



Figure similar

\*\*\* spare part \*\*\* SIMATIC Operator Panel OP 77B LC display backlit, 4.5 display graphics-capable, MPI/PROFIBUS DP interface up to 12 MB, printer/USB interface, slot for MMC, configurable with WinCC flexible 2004 Compact

| General information                                                   |                   |
|-----------------------------------------------------------------------|-------------------|
| Product type designation                                              | OP 77B            |
| Customer-specific configuration                                       | No                |
| Display                                                               |                   |
| Design of display                                                     | STN               |
| Screen diagonal                                                       | 4.5 in            |
| Color display                                                         | No                |
| Number of colors                                                      | 2; 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                 |
| • System keys                                                         | Yes               |
| — Number of system keys                                               | 23                |
| • Numeric keyboard                                                    | Yes               |
| • alphanumeric keyboard                                               | Yes               |
| • hexadecimal keyboard                                                | Yes               |
| • Multi-key operation                                                 | Yes               |
| Touch operation                                                       |                   |
| • Design as touch screen                                              | No; without       |
| Connection type                                                       |                   |
| • Type of connection for mouse/keyboard/barcode reader                | - / - / -         |
| Installation type/mounting                                            |                   |
| Mounting position                                                     | vertical          |
| maximum permissible angle of inclination without external ventilation | 80°               |
| Supply voltage                                                        |                   |
| Type of supply voltage                                                | DC                |
| Input current                                                         |                   |
| Current consumption (rated value)                                     | 0.2 A             |

|                                                   |                                                          |
|---------------------------------------------------|----------------------------------------------------------|
| Starting current inrush I <sup>2</sup> t          | 0.5 A <sup>2</sup> ·s                                    |
| <b>Processor</b>                                  |                                                          |
| Processor type                                    | ARM                                                      |
| <b>Memory</b>                                     |                                                          |
| Type of memory                                    | Flash / RAM                                              |
| Memory available for user data                    | 1 000 kbyte                                              |
| <b>Type of output</b>                             |                                                          |
| Info LED                                          | Yes                                                      |
| Power LED                                         | No                                                       |
| Error LED                                         | No                                                       |
| <b>Time of day</b>                                |                                                          |
| Clock                                             |                                                          |
| • Type                                            | Software clock, no battery backup                        |
| • retentive                                       | No                                                       |
| • synchronizable                                  | No                                                       |
| <b>Interfaces</b>                                 |                                                          |
| Interfaces/bus type                               | 1x RS 232, 1x RS 422, 1x RS 485 (max. 12 Mbit/s)         |
| Number of industrial Ethernet interfaces          | 0                                                        |
| Number of RS 485 interfaces                       | 1                                                        |
| Number of RS 422 interfaces                       | 1                                                        |
| Number of USB interfaces                          | 1                                                        |
| Multimedia card/SD card slot                      | combined                                                 |
| With software interfaces                          | No                                                       |
| <b>Protocols</b>                                  |                                                          |
| Supports protocol for PROFINET IO                 | No                                                       |
| PROFIsafe                                         | No                                                       |
| PROFIBUS                                          | Yes                                                      |
| EtherNet/IP                                       | No                                                       |
| Protocols (Ethernet)                              |                                                          |
| • TCP/IP                                          | No                                                       |
| Further protocols                                 |                                                          |
| • MODBUS                                          | Yes                                                      |
| <b>Degree and class of protection</b>             |                                                          |
| IP (at the front)                                 | IP65                                                     |
| IP (rear)                                         | IP20                                                     |
| NEMA (front)                                      | NEMA 4x, NEMA 12 (when installed)                        |
| <b>Standards, approvals, certificates</b>         |                                                          |
| CE mark                                           | Yes                                                      |
| UL approval                                       | Yes                                                      |
| cULus                                             | Yes                                                      |
| EAC (formerly Gost-R)                             | No                                                       |
| Suitable for safety functions                     | No                                                       |
| Use in hazardous areas                            |                                                          |
| • ATEX Zone 2                                     | No; certificate no longer available as of 1 October 2020 |
| • ATEX Zone 22                                    | No; certificate no longer available as of 1 October 2020 |
| • FM Class I Division 2                           | Yes                                                      |
| Marine approval                                   |                                                          |
| • Germanischer Lloyd (GL)                         | Yes                                                      |
| • American Bureau of Shipping (ABS)               | Yes                                                      |
| • Bureau Veritas (BV)                             | Yes                                                      |
| • Det Norske Veritas (DNV)                        | Yes                                                      |
| • Lloyds Register of Shipping (LRS)               | Yes                                                      |
| • Nippon Kaiji Kyokai (Class NK)                  | Yes                                                      |
| • Polski Rejestr Statkow (PRS)                    | No                                                       |
| <b>Ambient conditions</b>                         |                                                          |
| Ambient temperature during operation              |                                                          |
| • min.                                            | 0 °C                                                     |
| • max.                                            | 50 °C                                                    |
| 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 / header                                       |                                                                          |
| Message indicator                                            | Yes                                                                      |
| Alarm system (incl. buffer and acknowledgment)               | Yes                                                                      |
| Process value display (output)                               | Yes                                                                      |
| Process value default (input) possible                       | Yes                                                                      |
| Recipe management                                            | Yes                                                                      |
| Configuration software                                       |                                                                          |
| • Configuration tool                                         | WinCC flexible Compact Version 2004 or higher (to be ordered separately) |
| • STEP 7 Basic (TIA Portal)                                  | No                                                                       |
| • STEP 7 Professional (TIA Portal)                           | No                                                                       |
| • WinCC flexible Compact                                     | Yes                                                                      |
| • WinCC flexible Standard                                    | Yes                                                                      |
| • WinCC flexible Advanced                                    | Yes                                                                      |
| • WinCC Basic (TIA Portal)                                   | No                                                                       |
| • WinCC Comfort (TIA Portal)                                 | Yes                                                                      |
| • WinCC Advanced (TIA Portal)                                | Yes                                                                      |
| • WinCC Professional (TIA Portal)                            | Yes                                                                      |
| Languages                                                    |                                                                          |
| Online languages                                             |                                                                          |
| • Number of online/runtime languages                         | 5                                                                        |
| Project languages                                            |                                                                          |
| • Languages per project                                      | 32                                                                       |
| Functionality under WinCC (TIA Portal)                       |                                                                          |
| Libraries                                                    | Yes                                                                      |
| Task planner                                                 | 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                                                                      |
| — Number of analog messages                                  | 1 000                                                                    |
| • Telegram message procedure Alarm S                         | Yes                                                                      |
| • System messages HMI                                        | Yes                                                                      |
| • System messages PLC                                        | Yes                                                                      |
| • System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | 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            |                                                                                                                                                                                                             |
| • Color change                            | Yes                                                                                                                                                                                                         |
| • X/Y movement                            | No                                                                                                                                                                                                          |
| • Hide                                    | Yes                                                                                                                                                                                                         |
| • 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                                          |
| — Ethernet                                   | No                                           |
| • 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)                 | Yes; Only in combination with WinCC flexible |
| • OMRON (LINK/Multilink)                     | Yes                                          |
| • Modicon (Modbus)                           | Yes                                          |
| • GE-Fanuc (SNP)                             | Yes                                          |
| <b>Functions</b>                             |                                              |
| • Key repeat                                 | Yes                                          |
| • TAB sequence                               | Yes                                          |
| • Calculating functions                      | Yes                                          |
| • Animate                                    | Yes                                          |
| • Menu tree editor                           | Yes                                          |
| • Unit switchover                            | No                                           |
| <b>Service tools/configuration aids</b>      |                                              |
| • 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                                           |
| <b>Expandability/openness</b>                |                                              |
| • Open Platform Program                      | No                                           |
| <b>Peripherals/Options</b>                   |                                              |
| Peripherals                                  | Printer                                      |
| SIMATIC HMI MM memory card: Multi Media Card | Yes                                          |
| Additional software components loadable      | Yes                                          |
| <b>Dimensions</b>                            |                                              |
| Width of the housing front                   | 150 mm                                       |
| Height of housing front                      | 186 mm                                       |
| Mounting cutout, width                       | 135 mm                                       |
| Mounting cutout, height                      | 171 mm                                       |
| Overall depth                                | 38.5 mm                                      |
| <b>Weights</b>                               |                                              |
| Weight (without packaging)                   | 0.5 kg                                       |
| <b>Other</b>                                 |                                              |
| free hotline                                 | Yes                                          |

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