

Manufacturer's Declaration

Manufacturer: SIEMENS AG

Address: SIEMENS AG; DF MC
Frauenauracher Straße 80
D-91056 Erlangen
Germany

Product description: **SINUMERIK 828D**
(for included hardware and software releases see annex)

The functional safety functions "Basic Functions" (STO, SBC, SS1) and "Extended Functions" (STO, SBC, SS1, SS2, SLS, SOS, SSM, SDI, SLP) of the above mentioned product fulfil the requirements of SIL2 according to [1] and [4], PLd according to [2] and category 3 according to [2]. The functions STO, SS1 and SS2 correspond to stop category 0, stop category 1 and stop category 2 according to [3], respectively.

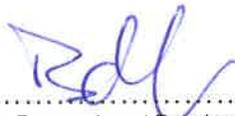
The break test (SBT) is suitable for safety functions up to category 2 according to [2].

Reference number

[1] IEC 61508, part 1 to 3 (2010)
[2] ISO13849 part 1 (2006)
[3] IEC 60204 (2009)
[4] IEC 61800-5-2 (2007)

Erlangen, 14-10-22

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1 Software

1.1 Basic Functions

1.1.1 SINUMERIK PPUs

828D PPU260.1 (Panel Unit) 6FC5370-5AA00-0AA0	828D PPU240.2 (Panel Unit) 6FC5370-4AT20-0AA0	828D PPU240.3 (Panel Unit) 6FC5370-4AT30-0AA0	Safety-Firmware-Version (Basic)
828D PPU261.1 (Panel Unit) 6FC5370-6AA00-0AA0	6FC5370-4AM20-0AA0 6FC5370-4AA20-0FA0	6FC5370-4AM30-0AA0 6FC5370-4AA30-0AA0	
828D PPU280.1 (Panel Unit) 6FC5370-7AA00-0AA0	828D PPU241.2 (Panel Unit) 6FC5370-3AT20-0AA0	828D PPU241.3 (Panel Unit) 6FC5370-3AT30-0AA0	
828D PPU281.1 (Panel Unit) 6FC5370-8AA00-0AA0	6FC5370-3AM20-0AA0 6FC5370-3AA20-0FA0	6FC5370-3AM30-0AA0 6FC5370-3AA30-0FA0	
	828D PPU260.2 (Panel Unit) 6FC5370-6AA20-0AA0	828D PPU260.3 (Panel Unit) 6FC5370-6AA30-0AA0	
	828D PPU261.2 (Panel Unit) 6FC5370-5AA20-0AA0	828D PPU261.3 (Panel Unit) 6FC5370-5AA30-0AA0	
	828D PPU280.2 (Panel Unit) 6FC5370-8AA20-0AA0	828D PPU280.3 (Panel Unit) 6FC5370-8AA30-0AA0	
	828D PPU281.2 (Panel Unit) 6FC5370-7AA20-0AA0	828D PPU281.3 (Panel Unit) 6FC5370-7AA30-0AA0	
V 2.6 HF3 V 2.6 HF4 V 2.6 HF5 V 2.7 SP1 V 2.7 SP2 V 2.7 SP2 HF1 V 2.7 SP3 V 2.7 SP3 HF1 V 2.7 SP3 HF2 V 2.7 SP3 HF3 V 2.7 SP4	---	---	02.60.40.00
---	V 4.3 HF2 V 4.3 HF3 V 4.4 SP1 V 4.4 SP2 V 4.4 SP2 HF1 V 4.4 SP3 V 4.4 SP3 HF1 V 4.4 SP3 HF2 V 4.4 SP3 HF3 V 4.4 SP3 HF4 V 4.4 SP4	---	04.40.22.00
---	V 4.5	---	04.50.30.00
---	V 4.5 SP1 V 4.5 SP2 V 4.5 SP2 HF1 V 4.5 SP2 HF2	---	04.50.30.05
---	V 4.5 SP3	V 4.5 SP3	04.50.30.29
---	V 4.5 SP4	V 4.5 SP4	04.50.30.34
---	V 4.7 V 4.7 HF1 V 4.7 HF2	V 4.7 V 4.7 HF1 V 4.7 HF2	04.70.35.07

1.2 Extended Functions

1.2.1 SINUMERIK PPUs

828D PPU260.1 (Panel Unit) 6FC5370-5AA00-0AA0 828D PPU261.1 (Panel Unit) 6FC5370-6AA00-0AA0 828D PPU280.1 (Panel Unit) 6FC5370-7AA00-0AA0 828D PPU281.1 (Panel Unit) 6FC5370-8AA00-0AA0	828D PPU240.2 (Panel Unit) 6FC5370-4AT20-0AA0 6FC5370-4AM20-0AA0 6FC5370-4AA20-0FA0 828D PPU241.2 (Panel Unit) 6FC5370-3AT20-0AA0 6FC5370-3AM20-0AA0 6FC5370-3AA20-0FA0 828D PPU260.2 (Panel Unit) 6FC5370-6AA20-0AA0 828D PPU261.2 (Panel Unit) 6FC5370-5AA20-0AA0 828D PPU280.2 (Panel Unit) 6FC5370-8AA20-0AA0 828D PPU281.2 (Panel Unit) 6FC5370-7AA20-0AA0	828D PPU240.3 (Panel Unit) 6FC5370-4AT30-0AA0 6FC5370-4AM30-0AA0 6FC5370-4AA30-0AA0 828D PPU241.3 (Panel Unit) 6FC5370-3AT30-0AA0 6FC5370-3AM30-0AA0 6FC5370-3AA30-0FA0 828D PPU260.3 (Panel Unit) 6FC5370-6AA30-0AA0 828D PPU261.3 (Panel Unit) 6FC5370-5AA30-0AA0 828D PPU280.3 (Panel Unit) 6FC5370-8AA30-0AA0 828D PPU281.3 (Panel Unit) 6FC5370-7AA30-0AA0	Safety-Firmware- Version (Extended)
V 2.6 HF3 V 2.6 HF4	---	---	02.60.45.03
V 2.6 HF5	---	---	02.60.45.13
V 2.7 SP1 V 2.7 SP2 V 2.7 SP2 HF1	---	---	02.60.51.00
V 2.7 SP3 V 2.7 SP3 HF1 V 2.7 SP3 HF2	---	---	02.60.57.00
V 2.7 SP3 HF3 V 2.7 SP4	---	---	02.60.58.00
---	V 4.3 HF2 V 4.3 HF3 V 4.4 SP1 V 4.4 SP2 V 4.4 SP2 HF1 V 4.4 SP3 V 4.4 SP3 HF1 V 4.4 SP3 HF2	---	04.40.23.04
---	V 4.4 SP3 HF3 V 4.4 SP3 HF4 V 4.4 SP4	---	04.40.23.35
---	V 4.5	---	04.50.24.00
---	V 4.5 SP1	---	04.50.30.05
---	V 4.5 SP2	---	04.50.30.14
---	V 4.5 SP2 HF1 V 4.5 SP2 HF2	---	04.50.30.24
---	V 4.5 SP3	V 4.5 SP3	04.50.30.30
---	V 4.5 SP4	V 4.5 SP4	04.50.30.34
---	V 4.7 V 4.7 HF1 V 4.7 HF2	V 4.7 V 4.7 HF1 V 4.7 HF2	04.70.29.00

2 Hardware

2.1 SINUMERIK PPUs

Description	Order Purchase No. (MLFB)
PPU 240.2 (Tiger Light, vertical, 8.4", BASIC T)	6FC5370-4AT20-0AA0
PPU 240.3 (Tiger Light, vertical, 8.4", BASIC T)	6FC5370-4AT30-0AA0
PPU 240.2 (Tiger Light, vertical, 8.4", BASIC M)	6FC5370-4AM20-0AA0
PPU 240.3 (Tiger Light, vertical, 8.4", BASIC M)	6FC5370-4AM30-0AA0
PPU 240.2 (Tiger Light, vertical, 8.4")	6FC5370-4AA20-0FA0
PPU 240.3 (Tiger Light, vertical, 8.4")	6FC5370-4AA30-0FA0
PPU 241.2 (Tiger Light, horizontal, 8.4", BASIC T)	6FC5370-3AT20-0AA0
PPU 241.3 (Tiger Light, horizontal, 8.4", BASIC T)	6FC5370-3AT30-0AA0
PPU 241.2 (Tiger Light, horizontal, 8.4", BASIC M)	6FC5370-3AM20-0AA0
PPU 241.3 (Tiger Light, horizontal, 8.4", BASIC M)	6FC5370-3AM30-0AA0
PPU 241.2 (Tiger Light, horizontal, 8.4")	6FC5370-3AA20-0FA0
PPU 241.3 (Tiger Light, horizontal, 8.4")	6FC5370-3AA30-0FA0
PPU 260.1 (vertical, 10.4")	6FC5370-5AA00-0AA0
PPU 260.2 (vertical, 10.4")	6FC5370-6AA20-0AA0
PPU 260.3 (vertical, 10.4")	6FC5370-6AA30-0AA0
PPU 261.1 (horizontal, 10.4")	6FC5370-6AA00-0AA0
PPU 261.2 (horizontal, 10.4")	6FC5370-5AA20-0AA0
PPU 261.3 (horizontal, 10.4")	6FC5370-5AA30-0AA0
PPU 280.1 (vertical, 10.4")	6FC5370-7AA00-0AA0
PPU 280.2 (vertical, 10.4")	6FC5370-8AA20-0AA0
PPU 280.3 (vertical, 10.4")	6FC5370-8AA30-0AA0
PPU 281.1 (horizontal, 10.4")	6FC5370-8AA00-0AA0
PPU 281.2 (horizontal, 10.4")	6FC5370-7AA20-0AA0
PPU 281.3 (horizontal, 10.4")	6FC5370-7AA30-0AA0

3 Restrictions

The following safety functions and features of the drive based safety functionality (dbSI) are explicitly excluded from this manufacturer declaration SINUMERIK 828D (14-10-22) at hand:

Sensor-less Motion monitoring functions without speed sensor (e.g. encoder)

4 Boundary Conditions

The SINUMERIK 828D modules named in this manufacturer's declaration SINUMERIK 828D (14-10-22) at hand shall be used in combination with the dedicated modules listed in the table below. The associated manufacturer's declarations are also listed.

Module Type	PPU2xy.1	PPU2xy.2	Manufacturer Declaration
Motor Modules (booksize)	X		SINAMICS S120 (booksize)
Motor Modules (booksize) – 2. generation	X	X	SINAMICS S120 (booksize)
Motor Modules (chassis/cabinet)	X		SINAMICS S120 (booksize)
Motor Modules (chassis/cabinet) – 2. generation	X	X	SINAMICS S120 (booksize)
Motor Modules (COMBI)	X	X	SINAMICS S120 (booksize)
SMx (Sensor Modules)	X	X	SINAMICS S120 (booksize)
SMx (Sensor Modules) – 2. generation	X	X	SINAMICS S120 (booksize)
TM54F (Terminal Module)	X	X	SINAMICS S120 (booksize)
NX1x.0 (Control Extension)	X		SINUMERIK 840D solution line
NX1x.3 (Control Extension)		X	SINUMERIK 840D solution line