

SIMATIC HMI, KTP700 Basic DP, Basic Panel, Key/touch operation, 7" TFT display, 65536 colors, PROFIBUS interface, configurable as of WinCC Basic V13/ STEP 7 Basic V13, contains open-source software, which is provided free of charge see enclosed CD



| General information                                                   |                                          |
|-----------------------------------------------------------------------|------------------------------------------|
| Product type designation                                              | KTP700 Basic color DP                    |
| Display                                                               |                                          |
| Design of display                                                     | TFT widescreen display, LED backlighting |
| Screen diagonal                                                       | 7 in                                     |
| Display width                                                         | 154.1 mm                                 |
| Display height                                                        | 85.9 mm                                  |
| Number of colors                                                      | 65 536                                   |
| Resolution (pixels)                                                   |                                          |
| • Horizontal image resolution                                         | 800 pixel                                |
| • Vertical image resolution                                           | 480 pixel                                |
| Backlighting                                                          |                                          |
| • MTBF backlighting (at 25 °C)                                        | 20 000 h                                 |
| • Backlight dimmable                                                  | Yes                                      |
| Control elements                                                      |                                          |
| Keyboard fonts                                                        |                                          |
| • Function keys                                                       |                                          |
| — Number of function keys                                             | 8                                        |
| — Number of function keys with LEDs                                   | 0                                        |
| • Keys with LED                                                       | No                                       |
| • System keys                                                         | No                                       |
| • Numeric keyboard                                                    | Yes; Onscreen keyboard                   |
| • alphanumeric keyboard                                               | Yes; Onscreen keyboard                   |
| Touch operation                                                       |                                          |
| • Design as touch screen                                              | Yes; Analog-resistive                    |
| 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)                                     | 230 mA                                   |
| Starting current inrush I <sub>st</sub>                               | 0.2 A <sup>2</sup> s                     |
| Power                                                                 |                                          |

|                                                         |                                         |
|---------------------------------------------------------|-----------------------------------------|
| Active power input, typ.                                | 5.5 W                                   |
| <b>Processor</b>                                        |                                         |
| Processor type                                          | ARM                                     |
| <b>Memory</b>                                           |                                         |
| Flash                                                   | Yes                                     |
| RAM                                                     | Yes                                     |
| Memory available for user data                          | 10 Mbyte                                |
| <b>Type of output</b>                                   |                                         |
| Acoustics                                               |                                         |
| • Buzzer                                                | Yes                                     |
| • 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                | 0                                       |
| Number of RS 485 interfaces                             | 1                                       |
| Number of RS 422 interfaces                             | 1; together with RS 485                 |
| Number of RS 232 interfaces                             | 0; with optional adapter                |
| Number of USB interfaces                                | 1; Up to 16 GB                          |
| Number of 20 mA interfaces (TTY)                        | 0                                       |
| Number of parallel interfaces                           | 0                                       |
| Number of other interfaces                              | 0                                       |
| Number of SD card slots                                 | 0                                       |
| With software interfaces                                | No                                      |
| <b>Industrial Ethernet</b>                              |                                         |
| • Industrial Ethernet status LED                        | 0                                       |
| <b>Protocols</b>                                        |                                         |
| PROFINET                                                | No                                      |
| Supports protocol for PROFINET IO                       | No                                      |
| IRT                                                     | No                                      |
| PROFIBUS                                                | Yes                                     |
| EtherNet/IP                                             | No                                      |
| MPI                                                     | Yes                                     |
| <b>Protocols (Ethernet)</b>                             |                                         |
| • TCP/IP                                                | No                                      |
| • DHCP                                                  | No                                      |
| • SNMP                                                  | No                                      |
| • DCP                                                   | No                                      |
| • LLDP                                                  | No                                      |
| <b>WEB characteristics</b>                              |                                         |
| • HTTP                                                  | No                                      |
| • HTML                                                  | No                                      |
| <b>Redundancy mode</b>                                  |                                         |
| Media redundancy                                        |                                         |
| — MRP                                                   | No                                      |
| <b>Further protocols</b>                                |                                         |
| • CAN                                                   | No                                      |
| • MODBUS                                                | Yes; Modicon (MODBUS RTU)               |
| <b>Interrupts/diagnostics/status information</b>        |                                         |
| <b>Diagnoses</b>                                        |                                         |
| • Diagnostic information readable                       | No                                      |
| <b>EMC</b>                                              |                                         |
| <b>Emission of radio interference acc. to EN 55 011</b> |                                         |
| • 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)                                             |                                              |
| • Enclosure Type 4 at the front                          | Yes                                          |
| • Enclosure Type 4x at the front                         | Yes                                          |
| <b>Standards, approvals, certificates</b>                |                                              |
| CE mark                                                  | Yes                                          |
| cULus                                                    | Yes                                          |
| RCM (formerly C-TICK)                                    | Yes                                          |
| KC approval                                              | Yes                                          |
| <b>Use in hazardous areas</b>                            |                                              |
| • ATEX Zone 2                                            | No                                           |
| • ATEX Zone 22                                           | No                                           |
| • IECEx Zone 2                                           | No                                           |
| • IECEx Zone 22                                          | No                                           |
| • cULus Class I Zone 1                                   | No                                           |
| • cULus Class I Zone 2, Division 2                       | No                                           |
| • FM Class I Division 2                                  | No                                           |
| <b>Marine approval</b>                                   |                                              |
| • Germanischer Lloyd (GL)                                | Yes                                          |
| • American Bureau of Shipping (ABS)                      | Yes                                          |
| • Bureau Veritas (BV)                                    | Yes                                          |
| • Det Norske Veritas (DNV)                               | Yes                                          |
| • Lloyds Register of Shipping (LRS)                      | Yes                                          |
| • Nippon Kaiji Kyokai (Class NK)                         | Yes                                          |
| • Polski Rejestr Statkow (PRS)                           | No                                           |
| • Chinese Classification Society (CCS)                   | No                                           |
| <b>Ambient conditions</b>                                |                                              |
| Suited for indoor use                                    | Yes                                          |
| Suited for outdoor use                                   | No                                           |
| <b>Ambient temperature during operation</b>              |                                              |
| 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                                        |
| <b>Ambient temperature during storage/transportation</b> |                                              |
| • min.                                                   | -20 °C                                       |
| • max.                                                   | 60 °C                                        |
| <b>Relative humidity</b>                                 |                                              |
| • Operation, max.                                        | 90 %; no condensation                        |
| <b>Operating systems</b>                                 |                                              |
| proprietary                                              | Yes                                          |
| <b>pre-installed operating system</b>                    |                                              |
| • Windows CE                                             | No                                           |
| <b>configuration / header</b>                            |                                              |
| Message indicator                                        | Yes                                          |
| Alarm system (incl. buffer and acknowledgment)           | Yes                                          |
| Process value display (output)                           | Yes                                          |
| Process value default (input) possible                   | Yes                                          |
| Recipe management                                        | Yes                                          |
| <b>Configuration software</b>                            |                                              |
| • STEP 7 Basic (TIA Portal)                              | Yes; via integrated WinCC Basic (TIA Portal) |
| • STEP 7 Professional (TIA Portal)                       | Yes; via integrated WinCC Basic (TIA Portal) |
| • WinCC flexible Compact                                 | No                                           |
| • WinCC flexible Standard                                | No                                           |
| • WinCC flexible Advanced                                | No                                           |

|                                   |     |
|-----------------------------------|-----|
| • WinCC Basic (TIA Portal)        | Yes |
| • WinCC Comfort (TIA Portal)      | Yes |
| • WinCC Advanced (TIA Portal)     | Yes |
| • WinCC Professional (TIA Portal) | Yes |

## Languages

|                                      |    |
|--------------------------------------|----|
| Online languages                     |    |
| • Number of online/runtime languages | 10 |
| Project languages                    |    |
| • Languages per project              | 32 |

## Functionality under WinCC (TIA Portal)

|                                                              |                                                               |
|--------------------------------------------------------------|---------------------------------------------------------------|
| Libraries                                                    | Yes                                                           |
| Applications/options                                         |                                                               |
| • Web browser                                                | No                                                            |
| • SIMATIC WinCC Sm@rtServer                                  | No                                                            |
| Number of Visual Basic Scripts                               | No                                                            |
| Task planner                                                 | Yes                                                           |
| • time-controlled                                            | No                                                            |
| • task-controlled                                            | Yes                                                           |
| Help system                                                  | Yes                                                           |
| • Number of characters per info text                         | 500                                                           |
| Message system                                               |                                                               |
| • Number of alarm classes                                    | 32                                                            |
| • Bit messages                                               |                                                               |
| — Number of bit messages                                     | 1 000                                                         |
| • Analog messages                                            |                                                               |
| — Number of analog messages                                  | 25                                                            |
| • S7 alarm number procedure                                  | No                                                            |
| • System messages HMI                                        | Yes                                                           |
| • System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | Yes; System message buffer of the SIMATIC S7-1200 and S7-1500 |
| • Number of characters per message                           | 80                                                            |
| • Number of process values per message                       | 8                                                             |
| • Acknowledgment groups                                      | Yes                                                           |
| • Message indicator                                          | Yes                                                           |
| • Message buffer                                             |                                                               |
| — Number of entries                                          | 256                                                           |
| — Circulating buffer                                         | Yes                                                           |
| — retentive                                                  | Yes                                                           |
| — maintenance-free                                           | Yes                                                           |
| Recipe management                                            |                                                               |
| • Number of recipes                                          | 50                                                            |
| • Data records per recipe                                    | 100                                                           |
| • Entries per data record                                    | 100                                                           |
| • Size of internal recipe memory                             | 256 kbyte                                                     |
| • Recipe memory expandable                                   | No                                                            |
| Variables                                                    |                                                               |
| • Number of variables per device                             | 800                                                           |
| • Number of variables per screen                             | 100                                                           |
| • Limit values                                               | Yes                                                           |
| • Multiplexing                                               | Yes                                                           |
| • Structures                                                 | No                                                            |
| • Arrays                                                     | Yes                                                           |
| Images                                                       |                                                               |
| • Number of configurable images                              | 250                                                           |
| • Permanent window/default                                   | Yes                                                           |
| • Global image                                               | Yes                                                           |
| • Pop-up images                                              | No                                                            |
| • Slide-in images                                            | No                                                            |
| • Image selection by PLC                                     | Yes                                                           |
| • Image number in the PLC                                    | Yes                                                           |
| Image objects                                                |                                                               |
| • Number of objects per image                                | 100                                                           |
| • Text fields                                                | Yes                                                           |
| • I/O fields                                                 | Yes                                                           |

|                                        |                                                               |
|----------------------------------------|---------------------------------------------------------------|
| • Graphic I/O fields (graphics list)   | Yes                                                           |
| • Symbolic I/O fields (text list)      | Yes                                                           |
| • Date/time fields                     | Yes                                                           |
| • Switches                             | Yes                                                           |
| • Buttons                              | Yes                                                           |
| • Graphic display                      | Yes                                                           |
| • Icons                                | Yes                                                           |
| • Geometric objects                    | Yes                                                           |
| <b>Complex image objects</b>           |                                                               |
| • Number of complex objects per screen | 10                                                            |
| • Alarm view                           | Yes                                                           |
| • Trend view                           | Yes                                                           |
| • User view                            | Yes                                                           |
| • Status/control                       | No                                                            |
| • Sm@rtClient view                     | No                                                            |
| • Recipe view                          | Yes                                                           |
| • f(x) trend view                      | No                                                            |
| • System diagnostics view              | Yes; System message buffer of the SIMATIC S7-1200 and S7-1500 |
| • Media Player                         | No                                                            |
| • HTML browser                         | No                                                            |
| • PDF display                          | No                                                            |
| • IP camera display                    | No                                                            |
| • Bar graphs                           | Yes                                                           |
| • Sliders                              | No                                                            |
| • Pointer instruments                  | No                                                            |
| • Analog/digital clock                 | No                                                            |
| <b>Lists</b>                           |                                                               |
| • Number of text lists per project     | 300                                                           |
| • Number of entries per text list      | 100                                                           |
| • Number of graphics lists per project | 100                                                           |
| • Number of entries per graphics list  | 100                                                           |
| <b>Archiving</b>                       |                                                               |
| • Number of archives per device        | 2; One message and one process value archive                  |
| • Number of entries per archive        | 10 000                                                        |
| • 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                                                            |
| • Data storage format                  |                                                               |
| — CSV                                  | No                                                            |
| — TXT                                  | Yes                                                           |
| — RDB                                  | No                                                            |
| <b>Security</b>                        |                                                               |
| • Number of user groups                | 50                                                            |
| • Number of user rights                | 32                                                            |
| • Number of users                      | 50                                                            |
| • Password export/import               | Yes                                                           |
| • SIMATIC Logon                        | No                                                            |
| <b>Character sets</b>                  |                                                               |
| • Keyboard fonts                       |                                                               |
| — US English                           | Yes                                                           |
| <b>Transfer (upload/download)</b>      |                                                               |
| • MPI/PROFIBUS DP                      | Yes                                                           |
| • USB                                  | No                                                            |
| • Ethernet                             | No                                                            |
| • using external storage medium        | Yes                                                           |
| <b>Process coupling</b>                |                                                               |
| • S7-1200                              | Yes                                                           |
| • S7-1500                              | Yes                                                           |

|                                                        |                            |
|--------------------------------------------------------|----------------------------|
| • S7-200                                               | Yes                        |
| • S7-300/400                                           | Yes                        |
| • LOGO!                                                | Yes                        |
| • WinAC                                                | Yes                        |
| • SINUMERIK                                            | Yes; No access to NCK data |
| • SIMOTION                                             | Yes                        |
| • Allen Bradley (EtherNet/IP)                          | No                         |
| • Allen Bradley (DF1)                                  | Yes                        |
| • Mitsubishi (MC TCP/IP)                               | No                         |
| • Mitsubishi (FX)                                      | Yes                        |
| • OMRON (FINS TCP)                                     | No                         |
| • OMRON (LINK/Multilink)                               | Yes                        |
| • Modicon (Modbus TCP/IP)                              | No                         |
| • Modicon (Modbus)                                     | Yes                        |
| <b>Service tools/configuration aids</b>                |                            |
| • Backup/Restore manually                              | Yes                        |
| • Backup/Restore automatically                         | No                         |
| • Simulation                                           | Yes                        |
| • Device switchover                                    | Yes                        |
| <b>Peripherals/Options</b>                             |                            |
| 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                        |
| <b>Mechanics/material</b>                              |                            |
| Enclosure material (front)                             |                            |
| • Plastic                                              | Yes                        |
| • Aluminum                                             | No                         |
| • Stainless steel                                      | No                         |
| <b>Dimensions</b>                                      |                            |
| Width of the housing front                             | 214 mm                     |
| Height of housing front                                | 158 mm                     |
| Mounting cutout, width                                 | 197 mm                     |
| Mounting cutout, height                                | 141 mm                     |
| Overall depth                                          | 39 mm                      |
| <b>Weights</b>                                         |                            |
| Weight (without packaging)                             | 800 g                      |
| Weight (with packaging)                                | 1 kg                       |

**last modified:**

10/8/2021 