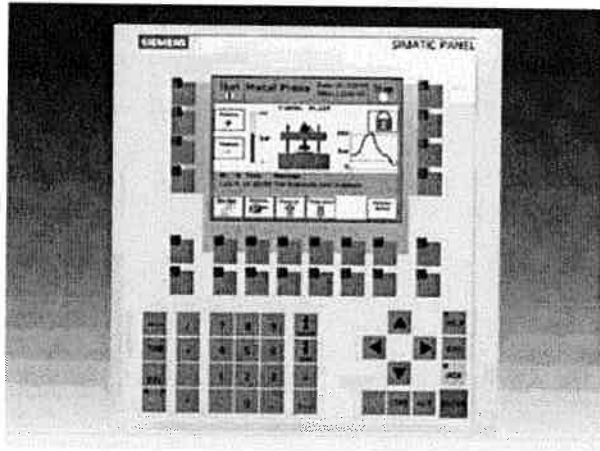


170 Series - SIMATIC OP 170B



Overview

- Operator panel for operator control and monitoring of small machines and plants
- Universal starter unit in the class of panels with graphics capability and extensive functional scope
- Pixel graphics 5.7" STN display, Blue mode (4 levels)
- 35 system keys, 24 freely-configurable and freely-inscribable function keys (18 with LEDs)
- All interfaces (e.g. MPI, PROFIBUS DP) are on board
- Non-Siemens PLCs can be connected via easy-to-use drivers

Benefits

- Integral component of Totally Integrated Automation (TIA):
Increases productivity, minimizes the engineering overhead, reduces the lifecycle costs
- Reduces the service and start-up costs due to:
 - Remote downloading of configuration with automatic transfer recognition also over WAN (Wide Area Network)
 - Maintenance-free design (no batteries) and the long service life of the backlighting
- Can be used worldwide:
 - 21 languages can be configured (including Asiatic and Cyrillic character sets)
 - Up to 5 languages are selectable online
- Graphics library is available complete with ready-to-use display objects
- Standard hardware and software interfaces to increase flexibility:
 - Compact flash card, used for recipe data sets and for backing up the configuration and system data
- Integrated serial printer port

Area of application

The OP 170B Operator Panels can be used in all applications in which operator control and monitoring of machines and installations is required on site – whether in production automation, process automation or building service automation. They are in use in an extensive range of sectors and applications.

Design

- 5.7" STN, CCFL¹⁾ backlit display, Blue mode (4 levels)
- 35 system keys, 24 freely-configurable and freely-inscribable function keys (18 with LEDs)
- Numeric and alphanumeric on-screen keyboard
- Compact design with a mounting depth of only 45 mm
- Rugged plastic housing
- The front is resistant to various oils, greases and standard detergents
- Plug-type terminals for connection of a 24 V DC power supply
- Interfaces:
 - RS 485/422 interface for process connections (MPI and PROFIBUS DP up to 12 Mbit/s)
 - RS 232 interface for process connections
 - Serial RS 232 printer port
- Slot for compact flash card

1) Cold Cathode Fluorescence Lamps

Functions

- Input/output fields
for displaying and changing process parameters
- Function keys
for direct initiation of functions and actions. Up to 16 functions can be configured simultaneously on function keys. The function keys can be used directly as PROFIBUS DP input peripherals.
- Buttons
for direct initiation of functions and actions. Up to 16 functions can be configured simultaneously on buttons.
- Graphics
can be used as ICONs instead of text to label function keys or buttons. They can also be used as background displays (wallpaper).
In the configuration tool, a library is available containing extensive graphics and a wide variety of objects. All editors with an OLE interface can be used as graphics editor (such as Paint Shop, Designer or CorelDraw).
- Vector graphics;
basic geometric shapes (e.g. lines, circles and rectangles) can be created using the configuring tool directly
- Fixed texts
for labeling function keys, process diagrams and process values in any character size
- Curve functions and bar charts
are used to visualize dynamic values
- Display selection from the PLC
supports operator prompting from the PLC
- Language selection;
5 online languages, 21 configuration languages incl. Asiatic and Cyrillic character sets
- Password protection with 10 levels
- Message system;
administration of operating, fault and system messages
- Recipe management
 - With additional data storage (on CF card)
 - Online/offline editing on the panel
 - Storing of recipe data in standard Windows format (CSV)
 - External processing with standard Excel and Access tools
- Help texts
for process diagrams, messages and variables
- Mathematical functions

- Limit value monitoring
for reliable process control of inputs and outputs
- Indicator light
for machine and plant status indication
- Interval timer
for cyclic function processing
- Print;
hardcopy and messages (see "Recommended printers")
- Dynamic positioning of objects and dynamic hiding and showing of objects
- Permanent window;
permanently defined screen area for outputting general information (e.g. important process variables, date and time)
- Simple maintenance and configuration through
 - Backup and restoring the configuration, operating system, data records and firmware on the optional CF card (Compact Flash card)
 - Backup and restoring the configuration, operating system, data records and firmware on a PC using ProSave
 - Downloading/uploading the configuration via MPI/PROFIBUS DP/RS232 and CF Card (optional)
 - Automatic transfer identification
 - Individual contrast settings
 - Configuration simulation directly on the configuration computer
 - No batteries are necessary

Configuration

Configuring is performed using the configuration software SIMATIC ProTool/Lite, ProTool or ProTool/Pro Configuration (see configuration or visualization software).

Integration

The OP 170B can be connected to:

- SIMATIC S7-200/-300/-400
- SIMATIC WinAC Software/Slot PLC
- SIMATIC S5
- SIMATIC 505
- SINUMERIK
- SIMOTION
- Other non-Siemens controllers
 - Allen Bradley
 - Mitsubishi
 - Telemecanique
 - Lucky Goldstar GLOFA
 - Modicon
 - GE-Fanuc
 - Omron

Note:

For further information, see "System interfaces".

Technical Specifications

Type	OP 170B
Display	STN liquid crystal display (LCD)
• Size	5.7"
• Resolution (pixels)	320 x 240
• Colors	4 gray levels
• MTBF of backlighting (at 25 °C)	Approx. 50,000 hours
Control elements	Membrane keyboard
• Function keys, programmable	24 function keys, 18 with LED
• System keys	35 system keys
• Numeric/alphanumeric input	Yes / Yes ¹⁾
Processor	66 MHz RISC
Operating system	Win CE
Memory	
• Type	Flash / RAM
• Usable memory for user data	768 KB
Interfaces	2 x RS232, 1 x RS422, 1 x RS485
• CF card slot	1 x CF card slot
Printer	Yes
Connection to PLC	S5, S7-200, S7-300/400, 505, WinAC, SINUMERIK, SIMOTION, Allen Bradley (DF1), Mitsubishi (FX), Telemecanique (ADJUST), Modicon (Modbus), other non-Siemens PLCs
Supply voltage	24 V DC
• Rated voltage	24 V
• Permitted range	+18 to +30 V DC
• Current consumption, typ.	0.25 A
Clock	Software clock, synchronized
Degree of protection	
• Front	IP 65 (installed)
• Rear	IP 20
Certification	CE, UL, CSA, FM
Dimensions	
• Front W x H (mm)	240 x 252
• Mounting cutout/depth W x H x D (mm)	229 x 241 x 45
Weight (kg)	0.9
Ambient conditions	
• Mounting position	
- Max. permissible angle of inclination without forced ventilation	35°
• Temperature	
- Operation (vertical installation)	0 °C to +50 °C
- Operation (max. angle of inclination)	0 °C to +40 °C
- Transport, storage	-20 °C to +60 °C

• Relative humidity, max.	85%
Expansion for operator control of the process	
• DP direct keys/LEDs (OP keys/LEDs as I/O peripherals)	F1 to F8, K1 to K10
• DP direct keys/LEDs (TP buttons as I/O peripherals)	F1 to F14, K1 to K10
Functions	
Message system	
• Operating messages	1000
• Fault messages	1000
• Message length (lines x characters)	1 x 70
• Number of process values per message	8
• Message buffer	Ring buffer, 256 entries each ²⁾
Recipes	100
• Data records per recipe	200
• Entries per data record	200
• Recipe memory	32 KB integrated flash, expandable ³⁾
Process diagrams	100
• Text objects	2,000 text elements
• Variables per diagram	50
• Graphics objects	Bitmaps, icons, background images, vector graphics
• Dynamic objects	Graphs, bars, hidden buttons
- Directories	Yes
Variables	1000
Password protection (levels)	10
Printer functions	Hardcopy, messages
Online languages	5
• Project languages	Traditional Chinese, simplified Chinese, Czech, Danish, Dutch, German, English, Finnish, French, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Turkish
Character set	Tahoma, freely scalable
Help text	Yes
Timer	Yes
Configuration tool	ProTool/Lite, Version 5.2 SP2 upwards, executable under Windows 98/SE/ME/NT/2000 (must be ordered separately)
• Transfer of the configuration	Serial / MPI / PROFIBUS DP

1) English font only can be displayed

2) Not battery-backed

3) By means of optional CF card

Further Information

Additional information is available in the Internet under:

<http://www.siemens.com/panels>

