



SIMATIC HMI MTP700, Unified Basic Panel, touch operation, 7" widescreen TFT display, 16 million colors, PROFINET interface, configurable as of WinCC Unified Basic V18 Update 3, contains open-source software, which is provided free of charge see enclosed Blu-ray

| General information                                                   |                        |
|-----------------------------------------------------------------------|------------------------|
| Product type designation                                              | MTP700 Unified Basic   |
| Display                                                               |                        |
| Design of display                                                     | TFT                    |
| Screen diagonal                                                       | 7 in                   |
| Display width                                                         | 152.4 mm               |
| Display height                                                        | 91.4 mm                |
| Number of colors                                                      | 16 777 216             |
| Resolution (pixels)                                                   |                        |
| • Horizontal image resolution                                         | 800 pixel              |
| • Vertical image resolution                                           | 480 pixel              |
| Backlighting                                                          |                        |
| • MTBF backlighting (at 25 °C)                                        | 20 000 h; At 25°C      |
| • Backlight dimmable                                                  | Yes; 10 ... 100%       |
| Control elements                                                      |                        |
| Keyboard                                                              |                        |
| • Numeric keyboard                                                    | Yes; Onscreen keyboard |
| • alphanumeric keyboard                                               | Yes; Onscreen keyboard |
| Touch operation                                                       |                        |
| • Design as touch screen                                              | Yes                    |
| • Design as multi-touch screen                                        | Yes                    |
| • Monitor keyboard                                                    | Yes                    |
| Installation type/mounting                                            |                        |
| Mounting position                                                     | vertical               |
| Mounting in portrait format possible                                  | Yes                    |
| Mounting in landscape format possible                                 | Yes                    |
| maximum permissible angle of inclination without external ventilation | 35°                    |
| Supply voltage                                                        |                        |
| Type of supply voltage                                                | DC                     |
| Rated value (DC)                                                      | 24 V                   |
| permissible range, lower limit (DC)                                   | 19.2 V                 |
| permissible range, upper limit (DC)                                   | 28.8 V                 |
| Input current                                                         |                        |
| Current consumption (rated value)                                     | 0.2 A                  |
| current consumption (for rated value of supply voltage), min.         | 0.16 A                 |
| current consumption (for rated value of supply voltage), max.         | 0.51 A                 |
| Current consumption, max.                                             | 0.69 A; at 19.2 V      |
| Starting current inrush I <sub>st</sub>                               | 0.36 A <sup>2</sup> ·s |

|                                                  |                                         |
|--------------------------------------------------|-----------------------------------------|
| <b>Power</b>                                     |                                         |
| Active power input, typ.                         | 8.2 W                                   |
| <b>Processor</b>                                 |                                         |
| Processor type                                   | ARM                                     |
| <b>Storage</b>                                   |                                         |
| Flash                                            | Yes                                     |
| RAM                                              | Yes                                     |
| <b>Type of output</b>                            |                                         |
| Acoustics                                        |                                         |
| • Buzzer                                         | No                                      |
| • Speaker                                        | No                                      |
| <b>Time of day</b>                               |                                         |
| Clock                                            |                                         |
| • Hardware clock (real-time)                     | Yes                                     |
| • Software clock                                 | Yes                                     |
| • retentive                                      | Yes; Back-up duration typically 6 weeks |
| • synchronizable                                 | Yes                                     |
| <b>Interfaces</b>                                |                                         |
| Number of industrial Ethernet interfaces         | 1; Gigabit Ethernet (IE/PN), RJ45       |
| Number of RS 485 interfaces                      | 0                                       |
| Number of RS 422 interfaces                      | 0                                       |
| Number of USB interfaces                         | 2; USB 2.0                              |
| Number of SD card slots                          | 0                                       |
| Industrial Ethernet                              |                                         |
| • Industrial Ethernet status LED                 | 2                                       |
| • Number of ports of the integrated switch       | 1                                       |
| <b>Protocols</b>                                 |                                         |
| PROFINET                                         | Yes                                     |
| Supports protocol for PROFINET IO                | No                                      |
| MPI                                              | No                                      |
| Protocols (Ethernet)                             |                                         |
| • TCP/IP                                         | Yes                                     |
| • DHCP                                           | Yes                                     |
| • SNMP                                           | Yes                                     |
| • DCP                                            | Yes                                     |
| • LLDP                                           | Yes                                     |
| Redundancy mode                                  |                                         |
| Media redundancy                                 |                                         |
| — MRP                                            | No                                      |
| Further protocols                                |                                         |
| • CAN                                            | No                                      |
| <b>EMC</b>                                       |                                         |
| Emission of radio interference acc. to EN 55 011 |                                         |
| • Limit class A, for use in industrial areas     | Yes                                     |
| • Limit class B, for use in residential areas    | No                                      |
| <b>Degree and class of protection</b>            |                                         |
| IP (at the front)                                | IP65                                    |
| IP (rear)                                        | IP20                                    |
| NEMA (front)                                     | NEMA 4, NEMA 4x (when installed)        |
| • Enclosure Type 4 at the front                  | Yes                                     |
| • Enclosure Type 4x at the front                 | Yes                                     |
| • Enclosure Type 12 at the front                 | No                                      |
| <b>Standards, approvals, certificates</b>        |                                         |
| CE mark                                          | Yes                                     |
| UKCA mark                                        | Yes                                     |
| cULus                                            | Yes                                     |
| FM approval                                      | No                                      |
| RCM (formerly C-TICK)                            | Yes                                     |

|                                                                |                       |
|----------------------------------------------------------------|-----------------------|
| KC approval                                                    | Yes                   |
| EAC (formerly Gost-R)                                          | No                    |
| CCC                                                            | No                    |
| Ecological footprint                                           |                       |
| • environmental product declaration                            | Yes                   |
| Global warming potential                                       |                       |
| — global warming potential, (total) [CO2 eq]                   | 162 kg                |
| — global warming potential, (during production) [CO2 eq]       | 23.7 kg               |
| — global warming potential, (during operation) [CO2 eq]        | 139 kg                |
| — global warming potential, (after end of life cycle) [CO2 eq] | -1.23 kg              |
| Use in hazardous areas                                         |                       |
| • ATEX Zone 2                                                  | No                    |
| • ATEX Zone 22                                                 | No                    |
| • IECEx Zone 2                                                 | No                    |
| • IECEx Zone 22                                                | No                    |
| • cULus Class I Zone 2, Division 2                             | No                    |
| • cULus Class II Division 2                                    | No                    |
| • FM Class I Division 2                                        | No                    |
| • FM Class II Division 2                                       | No                    |
| Marine approval                                                |                       |
| • Germanischer Lloyd (GL)                                      | No; included in DNV   |
| • American Bureau of Shipping (ABS)                            | Yes; in preparation   |
| • Bureau Veritas (BV)                                          | Yes; in preparation   |
| • Det Norske Veritas (DNV)                                     | Yes                   |
| • Korean Register of Shipping (KRS)                            | Yes                   |
| • Lloyds Register of Shipping (LRS)                            | Yes                   |
| • Nippon Kaiji Kyokai (Class NK)                               | Yes                   |
| • Chinese Classification Society (CCS)                         | Yes                   |
| Ambient conditions                                             |                       |
| Suited for indoor use                                          | Yes                   |
| Suited for outdoor use                                         | No                    |
| Ambient temperature during operation                           |                       |
| Operation (vertical installation)                              |                       |
| — For vertical installation, min.                              | 0 °C                  |
| — For vertical installation, max.                              | 50 °C                 |
| Operation (max. tilt angle)                                    |                       |
| — At maximum tilt angle, min.                                  | 0 °C                  |
| — At maximum tilt angle, max.                                  | 40 °C                 |
| Operation (vertical installation, portrait format)             |                       |
| — For vertical installation, min.                              | 0 °C                  |
| — For vertical installation, max.                              | 40 °C                 |
| Operation (max. tilt angle, portrait format)                   |                       |
| — At maximum tilt angle, min.                                  | 0 °C                  |
| — At maximum tilt angle, max.                                  | 35 °C                 |
| Ambient temperature during storage/transportation              |                       |
| • min.                                                         | -20 °C                |
| • max.                                                         | 60 °C                 |
| Relative humidity                                              |                       |
| • Operation, max.                                              | 90 %; no condensation |
| Operating systems                                              |                       |
| proprietary                                                    | Yes                   |
| Configuration                                                  |                       |
| Message indicator                                              | Yes                   |
| Alarm system (incl. buffer and acknowledgment)                 | Yes                   |
| Recipe management                                              | Yes                   |
| Configuration software                                         |                       |
| • WinCC Advanced (TIA Portal)                                  | Yes                   |

|                                                              |                                  |
|--------------------------------------------------------------|----------------------------------|
| • WinCC Professional (TIA Portal)                            | Yes                              |
| • WinCC Unified Basic Engineering (TIA Portal)               | Yes                              |
| • WinCC Unified Comfort Engineering (TIA Portal)             | Yes                              |
| • WinCC Unified PC Engineering (TIA Portal)                  | Yes                              |
| <b>Languages</b>                                             |                                  |
| Online languages                                             |                                  |
| • Number of online/runtime languages                         | 32                               |
| Project languages                                            |                                  |
| • Languages per project                                      | 32                               |
| <b>Functionality under WinCC Unified</b>                     |                                  |
| Libraries                                                    | Yes                              |
| Applications/options                                         | No                               |
| Number of Visual Basic Scripts                               | No                               |
| JavaScript                                                   | Yes                              |
| Task planner                                                 |                                  |
| • time-controlled                                            | Yes                              |
| • task-controlled                                            | Yes                              |
| Help system                                                  |                                  |
| • Number of characters per info text                         | 70                               |
| • Number of message texts per message                        | 10                               |
| Message system                                               |                                  |
| • Number of alarm classes                                    | 32                               |
| • Bit messages                                               |                                  |
| — Number of bit messages                                     | 2 000                            |
| • Analog messages                                            |                                  |
| — Number of analog messages                                  | 100                              |
| • S7 alarm number procedure                                  | Yes                              |
| • System messages HMI                                        | Yes                              |
| • System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | Yes                              |
| • Number of characters per message                           | 512                              |
| • Number of process values per message                       | 10                               |
| • Acknowledgment groups                                      | Yes                              |
| • Message indicator                                          | No                               |
| • Message buffer                                             | Yes; Configured as alarm archive |
| — Circulating buffer                                         | Yes                              |
| — retentive                                                  | Yes                              |
| — maintenance-free                                           | Yes                              |
| Parameter set management (recipes)                           |                                  |
| • Number of parameter set types                              | 250                              |
| • Parameter sets per parameter set type                      | 250                              |
| • Entries per parameter set                                  | 250                              |
| • Size of internal parameter set memory                      | 5 Mbyte                          |
| • Parameter set memory expandable                            | Yes                              |
| Variables                                                    |                                  |
| • Number of variables per device                             | 1 000                            |
| • Number of variables per screen                             | 300                              |
| • Limit values                                               | Yes                              |
| • Structures                                                 | Yes                              |
| • Arrays                                                     | Yes                              |
| Images                                                       |                                  |
| • Number of configurable images                              | 300                              |
| • Faceplate                                                  | Yes                              |
| Image objects                                                |                                  |
| • Number of objects per image                                | 600                              |
| • Picture window                                             | Yes                              |
| • Text fields                                                | Yes                              |
| • I/O fields                                                 | Yes                              |
| • Graphic I/O fields (graphics list)                         | Yes                              |

|                                        |                              |
|----------------------------------------|------------------------------|
| • Symbolic I/O fields (text list)      | Yes                          |
| • Scalable Vector Graphics (SVG)       | Yes                          |
| • Date/time fields                     | Yes                          |
| • Checkbox                             | Yes                          |
| • Option button                        | Yes                          |
| • Switches                             | Yes                          |
| • Buttons                              | Yes                          |
| • Graphic display                      | Yes                          |
| • Icons                                | Yes                          |
| • Custom web display                   | No                           |
| • Geometric objects                    | Yes                          |
| <b>Complex image objects</b>           |                              |
| • Number of complex objects per screen | 5                            |
| • Alarm view                           | Yes                          |
| • Trend view                           | Yes                          |
| • User view                            | Yes                          |
| • Status/control                       | Yes                          |
| • Parameter set display                | Yes                          |
| • HTML browser                         | Yes                          |
| • Bar graphs                           | Yes                          |
| • Sliders                              | Yes                          |
| • Pointer instruments                  | Yes                          |
| • Analog/digital clock                 | Yes                          |
| <b>Lists</b>                           |                              |
| • Number of text lists per project     | 300                          |
| • Number of entries per text list      | 250                          |
| • Number of graphics lists per project | 100                          |
| • Number of entries per graphics list  | 250                          |
| <b>Archiving</b>                       |                              |
| • Number of archives per device        | 10                           |
| • Number of entries per archive        | 50 000                       |
| • Message archive                      | Yes                          |
| • Process value archive                | Yes                          |
| • Archiving methods                    |                              |
| — Sequential archive                   | Yes                          |
| — Short-term archive                   | Yes                          |
| • Memory location                      |                              |
| — Memory card                          | No                           |
| — USB memory                           | Yes                          |
| — Ethernet                             | No                           |
| <b>Security</b>                        |                              |
| • Number of roles                      | 50                           |
| • Number of function rights            | 20; V18                      |
| • Number of users                      | 200                          |
| • Password export/import               | Yes                          |
| • Central user administration          | Yes                          |
| <b>Transfer (upload/download)</b>      |                              |
| • USB                                  | Yes                          |
| • Ethernet                             | Yes                          |
| • using external storage medium        | Yes                          |
| <b>Process coupling</b>                |                              |
| • S7-1200                              | Yes                          |
| • S7-1500                              | Yes                          |
| • S7-200                               | No                           |
| • S7-300/400                           | Yes                          |
| • Number of S7 connections             | 8                            |
| • LOGO!                                | Yes; as of WinCC Unified V20 |
| • SIMOTION                             | No                           |
| • OPC UA Client                        | Yes                          |

|                                                                                                 |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| • OPC UA Server                                                                                 | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| • Software Controller/Open Controller                                                           | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Service tools/configuration aids                                                                |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| • Backup/Restore manually                                                                       | Yes                                                                                 |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| • Backup/Restore automatically                                                                  | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| • Simulation                                                                                    | Yes                                                                                 |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| • Device switchover                                                                             | Yes                                                                                 |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Peripherals/Options                                                                             |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Peripherals                                                                                     | Barcode reader                                                                      |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Printer                                                                                         | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| SIMATIC HMI MM memory card: Multi Media Card                                                    | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| SIMATIC HMI SD memory card: Secure Digital memory card                                          | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| SIMATIC HMI CF memory card Compact Flash Card                                                   | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| USB memory                                                                                      | Yes                                                                                 |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| SIMATIC IPC USB Flashdrive (USB stick)                                                          | Yes                                                                                 |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| SIMATIC HMI USB stick                                                                           | Yes                                                                                 |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Network camera                                                                                  | No                                                                                  |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Mechanics/material                                                                              |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Enclosure material (front)                                                                      |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| • plastic                                                                                       | Yes                                                                                 |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Dimensions                                                                                      |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Width of the housing front                                                                      | 214 mm                                                                              |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Height of housing front                                                                         | 158 mm                                                                              |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Mounting cutout, width                                                                          | 197 mm                                                                              |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Mounting cutout, height                                                                         | 141 mm                                                                              |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| mounting depth                                                                                  | 36 mm                                                                               |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Weights                                                                                         |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Weight (without packaging)                                                                      | 0.85 kg                                                                             |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Weight (with packaging)                                                                         | 1.1 kg                                                                              |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| Classifications                                                                                 |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
|                                                                                                 |                                                                                     | Version                                                                                   | Classification                                                                      |                                                                                              |                                                                                              |
|                                                                                                 | eClass                                                                              | 16                                                                                        | 27-33-02-01                                                                         |                                                                                              |                                                                                              |
|                                                                                                 | 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                                                                            |                                                                                              |                                                                                              |
| Approvals / Certificates                                                                        |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |
| General Product Approval                                                                        |                                                                                     |                                                                                           | Maritime application                                                                |                                                                                              |                                                                                              |
| <br>EG-Konf. |  | <br>UL |  | <br>RCM | <br>ABS |
| Maritime application                                                                            |                                                                                     |                                                                                           |                                                                                     |                                                                                              |                                                                                              |



[NK / Nippon Kaiji Kyokai](#)



[CCS \(China Classification Society\)](#)

Maritime application

Environment

[KR \(Korean Register of Shipping\)](#)



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