

SIMATIC HMI, KTP700 BASIC, BASIC PANEL, KEY AND TOUCH OPERATION, 7" TFT DISPLAY, 65536 COLORS, PROFINET INTERFACE, CONFIGURATION FROM WINCC BASIC V13/ STEP7 BASIC V13, CONTAINS OPEN SOURCE SW WHICH IS PROVIDED FREE OF CHARGE FOR DETAILS SEE CD



### General information

|                          |                          |
|--------------------------|--------------------------|
| Product type designation | SIMATIC HMI KTP700 Basic |
|--------------------------|--------------------------|

### 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 |

|                                                                       |                                         |
|-----------------------------------------------------------------------|-----------------------------------------|
| • Keys with LED                                                       | No                                      |
| • System keys                                                         | No                                      |
| • Numeric/alphabetical input                                          |                                         |
| — Numeric keyboard                                                    | Yes; Onscreen keyboard                  |
| — alphanumeric keyboard                                               | Yes; Onscreen keyboard                  |
| Touch operation                                                       |                                         |
| • Design as touch screen                                              | Yes                                     |
| Installation type/mounting                                            |                                         |
| Mounting position                                                     | Horizontal, 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 $I^2t$                                        | 0.2 A <sup>2</sup> ·s                   |
| Power                                                                 |                                         |
| Power consumption, 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 USB interfaces                         | 1; Up to 16 GB               |
| Number of 20 mA interfaces (TTY)                 | 0                            |
| Number of RS 232 interfaces                      | 0                            |
| Number of RS 422 interfaces                      | 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                           |
| MRP                                              | No                           |
| PROFIBUS                                         | No                           |
| MPI                                              | No                           |
| Protocols (Ethernet)                             |                              |
| • TCP/IP                                         | Yes                          |
| • DHCP                                           | Yes                          |
| • SNMP                                           | Yes                          |
| • DCP                                            | Yes                          |
| • LLDP                                           | Yes                          |
| WEB characteristics                              |                              |
| • HTTP                                           | No                           |
| • HTML                                           | No                           |
| Further protocols                                |                              |
| • CAN                                            | No                           |
| • EtherNet/IP                                    | Yes                          |
| • MODBUS                                         | Yes; Modicon (MODBUS TCP/IP) |
| Interrupts/diagnostics/status information        |                              |
| Diagnostic messages                              |                              |
| • Diagnostic information readable                | No                           |
| EMC                                              |                              |
| 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                           |
| Degree and class of protection                   |                              |

|                                |     |
|--------------------------------|-----|
| IP (at the front)              | 65  |
| Enclosure Type 4 at the front  | Yes |
| Enclosure Type 4x at the front | Yes |
| IP (rear)                      | 20  |

#### Standards, approvals, certificates

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

#### Marine approval

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

#### 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 |

#### 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                                          |
| Number of Visual Basic Scripts                 | No                                           |
| Task planner                                   |                                              |
| • time-controlled                              | No                                           |
| • task-controlled                              | Yes                                          |
| Help system                                    |                                              |
| • 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                                                           |
| <b>Recipe management</b>                                         |                                                               |
| • 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                                                            |
| <b>Variables</b>                                                 |                                                               |
| • Number of variables per device                                 | 800                                                           |
| • Number of variables per screen                                 | 100                                                           |
| • Limit values                                                   | Yes                                                           |
| • Multiplexing                                                   | Yes                                                           |
| • Structures                                                     | No                                                            |
| • Arrays                                                         | Yes                                                           |
| <b>Images</b>                                                    |                                                               |
| • 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                                                           |
| Complex image objects                  |                                                               |
| • 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                                                            |
| Lists                                  |                                                               |
| • 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                                                           |
| Archiving                              |                                                               |
| • Number of archives per device        | 2                                                             |
| • 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         | No                         |
| <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
- Device switchover

Yes  
Yes

## Peripherals/Options

### Peripherals

- Printer
- SIMATIC HMI MM memory card: Multi Media Card
- SIMATIC HMI SD memory card: Secure Digital memory card
- SIMATIC HMI CF memory card Compact Flash Card
- USB memory
- SIMATIC IPC USB Flashdrive (USB stick)
- SIMATIC HMI USB stick

No  
No  
No  
No  
Yes  
Yes  
Yes

## Mechanics/material

### Enclosure material (front)

- Plastic
- Aluminum
- Stainless steel

Yes  
No  
No

## Dimensions

|                            |        |
|----------------------------|--------|
| 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  |

## Weights

|                          |       |
|--------------------------|-------|
| Weight without packaging | 780 g |
| Weight incl. packaging   | 990 g |

**last modified:** 10/28/2016