

Overview



- Compact, multi-functional operator panel for operator control and monitoring of machines and plants
- LED-backlit LCD: 4-line, 20 characters/line; character height 8 mm
- 22 system keys, 8 freely-configurable and freely-inscribable function keys (4 with LEDs)

Benefits

- Clearly contrasting display, easier to read
- Large keys for enhanced operating reliability
- Fast variable updating
- Extensive functionality for efficient HMI – from recipe management through linear conversion as far as the backing up and restoring of firmware and user data
- Easy handling and configuration
- Maintenance-free thanks to electronic fuse

Application

The OP7 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

- LED-backlit LCD, 4-line, 20 characters/line; character height 8 mm
- 22 system keys, 8 freely-configurable and freely-inscribable function keys (4 with LEDs)
- Plastic housing with membrane front
- The front is resistant to various oils, greases and standard detergents
- Small mounting depth
- Electronic fuse
- Interfaces:
 - **OP7/PP:** RS 232/TTY, RS 485/422
 - **OP7/DP:** RS 232, RS 485/422, PPI/MPI/PROFIBUS DP up to 1.5 Mbit/s
 - **OP7/DP-12:** RS 232/TTY, RS 485/422, PPI/MPI/PROFIBUS DP up to 12 Mbit/s

Function

Operator functions

- Alphanumeric/numerical setpoint input via system keys
- Softkeys (function of keys can be configured depending on screen)
- Slide-in labels for all function keys

Signaling functions

- Process value display
- Management and processing of status and fault messages
- Messages with date and time stamp
- Definition of message priorities
- Differentiation between first-up and last-up messages
- Help texts for alarms, screens, etc.

Additional functions

- Limit value check for entries
- STATE VAR/CONTROL VAR in conjunction with SIMATIC S5 and S7
- Password protection
- Language selection with 3 online languages
- 17 languages can be configured incl. system messages (incl. Cyrillic character sets)
- Contrast settings
- PLC requests to trigger PLC-controlled actions
- Recipe management
- DP direct keys for fast and deterministic operator actions
- Linear conversion
- Native drivers for non-Siemens PLCs
- PROFIBUS DP up to 12 Mbit/s
- Variable limit values
- Printer port via integrated interface

Service concept

- Backup/restoration of configuration, firmware and recipe data sets
- Loadable firmware

Configuring

Configuration is performed using the SIMATIC ProTool/Lite, SIMATIC ProTool or SIMATIC ProTool/Pro Configuration software (see Configuration or Visualization software)

Integration

The OP7 can be connected to:

- SIMATIC S7-200/-300/-400
- SIMATIC WinAC Software/Slot PLC
- SIMATIC S5
- SIMATIC 505
- SINUMERIK
- Non-Siemens PLCs, e.g.
 - Allen Bradley
 - Mitsubishi
 - Telemecanique
 - Modicon
 - Omron
 - GE Fanuc



Note:
For further information, see "System interfaces".

Operator Control and Monitoring Devices

Text Panels

SIMATIC OP7

Technical specifications

	SIMATIC OP7/PP	SIMATIC OP7/DP	SIMATIC OP7/DP-12
Display			
• Display type	LC display	LC display	LC display
• Number of lines (max.)	4	4	4
• Characters per line (max.)	20	20	20
• Character height (mm)	8	8	8
• Colors	Black/white	Black/white	Black/white
• MTBF of background lighting (at 25 °C)	approx. 100,000 hours	approx. 100,000 hours	approx. 100,000 hours
Operating mode			
• Control elements	Membrane keyboard	Membrane keyboard	Membrane keyboard
• Operating options	Keys	Keys	Keys
• Function keys, programmable	8 function keys, 4 with LEDs	8 function keys, 4 with LEDs	8 function keys, 4 with LEDs
• Membrane keyboard	Yes	Yes	Yes
• System keys	22	22	22
• Numeric/alphanumeric input	Yes/No	Yes/No	Yes/No
Processor/HW			
• Processor	X86	X86	X86
Operating systems	RMOS	RMOS	RMOS
Memory			
• Type	Flash/RAM	Flash/RAM	Flash/RAM
• Usable memory for project data	128 KB user memory/without additional memory for options	128 KB user memory/without additional memory for options	128 KB user memory/without additional memory for options
Interfaces	1 x TTY, 1 x RS232, 1 x RS485 max. 1.5 Mbit/s	1 x RS232, 1 x RS422, 1 x RS485 max. 1.5 Mbit/s	1 x TTY, 1 x RS232, 1 x RS422, 1 x RS485 max. 12 Mbit/s
Supply voltage			
• Supply voltage	24 V DC	24 V DC	24 V DC
• Permissible range	+18 V to +30 V DC	+18 V to +30 V DC	+18 V to +30 V DC
• Rated current	0.19 A	0.19 A	0.19 A
Clock	Software clock, without battery backup	Software clock, without battery backup	Software clock, without battery backup
Degree of protection			
• Front	IP65 (when mounted) NEMA 4	IP65 (when mounted) NEMA 4	IP65 (when mounted) NEMA 4
• Rear	IP 20	IP 20	IP 20
Certification (some only as options)	CE, GL, BV, DNV, LRS, PRS, FM Class I Div. 2, UL, CSA, cULus, EX zone 2/22	CE, GL, BV, DNV, LRS, PRS, FM Class I Div. 2, UL, CSA, cULus, EX zone 2/22	CE, GL, BV, DNV, LRS, PRS, FM Class I Div. 2, UL, CSA, cULus, EX zone 2/22
Mechanical components/ dimensions			
• Front panel W x H (mm)	144 x 180	144 x 180	144 x 180
• Mounting cutout/depth W x H x D (mm)	135 x 171/38.5 mm depth of unit	135 x 171/38.5 mm depth of unit	135 x 171/38.5 mm depth of unit
• Weight	0.43 kg	0.43 kg	0.43 kg
Ambient conditions			
• Max. relative humidity (in %)	95%	95%	95%
• Mounting position	Vertical	Vertical	Vertical
- Max. permissible angle of inclination without external fan	+/- 90°	+/- 90°	+/- 90°
• Temperature			
- Operation (vertical installation)	0 to +50 °C	0 to +50 °C	0 to +50 °C
- Operation (max. angle of inclination)	0 to +35 °C	0 to +35 °C	0 to +35 °C
- Transportation and storage	-25 to +70 °C	-25 to +70 °C	-25 to +70 °C

Operator Control and Monitoring Devices

Text Panels

SIMATIC OP7

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Technical specifications (continued)

	SIMATIC OP7/PP	SIMATIC OP7/DP	SIMATIC OP7/DP-12
Expansions for operator-process communication (may only be an option)			
• DP direct LEDs (LEDs as S7 output I/O)	K1...K4	K1...K4	K1...K4
• DP direct keys (buttons as input peripherals)	F1...F4, K1...K41 byte or coded	F1...F4, K1...K41 byte or coded	F1...F4, K1...K41 byte or coded
Peripherals/applications/options			
• I/O	Printer	Printer	Printer
Configuring			
• Configuration tool	ProTool	ProTool	ProTool
• Configuration tool	-	-	WinCC flexible
Functionality (under ProTool)			
• Password protection (number of levels)	10	10	10
• Help system	Yes	Yes	Yes
• PG functions (STATUS/CONTROL)	with SIMATIC S5/S7	with SIMATIC S5/S7	with SIMATIC S5/S7
• PG function (status/control)	Yes	Yes	Yes
Protocols			
• Interface to PLC (may only be an option)	S7-200, S7-300/400, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemecanique (ADJUST), OMRON (LINK/Multilink), Modicon (Modbus)	S5, S7-200, S7-300/400Win AC, SINUMERIK	S5, S7-200, S7-300/400, 505Win AC, SINUMERIK, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemecanique (ADJUST), OMRON (LINK/Multilink), Modicon (Modbus)
Signaling system			
• Status messages	499	499	499
• Alarm messages	499	499	499
• System messages	Yes	Yes	Yes
• Message length (lines x characters)	4 x 20	4 x 20	4 x 20
• Number of process values in messages	8	8	8
• Acknowledgement groups	4	4	4
• Alarm indicator	Yes	Yes	Yes
• Message buffer	Ring buffer, each	Ring buffer, 256 entries each	Ring buffer, 256 entries each
Recipes			
• Recipes	99	99	99
• Data records per recipe	99	99	99
• Entries/data record	99	99	99
• Recipe memory	4 KB integrated Flash	4 KB integrated Flash	4 KB integrated Flash
Number			
• Process images	99	99	99
Logging/printer driver			
• Print functions	Messages, hardcopy not possible	Messages, hardcopy not possible	Messages, hardcopy not possible
Fonts			
• Language (keyboard fonts)	E/F/G/I/S, Russian	E/F/G/I/S, Russian	E/F/G/I/S, Russian
Languages			
• Online languages	3	3	3
• Project languages	D, GB, F, I, E, DK, FIN, GR, NL, N, PL, P, RUS, S, CZ / SK, TR, H	D, GB, F, I, E, DK, FIN, GR, NL, N, PL, P, RUS, S, CZ / SK, TR, H	D, GB, F, I, E, DK, FIN, GR, NL, N, PL, P, RUS, S, CZ / SK, TR, H
Transfer of the configuration	Serial	Serial	Serial

Operator Control and Monitoring Devices

Text Panels

SIMATIC OP7

Ordering data

Order No.

SIMATIC OP7

Operator Panel, 4 lines,
20 characters/line,
22 system keys;
incl. mounting accessories:

• OP7/PP

for connection to SIMATIC
S5/505 and PLCs from other
vendors, with

- 1 x RS 232/TTY interface
- 1 x RS 422/RS 485 interface

6AV3 607-1JC00-0AX1

• OP7/DP

for connection to SIMATIC
S5/S7/505, PROFIBUS DP and
PLCs from other vendors, with

- 1 x RS 232 interface
- 1 x PPI/MPI/PROFIBUS DP
interface, 1.5 Mbit/s
- 1 x RS 422/RS 485 interface

6AV3 607-1JC20-0AX1

• OP7/DP-12

for connection to SIMATIC
S5/S7/505, PROFIBUS DP and
PLCs from other vendors, with

- 1 x RS 232/TTY interface
- 1 x PPI/MPI/PROFIBUS DP
interface, 12 Mbit/s
- 1 x RS 422/RS 485 interface

6AV3 607-1JC30-0AX1

Configuring

with SIMATIC ProTool/Lite,
ProTool or ProTool/Pro

See Section 4

Order No.

Documentation (to be ordered separately)

OP7/OP17 Manual

- German
- English
- French
- Italian
- Spanish

6AV3 991-1AE05-1AA0

6AV3 991-1AE05-1AB0

6AV3 991-1AE05-1AC0

6AV3 991-1AE05-1AD0

6AV3 991-1AE05-1AE0

Communication User Manual

Instructions for connection
of TD/OP to the PLC

- German
- English
- French
- Italian
- Spanish

6AV3 991-1BC05-1AA0

6AV3 991-1BC05-1AB0

6AV3 991-1BC05-1AC0

6AV3 991-1BC05-1AD0

6AV3 991-1BC05-1AE0

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

6AV6 691-1SA01-0AX0

Accessories for supplementary ordering

Service pack for TD17 ¹⁾, OP7 and OP17

Consisting of:

- 1 x TD17 gasket
- 1 x OP7 gasket
- 1 x OP17 gasket
- 5 x clamping blocks
- 2-pin plug-in terminal strip

6AV3 678-1CC10

Bus connector RS 485 with axial cable outlet (180°)

6GK1 500-0EA02

System interfaces

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Connecting cables

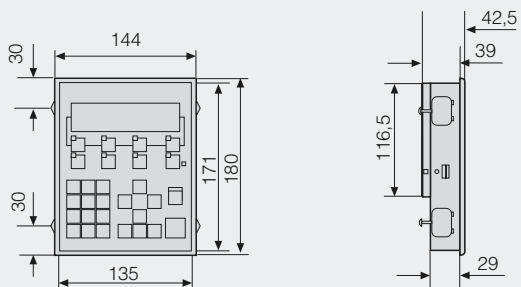
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1) Included in scope of delivery

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

Dimension drawings

Dimensions in mm



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

G_ST80_XX_00058

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.