

TCP – SCP Touch Control Panel

Alarm and control panel for operating theatres and medically or none medically used areas



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SENDER



Touch Control Panel

Features

- Easy-to-use, touch-sensitive control system for medical technology and other applications
- Extremely straightforward user guidance for intuitive operation
- Supplementary information for medical and technical personnel
- Clear menu structure with self explanatory images and screen elements
- Clearly labelled safety-related functions
- No noise emission due to fan less operation
- High quality images with excellent contrast, high resolution and a wide optional viewing angle
- Possibility of graphical integration of building floor plans or photo-quality status displays
- Smooth integration of external equipment, such as operating theatre table control system and intercoms
- Any Non PLC compatible controls are mounted behind the membrane, within the overall panel fascia, adjacent to the touch screen. No additional panels are required and no exclusions or hidden costs are raised after order placement.
- Bender surgeons panels (SCP) can accommodate fully integrated PACS viewers, PC and medical keyboard
- Closed panel glass surface or unique life-long antibacterial foil surface
- Screw less mounted front plate
- Easy retrofitting and expansion, with minimal service interruptions and system down time

Description

In terms of the human/machine interface, alarm indicator and operator panels play a vital role. Their task is to take system information and transform it into clear instructions particularly in the event of critical operating situations. The flexible TCP Touch Panel provides a solution that meets the demands of both modern medical equipment and industrial and functional buildings.

For example: In the hospital environment, they can be programmed to provide clear, user friendly information with respect to critical operating theatre systems. Clinical staff is presented with all controls and indicators at their fingertips allowing them to maintain the optimal theatre environment without disruption to medical procedures.

The touch screens are used for:

- Displaying and visualizing system status, warning and alarm messages
- Control and parameterize equipment from a central location
- Output of visible and audible alarms
- Display of actual values and programming of limit values for the purpose of monitoring
- Communication to facility management systems via:



Typical examples of touch screen panel controls and indicators:

- · Equipments for supplying medical gases
- Air conditioning and ventilation systems
- Room lighting
- Communication equipment
- Operating theatre tables
- Electrical IT systems monitoring
- Special safety power supply source (UPS)
- and other equipment from various manufacturers.

The integration of all the technical equipment in a single panel allows the creation of a kind of "technical control centre" in the appropriate room. Every control panel is individually designed. Suited to the individual specification and requirements as well as to the individual medical equipment.

Touch Panel

With the touch-sensitive monitor (which can be operated directly at the touch of a finger), operating and monitoring of technical equipment in medical locations and other areas couldn't be simpler. The graphical interface is capable of displaying all kinds of complex topologies. The status and command information/follow-up action information is presented in a manner that is well-structured and clear.

The integrated I/O system provides numerous options for integrating digital and analogue I/Os with different voltage ratings, power ratings, measuring signals and special functions in the same alarm indicator and operator panel. The end result is an overall system that is both modular and flexible, enabling it to be adapted or expanded, or to accommodate new technologies.

Technical data

Supply	
Supply voltage	AC 230 V
Frequency range	5060 Hz
Internal voltage	DC 12/24 V
Power consumption	\leq 30 VA

Touch monitor

Size 15″	15", 4:3, colour TF
Pixel	0.297 x 0.297 mm
Resolution	1024 x 768 max. Pixe
max. image area	304 x 228 mm
Brightness	328 cd/m ² mir
Contrast	700:
Viewing angle (H/V)	hor./ver.: 80° / 70
Size 22″	22", 16:9, colour TF
Pixel	0.282 x 0.282 mm
Resolution	1680 x 1050 Pixe
max. image area	474 x 296 mn
Brightness	250 cd/m ² mir
Contrast	2000:
Viewing angle (H/V)	hor./ver.: 89° / 89
Back ground light	LED type
Number of colours	16,2 Million
Response time	20 m

Single board computer (SBC)

CPU	Atom 1,1 GHz
RAM	2 GE
Mass storage	2 GB, Compact Flash Type I, Ind. Grade
Interfaces	4 x USB, HD Audio
Graphic	DVI (1024x768
LAN	1 x 10/100/1000 Mbit/
Power supply	Wide Range DC 525 \
Input current	700 m/

l/0 system

Ethernet controller	
Qty of controllers w/ a master	accord. to ETHERNET specs
Wiring	Twisted Pair S-UTP 100Ω Cat 5
max. cable length	100 m between hub and controller;
	max. network length limited
	accord. to ETHERNET specs
Speed	10/100 Mbit/s
Connection	2 x RJ-45
Protocols	Modbus TCP (UDP), ETHERNET/IP,
	HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP
Programming	WAGO-I/O-PRO CAA
	IEC 61131-3 AWL, KOP, FUP, ST, AS

Max. input voltage	40 \
Signal voltage	010\
Internal resistance	> 100 kC
Electrical isolation	500 V system to supply
Resolution	12 bi
0-10 V analogue outputs	
Max. input voltage	40 \
Signal voltage	010
Burden, Load	> 5 kC
Electrical isolation	500 V system to supply
Resolution	12 bi
DC 24 V digital inputs	
Signal voltage (0)	DC -3+5
Signal voltage (1)	DC 1530
Input current	2.8 m/
Electrical isolation	500 V system to suppl
DC 24 V digital outputs	
Voltage across contacts	DC 24 V (-25+30 %
Load	ohmic, inductive, lamp load
Output current	max. 0.5 A short circuit proo
Electrical isolation	500 V system to suppl
General data of I/Os	
Connection type	cage clam
Wire cross section	0.08 mm ² 2.5mm ² /AWG 281
Wire stripping length	89 mn
Bezel frame dimensions	
Bezel width	min. 615950 mn
Bezel height	min. 400650 mr
Wall box depth	min.150 mr
Bezel frame depth adjustment	max. +20 mr
Wall box dimensions	
Wall box width	Bezel width minus 26 mn
Wall box height	Bezel height minus 26 mn
Mounting accord. to dwg#	9800510E, 9800267

Technical data (continued)

Typical PACS Screens, optional	
42″ LCD Screen	(example)
Size	106.7cm
Active Area (landscape/portrait)	930 x 523 mm
Resolution (optimum)	1920 x 1080 HDTV
Pixel pitch	0.48 x 0.48 mm
Display colours	1.07 billion colours with 10 bit each for RGB
Brightness	700 cd/m ²
Contrast ratio	4000:1
Viewing angle (H x V)	178°/178°
I/O ports	VGA, DVI, RGBs, CVBs, SDI,
	S-Video, HDMI, HD-SDI, RS232
MTBF backlight	50,000 h
Operating temperature	0 to +60 °C
Storage temperature	-10 to +60 °C
Video quality	DICOM preset/compatible
Power consumption	< 110 W/10 W stand by
Power Supply	120-240V /50-60Hz
Dimensions (W x H x D)	approx. 990 x 630 x 95 mm
Weight	approx. 32.6 kg
24″ LCD Screen	(example)
Size	61cm
Active Area (landscape/portrait)	518 x 324 mm
Resolution (optimum)	1920 x 1200 HDTV
Pixel pitch	0.27 x 0.27 mm
Display colours	1 billion colours , DVI: 16,7 million
Brightness	350 cd/m ²
Contrast ratio	1000:1
Viewing angle (H x V)	178°/178°
Video ports	Display Port, DVI-I
MTBF backlight	>50000 h
Operating temperature	0 to +60 °C
Storage temperature	-10 to +60 °C
Video quality	DICOM preset/compatible
Certificates	TÜV GM, CE (EN 60601-1, EN 60601-1-2)
Power consumption	< 68 W/0.5 W stand by
Power Supply	120240 V/5060Hz
Dimensions (W x H x D)	approx. 990 x 630 x 95 mm
Weight	approx. 6 kg

BoxPC	(example)
Processor	Intel® Celeron, 1,9GHz
RAM	1 GB
Mass storage	160 GB HDD
Operating System	Windows [®] 7 Embedded Standard
Cooling	Fanless
I/O ports	DVI-I, DVI-D, VGA, Audio in/out
	serial COM, 2x LAN, 6x USB 2.0, PS2,
Operating temperature	0 to +40 °C
Storage temperature	-10 to +60 °C
Medical power supply	according IEC 60601
Power consumption	< 36 W/17 W stand by
Power Supply	DC 24 V or optional 120240 V/5060 Hz
Dimensions (W x D x H)	approx. 276 x 230 x 90 mm
Weight	approx. 4 kg
Keyboard and Mouse	(example)
Keyboard layout	German – QWERTZ or QWERTY
	English — track ball, NUM block
Keyboard and drawer	Stainless steel
Number of keys	92
Lettering	Laser/micro engraving
Operating temperature	0 to +40 °C
Storage temperature	-10 to +60 °C
I/O ports	2x USB2.0
Protection Class of keyboard and drawer	IP65
Dimensions (W x H x D)	approx. 482 x 88 x 135 mm
Weight	approx. 4 kg

Application Examples



TCP with 15" touch control screen



SCP-TCP with 22" touch control, analogue clock, digital timer, two 22" PACS screens with keyboard

Application Examples



SCP-TCP, 22" touch control screen, analogue clock, digital timer, 42" PACS screen



TCP, 15" touch control screen, digital clock and timer, intercom, additional control push buttons



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