

Overview of functions

CNC controls SINUMERIK 828

Control structure and configuration

✓ Basic version ○ Option – Not available	Article No.	SINUMERIK 828D			
	Note	BASIC SW 24x	SW 26x	SW 28x	SW 28xA
Control structure and configuration					
Panel-based compact CNC comprising:		✓	✓	✓	✓
• Compact operator-panel CNC		✓	✓	✓	✓
• CNC/PLC control unit		✓	✓	✓	✓
• Closed-loop control for drives		5	6	6	6
Design, drive-based/PC-based		–	–	–	–
Operator-panel CNC:					
• Horizontal		✓	✓	✓	✓
• Vertical		✓	✓	✓	✓
• Color display		10.4"	10.4"/15.6"	10.4"/15.6"	10.4"/15.6"
• Integrated QWERTY keyboard with short-stroke keys		✓	✓	✓	✓
SINUMERIK operator panels with TCU		–	–	–	–
SINUMERIK operator panels with PCU		–	–	–	–
SINUMERIK 828D:					
• PPU 240.3	6FC5370-4AA30-0AA1	○	–	–	–
• PPU 241.3	6FC5370-3AA30-0AA1	○	–	–	–
• PPU 280.3	6FC5370-8AA30-0AA1	–	○	○	○
• PPU 281.3	6FC5370-7AA30-0AA1	–	○	○	○
• PPU 290.3	6FC5370-8AA30-0BA0	–	○	○	○
System software, export version, on CF card, with license					
• SINUMERIK 828D with PPU 240/PPU 241:					
- Turning	6FC5835-1GY40-4YA0	○	–	–	–
- Milling	6FC5835-2GY40-4YA0	○	–	–	–
- G-Tech Cylindrical/G-Tech Surface	6FC5835-3GY40-4YA0	○	–	–	–
• SINUMERIK 828D with PPU 280/PPU 281/PPU 290:					
- Turning	6FC5834-1GY40-4YA0	–	○	–	–
- Milling	6FC5834-2GY40-4YA0	–	○	–	–
- G-Tech Cylindrical/G-Tech Surface	6FC5834-3GY40-4YA0	–	○	–	–
- Turning	6FC5833-1GY40-4YA0	–	–	○	–
- Milling	6FC5833-2GY40-4YA0	–	–	○	–
- G-Tech Cylindrical/G-Tech Surface	–	–	–	–	–
- Turning advanced	6FC5836-1GY40-4YA0	–	–	–	○
- Milling advanced	6FC5836-2GY40-4YA0	–	–	–	○
- G-Tech Cylindrical advanced/G-Tech Surface advanced	6FC5836-3GY40-4YA0	–	–	–	○
SINUMERIK Operate Embedded HMI		✓	✓	✓	✓
Windows-based HMI		–	–	–	–
DRIVE-CLiQ drive interface		✓	✓	✓	✓
Numeric Control Extension NX10.3 for applications with up to 8 axes or for reducing the current controller cycle clock to 62.5 µs:	6SL3040-1NC00-0AA0				
• Turning		–	–	○	○
• Milling		–	○	○	○
• G-Tech Cylindrical/G-Tech Surface		–	–	–	○
Numeric Control Extension NX15.3 for applications with up to 10 axes or for reducing the current controller cycle clock to 62.5 µs:	6SL3040-1NB00-0AA0				
• Turning		–	–	–	○
• Milling		–	–	–	–
• G-Tech Cylindrical/G-Tech Surface		–	–	–	○

SINUMERIK CNC controls

SINUMERIK 828D BASIC

PPU 241.3/PPU 240.3

Technical specifications

Article No.		6FC5370-3AA30-0AA1	6FC5370-4AA30-0AA1
Product brand name		SINUMERIK	SINUMERIK
Product type designation		828D	828D
Performance class for CNC controls		BASIC	BASIC
Short product code		PPU 241.3	PPU 240.3
Product designation		Numerical control	Numerical control
Screen diagonal	in	10.4	10.4
Design of display		TFT color	TFT color
Display resolution	Pixels	800 × 600	800 × 600
Design of operator panel		Horizontal	Vertical
Mounting position of operator panel		Vertical	Vertical
Supply voltage at DC	V	24	24
• Relative negative tolerance at 24 V	%	15	15
• Relative positive tolerance at 24 V	%	20	20
Consumed active power maximum	W	60	60
Buffering time in the event of power failure	ms	3	3
• Note		20 ms with SITOP smart power supply	20 ms with SITOP smart power supply
Environmental category acc. to IEC 60721-3-3		Condensation and icing excluded. Low air temperature 0 °C.	Condensation and icing excluded. Low air temperature 0 °C.
Degree of protection			
• front		IP65	IP65
- Note		With the front cover closed	With the front cover closed
• rear		IP20	IP20
Relative humidity at 25 °C, during			
• storage	%	10 ... 100	10 ... 100
• transport	%	5 ... 95	5 ... 95
• operation	%	5 ... 90	5 ... 90
Ambient temperature, during			
• storage	°C	-25 ... +55	-25 ... +55
• transport	°C	-20 ... +60	-20 ... +60
• operation			
- front	°C	0 ... 45	0 ... 45
- rear	°C	0 ... 55	0 ... 55
Width	mm	483	310
Height	mm	220	380
Depth	mm	105	105
Net weight	kg	4.5	4.5
Certificate of suitability		CE, cULus, EAC	CE, cULus, EAC

Selection and ordering data

Description	Article No.
Hardware components	
SINUMERIK 828D BASIC PPU 241.3 horizontal¹⁾	6FC5370-3AA30-0AA1
Without system software	
SINUMERIK 828D BASIC PPU 240.3 vertical¹⁾	6FC5370-4AA30-0AA1
Without system software	
Software components	
System software SW 24x¹⁾	
On CompactFlash card with license software version 4.7 SP3, Export	
• Turning	6FC5835-1GY40-4YA0
• Milling	6FC5835-2GY40-4YA0
• G-Tech Cylindrical/G-Tech Surface	6FC5835-3GY40-4YA0
SINUMERIK 828D toolbox	6FC5830-0CY40-0YA8
On DVD-ROM	
SINUMERIK Integrate for engineering Access MyMachine /P2P	6FC5860-7YC00-0YA0
For PC/PG on CD-ROM current software version	
Language extensions	6FC5860-0YC40-0YA8
On DVD-ROM without license	
• For SINUMERIK 828D up to software version 4.5	
• For SINUMERIK Operate up to software version 2.7	
SIZER for Siemens Drives engineering tool	6SL3070-0AA00-0AG0
For SINAMICS and MICROMASTER on DVD-ROM	
Languages: English, French, German, Italian	
Additional hardware components	
SINAMICS S120 TM54F Terminal Module	6SL3055-0AA00-3BA0
SIMATIC DP PN/PN coupler	6ES7158-3AD01-0XA0
Coupling module for connecting 2 PROFINET networks	
DRIVE-CLiQ signal cable, pre-assembled	
For PROFINET connection	
• In fixed lengths ²⁾	6SL3060-4A..0-0AA0
• In precise decimeter lengths ²⁾	
- Connector degree of protection IP20	6FX2002-1DC00-....
- Connector degree of protection IP67	6FX2002-1DC20-....
Accessories	
CompactFlash card, 2 GB, empty	6FC5313-5AG00-0AA2
To expand user memory and replace a defective system CompactFlash card	
Front cover for PPU	6FC5348-2AA00-0AA0
With fixture (included in scope of delivery)	

More information

The following hardware components are only available in packages and cannot be ordered individually:

- SINUMERIK 828D BASIC PPU 241.3/PPU 240.3

When the package is delivered, the CompactFlash card containing the system software is already installed in the SINUMERIK.

For more information, please contact your Siemens branch.

¹⁾ Not available individually, see More information.

²⁾ For complete Article No. and length code, refer to MOTION-CONNECT connection systems.

Article number index

Type	Page	Type	Page	Type	Page
6FC5088-...		6FC5398-... (continued)		6FC5830-0CY40-...	
6FC5088-4AA22-4AB1	8/10	6FC5398-4BP40-5.A3	8/4	6FC5830-0CY40-0YA8	3/5, 3/11, 3/16
6FC5095-...		6FC5398-5BP40-5.A3	8/5	6FC5833-...	
6FC5095-0AA84-0AA2	8/3	6FC5398-6AP40-5..3	8/3	6FC5833-1GY40-4YA0	3/11, 3/16
6FC5095-0AA84-0BA2	8/3	6FC5398-7BP40-5.A3	8/5	6FC5833-2GY40-4YA0	3/11, 3/16
6FC5247-...		6FC5398-7CP40-5..3	8/4	6FC5834-...	
6FC5247-0AA35-0AA0	3/20	6FC5398-8BP40-5.A3	8/6	6FC5834-1GY40-4YA0	3/11, 3/16
6FC5247-0AF12-1AA0	3/20	6FC5398-8CP40-5..3	8/3	6FC5834-2GY40-4YA0	3/11, 3/16
6FC5247-0AF13-1AA0	3/20	6FC5800-OAC...		6FC5834-3GY40-4YA0	3/11, 3/16
6FC5297-...		6FC5800-OAC00-0YB0	2/3, 2/27	6FC5835-...	
6FC5297-0AD30-0.P3	8/3	6FC5800-OAC20-0YB0	2/3, 2/27	6FC5835-1GY40-4YA0	3/5
6FC5298-...		6FC5800-OAC30-0YB0	2/3, 2/27	6FC5835-2GY40-4YA0	3/5
6FC5298-0CD00-0YG0	8/3	6FC5800-OAC50-0YB0	2/24, 2/28	6FC5835-3GY40-4YA0	3/5
6FC5298-0CD00-0YG2	8/3	6FC5800-OAD...		6FC5836-...	
6FC5298-7CA00-1YG1	8/3	6FC5800-OAD40-0YB0	2/22, 2/28	6FC5836-1GY40-4YA0	3/11, 3/16
6FC5300-...		6FC5800-OAM...		6FC5836-2GY40-4YA0	3/11, 3/16
6FC5300-0BA01-0AA0	2/6	6FC5800-OAM01-0YB0	2/6, 2/27	6FC5836-3GY40-4YA0	3/11, 3/16
6FC5303-0AF...		6FC5800-OAM06-0YB0	2/6, 2/27	6FC5860-...	
6FC5303-0AF03-0AA0	2/20, 3/20	6FC5800-OAM08-0YB0	2/9, 2/30	6FC5860-0YC40-0YA8	2/21, 3/5, 3/11, 3/16
6FC5303-0AF22-0AA1	2/20	6FC5800-OAM27-0YB0	2/8, 2/27	6FC5860-7YC00-0YA0	2/24, 2/25, 3/5, 3/11, 3/16
6FC5303-0AF23-0AA1	2/20	6FC5800-OAM28-0YB0	2/8, 2/27	6FC5864-...	
6FC5303-0AF32-0AA0	2/20, 3/19	6FC5800-OAM32-0YB0	2/9, 2/27	6FC5864-0YD00-0AA8	2/26
6FC5303-0AF33-0AA0	2/20, 3/17	6FC5800-OAM34-0YB0	2/8, 2/27	6FC5864-4AP00-0Y.0	2/26
6FC5303-0AF34-0AA0	2/20, 3/18	6FC5800-OAM54-0YB0	2/22, 2/28	6FC5864-4BP00-0Y.0	2/26
6FC5311-0AA00-...		6FC5800-OAM55-0YB0	2/22, 2/28	6FC5870-...	
6FC5311-0AA00-0AA0	2/23, 3/25	6FC5800-OAM60-0YB0	2/21, 2/28	6FC5870-0CC43-0YA0	8/10
6FC5311-0AA00-1AA0	2/23, 3/25	6FC5800-OAM61-0YB0	2/21	6FC5870-0YC43-0YA0	8/10
6FC5313-5AG00-...		6FC5800-OAM72-0YB0	2/7, 2/27	6FC5870-1SC43-0YA0	8/10
6FC5313-5AG00-0AA2	2/20, 3/5, 3/11, 3/16	6FC5800-OAM73-0YB0	2/8, 2/28	6FC5870-1TC43-0YA0	8/10
6FC5335-0AA00-...		6FC5800-OAM75-0YB0	2/7, 2/27	6FC5870-1YC43-0YA0	8/10
6FC5335-0AA00-0AA0	2/20	6FC5800-OAM78-0YB0	2/18, 2/30	6FC5870-2TC43-0YA0	8/10
6FC5348-2AA00-...		6FC5800-OAP...		6FC5870-4YC43-0Y.0	8/10
6FC5348-2AA00-0AA0	3/5, 3/11	6FC5800-OAP01-0YB0	2/19, 2/30	6FC5870-8YC43-0Y.0	8/10
6FC5370-...		6FC5800-OAP05-0YB0	2/13, 2/29	6FC8520-...	
6FC5370-3AA30-0AA1	3/5	6FC5800-OAP13-0YB0	2/14, 2/29	6FC8520-0RX00-AA2	8/2
6FC5370-4AA30-0AA1	3/5	6FC5800-OAP16-0YB0	2/21, 2/29	6FC9320-5D...	
6FC5370-7AA30-0AA1	3/11	6FC5800-OAP17-0YB0	2/13, 2/29	6FC9320-5DB01	2/20, 3/23
6FC5370-8AA30-0AA1	3/11	6FC5800-OAP18-0YB0	2/9, 2/30	6FC9320-5DC01	2/20, 3/23
6FC5370-8AA30-0BA0	3/16	6FC5800-OAP22-0YB0	2/15, 2/29	6FC9320-5DE02	2/20, 3/23
6FC5397-...		6FC5800-OAP25-0YB0	2/15, 2/29	6FC9320-5DF01	2/20, 3/23
6FC5397-0BP40-5.A3	8/5	6FC5800-OAP28-0YB0	2/9, 2/29	6FC9320-5DM00	2/20, 3/23
6FC5397-0EP40-5.A3	8/6	6FC5800-OAP30-0YB0	2/25, 2/30	6FC9320-5DN00	2/20, 3/23
6FC5397-1BP40-5.A3	8/5	6FC5800-OAP54-0YB0	2/14, 2/28	6FC9341-...	
6FC5397-1DP40-5.A3	8/5	6FC5800-OAP55-0YB0	2/25, 2/28	6FC9341-1AQ	2/20, 3/23
6FC5397-2BP40-5.A3	8/5	6FC5800-OAP56-0YB0	2/14, 2/30	6FX.002-2...	
6FC5397-2DP40-5.A3	8/5	6FC5800-OAP58-0YB0	2/14, 2/29	6FX.002-2AD04-...	7/17
6FC5397-3DP40-5.A3	8/5	6FC5800-OAP64-0YB0	2/10, 2/28	6FX.002-2AH00-...	7/9, 7/17
6FC5397-4BP40-5.A3	8/6	6FC5800-OAP67-0YB0	2/19, 2/30	6FX.002-2AH04-...	7/17
6FC5397-4DP40-5.A3	8/6	6FC5800-OAP73-0YB0	2/9	6FX.002-2CA12-...	7/17
6FC5397-4DP41-1.A3	8/6	6FC5800-OAP74-0YB0	2/9	6FX.002-2CA31-...	7/9, 7/17
6FC5397-5BP40-5.A3	8/6	6FC5800-OAP75-0YB0	2/3, 2/30	6FX.002-2CA34-...	7/17
6FC5397-5DP40-5.A3	8/6	6FC5800-OAP76-0YB0	2/3, 2/28	6FX.002-2CA80-...	7/17
6FC5397-6BP40-5.A3	8/5	6FC5800-OAP77-0YB0	2/3, 2/30	6FX.002-2CB54-...	7/17
6FC5397-7BP405.A3	8/6	6FC5800-OAS...		6FX.002-2CC06-...	7/9
6FC5397-8DP40-5.A3	8/5	6FC5800-OAS05-0YB0	2/14, 2/28	6FX.002-2CC11-...	7/9, 7/17
6FC5398-...		6FC5800-OAS06-0YB0	2/22, 2/28	6FX.002-2CC24-...	7/9, 7/17
6FC5398-0AC10-1YA3	8/3	6FC5800-OAS07-0YB0	2/7, 2/9, 2/30	6FX.002-2CG00-...	7/7, 7/9, 7/17
6FC5398-0EP40-0..2	8/4	6FC5800-OAS16-0YB0	2/7, 2/30	6FX.002-2CH00-...	7/17
6FC5398-1BP40-5.A3	8/4	6FC5800-OAS17-0YB0	2/7, 2/9, 2/30	6FX.002-2CN20-...	7/9
6FC5398-2BP40-5.A3	8/4	6FC5800-OAS35-0YB0	2/14, 2/29	6FX.002-2CQ31-...	7/9
		6FC5800-OAS50-0YB0	2/8, 2/27	6FX.002-2CR00-...	7/7, 7/9, 7/17
		6FC5800-OAS51-0YB0	2/7, 2/27	6FX.002-2DC3-1..0	6/8
		6FC5800-OAS52-0YB0	2/7, 2/28		
		6FC5800-OAS53-0YB0	2/10, 2/28		
		6FC5800-OAS54-0YB0	2/8, 2/27		