



Figure similar

\*\*\* spare part \*\*\* SIMATIC OP 177B 6" PN/DP STN 256 color display touch and key MPI/PROFIBUS DP protocol RS485/RS422/USB interface Ethernet 10/100 interface printer interface slot for MMC configurable with WinCC flexible 2005

| General information                                                   |                                    |
|-----------------------------------------------------------------------|------------------------------------|
| Product type designation                                              | OP177B 6" PN/DP Color              |
| Customer-specific configuration                                       | Yes                                |
| Display                                                               |                                    |
| Design of display                                                     | STN                                |
| Screen diagonal                                                       | 5.7 in                             |
| Color display                                                         | Yes                                |
| Number of colors                                                      | 256                                |
| Resolution (pixels)                                                   |                                    |
| • Horizontal image resolution                                         | 320 pixel                          |
| • Vertical image resolution                                           | 240 pixel                          |
| Backlighting                                                          |                                    |
| • MTBF backlighting (at 25 °C)                                        | 50 000 h                           |
| Control elements                                                      |                                    |
| Control elements                                                      | Touch screen and membrane keyboard |
| Keyboard fonts                                                        |                                    |
| • Membrane keyboard                                                   |                                    |
| — user-definable label membrane keys                                  | Yes                                |
| • Function keys                                                       |                                    |
| — Number of function keys                                             | 32                                 |
| — Number of function keys with LEDs                                   | 26                                 |
| • System keys                                                         | No                                 |
| — Number of system keys                                               | 0                                  |
| — Number of configurable system keys                                  | 32                                 |
| • Numeric keyboard                                                    | Yes                                |
| • alphanumeric keyboard                                               | Yes                                |
| • hexadecimal keyboard                                                | Yes                                |
| • Multi-key operation                                                 | Yes                                |
| Touch operation                                                       |                                    |
| • Design as touch screen                                              | Yes; analog, resistive             |
| Connection type                                                       |                                    |
| • Type of connection for mouse/keyboard/barcode reader                | USB / USB / USB                    |
| Installation type/mounting                                            |                                    |
| Mounting position                                                     | vertical                           |
| maximum permissible angle of inclination without external ventilation | 35°                                |
| Supply voltage                                                        |                                    |
| Type of supply voltage                                                | DC                                 |

|                                           |                                                                            |
|-------------------------------------------|----------------------------------------------------------------------------|
| <b>Input current</b>                      |                                                                            |
| Current consumption (rated value)         | 0.24 A                                                                     |
| Starting current inrush I <sup>2</sup> t  | 0.5 A <sup>2</sup> ·s                                                      |
| <b>Processor</b>                          |                                                                            |
| Processor type                            | ARM, 200 MHz                                                               |
| <b>Memory</b>                             |                                                                            |
| Type of memory                            | Flash / RAM                                                                |
| Memory available for user data            | 2 048 kbyte                                                                |
| <b>Time of day</b>                        |                                                                            |
| Clock                                     |                                                                            |
| • Type                                    | Hardware clock, synchronizable, no battery backup                          |
| • retentive                               | No                                                                         |
| • synchronizable                          | Yes                                                                        |
| <b>Interfaces</b>                         |                                                                            |
| Interfaces/bus type                       | RS 232 optional, 1x RS 422, 1x RS 485, 1x Ethernet (RJ45) (max. 12 Mbit/s) |
| Number of industrial Ethernet interfaces  | 1                                                                          |
| Number of RS 485 interfaces               | 1                                                                          |
| Number of RS 422 interfaces               | 1                                                                          |
| Number of USB interfaces                  | 1; Up to 1 GB                                                              |
| PC card slot                              | No                                                                         |
| CF card slot                              | No                                                                         |
| Multimedia card/SD card slot              | combined, as of E version 016 in conjunction with WinCC flexible 2008 SP1  |
| With software interfaces                  | No                                                                         |
| <b>Protocols</b>                          |                                                                            |
| Supports protocol for PROFINET IO         | Yes                                                                        |
| PROFIsafe                                 | No                                                                         |
| PROFIBUS                                  | Yes                                                                        |
| EtherNet/IP                               | Yes                                                                        |
| Protocols (Ethernet)                      |                                                                            |
| • TCP/IP                                  | Yes                                                                        |
| Protocols (terminal link)                 |                                                                            |
| • Sm@rtServer                             | Yes                                                                        |
| 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                                                                        |
| • 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                                                |                                                                          |
| 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 2005 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                         | 70                                                                       |
| Message system                                               |                                                                          |
| • Number of alarm classes                                    | 32                                                                       |
| • Number of messages                                         | 2 000                                                                    |
| • Bit messages                                               | Yes                                                                      |
| — Number of bit messages                                     | 2 000                                                                    |
| • Analog messages                                            | Yes                                                                      |
| — Number of analog messages                                  | 50                                                                       |
| • Telegram message procedure Alarm S                         | No                                                                       |
| • System messages HMI                                        | Yes                                                                      |
| • System messages PLC                                        | Yes                                                                      |
| • System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | No                                                                       |
| • Lines                                                      | 1                                                                        |
| • Number of characters per message                           | 80                                                                       |
| • Number of process values per message                       | 8                                                                        |
| • Acknowledgment groups                                      |                                                                          |
| — Number of acknowledgement groups                           | 99                                                                       |
| • Message indicator                                          | Yes                                                                      |
| • 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                               |
| <b>Variables</b>                          |                                                                  |
| • Number of variables per device          | 1 000                                                            |
| • Number of variables per screen          | 50                                                               |
| • Number of variables                     | 1 000                                                            |
| • Initial values                          | 1 000                                                            |
| • Type Date & Time                        | 1 000                                                            |
| • Limit values                            | Yes                                                              |
| • Multiplexing                            | Yes                                                              |
| • Structures                              | No                                                               |
| <b>Images</b>                             |                                                                  |
| • Number of configurable images           | 500                                                              |
| • Permanent window/default                | Yes                                                              |
| • Start screen configurable               | Yes                                                              |
| • Image selection by PLC                  | Yes                                                              |
| • Image number in the PLC                 | Yes                                                              |
| <b>Image objects</b>                      |                                                                  |
| • Text objects                            | 2 500 text elements                                              |
| • Number of I/O fields per image          | 50                                                               |
| • Number of date/time fields              | 30                                                               |
| • Index of screen context                 | No                                                               |
| • Return                                  | Yes                                                              |
| • Graphics object                         | Bit maps, icons, icon (full-screen), vector graphics             |
| — Icons                                   | 500                                                              |
| — Icon (full screen)                      | 50                                                               |
| <b>Complex image objects</b>              |                                                                  |
| • Status/control                          | Yes; With SIMATIC S7                                             |
| • dynamic objects                         | Diagrams, bar graphs, sliders, analog display, invisible buttons |
| — Number of objects per project           | 500                                                              |
| — Number of curve diagrams per image      | 5                                                                |
| • Methods                                 | Trend                                                            |
| • Bar graphs                              |                                                                  |
| — Number of bars per chart                | 5                                                                |
| • Sliders                                 |                                                                  |
| — Number of slides per image              | 0                                                                |
| • Pointer instruments                     |                                                                  |
| — Number of analog indicators per image   | 0                                                                |
| • Limit value lines                       | Yes                                                              |
| • Number of alphanumerical fields         | 1 000                                                            |
| — alphanumeric fields per image           | 100                                                              |
| • Number of numerical fields              | 1 000                                                            |
| — numerical fields per image              | 100                                                              |
| • Number of password fields               | 1 000                                                            |
| • Number of visible switches per project  | 1 000                                                            |
| — visible switches per image              | 100                                                              |
| — hidden switches per image               | 100                                                              |
| • Number of status switches per project   | 1 000                                                            |
| — Number of status switches per image     | 100                                                              |
| • Number of selector switches per project | 1 000                                                            |
| — Selector switches per image             | 100                                                              |
| • Number of decade switches per project   | 0                                                                |
| — Decade switches per image               | 0                                                                |
| • Number of signal lamps per project      | 1 000                                                            |
| — Signal lamps per image                  | 100                                                              |
| <b>Attributes for dynamic objects</b>     |                                                                  |
| • Color change                            | Yes                                                              |
| • X/Y movement                            | Yes                                                              |
| • Hide                                    | Yes                                                              |
| • Angle of rotation                       | No                                                               |

|                                        |                                                                                                                                                                                                                |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lists                                  |                                                                                                                                                                                                                |
| • Number of text lists per project     | 300                                                                                                                                                                                                            |
| • Number of text lists per image       | 10                                                                                                                                                                                                             |
| • Number of entries per text list      | 30                                                                                                                                                                                                             |
| • Number of graphics lists per project | 100                                                                                                                                                                                                            |
| • Number of graphic lists per image    | 10                                                                                                                                                                                                             |
| • Number of entries per graphics list  | 30                                                                                                                                                                                                             |
| Security                               |                                                                                                                                                                                                                |
| • Number of user groups                | 50                                                                                                                                                                                                             |
| • Number of user rights                | 32                                                                                                                                                                                                             |
| • Password export/import               | Yes                                                                                                                                                                                                            |
| Data carrier support                   |                                                                                                                                                                                                                |
| • PC card                              | No                                                                                                                                                                                                             |
| • CF card                              | No                                                                                                                                                                                                             |
| Logging through printer                |                                                                                                                                                                                                                |
| • Recording/Printing                   | Alarms, report (shift report), color print, hardcopy                                                                                                                                                           |
| Transfer (upload/download)             |                                                                                                                                                                                                                |
| • Transfer of configuration            | MPI/PROFIBUS DP, serial, USB, Ethernet, by means of external storage medium, automatic transfer recognition                                                                                                    |
| Process coupling                       |                                                                                                                                                                                                                |
| • Connection to controller             | S5, S7-200, S7-300/400, Win AC, PC (TCP/IP), SINUMERIK, SIMOTION, Allen Bradley (DF1), Mitsubishi (FX), Telemecanique (ADJUST), Modicon (Modbus), further non-Siemens drivers, see chapter "System interfaces" |
| • S7-1200                              | Yes                                                                                                                                                                                                            |
| • S7-1500                              | No                                                                                                                                                                                                             |
| • S7-200                               | Yes                                                                                                                                                                                                            |
| — PPI (point-to-point)                 | Yes                                                                                                                                                                                                            |
| — PPI network                          | No                                                                                                                                                                                                             |
| — MPI                                  | Yes                                                                                                                                                                                                            |
| — PROFIBUS DP                          | Yes                                                                                                                                                                                                            |
| — Ethernet                             | Yes                                                                                                                                                                                                            |
| • S7-300/400                           | Yes                                                                                                                                                                                                            |
| — MPI                                  | Yes                                                                                                                                                                                                            |
| — PROFIBUS DP                          | Yes                                                                                                                                                                                                            |
| — PROFINET                             | Yes                                                                                                                                                                                                            |
| • S5                                   | Yes; only PROFIBUS DP                                                                                                                                                                                          |
| — serial                               | No                                                                                                                                                                                                             |
| — PROFIBUS DP                          | Yes                                                                                                                                                                                                            |
| • TI 505                               | No                                                                                                                                                                                                             |
| • Allen Bradley (DF1)                  | Yes                                                                                                                                                                                                            |
| • Allen Bradley (DF485)                | Yes                                                                                                                                                                                                            |
| • Mitsubishi (FX)                      | Yes                                                                                                                                                                                                            |
| • Telemecanique (ADJUST)               | No                                                                                                                                                                                                             |
| • Telemecanique (Uni-Telway)           | Yes; Only in combination with WinCC flexible                                                                                                                                                                   |
| • OMRON (LINK/Multilink)               | Yes                                                                                                                                                                                                            |
| • Modicon (Modbus)                     | Yes                                                                                                                                                                                                            |
| Functions                              |                                                                                                                                                                                                                |
| • Key repeat                           | No                                                                                                                                                                                                             |
| • TAB sequence                         | Yes                                                                                                                                                                                                            |
| • Calculating functions                | Yes                                                                                                                                                                                                            |
| • Animate                              | Yes                                                                                                                                                                                                            |
| • Menu tree editor                     | Yes                                                                                                                                                                                                            |
| • Unit switchover                      | No                                                                                                                                                                                                             |
| Service tools/configuration aids       |                                                                                                                                                                                                                |
| • Clean screen                         | Yes                                                                                                                                                                                                            |
| • Touch calibration                    | Yes                                                                                                                                                                                                            |
| • 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                      | Yes     |
| <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                   | 243 mm  |
| Height of housing front                      | 212 mm  |
| Mounting cutout, width                       | 229 mm  |
| Mounting cutout, height                      | 196 mm  |
| mounting depth                               | 45 mm   |
| <b>Weights</b>                               |         |
| Weight (without packaging)                   | 1 kg    |
| <b>Other</b>                                 |         |
| free hotline                                 | Yes     |
| <b>Classifications</b>                       |         |

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-33-02-01    |
| eClass | 12      | 27-33-02-01    |
| eClass | 9.1     | 27-33-02-01    |
| eClass | 9       | 27-33-02-01    |
| eClass | 8       | 27-24-23-02    |
| eClass | 7.1     | 27-24-23-02    |
| eClass | 6       | 27-24-23-02    |
| ETIM   | 10      | EC001412       |
| ETIM   | 9       | EC001412       |
| ETIM   | 8       | EC001412       |
| ETIM   | 7       | EC001412       |
| IDEA   | 4       | 6607           |
| UNSPSC | 15      | 43-21-15-06    |

#### Approvals / Certificates

##### General Product Approval

[Manufacturer Declaration](#)



[China RoHS](#)



|                          |     |                                |                                           |
|--------------------------|-----|--------------------------------|-------------------------------------------|
| General Product Approval | EMV | For use in hazardous locations | Radio Equipment Type Approval Certificate |
|--------------------------|-----|--------------------------------|-------------------------------------------|



[FM](#)

[Miscellaneous](#)

##### Maritime application



[NK / Nippon Kaiji Kyokai](#)



