

*** SPARE PART*** SIMATIC OPERATOR PANEL OP77B BACKLIT
 LC DISPLAY, 4.5" DISPL. W. GRAPHICS CAPABIL MPI-
 /PROFIBUS-DP INTERFACE UPTO 12 MB, PRINTER/USB
 INTERFACE, SLOT FOR MMC CARD, FOR CONFIGURATION OF
 WINCC FLEXIBLE 2004 COMPACT

Display	
Design of display	STN
Screen diagonal	4.5 in
Number of colors	2
Color type	Black/white
Resolution (pixels)	
• Horizontal image resolution	160 Pixel
• Vertical image resolution	64 Pixel
Backlighting	
• MTBF backlighting (at 25 °C)	100 000 h
Control elements	
Control elements	Membrane keyboard
Keyboard fonts	
• Membrane keyboard	
— user-definable label membrane keys	Yes
• Function keys	Yes
— Number of function keys	8
— Number of function keys with LEDs	4
• Numeric/alphabetical input	Yes / Yes
— hexadecimal keyboard	Yes
• Multi-key operation	Yes
Connection type	
• Connection for mouse/keyboard/barcode reader	- / - / -
Installation type/mounting	
Mounting position	vertical
maximum permissible angle of inclination without external ventilation	80°
Input current	
Current consumption (rated value)	0.2 A
Starting current inrush I ² t	0.5 A ² ·s
Processor	

Processor type	ARM
Memory	
Type of memory	Flash / RAM
Memory available for user data	1 000 kbyte
Type of output	
Info LED	Yes
Power LED	No
Error LED	No
Time of day	
Clock	
<ul style="list-style-type: none"> • Type 	Software clock, no battery backup
<ul style="list-style-type: none"> • retentive 	No
<ul style="list-style-type: none"> • synchronizable 	No
Interfaces	
Interfaces/bus type	1 x RS232, 1 x RS422, 1 x RS485 (max. 12 Mbit/s)
Number of RS 485 interfaces	1
<ul style="list-style-type: none"> • Transmission rate, max. 	12 Mbit/s
USB port	1 x USB
Multimedia card/SD card slot	1x MultiMediaCard slot
Industrial Ethernet	
<ul style="list-style-type: none"> • Industrial Ethernet interface 	No
Degree and class of protection	
Front	IP65, NEMA 4x, NEMA 12 (when installed)
IP (at the front)	IP65
IP (rear)	IP20
Standards, approvals, certificates	
Certifications	CE, GL, ABS, BV, DNV, LRS, FM Class I Div. 2, UL, CSA, cULus, EX-Zone 2/22, C-TICK, NEMA 4x, NEMA 12
cULus	Yes
EAC (formerly Gost-R)	No
Marine approval	
<ul style="list-style-type: none"> • Germanischer Lloyd (GL) 	Yes
<ul style="list-style-type: none"> • American Bureau of Shipping (ABS) 	Yes
<ul style="list-style-type: none"> • Bureau Veritas (BV) 	Yes
<ul style="list-style-type: none"> • Det Norske Veritas (DNV) 	Yes
<ul style="list-style-type: none"> • Lloyds Register of Shipping (LRS) 	Yes
<ul style="list-style-type: none"> • Nippon Kaiji Kyokai (Class NK) 	Yes
<ul style="list-style-type: none"> • Polski Rejestr Statkow (PRS) 	No
Use in hazardous areas	
<ul style="list-style-type: none"> • FM Class I Division 2 	Yes

- EX zone 2 Yes
- EX zone 22 Yes

Ambient conditions

Ambient temperature during storage/transportation

- min. -20 °C
- max. 60 °C

Relative humidity

- Operation, max. 90 %

Operating systems

pre-installed operating system Windows CE

Configuration

Configuration software

- Configuration tool WinCC flexible Compact Version 2004 or higher (to be ordered separately)

Languages

Online languages

- Number of online/runtime languages 5

Project languages

- Languages per project 32

Functionality under WinCC (TIA Portal)

Libraries Yes

Help system Yes

- Number of characters per info text 320

Message system

- Number of alarm classes 32
- Number of messages 1 000
- Bit messages Yes
 - Number of bit messages 1 000
- Analog messages Yes
- Telegram message procedure Alarm S Yes
- System messages HMI Yes
- System messages PLC Yes
- System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.) No
- Number of characters per message 80
- Number of process values per message 8
- Acknowledgment groups Yes
- Message indicator No
- acoustic feedback No
- First/last value Yes

Recipe management	
• Number of recipes	100
• Data records per recipe	200
• Entries per data record	200
• Recipe memory	32 KB integrated Flash, expandable
Variables	
• Number of variables per device	1 000
• Number of variables per screen	30
• Limit values	Yes
• Multiplexing	Yes
Images	
• Number of configurable images	500
• Permanent window/default	Yes
• Start screen configurable	Yes
• Image selection by PLC	Yes
• Image number in the PLC	Yes
Image objects	
• Text objects	2,500 text elements
• Number of I/O fields per image	30
• Number of date/time fields	0
• Index of screen context	No
• Return	Yes
• Graphics object	Bit maps, icons, icon (full-screen)
— Icons	1 000
— Icon (full screen)	100
Complex image objects	
• dynamic objects	Bar graphs
• Bar graphs	
— Number of bars per chart	5
• Pointer instruments	
— Number of analog indicators per image	0
• Limit value lines	Yes
• Number of alphanumerical fields	1 000
— alphanumeric fields per image	30
• Number of numerical fields	1 000
— numerical fields per image	30
• Number of password fields	0
• Number of visible switches per project	
— visible switches per image	0
— hidden switches per image	0
• Number of status switches per project	

— Number of status switches per image	0
• Number of selector switches per project	
— Selector switches per image	0
• Number of decade switches per project	
— Decade switches per image	0
• Number of signal lamps per project	
— Signal lamps per image	0
Attributes for dynamic objects	
• Angle of rotation	No
Lists	
• Number of text lists per project	300
• Number of graphics lists per project	0
• Number of graphic lists per image	0
• Number of entries per graphics list	0
Security	
• Number of user groups	50
• Number of user rights	32
• Password export/import	Yes
Logging through printer	
• Recording/Printing	Alarms, report (shift report), hardcopy
Transfer (upload/download)	
• Transfer of configuration	MPI/PROFIBUS DP, serial, USB, by means of external storage medium, automatic transfer recognition
Process coupling	
• Connection to controller	S5, S7-200, S7-300/400, TI 505, Win AC, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces"
• S7-200	Yes
— PPI (point-to-point)	Yes
— PPI network	Yes
— MPI	Yes
— PROFIBUS DP	Yes
• S7-300/400	Yes
— MPI	Yes
— PROFIBUS DP	Yes
— PROFINET	No
• S5	Yes
— serial	Yes
— PROFIBUS DP	Yes
• TI 505	Yes
• Allen Bradley (DF1)	Yes

• Allen Bradley (DF485)	Yes
• Mitsubishi (FX)	Yes
• Mitsubishi (MP4)	Yes
• Telemecanique (ADJUST)	No
• Telemecanique (Uni-Telway)	No
• OMRON (LINK/Multilink)	Yes
• Modicon (Modbus)	Yes
• GE-Fanuc (SNP)	Yes
Functions	
• Key repeat	Yes
• TAB sequence	Yes
• Calculating functions	Yes
• Animate	Yes
• Menu tree editor	Yes
• Unit switchover	No
Service tools/configuration aids	
• Clean screen	No
• Touch calibration	No
• Backup/Restore manually	Yes
• Simulation	Yes
• Device switchover	Yes
• Delta transfer	Yes
• Monitoring function for battery and memory	No
• Trace (operation archive)	No
Expandability/openness	
• Open Platform Program	No
Peripherals/Options	
Peripherals	Printer
• SIMATIC HMI MM memory card: Multi Media Card	Yes
Dimensions	
Width of the housing front	150 mm
Height of housing front	186 mm
Overall depth	38.5 mm
Weights	
Weight (without packaging)	0.5 kg
Other	
free hotline	Yes
Warranty period	1 y
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