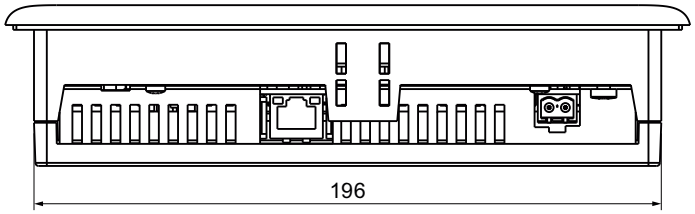
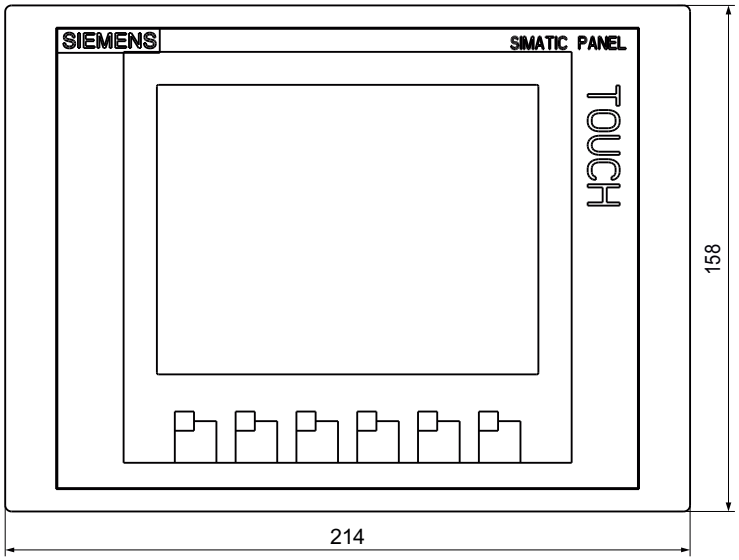
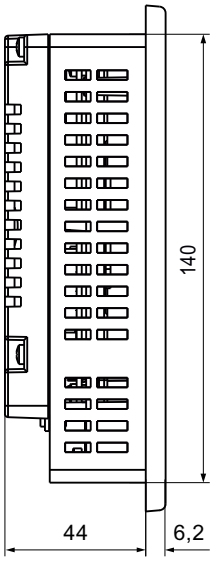
8.3.6 Dimension drawing of the KTP600 Basic mono/color PN



All dimensions in mm.





8.4.3 KTP400 Basic and KTP600 Basic

Weight

	KTP400 Basic mono PN	KTP400 Basic color PN	KTP600 Basic mono PN	KTP600 Basic color DP	KTP600 Basic color PN
Weight without packaging	Approx. 320 g	Approx. 340 g	Approx. 1070 g		

Display

	KTP400 Basic mono PN	KTP400 Basic color PN	KTP600 Basic mono PN	KTP600 Basic color DP	KTP600 Basic color PN
Type	LCD mono FSTN	LCD TFT	LCD mono FSTN	LCD TFT	
Active display area	76.8 x 57.6 mm (3.8")	95 x 53.8 mm (4.3")	115.2 mm x 86.4 mm (5.7")		
Resolution	320 x 240 pixels	480 x 272 pixels	320 x 240 pixels		
Possible colors	4 grayscales	256	4 grayscales	256	
Contrast control	Yes	No	Yes	No	
Brightness control	No	Yes	No	No	
Backlighting Half Brightness Life Time (MTBF [1])	LED 30,000 h	LED 50,000 h	CCFL 50,000 h		
Pixel error class according to DIN EN ISO 13406-2	-	II	-	II	

[1] MTBF: Operating hours after which the maximum brightness is reduced by half compared to the original value. MTBF is increased by using the integrated dimming function, for example, time-controlled via screen saver or centrally via PROFIenergy.

Input device

	KTP400 Basic mono PN	KTP400 Basic color PN	KTP600 Basic mono PN	KTP600 Basic color DP	KTP600 Basic color PN
Type	Touch screen, analog resistive				
Function keys	4		6		
Labeling strips	Yes				

Memory

	KTP400 Basic mono PN	KTP400 Basic color PN	KTP600 Basic mono PN	KTP600 Basic color DP	KTP600 Basic color PN
Application memory	512 KB				

Interfaces

	KTP400 Basic mono PN	KTP400 Basic color PN	KTP600 Basic mono PN	KTP600 Basic color DP	KTP600 Basic color PN
1 x RS 422/RS 485	-	-	-	Max. 12 Mbps	-
1 x Ethernet RJ45	10/100 Mbps			-	10/100 Mbps

Supply voltage

	KTP400 Basic mono PN	KTP400 Basic color PN	KTP600 Basic mono PN	KTP600 Basic color DP	KTP600 Basic color PN
Rated voltage Range, permissible	+24 V DC 19.2 to 28.8 V (–20%, +20%)				
Transients, maximum permissible	35 V (500 ms)				
Time between two transients, minimum	50 s				
Current consumption • Typical • Constant current, maximum • Inrush current I^2t	Approx. 100 mA Approx. 150 mA Approx. 0.5 A^2s	Approx. 100 mA Approx. 120 mA Approx. 0.5 A^2s	Approx. 240 mA Approx. 350 mA Approx. 0.5 A^2s	Approx. 350 mA Approx. 550 mA Approx. 0.5 A^2s	
Fuse, internal	Electronic				

Miscellaneous

	KTP400 Basic mono PN	KTP600 Basic mono PN	KTP600 Basic color DP	KTP600 Basic color PN
Software clock, synchronizable	Yes			

8.4.5 Ambient conditions

8.4.5.1 Transport and storage conditions

Mechanical and climatic conditions for transportation and storage

The transport and storage conditions of this HMI device exceed requirements in accordance with IEC 61131-2. The following specifications apply to the transport and storage of an HMI device in its original packaging.

The climatic conditions conform to the following standards:

- IEC 60721-3-3, Class 3K7 for storage
- IEC 60721-3-2, Class 2K4 for transport

Mechanical requirements conform to EC 60721-3-2, Class 2M2.

Type of condition	Permitted range
Drop test (in transport package)	≤ 1 m
Temperature	From –20 to +60 °C
Atmospheric pressure	From 1080 hPa to 660 hPa, corresponds to an elevation of -1000 to 3500 m
Relative humidity	From 10 % to 90 %, without condensation
Sinusoidal vibration in accordance with IEC 60068-2-6	5 to 8.4 Hz: 3.5 mm 8.4 to 500 Hz: 9.8 m/s^2
Shock conforming to IEC 60068-2-29	250 m/s^2, 6 ms, 1000 shocks

NOTICE
Ensure that no condensation (dewing) develops on or inside the HMI device after transporting it at low temperatures or after it has been exposed to extreme temperature fluctuations. The HMI device must have acquired room temperature before it is put into operation. Do not expose the HMI device to direct radiation from a heater in order to warm it up. If dewing has developed, wait approximately 4 hours until the HMI device has dried completely before switching it on.

Proper transport and storage, installation and assembly as well as careful operation and maintenance are required to ensure trouble-free and safe operation of the HMI device.

The warranty for the HMI device will be deemed void if these stipulations are not heeded.

See also

Notes about usage (Page 26)

8.4.5.2 Conditions of use

Mechanical and climatic conditions of use

The HMI device is designed for use in a location protected from the effects of the weather. The conditions of use are compliant with requirements to DIN IEC 60721-3-3:

- Class 3M3 (mechanical requirements)
- Class 3K3 (climatic requirements)

Use with additional measures

The HMI device should not be used at the following locations unless additional measures are taken:

- In locations with a high degree of ionizing radiation
- In locations with difficult operating conditions - for example due to:
  - Corrosive vapors, gases, oils or chemicals
  - Electrical or magnetic fields of high intensity
- In plants that require special monitoring - for example:
  - Elevators
  - Systems in especially hazardous rooms

Mechanical ambient conditions

The mechanical ambient conditions for the HMI device are specified in the following table in terms of sinusoidal vibration.

Frequency range in Hz	Constant	Occasional
10 ≤ f ≤ 58	Amplitude 0.0375 mm	Amplitude 0.075 mm
58 ≤ f ≤ 150	Constant acceleration 0.5 g	Constant acceleration 1 g

Reducing vibrations

If the HMI device is subjected to greater shocks or vibrations, you must take appropriate measures to reduce acceleration or amplitudes.

We recommend fitting the HMI device to vibration-absorbent material (on metal shock absorbers, for example).

Testing mechanical ambient conditions

The following table provides information on the type and scope of tests for mechanical ambient conditions.

Tested for	Test standard	Comments
Vibrations	Vibration test in accordance with IEC 60068, part 2–6 (sinusoidal)	Type of vibration: Transitional rate of the frequency: 1 octave/minute. 10 Hz ≤ f ≤ 58 Hz, constant amplitude of 0.075 mm 58 Hz ≤ f ≤ 150 Hz, constant acceleration 1 g Vibration duration: 10 frequency cycles per axis at each of the three associated vertical axes
Shock	Shock test in accordance with IEC 60068, Part 2 –27	Type of shock: Half-sine Shock intensity: Peak value 15 g, duration 11 ms Direction of impact: 3 shocks in ± direction at each one of the three associated vertical axes

Climatic ambient conditions

The following table shows the climatic ambient conditions for operation of the HMI device.

Ambient conditions	Permitted range	Comments
Temperature		
• Vertical mounting	From 0 to 50° C	
• Mounting at an angle	From 0 to 40° C	Slope angle max. 35°
Relative humidity	10 to 90 %, without condensation	
Atmospheric pressure	1080 to 795 hPa	Corresponds to an elevation of –1,000 to 2,000 m
Pollutant concentration	SO_2: < 0.5 ppm; Relative humidity < 60%, no condensation	Test: 10 cm^3/m^3; 10 days
	H_2S: < 0.1 ppm; Relative humidity < 60%, no condensation	Test: 1 cm^3/m^3; 10 days

8.4.5.3 Information on insulation tests, protection class and degree of protection

Test voltages

Insulation strength is demonstrated in the type test with the following test voltages in accordance with IEC 61131-2:

Circuits with a nominal voltage of U_e to other circuits or ground	Test voltage
< 50 V	500 VDC

Protection class

Protection Class I in accordance with IEC 60536, i.e. PE/ground terminal to profile rail required!

Protection against foreign objects and water

Degree of protection in accordance with IEC 60529	Explanation
Front	When mounted: • IP65 • Front face only Type 4X/Type 12 (indoor use only)
Rear panel	IP20 Touch protection test with standard test probes. There is no protection against ingress by water.

The degree of protection at the front can only be guaranteed if the mounting seal is installed flush to the mounting cut-out. Read the corresponding information in section "Making the mounting cut-out".

See also

Making the mounting cut-out (Page 31)

8.5 Interface description

8.5.1 Power supply

Plug connector, 2-pin

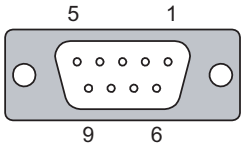


Pin number	Assignment
1	+24 VDC (L+)
2	GND 24 V (M)

8.5.2 PROFIBUS (Sub-D RS422/485)

Name of interface on HMI device: X2

Sub-D socket, 9-pin, with screw lock

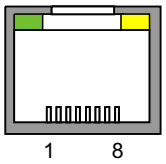


Pin	Assignment for the RS 422	Assignment for the RS 485
1	n. c.	n. c.
2	GND 24 V	GND 24 V
3	TxD+	Data channel B (+)
4	RD+	RTS
5	GND 5 V, floating	GND 5 V, floating
6	+5 VDC, floating	+5 VDC, floating
7	+24 VDC, out (max. 100 mA)	+24 VDC, out (max. 100 mA)
8	TxD–	Data channel A (–)
9	RxD–	NC

8.5.3 PROFINET (Ethernet)

Name of interface on HMI device: X1

RJ45 plug connector



Pin	Assignment
1	Tx+
2	Tx–
3	Rx+
4	n. c.
5	n. c.
6	Rx–
7	n. c.
8	n. c.

Meaning of LEDs

State	Green "SPEED" LED	Yellow "LINK" LED
No connection	On [1]	Off
10 MB connection	Off	On
100 MB connection	On	On
Active data transfer 10 MB	Off	Flashing
Active data transfer 100 MB	On	Flashing

[1] For KTP1000 Basic and TP1500 Basic: Off