

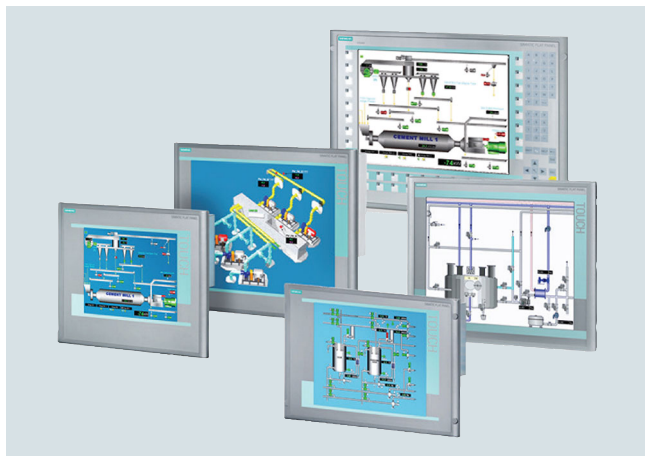
## PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

### SIMATIC Flat Panels

#### Overview



The Flat Panels are rugged industry-standard LCD monitors.

- Installation:
  - They are equally suited to installation in the machine, in control cabinets, consoles and gantries or in 19" racks.
- Type of operator control:
  - Simple display devices without operator functionality
  - Optional devices with touch control
  - Rear connection of I/O devices (optional)

#### Technical specifications

Article number	6AV7861-2AA00-2AA0	6AV7861-2AB00-2AA0	6AV7861-2AB10-2AA0	6AV7861-2TA00-2AA0	6AV7861-2TB00-2AA0	6AV7861-2TB10-2AA0
	SIMATIC Flat Panel 15, f. DC24V	SIMATIC Flat Panel 15	SIMATIC Flat Panel 15 Extended	SIMATIC Flat Panel 15T, f. DC24V	SIMATIC Flat Panel 15T	SIMATIC Flat Panel 15T Extended
<b>Display</b>	TFT display, LED backlighting					
Design of display	TFT display, LED backlighting					
Screen diagonal	15 in	15 in	15 in	15 in	15 in	15 in
Display width	304.1 mm	304.1 mm	304.1 mm	304.1 mm	304.1 mm	304.1 mm
Display height	228.1 mm	228.1 mm	228.1 mm	228.1 mm	228.1 mm	228.1 mm
Viewing angle	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)
On Screen Display (OSD) configuration	Yes	Yes	Yes	Yes	Yes	Yes
Number of colors	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million
<b>Resolution (pixels)</b>						
• Horizontal image resolution	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel	768 Pixel	768 Pixel	768 Pixel
<b>General features</b>						
• Brightness/contrast	> 260 cd/m <sup>2</sup> / 350:1	> 260 cd/m <sup>2</sup> / 350:1	> 260 cd/m <sup>2</sup> / 350:1	> 260 cd/m <sup>2</sup> / 350:1	> 260 cd/m <sup>2</sup> / 350:1	> 260 cd/m <sup>2</sup> / 350:1
<b>Backlighting</b>						
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
<b>Control elements</b>						
Control elements	none	none	none	Touch	Touch	Touch
<b>Input device</b>						
• Integrated mouse cursor control	No	No	No	No	No	No
<b>Touch operation</b>						
• Design as touch screen	No	No	No	Yes	Yes	Yes

**Technical specifications (continued)**

Article number	<b>6AV7861-2AA00-2AA0</b> SIMATIC Flat Panel 15, f. DC24V	<b>6AV7861-2AB00-2AA0</b> SIMATIC Flat Panel 15	<b>6AV7861-2AB10-2AA0</b> SIMATIC Flat Panel 15 Extended	<b>6AV7861-2TA00-2AA0</b> SIMATIC Flat Panel 15T, f. DC24V	<b>6AV7861-2TB00-2AA0</b> SIMATIC Flat Panel 15T	<b>6AV7861-2TB10-2AA0</b> SIMATIC Flat Panel 15T Extended
<b>Installation type/mounting</b>						
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Rack mounting	Yes	Yes	Yes	Yes	Yes	Yes
VESA mounting	No	No	No	No	No	No
Built-in unit	Yes; Portrait mode possible					
maximum permitted forward tilt angle from vertical	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C
maximum permitted backward tilt angle from vertical	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C
<b>Supply voltage</b>						
Type of supply voltage	DC	AC/DC	AC/DC	DC	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
permissible range, lower limit (AC)		90 V	90 V		90 V	90 V
permissible range, upper limit (AC)		264 V	264 V		264 V	264 V
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP54 at front	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack
IP65 at front	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
CSA approval	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	No	No	No	No	No	No
<b>Marine approval</b>						
• Germanischer Lloyd (GL)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• American Bureau of Shipping (ABS)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• Bureau Veritas (BV)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• Det Norske Veritas (DNV)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• Lloyds Register of Shipping (LRS)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
<b>Mechanics/material</b>						
Enclosure material (front)						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
<b>Dimensions</b>						
Width of the housing front	483 mm	483 mm	483 mm	483 mm	483 mm	483 mm
Height of housing front	310 mm	310 mm	310 mm	310 mm	310 mm	310 mm
Mounting cutout, width	450 mm	450 mm	450 mm	450 mm	450 mm	450 mm
Mounting cutout, height	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Overall depth	55 mm	55 mm	55 mm	55 mm	55 mm	55 mm

**PC-based Automation**

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**SIMATIC Flat Panels****Technical specifications** (continued)

Article number	<b>6AV7861-3AA00-2AA0</b> SIMATIC Flat Panel 19, f. DC24V	<b>6AV7861-3AB00-2AA0</b> SIMATIC Flat Panel 19	<b>6AV7861-3AB10-2AA0</b> SIMATIC Flat Panel 19 Extended	<b>6AV7861-3TA00-2AA0</b> SIMATIC Flat Panel 19T, f. DC24V	<b>6AV7861-3TB00-2AA0</b> SIMATIC Flat Panel 19T	<b>6AV7861-3TB10-2AA0</b> SIMATIC Flat Panel 19T Extended
<b>Display</b>						
Design of display	TFT display, LED backlighting					
Screen diagonal	19 in	19 in	19 in	19 in	19 in	19 in
Display width	376.3 mm	376.3 mm	376.3 mm	376.3 mm	376.3 mm	376.3 mm
Display height	301.1 mm	301.1 mm	301.1 mm	301.1 mm	301.1 mm	301.1 mm
Viewing angle	170° x 170°	170° x 170°	170° x 170°	170° x 170°	170° x 170°	170° x 170°
On Screen Display (OSD) configuration	Yes	Yes	Yes	Yes	Yes	Yes
Number of colors	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million
<b>Resolution (pixels)</b>						
• Horizontal image resolution	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel
<b>General features</b>						
• Brightness/contrast	> 300 cd/m <sup>2</sup> / 300:1	> 300 cd/m <sup>2</sup> / 300:1	> 300 cd/m <sup>2</sup> / 300:1	> 300 cd/m <sup>2</sup> / 300:1	> 300 cd/m <sup>2</sup> / 300:1	> 300 cd/m <sup>2</sup> / 300:1
<b>Backlighting</b>						
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
<b>Control elements</b>						
Control elements	Touch	none	none	Touch	Touch	Touch
<b>Input device</b>						
• Integrated mouse cursor control	No	No	No	No	No	No
<b>Touch operation</b>						
• Design as touch screen	No	No	No	Yes	Yes	Yes
<b>Installation type/mounting</b>						
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Rack mounting	Yes	Yes	Yes	Yes	Yes	Yes
VESA mounting	No	No	No	No	No	No
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
maximum permitted forward tilt angle from vertical	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C
maximum permitted backward tilt angle from vertical	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C
<b>Supply voltage</b>						
Type of supply voltage	DC	AC/DC	AC/DC	DC	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
permissible range, lower limit (AC)		90 V	90 V		90 V	90 V
permissible range, upper limit (AC)		264 V	264 V		264 V	264 V

**Technical specifications** (continued)

Article number	<b>6AV7861-3AA00-2AA0</b> SIMATIC Flat Panel 19, f. DC24V	<b>6AV7861-3AB00-2AA0</b> SIMATIC Flat Panel 19	<b>6AV7861-3AB10-2AA0</b> SIMATIC Flat Panel 19 Extended	<b>6AV7861-3TA00-2AA0</b> SIMATIC Flat Panel 19T, f. DC24V	<b>6AV7861-3TB00-2AA0</b> SIMATIC Flat Panel 19T	<b>6AV7861-3TB10-2AA0</b> SIMATIC Flat Panel 19T Extended
<b>Degree and class of protection</b>						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP54 at front	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack
IP65 at front	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners
IP20 rear	Yes	Yes	Yes	Yes		
<b>Standards, approvals, certificates</b>						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
CSA approval	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	No	No	No	No	No	No
<b>Marine approval</b>						
• Germanischer Lloyd (GL)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• American Bureau of Shipping (ABS)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Bureau Veritas (BV)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Det Norske Veritas (DNV)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Lloyds Register of Shipping (LRS)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Polski Rejestr Statkow (PRS)			Yes	Yes		
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
<b>Mechanics/material</b>						
Enclosure material (front)						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
<b>Dimensions</b>						
Width of the housing front	483 mm	483 mm	483 mm	483 mm	483 mm	483 mm
Height of housing front	400 mm	400 mm	400 mm	400 mm	400 mm	400 mm
Mounting cutout, width	450 mm	450 mm	450 mm	450 mm	450 mm	450 mm
Mounting cutout, height	380 mm	380 mm	380 mm	380 mm	380 mm	380 mm
Overall depth	57 mm	57 mm	57 mm	57 mm	57 mm	57 mm

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**SIMATIC Flat Panels****Ordering data****Article No.****SIMATIC Flat Panels****15"**

15" TFT screen  
With 1 024 x 768 pixel resolution  
VGA; DVI-D interface  
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 15" extended  
15" TFT screen  
With 1 024 x 768 pixel resolution  
For 24 V DC and 120/240 V AC  
VGA, DVI-D interface  
Can be located at a distance  
of up to 30 m

15" TFT screen  
With 1 024 x 768 pixel resolution  
VGA, DVI-D interface  
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 15" extended  
15" TFT screen  
With 1 024 x 768 pixel resolution  
For 24 V DC and 120/240 V AC  
VGA, DVI-D interface  
Can be located at a distance  
of up to 30 m

**19"**

19" TFT screen  
With 1 280 x 1024 pixel resolution  
VGA, DVI-D interface  
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 19" extended  
19" TFT screen  
With 1 280 x 1 024 pixel resolution  
For 24 V DC and 120/240 V AC  
VGA, DVI-D interface  
Can be located at a distance  
of up to 30 m

19" T Touch TFT screen  
With 1 280 x 1 024 pixel resolution  
VGA, DVI-D interface  
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 19" T Extended  
19" Touch TFT screen  
With 1 280 x 1 024 pixel resolution  
For 24 V DC and 120/240 V AC  
VGA, DVI-D interface  
Can be located at a distance  
of up to 30 m

**6AV7861-2AA00-2AA0**  
**6AV7861-2AB00-2AA0**  
**6AV7861-2AB10-2AA0**

**6AV7861-2TA00-2AA0**  
**6AV7861-2TB00-2AA0**  
**6AV7861-2TB10-2AA0**

**6AV7861-3AA00-2AA0**  
**6AV7861-3AB00-2AA0**  
**6AV7861-3AB10-2AA0**

**6AV7861-3TA00-2AA0**  
**6AV7861-3TB00-2AA0**  
**6AV7861-3TB10-2AA0**

**Article No.****Accessories****Protective films**

For protecting the touch screen  
against dirt and scratches  
Pack with 10 units

- for 15" touch
- for 19" touch

**6AV7671-4BA00-0AA0**  
**6AV7672-1CE00-0AA0**

**Touch pen**

Undetachable pen for operation of  
the touch devices, mounting of the  
support on the control cabinet or  
directly on the PRO unit

**6AV7672-1JB00-0AA0**

**Connection cables for Standard,  
Extended and PRO versions**

Video (DVI-D)

- 3.0 m
- 5.0 m

**6AV7860-0BH30-0AA0**  
**6AV7860-0BH50-0AA0**

USB for optional touch screen

- 3.0 m
- 5.0 m

**6AV7860-0CH30-0AA0**  
**6AV7860-0CH50-0AA0**

**Connection cables for Extended  
versions only**

- Cable set 10 m  
(DVI-D, CAT5 cable (USB),  
USB transmitter module)
- Cable set 15 m  
(DVI-D, CAT5 cable (USB),  
USB transmitter module)
- Cable set 20 m  
(DVI-D, CAT5 cable (USB),  
USB transmitter module)
- Cable set 30 m  
(DVI-D, CAT5 cable (USB),  
USB transmitter module)

**6AV7860-1EX21-0AA1**

**6AV7860-1EX21-5AA1**

**6AV7860-1EX22-0AA1**

**6AV7860-1EX23-0AA1**

Additional information is available on the Internet at:

<http://www.siemens.com/industrial-lcd>

**Note:**

Do you need a specific modification or extension to the products described here? Then refer to "Customized Automation". There you will find information about additional and generally available sector-specific products as well as options for customer-specific modification and adaptation.

Examples are:

- SIMATIC SCD monitor 1900 for portrait operation
- SIMATIC Flat Panels with 6" and 10" Touch