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Overview



The SINUMERIK 802D sl is an operator panel control combining all the components of a CNC (NC, PLC, HMI) and drive control in a single unit. The full CNC keyboard (vertical or horizontal format) can be connected directly. The I/Os are operated via the PROFIBUS DP system.

The motors can be easily connected to the digital drives via DRIVE-CLiQ. In combination with the modular structure of the SINAMICS S120 drive system, this design is conceived to ensure very simple and rugged installation with minimum wiring overhead.

The performance range of the control is ideally suited for applications on standardized machine tools - from one-off production runs to industrial scale manufacture.

Benefits

- Easy to operate thanks to DIN programming and ISO code
- High reliability
- Compact control with very simple, interference-immune wiring
- Components delivered for individual construction
- Broad range of programming tools
- Digital drive technology via DRIVE-CLiQ
- Maintenance-free: no battery or fan
- Remote diagnostics via RCS 802 (pro version)
- Easy start-up
- CF card for series start-up and program memory/program execution

Function

- 6 digital servo drives (plus and pro versions)
  4 digital servo drives (value version)
- One additional positioning axis (plus and pro versions)
- Turning, milling, nibbling or grinding can be freely selected
- A bipolar or a unipolar analog spindle can be used
- RS 232 C interface
- Ethernet onboard (pro version)
- Pre-assigned machine data
- Sample program and PLC library included in scope of supply
- Very user-friendly PLC (SIMATIC S7-200) with ladder programming
- 216 digital inputs and 144 digital outputs (0.25 A)
- User interface with cycle support for T/M and G versions (external cylindrical)

Integration

The following components can be connected to the SINUMERIK 802D sl:

- Full CNC keyboard (vertical or horizontal format)
- Up to 2 electronic handwheels
- One mini handheld unit (contains one handwheel)
- Up to 2 interface modules ADI 4 (Analog Drive Interface for 4 axes)
- Up to 3 PP 72/48 I/O modules
- One MCPA module for connecting an analog spindle via a ± 10 V interface
- One MCP machine control panel via a PP 72/48 I/O module or one MCP 802D sl machine control panel via the MCPA module
- SINAMICS S120 drive system via DRIVE-CLiQ.

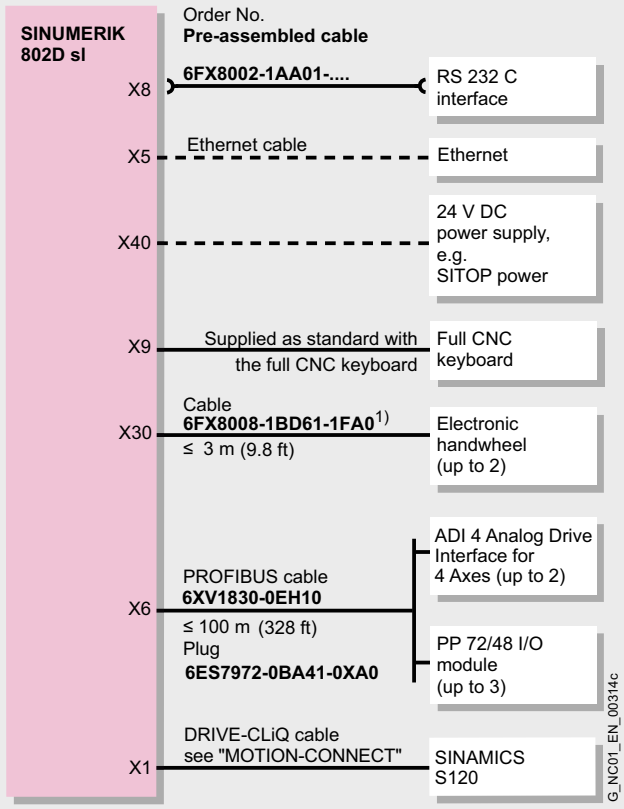
More information

For information about PROFINET/Industrial Ethernet components, please go to the Siemens A&D Mall or refer to Catalog IK PI.

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SINUMERIK 802D sl

Integration (continued)



1) Length supplied: Only in 50 m (164 ft) rings.

Connection overview for SINUMERIK 802D sl

Information about application, configuration and cable extensions can be found under Connection system MOTION-CONNECT.

Technical specifications

Order No.	6FC5370-0AA00-1AA0	6FC5370-0AA00-2AA0	6FC5370-0AA00-3AA0	6FC5370-0AA00-2BA0	6FC5370-0AA00-3BA0
Product name	SINUMERIK 802D sl T/M value	SINUMERIK 802D sl T/M plus	SINUMERIK 802D sl T/M pro	SINUMERIK 802D sl G/N plus	SINUMERIK 802D sl G/N pro
Input voltage	24 V DC				
Power consumption, max.	50 W				
Degree of protection to EN 60529 (IEC 60529)					
• Front	IP65				
• Rear	IP20				
Humidity rating in accordance with EN 60721-3-3	Class 3K5 condensation and icing excluded. Low air temperature 0 °C (32 °F).				
Relative humidity					
• Storage/Transport	5 ... 95%				
• Operation	5 ... 95%				
Ambient temperature					
• Storage/Transport	-20 ... +60 °C (-4 ... +140 °F)				
• Operation	0 ... 50 °C (32 ... 122 °F)				
Dimensions					
• Width	310 mm (12.2 in)				
• Height	330 mm (13.0 in)				
• Depth	70 mm (2.76 in)				
Weight, approx.	4.9 kg (10.8 lb)				

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Technical specifications (continued)

Order No.	6FC5303-0DT12-1AA0	6FC5303-0DM13-1AA0
Product name	SINUMERIK 802D sl full CNC keyboard, vertical format	SINUMERIK 802D sl full CNC keyboard, horizontal format
Input voltage	Via the PCU	
Degree of protection to EN 60529 (IEC 60529)		
• Front	IP65	
• Rear	IP20	
Humidity rating in accordance with EN 60721-3-3	Class 3K5 condensation and icing excluded. Low air temperature 0 °C (32 °F).	
Relative humidity		
• Storage/Transport/Operation	5 ... 95%	
Ambient temperature		
• Storage/Transport	-20 ... +60 °C (-4 ... +140 °F)	
• Operation	0 ... 50 °C (32 ... 122 °F)	
Dimensions		
• Width	172 mm (6.77 in)	310 mm (12.2 in)
• Height	330 mm (13.0 in)	175 mm (6.89 in)
• Depth	70 mm (2.76 in)	70 mm (2.76 in)
Weight, approx.	0.8 kg (1.76 lb)	

Selection and Ordering Data

Designation	Order No.
Hardware components	
SINUMERIK 802D sl operator panel CNC (PCU) Including logbook and toolbox Current software version, export version	
• **Version T/M value**	**6FC5370-0AA00-1AA0**
• **Version T/M plus**	**6FC5370-0AA00-2AA0**
• **Version T/M pro**	**6FC5370-0AA00-3AA0**
• **Version G/N plus**	**6FC5370-0AA00-2BA0**
• **Version G/N pro**	**6FC5370-0AA00-3BA0**
SINUMERIK 802D sl Full CNC keyboard, vertical format For mounting on the side of the PCU incl. connecting cable Length: 1.5 m (4.92 ft)	**6FC5303-0DT12-1AA0**
SINUMERIK 802D sl Full CNC keyboard, horizontal format For mounting below the PCU incl. connecting cable Length: 1.5 m (4.92 ft)	**6FC5303-0DM13-1AA0**
Terminal strip converter 50-pole	**6EP5406-5AA00**
Cable set 6 m (19.7 ft) ribbon cable, 50-pole 8 insulation displacement connectors, 50-pole	**6EP5306-5BG00**
Industrial Ethernet cable Twisted-pair cable for peer-to-peer connection Length: 10 m (32.8 ft)	**6XV1870-3RN10**
CompactFlash card 512 MB Empty For series startup and program memory/program execution	**6FC5313-4AG00-0AA2**

Designation	Order No.
Software	
SINUMERIK 802D sl Toolbox T/M Current software version on CD-ROM, including • Cycles • Languages • Starter (stand alone) • PLC 802 programming tool • RCS 802 • PLC library • Adobe Reader	**6FC5810-0YC00-0YA8**
SINUMERIK 802D sl Toolbox G/N Current software version on CD-ROM, including • Cycles for G version • Languages • Starter (stand alone) • PLC 802 programming tool • RCS 802 • PLC library • Adobe Reader	**6FC5810-0YB81-0YA8**
SINUMERIK RCS 802 PC license On floppy disk Enables a PC for • Remote control • Snap shots Via Ethernet for the SINUMERIK 802D sl control pro version	**6FC6000-6DA51-0AA0**

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SINUMERIK 802D sl
MCP machine control panel

Overview



The MCP machine control panel for the SINUMERIK 802D controls offers a simple solution for machine tools.
This panel includes all the keys required to operate the machine; these can be connected directly to the PP 72/48 I/O module by means of a ribbon cable. The connections are at the 24 V DC level for easier implementation.

Benefits

- Easily connected using ribbon cables and post links
- Suitable dimensions for the SINUMERIK 802D/802D sl controls
- Fully equipped with all the necessary function elements

Function

- 24 V DC supply level
- Can be adapted to applications by means of replaceable keys
- User-assignable keys with LED indicator
- Emergency stop button with NO and NC contact elements
- 2 override rotary switches for feedrate and spindle drive

Integration

The MCP machine control panel can be used with the following CNC systems:

- SINUMERIK 802D
- SINUMERIK 802D base line
- SINUMERIK 802D sl

Technical specifications

Order No.	**6FC5603-0AD00-0AA2**
Product name	MCP machine control panel vertical format
Input voltage	24 V DC
Power consumption, max.	5 W
Degree of protection to EN 60529 (IEC 60529)	
• Front	IP54
• Rear	IP00
Humidity rating in accordance with EN 60721-3-3	Class 3K5 condensation and icing excluded. Low air temperature 0 °C (32 °F).
Relative humidity	
• Storage	5 ... 95%
• Transport	5 ... 95%
• Operation	5 ... 95%
Ambient temperature	
• Storage	-20 ... +60 °C (-4 ... +140 °F)
• Transport	-20 ... +60 °C (-4 ... +140 °F)
• Operation	0 ... 50 °C (32 ... 122 °F)
Dimensions	
• Width	172 mm (6.77 in)
• Height	330 mm (13.0 in)
• Depth	70 mm (2.76 in)
Weight, approx.	0.7 kg (1.54 lb)

Selection and Ordering Data

Designation	Order No.
MCP machine control panel vertical format For SINUMERIK 802D controls	**6FC5603-0AD00-0AA2**
Accessories	
2nd contact block for emergency stop button With 2 contacts 1 NO + 1 NC, 2-pole screw terminal	**3SB3400-0A**

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Overview



The MCP 802D sl machine control panel for the SINUMERIK 802D sl offers a simple solution for machine tools. The panel includes all the keys required to operate the machine. The cables for installing the MCP next to the SINUMERIK 802D sl operator panel are included in the scope of supply. The MCP can be connected only via the MCPA module.

Benefits

- Simple connection via ribbon cables and post links on the MCPA module
- Suitable dimensions for the SINUMERIK 802D sl
- Fully equipped with all the necessary function elements

Function

- Can be adapted to applications by means of replaceable keys
- User-assignable keys with LED indicator
- Emergency stop pushbutton with NO and NC contacts
- 2 override rotary knobs for feedrate and spindle drive

Integration

The MCP 802D sl machine control panel can be used with the CNC system:

- SINUMERIK 802D sl

Technical specifications

Order No.	**6FC5303-0AF30-1AA0**
Product name	MCP 802D sl machine control panel vertical format
Input voltage	5 V DC +20%/-15%
Power consumption, max.	5 W
Inputs/outputs	Connector acc. to MIL-C-83-503/DIN 41-651
Degree of protection to EN 60529 (IEC 60529)	
• Front	IP54
• Rear	IP00
Humidity rating in accordance with EN 60721-3-3	Class 3K5 condensation and icing excluded. Low air temperature 0 °C (32 °F).
Relative humidity	
• Storage	5 ... 95%
• Transport	5 ... 95%
• Operation	5 ... 95%
Ambient temperature	
• Storage	-20 ... +60 °C (-4 ... +140 °F)
• Transport	-20 ... +60 °C (-4 ... +140 °F)
• Operation	0 ... 50 °C (32 ... 122 °F)
Dimensions	
• Width	172 mm (6.77 in)
• Height	330 mm (13.0 in)
• Depth	70 mm (2.76 in)
Weight, approx.	0.7 kg (1.54 lb)

Selection and Ordering Data

Designation	Order No.
MCP 802D sl machine control panel vertical format For mounting on the side of the PCU incl. ribbon cable	**6FC5303-0AF30-1AA0**
MCPA module For MCP 802D sl connection and with ± 10 V interface for an analog spindle	**6FC5312-0DA01-0AA0**
Accessories	
2nd contact block for emergency stop button With 2 contacts 1 NO + 1 NC, 2-pole screw terminal	**3SB3400-0A**

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SINUMERIK 802D sl
MCPA module

Overview



The MCPA module features interfaces for the connection of an analog spindle, the MCP 802D sl machine control panel and terminal strips for additional, high-speed NC inputs and outputs. The MCPA module is mounted on the rear side of the PCU of the SINUMERIK 802D sl. The specially provided mounting location is protected by a cover. The installation kit is included in the scope of supply.

Benefits

- ± 10 V interface for one analog spindle (connector)
- Connecting plug (post link) for the MCP 802D sl
- 2 terminal strips (screw-type terminals) for 8 additional high-speed NC inputs and outputs each

Integration

The MCPA module can be used with the CNC control:

- SINUMERIK 802D sl

Technical specifications

Order No.	**6FC5312-0DA01-0AA0**
Product name	Machine Control Panel Analog, MCPA module
Voltage at inputs/outputs	24 V DC
Inputs/outputs, high-speed	16
Degree of protection to EN 60529 (IEC 60529)	
• Front	IP00
• Rear	IP00
Humidity rating in accordance with EN 60721-3-3	Class 3K5 condensation and icing excluded. Low air temperature 0 °C (32 °F).
Relative humidity	
• Storage	5 ... 95%
• Transport	5 ... 95%
• Operation	5 ... 95%
Ambient temperature	
• Storage	-20 ... +60 °C (-4 ... +140 °F)
• Transport	-20 ... +60 °C (-4 ... +140 °F)
• Operation	0 ... 50 °C (32 ... 122 °F)
Dimensions	
• Width	205 mm (8.07 in)
• Height	95 mm (3.74 in)
• Depth	50 mm (1.97 in)
Weight, approx.	0.2 kg (0.44 lb)

Selection and Ordering Data

Designation	Order No.
Machine Control Panel Analog, MCPA module For MCP 802D sl connection and with ± 10 V interface for an analog spindle	**6FC5312-0DA01-0AA0**