

Overview of functions

CNC controls SINUMERIK 828

Drives/Connectable measuring systems

✓ Basic version ○ Option – Not available	Article No.	SINUMERIK 828D		
	Notes	BASIC PPU 240/ PPU 241	PPU 260/ PPU 261	PPU 280/ PPU 281
Drives				
SINAMICS S120 Combi		○	○	○
SINAMICS S120 Motor Modules via DRIVE-CLiQ	See Catalog NC 62	○	○	○
SINAMICS S120 DRIVE-CLiQ on motor		○	○	○
SINAMICS S120 SMC Sensor Module Cabinet:				
• SMC20	6SL3055-0AA00-5BA3	○	○	○
• SMC30	6SL3055-0AA00-5CA2	○	○	○
• SMC40	6SL3055-0AA00-5DA0	○	○	○
SINAMICS S120 SME Sensor Module External:	See Catalog NC 62			
• SME20		○	○	○
• SME25		○	○	○
• SME120		○	○	○
• SME125	6SL3055-0AA00-5KA3	○	○	○
SINAMICS S120 expansion modules:				
• DMC20 DRIVE-CLiQ Hub Module	6SL3055-0AA00-6AA0	○	○	○
• DME20 DRIVE-CLiQ Hub Module	6SL3055-0AA00-6AB0	○	○	○
SINAMICS S120 Motor Modules in booksize compact format:	See SINAMICS S120 drive system			
• Internal air cooling	3SL3420-...	○	○	○
SINAMICS S120 Motor Modules in booksize format:	See SINAMICS S120 drive system			
• Internal air cooling	6SL3120-...	○	○	○
• External air cooling	6SL3121-...	○	○	○
• Cold plate cooling	6SL3126-...	○	○	○
SINAMICS S120 Active Line Modules in booksize format:	See SINAMICS S120 drive system			
• Internal air cooling	6SL3130-...	○	○	○
• External air cooling	6SL3131-...	○	○	○
• Cold plate cooling	6SL3136-...	○	○	○
SINAMICS S120 Smart Line Modules in booksize format:	See SINAMICS S120 drive system			
• Internal air cooling	6SL3130-...	○	○	○
• External air cooling	6SL3131-...	○	○	○
• Cold plate cooling	6SL3136-...	○	○	○
SINAMICS S120 Motor Modules in chassis format, internal air cooling (rated pulse frequency 2 kHz)	On request.	○	○	○
Connectable measuring systems				
Number of measuring systems per axis, maximum		2	2	2
Incremental encoder installed in motors SIMOTICS S-1FT7/S-1FK7/M-1PH8		○	○	○
Absolute encoder installed in motors SIMOTICS S-1FT7/S-1FK7/M-1PH8		○	○	○
Absolute encoder with SSI interface via SMC20/SMC30/SMC40		○	○	○
Third-party rotary and linear measuring systems with DRIVE-CLiQ interface support.automation.siemens.com/WW/view/en/65402168		○	○	○
Rotary measuring systems with:				
• RS422 (TTL)	6FX2001-2...	○	○	○
• sin/cos 1 V _{pp}	6FX2001-3...	○	○	○
• Distance-coded reference marks		○	○	○
• EnDat 2.1/EnDat 2.2		○	○	○
• DRIVE-CLiQ	6FX2001-5...	○	○	○
Linear measuring systems LMS with sin/cos 1 V _{pp} , distance-coded reference marks or EnDat 2.1	See Catalog NC 62	○	○	○

SINAMICS S120 drive system

SINAMICS S120

Supplementary system components – Encoder system connection – SMC30 Sensor Module Cabinet-Mounted

Overview



SMC30 Sensor Module Cabinet-Mounted

The SMC30 Sensor Module Cabinet-Mounted is required to evaluate the encoder signals of motors without a DRIVE-CLiQ interface. External encoders can also be connected via the SMC30.

The following encoder signals can be evaluated:

- Incremental encoder TTL/HTL with/without open-circuit detection (open-circuit detection is only available with bipolar signals)
- SSI encoder with TTL/HTL incremental signals
- SSI encoder without incremental signals

The motor temperature can also be detected with KTY84-130 or PTC thermistors.

Design

The SMC30 Sensor Module Cabinet-Mounted features the following connections and interfaces as standard:

- 1 DRIVE-CLiQ interface
- 1 encoder connection including motor temperature detection (KTY84-130 or PTC) via SUB-D connector or terminals
- 1 connection for the electronics power supply via the 24 V DC power supply connector
- 1 PE/protective conductor connection

The status of the SMC30 Sensor Module Cabinet-Mounted is indicated via a multi-color LED.

The SMC30 Sensor Module Cabinet-Mounted can be snapped onto a TH 35 top-hat rail according to EN 60715 (IEC 60715).

The maximum signal cable length between SMC30 modules and encoders is 100 m. For HTL encoders, this length can be increased to 300 m if the A+/A- and B+/B- signals are evaluated and the power supply cable has a minimum cross-section of 0.5 mm².

The signal cable shield can be connected to the SMC30 Sensor Module Cabinet-Mounted via a shield terminal, e.g. Phoenix Contact type SK8 or Weidmüller type KLBÜ CO 1.

Integration

SMC30 Sensor Modules Cabinet-Mounted communicate with a Control Unit via DRIVE-CLiQ.

Technical specifications

Product name	SMC30 Sensor Module Cabinet-Mounted 6SL3055-0AA00-5CA2
Current requirement, max. At 24 V DC, without taking encoder into account	0.2 A
• Conductor cross-section, max.	2.5 mm ²
• Fuse protection, max.	20 A
Power loss, max.	10 W
Encoders which can be evaluated	<ul style="list-style-type: none"> • Incremental encoder TTL/HTL • SSI encoder with TTL/HTL incremental signals • SSI encoder without incremental signals
• Input impedance	
- TTL	570 Ω
- HTL, max.	16 mA
• Encoder supply	24 V DC/0.35 A or 5 V DC/0.35 A
• Encoder frequency, max.	300 kHz
• SSI baud rate	100 ... 250 kBaud
• Limiting frequency	300 kHz
• Resolution absolute position SSI	30 bit
• Cable length, max.	
- TTL encoder	100 m (only bipolar signals permitted) ¹⁾
- HTL encoder	100 m for unipolar signals 300 m for bipolar signals ¹⁾
- SSI encoder	100 m
PE connection	M4 screw
Dimensions	
• Width	30 mm
• Height	150 mm
• Depth	111 mm
Weight, approx.	0.45 kg
Approvals, according to	cULus

Selection and ordering data

Description	Article No.
SMC30 Sensor Module Cabinet-Mounted	6SL3055-0AA00-5CA2
Without DRIVE-CLiQ cable	

¹⁾ Signal cables twisted in pairs and shielded.