

SIMATIC HMI, KTP700 Basic, Basic Panel, Key/touch operation, 7" TFT display, 65536 colors, PROFINET interface, configurable from 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 PN |
|--------------------------|-----------------------|

### 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                                     |
| Installation type/mounting                                            |                                         |
| Mounting position                                                     | vertical                                |
| Wall mounting/direct mounting                                         | No                                      |
| 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 <sup>2</sup> t                              | 0.2 A <sup>2</sup> ·s                   |
| Power                                                                 |                                         |
| Active power input, typ.                                              | 5.5 W                                   |
| Processor                                                             |                                         |
| Processor type                                                        | ARM                                     |
| Memory                                                                |                                         |
| Flash                                                                 | Yes                                     |
| RAM                                                                   | Yes                                     |
| Memory available for user data                                        | 10 Mbyte                                |
| Type of output                                                        |                                         |
| Acoustics                                                             |                                         |
| • Buzzer                                                              | Yes                                     |
| • Speaker                                                             | No                                      |
| Time of day                                                           |                                         |
| Clock                                                                 |                                         |
| • Hardware clock (real-time)                                          | Yes                                     |
| • Software clock                                                      | Yes                                     |
| • retentive                                                           | Yes; Back-up duration typically 6 weeks |

- synchronizable

Yes

## Interfaces

|                                          |                |
|------------------------------------------|----------------|
| Number of industrial Ethernet interfaces | 1              |
| Number of RS 485 interfaces              | 0              |
| Number of RS 422 interfaces              | 0              |
| Number of RS 232 interfaces              | 0              |
| 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             |

## Industrial Ethernet

- Industrial Ethernet status LED

2

## Protocols

|                                   |     |
|-----------------------------------|-----|
| PROFINET                          | Yes |
| Supports protocol for PROFINET IO | No  |
| IRT                               | No  |
| PROFIBUS                          | No  |
| MPI                               | No  |

## Protocols (Ethernet)

- TCP/IP
- DHCP
- SNMP
- DCP
- LLDP

Yes  
Yes  
Yes  
Yes  
Yes

## WEB characteristics

- HTTP
- HTML

No  
No

## Redundancy mode

### Media redundancy

- MRP

No

## Further protocols

- CAN
- EtherNet/IP
- MODBUS

No  
Yes  
Yes; Modicon (MODBUS TCP/IP)

## Interrupts/diagnostics/status information

### Diagnoses

- Diagnostic information readable

No

## EMC

Emission of radio interference acc. to EN 55 011

- Limit class A, for use in industrial areas
- Limit class B, for use in residential areas

Yes  
No

#### Degree and class of protection

|                                  |      |
|----------------------------------|------|
| IP (at the front)                | IP65 |
| IP (rear)                        | IP20 |
| NEMA (front)                     |      |
| • Enclosure Type 4 at the front  | Yes  |
| • Enclosure Type 4x at the front | Yes  |

#### Standards, approvals, certificates

|                       |     |
|-----------------------|-----|
| CE mark               | Yes |
| cULus                 | Yes |
| RCM (formerly C-TICK) | Yes |
| KC approval           | Yes |

#### Use in hazardous areas

|                                    |    |
|------------------------------------|----|
| • 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 |

#### Marine approval

|                                        |     |
|----------------------------------------|-----|
| • Germanischer Lloyd (GL)              | Yes |
| • American Bureau of Shipping (ABS)    | Yes |
| • Bureau Veritas (BV)                  | Yes |
| • Det Norske Veritas (DNV)             | Yes |
| • Lloyds Register of Shipping (LRS)    | Yes |
| • Nippon Kaiji Kyokai (Class NK)       | Yes |
| • Polski Rejestr Statkow (PRS)         | No  |
| • Chinese Classification Society (CCS) | No  |

#### Ambient conditions

##### 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, min.                        | 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, min.                     | 35 °C                                                |
| Ambient temperature during storage/transportation |                                                      |
| • min.                                            | -20 °C                                               |
| • max.                                            | 60 °C                                                |
| Relative humidity                                 |                                                      |
| • Operation, max.                                 | 90 %; no condensation                                |
| Operating systems                                 |                                                      |
| proprietary                                       | Yes                                                  |
| pre-installed operating system                    |                                                      |
| • Windows CE                                      | No                                                   |
| 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                            |                                                      |
| • 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                                     | Yes                                                  |
| • SIMATIC WinCC Sm@rtServer                       | Yes; Available with WinCC (TIA Portal) V14 or higher |
| 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 messages, other (SIMATIC S7, Sinumerik, Simotion, etc.) | 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                                                           |
| <b>Image objects</b>                   |                                                               |
| • 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                         | Yes                                                           |
| • 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                 | No                         |
| • USB                             | No                         |
| • Ethernet                        | Yes                        |
| • 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)     | Yes                        |
| • Allen Bradley (DF1)             | No                         |
| • Mitsubishi (MC TCP/IP)          | Yes                        |
| • Mitsubishi (FX)                 | No                         |

|                                                        |            |
|--------------------------------------------------------|------------|
| • OMRON (FINS TCP)                                     | No         |
| • OMRON (LINK/Multilink)                               | No         |
| • Modicon (Modbus TCP/IP)                              | Yes        |
| • Modicon (Modbus)                                     | No         |
| <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                               | 780 g      |
| Weight incl. packaging                                 | 990 g      |
| <b>last modified:</b>                                  | 09/14/2020 |