added by Character in range AA...ZZ and 00...99.
T:	Coated Version mit erweitertem Temperaturbereich / Coated Version with extended temperature range

2) Version:

Die Angaben in der Versionsspalte geben die zugelassene Hardware- (HW) / Fail-Safe-Software- (SW) Kombinationen an. „xx“ im Bereich: 00...99 or „x“ im Bereich: 0-9.
The entry in the version column, shows the allowed hardware (HW) / fail safe software (SW) combinations. „xx“ in range: 00...99 or „x“ in range: 0...9.

3) Sicherheitsmerkmal / Safety characteristics:

Tmission :	Gebrauchsdauer für 10/20 Jahre nach EN ISO 13849-1. Der Wert gilt auch als Intervall der Wiederholungsprüfungen entsprechend EN 61508-6 und IEC 61511 und als Intervall für den Proof-Test und die Gebrauchsdauer nach EN 62061. Mission Time for 10/20 years according to EN ISO 13849-1. The value is also valid as the interval of the proof test according to EN 61508-6 and IEC 61511 and as the interval for the proof test and the service life according to EN 62061.
Cat. :	Maximal erreichbare Gebrauchskategorie nach EN ISO 13849-1. Maximum achievable usage Category according to EN ISO 13849-1.
PL :	Maximal erreichbarer Leistungsgrad entsprechend EN 13849-1. Maximum obtainable Performance Level according EN 13849-1.
Maximum SIL:	Maximal erreichbarer Sicherheitsintegritätsstufen Anspruchsgrenze entsprechend EN / IEC 62061. Maximum obtainable Safety Integrity Level Claim Limit according EN / IEC 62061.
SIL :	Maximal erreichbarer Sicherheitsintegritätsstufe entsprechend EN 61508-6 und IEC 61511. Maximum obtainable Safety Integrity Level according EN 61508-6 and IEC 61511.
PFD :	Wahrscheinlichkeit eines gefährliche Versagens bei Anforderung der Sicherheitsfunktion. Probability of Failure on Demand.
PFHD :	Wahrscheinlichkeit eines gefährbringenden Ausfalls pro Stunde. Probability of a Dangerous Failure per Hour.

4) Normkonformität / Conformity with Standards:

Die Hardware erfüllt ebenfalls die Anforderungen nach:
The Hardware fulfills also the requirements of:

Norm / Standard	Subject
EN 62061:2005/A2:2015	Sicherheit von Maschinen - Funktionale Sicherheit sicherheitsbezogener elektrischer, elektronischer und programmierbarer elektronischer Steuerungssysteme Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems
EN 61131-2:2007	Speicherprogrammierbare Steuerungen - Teil 2: Betriebsmittelanforderungen und Prüfungen Programmable controllers – Part 2: Equipment requirements and tests
EN 298:2012	Feuerungsautomaten für Brenner und Brennstoffgeräte für gasförmige oder flüssige Brennstoffe Automatic burner control systems for burners and appliances burning gaseous or liquid fuels
EN 50156-1:2015	Elektrische Ausrüstung von Feuerungsanlagen und zugehörige Einrichtungen - Teil 1: Bestimmungen für die Anwendungsplanung und Errichtung Electrical equipment for furnaces and ancillary equipment - Part 1: Requirements for application design and installation
EN 50156-2:2015, clause 4.2.3	Elektrische Ausrüstung von Feuerungsanlagen und zugehörige Einrichtungen - Teil 2: Bestimmungen für den Entwurf, die Entwicklung und die Baumusterprüfung von Sicherheitsbauteilen und Teilsystemen Electrical equipment for furnaces and ancillary equipment - Part 2: Requirements for design, development and type approval of safety devices and subsystems
EN ISO 14118:2018	Sicherheit von Maschinen - Vermeidung von unerwartetem Anlauf Safety of machinery – Prevention of unexpected start-up
EN ISO 13851:2019	Sicherheit von Maschinen - Zweihandschaltungen - Funktionelle Aspekte und Gestaltungsleitsätze Safety of machinery – Two-hand control devices - Principles for design and selection
EN ISO 16092-1:2018	Werkzeugmaschinen-Sicherheit - Pressen - Teil 1: Allgemeine Sicherheitsanforderungen Machine tools safety - Presses - Part 1: General safety requirements
EN ISO 16092-2:2020	Werkzeugmaschinen - Sicherheit von Pressen - Teil 2: Mechanische Pressen Machine tools - Safety for presses - Part 2: Mechanical presses
EN ISO 16092-3:2018	Werkzeugmaschinen-Sicherheit - Pressen - Teil 3: Sicherheitsanforderungen für hydraulische Pressen Machine tools safety - Presses - Part 3: Safety requirements for hydraulic presses
EN ISO 16092-4:2020	Werkzeugmaschinen-Sicherheit - Pressen - Teil 4: Pneumatische Pressen Machine tools safety - Presses - Part 4: Safety requirements for pneumatic presses
Für die Prüfung und Zertifizierung der Firmware, bzgl. der Verarbeitung sicherheitsgerichteter Signale, wurden nachfolgende Normen zusätzlich mit herangezogen: For test and certifying of the firmware, concerning the processing of safety-related signals, the following additional standards were consulted:	
Norm / Standard	Subject
EN 13243:2015 (up to AK4)	Sicherheitsanforderungen an Seilbahnen für den Personenverkehr - Elektrische Einrichtungen ohne Antriebe Safety requirements for cableway installations designed to carry persons - Electrical equipment other than for drive systems



Die Hardware erfüllt ebenfalls die Anforderungen nach:
The Hardware fulfills also the requirements of:

SR 743.121.1: 2004
SR 743.121.3: 2004

Schweizer Verordnung über Seilbahnen zur Personenbeförderung (SebV)
Anmerkung: Für (programmierbare) Elektronik sind nur die allgemeinen Anforderungen der Schweizer Vorschriften eingehalten.
Swiss Ordinance on Cable Cars for Passenger Transport (SebV)
Note: For (programmable) electronics only the general requirements of the Swiss regulations are met.

	Freigabe Prüfstelle / Release by Test Body:	Freigabe Zertifizierstelle / Release by Certification Body:
Datum: Date:	Julian Wolf	Thomas Kreten
Unterschrift: Signature:	 2026.05.05 15:17:19 +02'00'	 2026.05.07 15:33:38 +02'00'



Rail

Add value.
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Report

on the

Certificate

Z10 020132 0293 Rev. 00

of the

safety-related programmable system
PSS u2

Applicant

Pilz GmbH & Co. KG
Felix-Wankel-Str. 2
73760 Ostfildern
Germany

Report No.: PO97934C

Version 1.0 of 2021-12-17

Testing Laboratory for Safety Components

TÜV SÜD Rail GmbH
Rail Automation
Barthstraße 16
D-80339 München

Certification Body

TÜV SÜD Product Service GmbH
Ridlerstraße 65
D-80339 München

(Page 1 of 14)

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Template: TR_RA_F_04.07 Rev. 14

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Modification History

Rev.	Status	Date	Author	Modification / Description
1.0	Active	2021-12-17	Dr. Julian Wolf	Initial version

Table 1: Modification history

1 Target of Evaluation (ToE)

In October 2021 Pilz GmbH & Co. KG requested TÜV SÜD Rail GmbH to test and certify the PSS u2 according to the standard listed in clause 4 of this report. The project number related to this Technical Report is 717524160.

The ToE is a product used in safety related applications. The PSS u2 is a safety-related programmable system approved for SIL 3 according to IEC 61508, SILCL 3 according to IEC 62061 and Category 4 / PL e according to ISO 13849-1.

This report is based on the initial reports listed in Table 2.

No.	Title	Document number / ID	Project-No.	Rev.	Date
The following reports were issued by TÜV SÜD Rail GmbH:					
[R1]	Report on the Certificate	PO90003C	717509151	1.0	2016-09-22

Table 2: Former test documentation

2 Scope of Testing

2.1 Test Specimen

The safety-related programmable system PSS u2 consists of a head module, backplane module and electronic modules, as depicted in figure below.

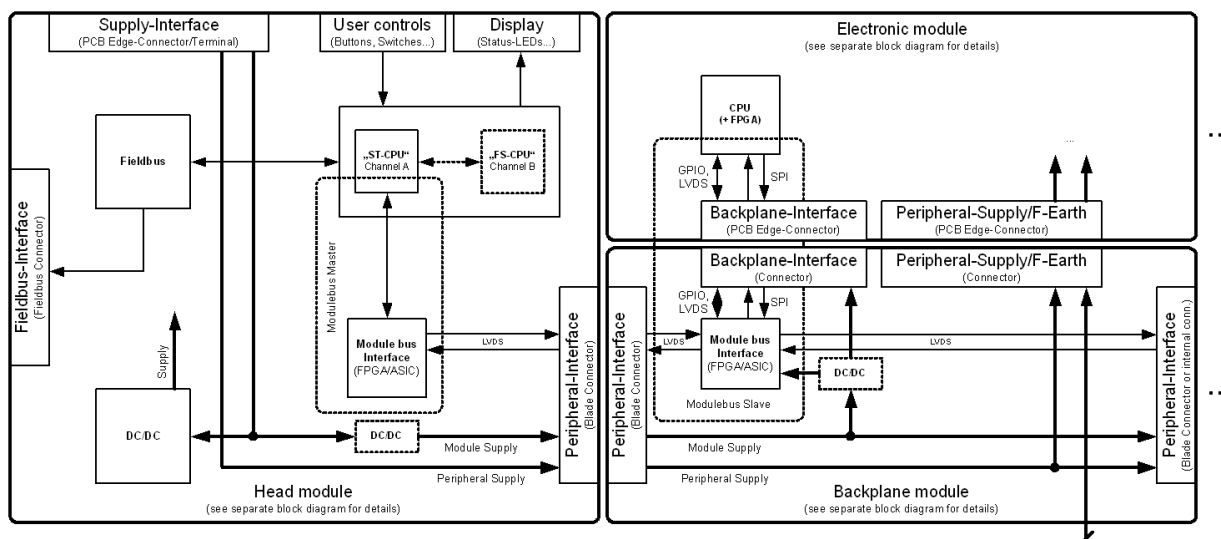


Figure 1: System overview of the PSS u2

The head module can be a PLC or a fieldbus gateway for exchanging cyclic process data (PAA and PAE) as well as acyclic diagnostic data. The communication interface between the PLC/fieldbus and the connected I/Os is the local module bus.

Different types of electronic modules can be connected via the backplane module, e.g. digital input, digital output or relay outputs.

The safety-related programmable system PSS u2 can be build up, using the following components:

- PSS u2 P0 F/S PN; head module with Profibus-Slave interface
- PSS u2 P0 F/S PN2; head module with Profibus-Slave interface
- PSS u2 P0 F/S EIP; head module with Ethernet/IP interface and CIPSafety
- PSS u2 P0 F/S EIP2; head module with Ethernet/IP interface and CIPSafety
- PSS u2 EF 8DI; I/O module 8 digital Inputs, 4 test pulse outputs
- PSS u2 EF 8DO 0.5A; I/O module, 8 digital Outputs, single pole, 0,5 A
- PSS u2 EF 4DO 2A; I/O module, 4 digital Outputs, single pole 2 A
- PSS u2 EF 2DO TP 2A; I/O module, 2 digital outputs, dual pole, 2 A
- PSS u2 EF 2DO R 8; I/O module, 2 Relay outputs, 8A

2.2 Nomenclature and Identification of PSS u2

The product tested is identified by the hardware and software versions as defined in **PO89790T** (List for tracking the version releases of safety related modules of the automation system PSS u2).

3 Certification Requirements

The certification of the PSS u2 will be according to the regulations and standards listed in clause 4 of this document. This will certify the successful completion of the following test segments.

- I. Functional Safety including
 - Functional safety management (FSM) and safety lifecycle
 - Applied safety development process
 - Analysis of the product structure / architecture (Block-Diagram-FMEA)
 - Analysis of the hardware (FMEDA on component or block level, quantitative analysis)
 - Analysis of the software
 - Verification and validation procedures/activities
 - Fault simulations and software tests
 - Approval of fault avoidance measures
 - Functional tests
- II. Electrical Safety
- III. Susceptibility to environmental errors including
 - Climate and temperature
 - IP degree of protection
 - Mechanical effects
- IV. Electromagnetic compatibility (EMC)
 - Immunity
 - Emission
- V. Safety information in the product documentation (safety manual, user manual, installation and operating instructions).
- VI. Product-Related Quality Assurance in Manufacture and Product Development

Certification is dependent on successful completion of all above listed test segments. The testing follows the basic certification scheme for Safety Components of TÜV SÜD Rail GmbH.

3.1 Certification Documentation

The detailed technical evaluation is documented in the most recent version of the Technical Report:

Document No.	Description	Project No.
PO97933T	Technical Report	717524160
Safety related requirements, conditions and restrictions can be found in the following user documentation		
1003986	Manual PSS u2 P0 F/S PN	-
1005394	Manual PSS u2 P0 F/S PN2	-
1004528	Manual PSS u2 P0 F/S EIP	-
1005376	Manual PSS u2 P0 F/S EIP2	-
1003619	Manual PSS u2 EF 8DI	-
1003621	Manual PSS u2 EF 8DO 0.5A	-
1003623	Manual PSS u2 EF 4DO 2A	-
1003624	Manual PSS u2 EF 2DO TP 2A	-
1003625	Manual PSS u2 EF 2DO R 8A	-

Table 3: Technical Report

Based on the specified purpose of use of the PSS u2 in safety critical process applications, the certification is based on the set of standards listed in clause 4 of this document. The issuance of the certificate states compliance with these references unless specifically noted otherwise.

4 Standards and Guidelines

The regulations and guidelines which form the basis of the type testing are listed below.

4.1 Functional Safety

No.	Reference	Description
/N1/	EN 61508-1:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General requirements
/N2/	EN 61508-2:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/ programmable electronic safety-related systems
/N3/	EN 61508-3:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 3: Software requirements
/N4/	EN 62061:2005 / Cor:2010/ A1:2013/ A2:2015	Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems
/N5/	EN ISO 13849-1:2015	Safety of machinery - Safety-related parts of control systems Part 1: General principles for design

Table 4: Basic safety standards

No.	Reference	Description
/N6/	EN 61131-2:2007	Programmable controllers - Part 2: Equipment requirements and tests
/N7/	EN ISO 13851:2019	Safety of machinery – Two-hand control devices - Principles for design and selection
/N8/	EN 50156-1:2004	Electrical equipment for furnaces and ancillary equipment – Part 1: Requirements for application design and installation Remark: New released version available; this version is invalid
/N9/	EN 298:2012	Automatic burner control systems for burners and appliances burning gaseous or liquid fuels

Table 5: Associated safety standards

No.	Reference	Description
<i>Remark: The following standards were approved by other testing services.</i>		
/N10/	EN 13243:2015	Safety requirements for cableway installations designed to carry persons – Electrical equipment other than for drive systems

No.	Reference	Description
/N11/	743.121.1: 2004	Verordnung über die Sicherheitsanforderungen an Umlaufbahnen mit kuppelbaren Klemmen (Umlaufbahnverordnung)
/N12/	743.121.3: 2004	Verordnung über die Sicherheitsanforderungen an Pendelbahnen (Pendelbahnverordnung)
/N13/	EN ISO 14118:2018	Safety of machinery – Prevention of unexpected start-up
/N14/	EN ISO 16092-1:2018	Machine tools safety - Presses – Part 1: General safety requirements
/N15/	EN ISO 16092-2:2020	Machine tools safety - Presses – Part 2: Safety requirement for mechanical presses
/N16/	EN ISO 16092-3:2018	Machine tools safety - Presses – Part 3: Safety requirements for hydraulic presses
/N17/	EN ISO 16092-4:2020	Machine tools safety - Presses – Part 4: Safety requirements for pneumatic presses

Table 6: Other product related standards

4.2 Electrical Safety

Remark: The following standards were approved by other testing services.

No.	Reference	Description
/N18/	EN 61131-2:2007	Programmable controllers - Part 2: Equipment requirements and tests

Table 7: Electrical safety standards

4.3 Environmental Testing

Remark: The following standards were approved by other testing services.

No.	Reference	Description
/N19/	EN 61131-2:2007	Programmable controllers - Part 2: Equipment requirements and tests

Table 8: Environmental testing standards

4.4 Electromagnetic Compatibility

Remark: The following standards were approved by other testing services.

No.	Reference	Description
/N20/	IEC 61326-3-1:2017	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions

Table 9: Electromagnetic compatibility standards

4.5 Safety Information in the Product Documentation (Safety Manual, Operating Instructions, Labelling)

No.	Reference	Description
/N21/	EN 62061:2005 / Cor:2010/ A1:2013/ A2:2015	Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems
/N22/	EN ISO 13849-1:2015	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
/N23/	EN 61508-2: 2010	Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems

Table 10: Safety information standards

4.6 Quality Management System

No.	Reference	Description
[M1]	QMS	Quality Management System TÜV SÜD Rail GmbH
	TR_RA_P_04.50	Test Program Functional Safety TR_RA_P_04.51 Definition Scope of testing TR_RA_P_04.07 Product Modification TR_RA_P_04.52 Concept Phase & Safety Lifecycle TR_RA_P_04.53 Detail Phase Hardware TR_RA_P_04.54 Detail Phase Software TR_RA_P_04.55 Safety Manual TR_RA_P_04.56 Result of Testing
[M2]	D-IS-11190-01-00	DAkKS accreditation according to DIN EN ISO/IEC 17020:2012; inspection body type A
[M3]	D-PL-11190-08-00	DAkKS accreditation according to DIN EN ISO 17025:2018 / EN ISO/IEC 17025:2017

Table 11: Quality Management System

5 Results

5.1 Functional Safety

The tests performed and quality assurance measures implemented by the Pilz GmbH & Co. KG have shown that the PSS u2 complies with the testing criteria specified in clause 4 subject to the conditions defined in clause 6 and is suitable for safety-related use in applications up to

- SIL 3 in accordance with IEC 61508 and
- SILCL 3 according to EN 62061 and
- category 4 PL e according to EN ISO 13849-1.

6 Implementation Conditions and Restrictions

The use of the PSS u2 shall comply with the current version of the safety parts of the user manual, and the following implementation and installation requirements have to be followed, if the PSS u2 is used in safety-related installations.

- The guidelines and requirements specified in the user documentation shall be followed. Only modules certified for safety-related operation shall be used for safety-critical functions.
- Timing aspects like reaction times, test intervals or test execution times have to be considered by the implementation of the final Safety function.
- The PSS u2 has to be placed within a cabinet with at least IP54.
- The operating conditions like lifetime or operating temperature as specified in the user documentation shall be met.
- The procedures of modification of safety related data and components described in the user manual have to be followed.
- The maintenance and repair instructions described in the instruction manual of the PSS u2 have to be followed.

8 Certificate Number

This report specifies technical details and implementation conditions required for the application of PSS u2 to the certificate:

Z10 020132 0293 Rev. 00

Munich, 2021-12-17

Digital
unterscriben
von Christian
Dirmeier
Datum:
2021.12.20
11:23:33 +01'00'

Christian Dirmeier
(Technical Certifier)