

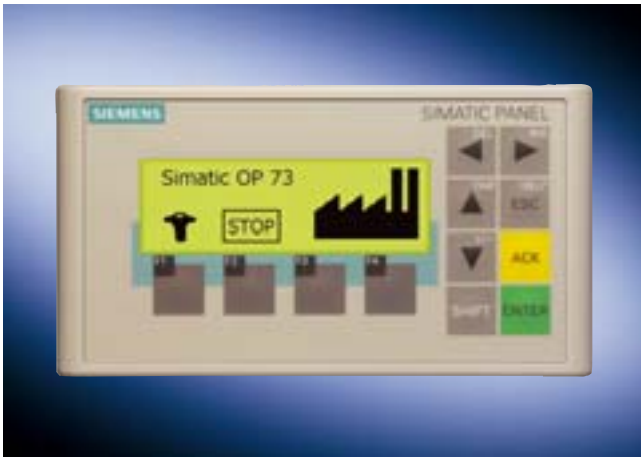
Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 73

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Overview



- Operator panel for operator control and monitoring of machines and plants
- A new dimension in graphics: small and clever
- Pixel graphics 3" LCD, monochrome
- 8 system keys, 4 freely programmable function keys
- All interfaces (e.g. MPI, PROFIBUS DP) are onboard
- SIMATIC OP 73 is the successor to the OP3 Operator Panel

Benefits

- High-contrast display for good readability
- Large keys for high operational safety
- Simple handling and configuring
- Integral component of Totally Integrated Automation (TIA): Increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- Service-friendly through maintenance-free design (no battery) and high service life of the backlighting
- Graphics library is available complete with ready-to-use display objects
- Can be used worldwide:
 - 32 languages can be configured (including Asiatic and Cyrillic character sets)
 - Up to 5 languages are selectable online
 - Language-dependent texts and graphics

Application

The OP 73 Operator Panels can be used wherever direct operator control and monitoring of machines and installations is required locally – whether in production automation, process automation or building automation. They are in use in an extensive range of sectors and applications.

Compatible with OP3

- Same installation cutout as OP3
- The OP3 configurations can be loaded from ProTool/Lite, ProTool and ProTool/Pro

Migration manual with description of the important differences over OP3 or ProTool

Design

- 3" LCD, 160 x 48 pixels, monochrome
- 8 system keys, 4 user-configurable function keys
- Numerical and alphanumeric input option via cursor keys
- Compact design with low mounting depth
- Rugged plastic housing
- The front is resistant to various oils, greases and standard detergents
- Plug-type terminals for a 24 V DC power supply
- RS 485 interface for process connections (MPI, PROFIBUS DP up to 1.5 Mbit/s) and for configuration download

Function

- Input/output fields for displaying and changing process parameters
- Function keys for direct triggering of functions and actions. Up to 16 functions can be configured simultaneously on function keys.
- Graphics can be used as icons instead of text to "label" function keys or buttons. They can also be used as simple on-screen graphics. In the configuration tool, a library is available containing an extensive range of graphics and a wide variety of objects. All editors with an OLE interface can be used as graphics editors (such as PaintShop, Designer or CorelDraw).
- Predefined for labeling function keys, process images and process values in different font sizes
- Bars are used for the graphical display of dynamic values
- Language selection during runtime
 - 5 online languages, 32 configuration languages incl. Asian and Cyrillic character sets
 - Language-dependent texts and graphics
- User administration (security)
 - Authentication with user ID and password
 - User-group-specific rights
- Message system
 - Discrete alarms
 - Freely definable message classes (e.g., status/fault messages) for definition of acknowledgment response and display of message events
 - Message history
- Help texts for process images, messages and variables
- Arithmetic functions
- Limit value monitoring for reliable process control of inputs and outputs
- Indicator light for machine and plant status indication
- Scheduler for global function execution
- Template concept; Creation of screen templates (picture elements configured in the template appear in every screen)
- Simple maintenance and configuration thanks to:
 - Backup and restoration of configuration, operating system and firmware on a PC using ProSave
 - Configuration download via MPI/PROFIBUS DP or serially via RS485
 - Individual contrast settings
 - No batteries are necessary

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 73

Function (continued)

Configuring

Configuration is carried out using the SIMATIC WinCC flexible Compact, Standard or Advanced engineering software (see HMI software/SIMATIC WinCC flexible engineering software), version 2004 SP1 and higher. An HSP (Hardware Support Package) is required for this version. The device is integrated as standard in WinCC flexible 2005 and higher and **no HSP** is required.

The HSP for WinCC flexible 2004 SP1 can be downloaded free of charge via the following link:

<http://www4.ad.siemens.de/WW/view/de/19241467>

or alternatively via the following shortcut:

<http://www.siemens.de/wincc-flexible-hsp>

Integration

The OP 73 can be connected to the following:

- SIMATIC S7-200/-300-400
- SIMATIC WinAC Software/Slot PLC



Note:
For further information, see "System interfaces"

Technical specifications

	SIMATIC OP 73
Display	
• Display type	STN liquid crystal display (LCD)
• Size	3"
• Resolution (W x H in pixels)	160 x 48
• Colors	2 black/white
• MTBF of background lighting (at 25 °C)	approx. 100,000 hours
Operating mode	
• Operating options	Key
• Function keys, programmable	4 function keys
• Membrane keyboard	Yes
• System keys	8
• Numeric/alphanumeric input	Yes/Yes
Processor/HW	ARM
Memory	
• Type	Flash/RAM
• Usable memory for project data	256 KB user memory/without additional memory for options
Interfaces	1 x RS485 max. 1.5 Mbit/s
Supply voltage	
• Supply voltage	24 V DC
• Permissible range	+20.4 to +28.8 V DC
• Backup battery	No
Clock	Software clock, without battery backup
Degree of protection	
• Front	IP65, NEMA 4, NEMA 12; (when mounted)
• Rear	IP20
Certification (some only as options)	CE, GL, ABS, BV, DNV, LRS, PRS, UL, CSA, cULus, C-TICK
Mechanical components/dimensions	
• Front panel W x H (mm)	154 x 84
• Mounting cutout/depth W x H x D (mm)	138 x 68/28.5 mm depth of unit
• Weight	0.25 kg
Ambient conditions	
• Max. relative humidity (in %)	95%
• Mounting position	Vertical
- Max. permissible angle of inclination without external fan	+/- 90°
• Temperature	
- Operation (vertical installation)	0 to +50 °C
- Operation (max. angle of inclin.)	0 to +40 °C
- Transportation and storage	-20 to +60 °C

	SIMATIC OP 73
Configuring	WinCC flexible
Functionality (with WinCC flexible)	
• Help system	Yes
Protocols	
• Interface to control (may only be an option)	S7-200, S7-300/400Win AC
Signaling system	
• Number of messages	500
• Discrete alarms	Yes
• Message length (in characters)	80
• Number of process values per message	8
• Message buffer	Ring buffer, 256 entries each
Process images	500
Picture elements	
• Text objects	1000 text elements
• Fields per screen	20
• Variables/screen	20
• Graphics objects	Bitmaps, icons, icon (filling the screen)
• Dynamic objects	Bar graphs
Text lists	150
• Libraries	Yes
Variables	1000
Security	
• Number of user groups	50
• Number of access rights	32
• Exportable passwords	Yes
Languages	
• Online languages	5
• Project languages:	D, GB, F, I, E, CHN "traditional", CHN "simplified", DK, FIN, GR, J, KP/ROK, NL, N, PL, P, RUS, S, CZ/SK, TR, H
• Character sets	WinCC flexible standard, ideographic languages
Transfer under ProTool (upload/download)	
• Transfer of the configuration	MPI/PROFIBUS DP, serial

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 73

Ordering data	Order No.	Order No.
SIMATIC OP 73 Operator Panel with 3" display, monochrome, including mounting accessories	B 6AV6 641-0AA11-0AX0	
OP 73 starter package Consisting of: • OP 73 Operator Panel • SIMATIC WinCC flexible Compact engineering software • SIMATIC HMI Manual Collection (CD), 5 languages (English, French, German, Italian, Spanish), comprising all currently available user manuals, manuals and communication manuals for SIMATIC HMI • MPI cable (5 m) (for download and test purposes) • PC/PPI Multimaster cable • Voucher for Software Update Service for 1 year	B 6AV6 651-1AA01-0AA0	
Configuring with SIMATIC WinCC flexible	See Section 4	
Documentation (to be ordered separately) (continued)		
User Manual WinCC flexible Communication • German • English		6AV6 691-1CA01-0AA0 6AV6 691-1CA01-0AB0
SIMATIC HMI Manual Collection Electronic documentation, on CD-ROM 5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	C	6AV6 691-1SA01-0AX0
Accessories for supplementary ordering		
Service pack for OP 73, OP 77A, OP 77B Consisting of: • Installation sealing • 5 tensioning clamps • Plug-in terminal block (twin block)		6AV6 671-1XA00-0AX0
PROFIBUS connecting cable 830-1T For terminal connection, preassembled with two sub D connectors, 9-pin, terminated at both ends, 3 m		6XV1 830-1CH30
PC/PPI Multimaster cable for image update and image upload on OP 73	A	6ES7 901 3CB30-0XA0
System interfaces		See page 2/169
Connecting cables		See page 2/180
Operating Instructions for OP 73, OP 77A, OP 77B • German • English • French • Italian • Spanish	6AV6 691-1DA01-0AA1 6AV6 691-1DA01-0AB1 6AV6 691-1DA01-0AC1 6AV6 691-1DA01-0AD1 6AV6 691-1DA01-0AE1	
User Manual WinCC flexible Compact/Standard/Advanced • German • English • French • Italian • Spanish	6AV6 691-1AB01-0AA0 6AV6 691-1AB01-0AB0 6AV6 691-1AB01-0AC0 6AV6 691-1AB01-0AD0 6AV6 691-1AB01-0AE0	

A) Subject to export regulations AL: N and ECCN: EAR99H

B) Subject to export regulations AL: N and ECCN: 5D002ENC3

C) Subject to export regulations AL: N and ECCN: EAR99S

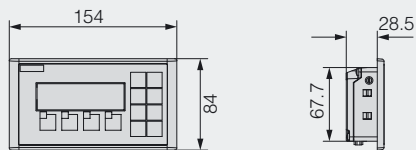
Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 73

Dimension drawings

Dimensions in mm



Panel cutout (W x H) in mm: $138 + 1 \times 68 + 0.7$

More information

For further information, visit our website at



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



Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77A

Overview



- Compact operator panel for operating and monitoring machines and plants
- Together with the OP 77B, it is the successor to the successful OP7
- A new dimension in graphics: small and clever
- Pixel graphics 4.5" LCD, monochrome
- 23 system keys, 8 freely-configurable and freely-inscribable function keys (4 with LEDs)
- All interfaces (e.g. MPI, PROFIBUS DP) are onboard

Benefits

- High-contrast display for good readability
- Large keys for high operational safety
- Simple handling and configuring
- Integral component of Totally Integrated Automation (TIA): Increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- Reduction in service and startup costs thanks to maintenance-free design (no battery) and long service life of the backlighting
- Can be used worldwide:
 - 32 languages can be configured (including Asiatic and Cyrillic character sets)
 - Up to 5 languages are selectable online
 - Language-dependent texts and graphics
- Graphics library is available complete with ready-to-use display objects

Application

The OP 77A Operator Panels can be used wherever direct operator control and monitoring of machines and installations is required locally – whether in production automation, process automation or building automation. They are in use in an extensive range of sectors and applications.

Compatibility with OP7

- Same mounting cutout as OP7
- The OP7 configurations can be loaded from ProTool/Lite, ProTool and ProTool/Pro

Migration manual with description of the important differences over OP7 or ProTool

Design

- 4.5" LCD, 160 x 64 pixels, monochrome
- 23 system keys, 8 freely-configurable and freely-inscribable function keys (4 with LEDs)
- Numeric and alphanumeric input facilities
- Compact design with shallow installation depth
- 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
- RS 485 interface for process links (MPI, PROFIBUS DP up to 1.5 Mbit/s) and for downloading the configuration

Function

- Input/output fields for displaying and changing process parameters
- Function keys for direct triggering of functions and actions. Up to 16 functions can be configured simultaneously on function keys.
- Graphics can be used as icons instead of text to "label" function keys or buttons. They can also be used as simple on-screen graphics. In the configuration tool, a library is available containing an extensive range of graphics and a wide variety of objects. All editors with an OLE interface can be used as graphics editors (such as PaintShop, Designer or CorelDraw).
- Predefined texts for labeling function keys, process images and process values in any character size
- Bars are used for the graphical display of dynamic values
- Display selection from the PLC supports operator prompting from the PLC
- Language selection during runtime
 - 5 online languages, 32 configuration languages incl. Asian and Cyrillic character sets
 - Language-dependent texts and graphics
- User administration (security) according to the requirements of the various sectors
 - Authentication with user ID and password
 - User-group-specific rights
- Signaling system
 - Freely definable message classes (e.g., status/fault messages) for definition of acknowledgment response and display of message events
 - Message history

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Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77A

Function (continued)

- Help texts for process images, messages and variables
- Arithmetic functions
- Limit value monitoring for reliable process control of inputs and outputs
- Indicator light for machine and plant status indication
- Scheduler for cyclic function execution
- Template concept; Picture elements configured in the template appear in every picture
- Simple maintenance and configuration thanks to:
 - Backup and restoration of the configuration, operating system, data records and firmware on a PC using ProSave
 - Configuration download/upload via MPI/PROFIBUS DP and serially via RS 485
 - Individual contrast settings
 - No batteries are necessary

Configuring

SIMATIC WinCC flexible Compact, Standard or Advanced configuration software Version 2004 SP1 and higher is used for configuration. An HSP (Hardware Support Package) is required for this version.

The device is integrated as standard in WinCC flexible 2005 and higher and **no Hardware Support Package** is required in this case.

Link to free download of the HSP, if required:

<http://www4.ad.siemens.de/WWW/view/de/19241467>

or alternatively via the following shortcut:

<http://www.siemens.de/wincc-flexible-hsp>

For more information about engineering software, see HMI software/engineering software SIMATIC WinCC flexible.

Integration

The OP 77A can be connected to the following:

- SIMATIC S7-200/-300-400
- SIMATIC WinAC Software/Slot PLC



Note:

For further information, see "System interfaces"

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77A

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Technical specifications

	SIMATIC OP 77A
Display	
• Display type	STN liquid crystal display (LCD)
• Size	4.5"
• Resolution (W x H in pixels)	160 x 64
• Colors	2 black/white
• MTBF of background lighting (at 25 °C)	approx. 100,000 hours
Operating mode	
• Control elements	Membrane keyboard
• Operating options	Key
• Function keys, programmable	8 function keys, 4 with LEDs
• Membrane keyboard	Yes
• System keys	23
• Numeric/alphanumeric input	Yes/Yes
Processor/HW	
• Processor	Not specified, 40 MHz
Memory	
• Type	Flash/RAM
• Usable memory for project data	256 KB user memory/without additional memory for options
Interfaces	1 x RS422, 1 x RS485 max. 1.5 Mbit/s
Supply voltage	
• Supply voltage	24 V DC
• Permissible range	+20.4 to +28.8 V DC
• Rated current	0.2 A
Clock	Software clock, without battery backup
Degree of protection	
• Front	IP65, NEMA 4, NEMA 12; (when mounted)
• Rear	IP20
Certification (some only as options)	CE, GL, ABS, BV, DNV, LRS, PRS, FM Class I Div. 2, UL, CSA, cULus, EX zone 2/22, C-TICK
Mechanical components/ dimensions	
• Front panel W x H (mm)	150 x 186
• Mounting cutout/depth W x H x D (mm)	134 x 170/38.5 mm depth of unit
• Weight	0.5 kg
Ambient conditions	
• Max. relative humidity (in %)	95%
• Mounting position	Vertical
- Max. permissible angle of inclination without external fan	+/- 90°
• Temperature	
- Operation (vertical installation)	0 to +50 °C
- Operation (max. angle of inclination)	0 to +40 °C
- Transportation and storage	-20 to +60 °C
Configuring	
• Configuration tool	WinCC flexible

	SIMATIC OP 77A
Functionality (with WinCC flexible)	
• Help system	Yes
Protocols	
• Interface to control (may only be an option)	S7-200, S7-300/400Win AC
Signaling system	
• Number of messages	1000
• Discrete alarms	Yes
• Message length (in characters)	80
• Number of process values per message	8
• Message buffer	Ring buffer, 256 entries each
Process images/number	
• Process images	500
Picture elements	
• Text objects	1000 text elements
• Fields per screen	30
• Variables/screen	30
• Graphics objects	Bitmaps, icons, icon (filling the screen)
Text lists	300
• Libraries	Yes
Variables	1000
Security	
• Number of user groups	50
• Number of access rights	32
• Exportable passwords	Yes
Languages	
• Online languages	5
• Project languages:	D, GB, F, I, E, CHN "traditional", CHN "simplified", DK, FIN, GR, J, KP/ROK, NL, N, PL, P, RUS, S, CZ/SK, TR, H
• Character sets	WinCC flexible standard, ideographic languages
Transfer under ProTool (upload/download)	
• Transfer of the configuration	MPI/PROFIBUS DP, serial (automatic transfer recognition)

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77A

Ordering data	Order No.
SIMATIC OP 77A Operator Panel with 4.5" display, monochrome, including mounting accessories	B 6AV6 641-0BA11-0AX0
OP 77A starter package Consisting of: <ul style="list-style-type: none"> • Operator Panel OP 77A • SIMATIC WinCC flexible Compact engineering software • SIMATIC HMI Manual Collection (CD), 5 languages (English, French, German, Italian, Spanish), comprising all currently available user manuals, manuals and communication manuals for SIMATIC HMI • PC/PPI Multimaster cable • MPI cable (5 m) (for download and test purposes only) • Voucher for Software Update Service for 1 year 	B 6AV6 651-1BA01-0AA0
Configuring with SIMATIC WinCC flexible	See Section 4
Documentation (to be ordered separately)	
Operating Instructions OP 73, OP 77A, OP 77B ¹⁾ <ul style="list-style-type: none"> • German 6AV6 691-1DA01-0AA1 • English 6AV6 691-1DA01-0AB1 • French 6AV6 691-1DA01-0AC1 • Italian 6AV6 691-1DA01-0AD1 • Spanish 6AV6 691-1DA01-0AE1 	
User Manual WinCC flexible Compact/Standard/Advanced <ul style="list-style-type: none"> • German 6AV6 691-1AB01-0AA0 • English 6AV6 691-1AB01-0AB0 • French 6AV6 691-1AB01-0AC0 • Italian 6AV6 691-1AB01-0AD0 • Spanish 6AV6 691-1AB01-0AE0 	

1) French/Italian/Spanish available soon

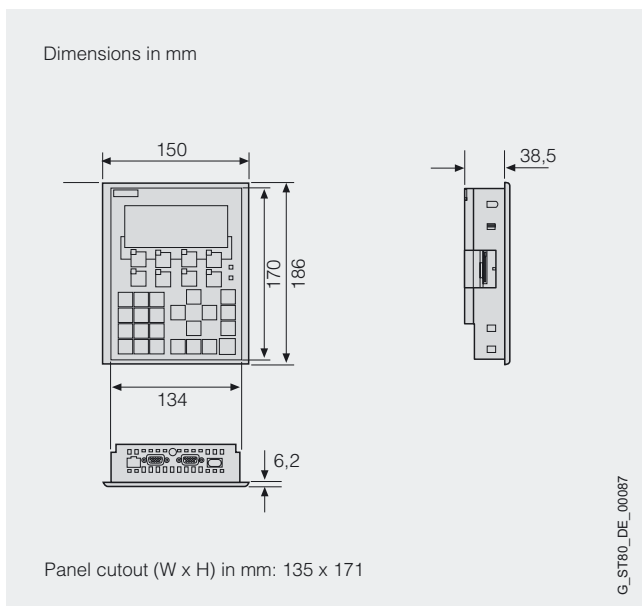
A) Subject to export regulations AL: N and ECCN: EAR99H

B) Subject to export regulations AL: N and ECCN: 5D002ENC3

C) Subject to export regulations AL: N and ECCN: EAR99S

Ordering data	Order No.
Documentation (to be ordered separately) (continued)	
User Manual WinCC flexible Communication <ul style="list-style-type: none"> • German 6AV6 691-1CA01-0AA0 • English 6AV6 691-1CA01-0AB0 	
SIMATIC HMI Manual Collection Electronic documentation, on CD-ROM 5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	C 6AV6 691-1SA01-0AX0
Accessories for supplementary ordering	
Service pack for OP 73, OP 77A, OP 77B Consisting of: <ul style="list-style-type: none"> • Installation sealing • 5 tensioning clamps • Plug-in terminal block (twin block) 	6AV6 671-1XA00-0AX0
PROFIBUS connecting cable 830-1T For terminal connection, pre-assembled with two sub D connectors, 9-pin, terminated at both ends, 3 m	6XV1 830-1CH30
PC/PPI Multimaster cable	A 6ES7 901 3CB30-0XA0
System interfaces	See page 2/169
Connecting cables	See page 2/180

Dimension drawings



More information

For further information, visit our website at



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



Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77B

Overview



- Compact operator panel for operating and monitoring machines and plants
- Together with the OP 77A it is the successor to the successful OP7
- A new dimension in graphics: small and clever
- Pixel graphics 4.5" LCD, monochrome
- 23 system keys, 8 freely-configurable and freely-inscribable function keys (4 with LEDs)
- All interfaces (e.g. MPI, PROFIBUS DP) are onboard
- Non-Siemens PLCs can be connected via easy-to-use drivers

Benefits

- High-contrast display for good legibility
- Large keys for improved operational reliability
- Easy to handle and configure
- Integral component of Totally Integrated Automation (TIA): increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- Reduction of service and commissioning costs through:
 - Remote downloading of the configuration with automatic transfer recognition even via WAN (Wide Area Network)
 - Maintenance-free design (no battery) and long service life of the backlighting
- Can be used all over the world:
 - 32 languages can be configured (incl. Asian and Cyrillic character sets)
 - Up to 5 languages can be switched online
 - Language-dependent texts and graphics
- Graphics library available with off-the-shelf picture objects
- Standard hardware and software interfaces for increasing flexibility:
 - Optional Multi Media Card, can be used for recipe data sets and for backup of configuration/system data
- Integrated printer port (USB)

Application

The OP 77B Operator Panels can be used wherever direct operator control and monitoring of machines and installations is required locally – whether in production automation, process automation or building automation. They are in use in an extensive range of sectors and applications.

Compatibility with OP7

- Same installation cutout as OP7
- The OP7 configurations can be loaded from ProTool/Lite, ProTool and ProTool/Pro

Migration manual with description of the important differences over OP7 or ProTool

Design

- 4.5" LCD, 160 x 64 pixels, monochrome
- 23 system keys, 8 freely-configurable and freely-inscribable function keys (4 with LEDs)
- Numeric and alphanumeric input facilities
- Compact design with small installation depth
- 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
 - USB printer port
- Slot for multi media card (MMC)

Function

- 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. They can be used directly as PROFIBUS DP input peripherals.
- Graphics can be used as icons instead of text to label function keys or buttons. They can also be used as simple graphics in the display. 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 PaintShop, Designer or CorelDraw).
- Fixed texts for labeling function keys, process diagrams and process values in any character size
- Bar displays for the graphical display of dynamic values
- Display selection from the PLC supports operator prompting from the PLC
- Language switchover during runtime
 - 5 online languages, 32 configuration languages incl. Asiatic and Cyrillic character sets
 - Language-dependent texts and graphics
- User administration (security) according to the requirements of the various sectors
 - Authentication by means of user ID and password
 - Privileges specific to user groups

Function (continued)

- Message system
 - Analog messages
 - Bit messages as well as Alarm S signaling procedure with SIMATIC S7
 - Freely-definable message classes (e.g. status/fault messages) for definition of acknowledgment response and display of message events
 - Message history
- Recipe management
 - With additional data storage (on optional multi media 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
- Task planner (interval timer) for cyclic function processing
- Print;
 - hardcopy, messages and freely-configurable reports
- Template concept;
 - display elements configured in the template appear in each display
- Simple maintenance and configuration through
 - Backup and restoring the configuration, operating system, data records and firmware on the optional multi media card (MMC)
 - Backup and restoring the configuration, operating system, data records and firmware on a PC using ProSave
 - Downloading/uploading the configuration via MPI/PROFIBUS DP/RS 232/USB
 - Automatic transfer identification
 - Individual contrast settings
 - Configuration simulation directly on the configuration computer
 - No batteries are necessary

Configuration

Configuration is carried out using the SIMATIC WinCC flexible Micro, Compact, Standard or Advanced configuration software (see HMI software/SIMATIC WinCC flexible engineering software).

Integration

The OP 77B can be connected to:

- SIMATIC S7-200/-300-400
- SIMATIC WinAC Software/Slot PLC
- SIMATIC S5
- SIMATIC 505
- Non-Siemens PLCs
 - Allen Bradley
 - Mitsubishi
 - LG GLOFA GM
 - Modicon
 - GE-Fanuc
 - OMRON



Note:

For further information, see "System interfaces"

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77B

Technical specifications

	SIMATIC OP 77B
Display	
• Display type	STN liquid crystal display (LCD)
• Size	4.5"
• Resolution (W x H in pixels)	160 x 64
• Colors	2 black/white
• MTBF of background lighting (at 25 °C)	approx. 100,000 hours
Operating mode	
• Control elements	Membrane keyboard
• Operating options	Key
• Function keys, programmable	8 function keys, 4 with LEDs
• Membrane keyboard	Yes
• System keys	23
• Numeric/alphanumeric input	Yes/No
Processor/HW	RISC 32 bits, 200 MHz
Operating system	Windows CE
Memory	
• Type	Flash/RAM
• Usable memory for project data	1000 KB user memory/without additional memory for options
Interfaces (some only as options)	
• Interfaces	1 x RS232, 1 x RS422, 1 x RS485 max. 12 Mbit/s
• USB (universal serial bus)	1 x USB
• SD/MMC SLOT	1 x MMC slot
Supply voltage	
• Supply voltage	24 V DC
• Permissible range	+20.4 to +28.8 V DC
• Rated current	0.2 A
Clock	Software clock, without battery backup
Degree of protection	
• Front	IP65, NEMA 4, NEMA 12; (when mounted)
• Rear	IP20
Certification (some only as options)	CE, GL, ABS, BV, DNV, LRS, PRS, FM Class I Div. 2, UL, CSA, cULus, EX zone 2/22, C-TICK
Mechanical components/ dimensions	
• Front panel W x H (mm)	150 x 186
• Mounting cutout/depth W x H x D (mm)	134 x 170/38.5 mm depth of unit
Ambient conditions	
• Max. relative humidity (in %)	95%
• Mounting position	Vertical
- Max. permissible angle of inclination without external fan	+/- 90°
• Temperature	
- Operation (vertical installation)	0 to +50 °C
- Operation (max. angle of inclination)	0 to +40 °C
- Transportation and storage	Up to +°C
Peripherals	Printer
Configuring	
• Configuration tool	WinCC flexible

	SIMATIC OP 77B
Functionality (with WinCC flexible)	
• Scheduler	Yes
• Help system	Yes
Protocols	
• Interface to control (may only be an option)	S5, S7-200, S7-300/400, 505, Win AC, Allen Bradley (DF1), Mitsubishi (FX), Modicon (Modbus), other non-Siemens drivers
Signaling system	
• Number of messages	1000
• Discrete alarms	Yes
• Analog messages	Yes
• Message length (in characters)	80
• Number of process values per message	8
• Message buffer	Ring buffer, 256 entries each
Recipes	
• Recipes	100
• Data records per recipe	200
• Entries/data record	200
• Recipe memory	32 KB integrated Flash, expandable
Process images	500
Picture elements	
• Text objects	2500 text elements
• Fields per screen	30
• Variables/screen	30
• Graphics objects	Bitmaps, icons, icon (filling the screen)
• Dynamic objects	Bar graphs, slides, analog displays, hidden buttons
• Number of bar graphs per project	2500
• Alphanumeric fields	1000
• Numeric fields	1000
Text lists	300
Libraries	Yes
Variables	1000
Security	
• Number of user groups	1000
• Number of access rights	32
• Exportable passwords	Yes
Logging/printer driver	
• Printing/logging	Messages, report/log, hard copy
Languages	
• Online languages	5
• Project languages:	D, GB, F, I, E, CHN "traditional", CHN "simplified", DK, FIN, GR, J, KP/ROK, NL, N, PL, P, RUS, S, CZ/SK, TR, H
• Character sets	Tahoma, WinCC flexible standard, ideographic languages, all freely scalable
Data carrier support (may only be an option)	
• MMC card	Yes
Transfer under ProTool (upload/download)	
• Transfer of the configuration	MPI/PROFIBUS DP, serial, USB, using external memory medium (automatic transfer recognition)

Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77B

Ordering data	Order No.	Order No.
SIMATIC OP 77B Operator Panel with 4.5" display, monochrome, including mounting accessories	B 6AV6 641-0CA01-0AX0	<i>Documentation (to be ordered separately)</i> (continued)
OP 77B starter package Consisting of: • Operator Panel OP 77B • SIMATIC WinCC flexible Compact engineering software • SIMATIC HMI Manual Collection (CD), 5 languages (English, French, German, Italian, Spanish) • RS 232 cable (5 m) • MPI cable (5 m) • Voucher for Software Update Service for 1 year	B 6AV6 651-1CA01-0AA0	User Manual WinCC flexible Compact/Standard/Advanced • German 6AV6 691-1AB01-0AA0 • English 6AV6 691-1AB01-0AB0 • French 6AV6 691-1AB01-0AC0 • Italian 6AV6 691-1AB01-0AD0 • Spanish 6AV6 691-1AB01-0AE0
Configuring with SIMATIC WinCC flexible	See Section 4	User Manual WinCC flexible Communication • German 6AV6 691-1CA01-0AA0 • English 6AV6 691-1CA01-0AB0
Configuration set • SIMATIC WinCC flexible Compact engineering software • SIMATIC HMI Manual Collection, 5 languages (English, French, German, Italian, Spanish) • RS 232 cable (5 m) • PC/PPI Multimaster cable • MPI cable (5 m)	D 6AV6 621-0AA01-0AA0	SIMATIC HMI Manual Collection C 6AV6 691-1SA01-0AX0 Electronic documentation, on CD-ROM 5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI
Documentation (to be ordered separately) Operating Instructions for OP 73, OP 77A, OP 77B • German 6AV6 691-1DA01-0AA1 • English 6AV6 691-1DA01-0AB1 • French 6AV6 691-1DA01-0AC1 • Italian 6AV6 691-1DA01-0AD1 • Spanish 6AV6 691-1DA01-0AE1		Accessories Memory cards MMC card 64 MB A 6AV6 671-1CB00-0AX0
Operating Instructions (compact) OP 77B • German 6AV6 691-1EA01-0AA0 • English 6AV6 691-1EA01-0AB0		Accessories for supplementary ordering Service package for OP 73, OP 73micro, OP 77A, OP 77B 6AV6 671-1XA00-0AX0 Consisting of: • Installation sealing • 5 tensioning clamps • Plug-in terminal block (twin block)
		RS 232 cable (5 m) 6ES7 901-1BF00-0XA0
		PROFIBUS connecting cable 830-1T 6XV1 830-1CH30 For terminal connection, preassembled with two sub D connectors, 9-pin, terminated at both ends, 3 m
		System interfaces See page 2/169
		Connecting cables See page 2/180

A) Subject to export regulations AL: N and ECCN: EAR99H
B) Subject to export regulations AL: N and ECCN: 5D002ENC3

C) Subject to export regulations AL: N and ECCN: EAR99S
D) Subject to export regulations AL: N and ECCN: 5D992B1

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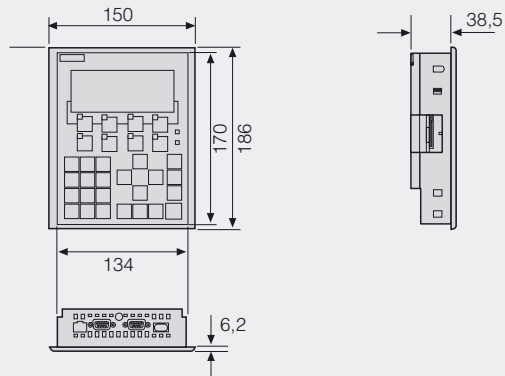
Operator Control and Monitoring Devices

Panels – 70 series

SIMATIC OP 77B

Dimension drawings

Dimensions in mm



Panel cutout (W x H) in mm: 135 x 171

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More information

For further information, visit our website at



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



Note

Do you need a specific modification or option for the products described here? Then look up "customer-specific products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.