

# Operating and monitoring systems

Panel PC SERIES 400  
Device platform SHARK  
ET-498-2TX



EXICOM



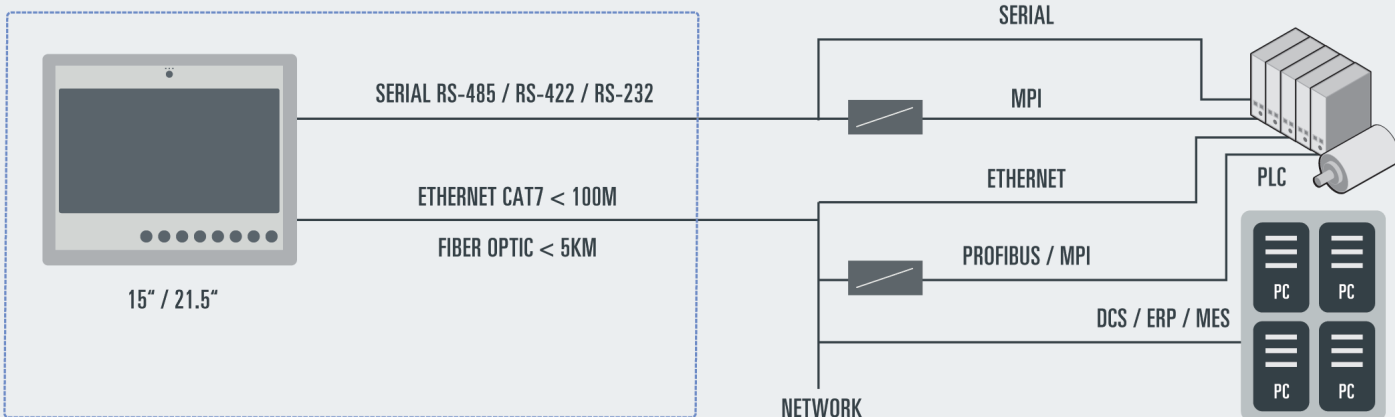
- Panel PC, AMD GX or Core i7, 21.5" display, sunlight-readable 1000 cd/m<sup>2</sup>
- Rugged design: IP66, shock, vibration and seawater-proof, temperature range -40 °C to +65 °C
- Full HD resolution (1920 x 1080)
- Optional integrated RFID reader
- Data is transmitted via dual Ethernet as 10/100/1000Base-TX via CAT7 up to 100 m

WebCode **ET498A**

R. STAHL's ET-498 series HMI systems are Panel PCs for hazardous zones 1, 2, 21 and 22. Their rugged design with degree of protection IP66 makes them shock, vibration and seawater-proof and suitable for temperatures ranging from -40 °C to +65 °C. The 21.5" display (resolution: 1920 x 1080) is sunlight-readable, a chemically hardened, glare-free glass screen protects the display and the function keys, and further options include a projected-capacitive multi-touch touch screen, camera and Bluetooth antenna. Configuration options include processors (Intel Core i7, AMD GX), memory sizes and SSDs. Data is transmitted via dual Ethernet as 10/100/1000Base-TX via CAT7 up to 100 m

## PANEL PCs SHARK (SERIES 4X8)

ZONE 1 / 2 / 21 / 22



## Technical Data

### General

HMI Technology	Panel PC
Type	Operator station
HMI WebCode	ET498A

### Explosion Protection

Application range	1 2 21 22
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## Explosion Protection

Application range	Class I, Zone 1 Class I, Division 2 Class II, Division 1 and 2 Class III
Certifications	ATEX, IECEx, EAC, FM (USA), FM (Kanada), CNEX
Certification IECEx	IECEx BVS 14.0116X
Certification ATEX	BVS 14 ATEX E 134 X
Certification TR	TC RU C-DE.ME92.B.00843
Certification NEC	FM 16 US 0278 X
Certification CEC	FM 16 CA 0141 X
Certification CNEX	CNEX17.2233X
Gas explosion protection IECEx	Ex eb q [ia op is Ga] IIC T4 Gb
Dust explosion protection IECEx	Ex tb [ia op is Da] IIIC T115°C Db
Gas explosion protection ATEX	II 2 (1) G Ex e q [ia op is Ga] IIC T4 Gb
Dust explosion protection ATEX	II 2 (1) D Ex tb [ia op is Da] IIIC T115°C Db
Gas explosion protection TR	1Ex e q [ia op is Ga] IIC T4 Gb X
Dust explosion protection TR	Ex tb [ia op is Da] IIIC T115°C Db X
Explosion protection NEC	Class I, Zone 1 AEx eb q [ia op is Ga] IIC T4 Gb Class I, Div. 2 Groups A, B, C, D T4
Explosion protection NEC	Zone 21, AEx tb [ia op is Da] IIIC T115°C Db Class II, Div. 2 Groups F, G T4 Class III
Explosion protection NEC	Ex eb q [ia Ga] IIC T4 Gb Class I, Div. 2 Groups A, B, C, D T4
Explosion protection NEC	Zone 21, Ex tb [ia Da] IIIC T115°C Db Class II, Div. 1 Groups E, F, G T4 Class III
Gas explosion protection CNEX	Ex eb q [ia op is Ga] IIC T4 Gb
Dust explosion protection CNEX	Ex tb [ia op is Da] IIIC T115°C Db

## Electrical Data

Processor type	AMD GX-217GA Intel® Core™ i7-3517UE Intel® Core™ i7-3517UE with TPM
Processor details	AMD: 1.6 GHz; dual core Intel i7: 1.7 GHz; dual core, 4 threads, 3. Generation Ivy Bridge, 17W TDP
RAM	4 GB 8 GB ( i7 and >=240 GB only SSD)
Data memory	60 GB (for AMD GX-217GA only) 80 GB (for Intel Core i7-3517UE only) 128 GB (for AMD GX-217GA only) 240 GB (only for Intel Core i7-3517UE in combination with WIN 7 Ultimate and 8 GB RAM) 480 GB (only for Intel Core i7-3517UE in combination with WIN 7 Ultimate and 8 GB RAM)
Operating system	Windows Embedded Compact 7 Windows 7 Ultimate
Language support	Multilanguage operating system: en, de, fr, es, it, br, ru, kr
Ethernet / Data	2x 100/1000Base-TX (Ex e)
Data cable	CAT7 installation cable AWG 23
Data cable length	max. 150m

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#### Electrical Data

Interface medium	CAT7 Data transmission
Interface USB	3 x USB (Ex ia) 1 x USB (Ex e)
Interface serial	1 x RS-232 / RS-422 / RS-485 (Ex e)
Optional interface 1	Bluetooth WLAN 2.4 GHz (Ex i) WLAN 5 GHz (Ex i) RFID reader
Optional interface 2 reader	optional CAN-Bus interface: Module Kvaser USBcan Pro 2xHS Identifier formats CAN 2.0A / CAN 2.0B Communication protocols CANopen / NMEA 2000® / DeviceNet
Interface audio	1 x Audio line out (Ex e)
Interface video out	1 x DVI (Ex e)
Interface reader	1 x reader / barcode reader interface (Ex i)
WLAN	optional
Bluetooth	optional
Front camera	optional, 5 megapixel, in-built
Further connections	12 / 24 V DC output 2 x fan on / off switch
Rated operational voltage AC	230 V
Voltage range AC	100 – 240 V
Rated operational voltage DC	24 V
Voltage range DC	20 – 30 V
Power consumption AC 1	0.6 A at 230 VAC (0.8 A with heater)
Power consumption AC 2	1.1 A at 110 VAC (1.7 A with heater)
Power consumption DC	4.6 A at 24 VDC (6.9 A with heater)
Frequency range	50 – 60 Hz
Rated operational power	typically 100 W / max. 150 W (typically 340 BTU / max. 510 BTU)
Protection fuse AC	5 A
Protection fuse DC	12 A
Connection compartment	Power supply direct in integrated Ex-e connection box
Connections	Via plug-in screw terminals, green
Wiring	Flexible conductors 0.2 to 2.5 mm <sup>2</sup> (AWG24 to AWG14) Rigid conductors 0.2 to 2.5 mm <sup>2</sup> (AWG24 to AWG14)
Max. input voltage Um	250 VAC
Plug version USB	USB-A connector
Status LED	LEDs - on / off (green) - voltage applied to supply line / power supply OK (orange) - heater on (blue)

#### Display

Display version	Sunlight readable display
Display version 2	16.7 million colours
Display size inch	21.5
Display size centimetres	55

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#### Display

Display resolution	Full HD
Total pixels	1920 x 1080
Display dimensions	16:9
Display brightness	SR 1000 cd/m <sup>2</sup>
Display contrast	SR 1100:1
Touch screen	optional, projected, capacitive (PCAP), multi-touch
Touch screen technology	Glass touch
Backlight	LED Technology
Backlight service life	70000 h at +25 °C
Function keys	8 of which 2 brightness keys

#### Ambient Conditions

Heater operation	Automatic
Ambient temperature operation	-10 °C ... +65 °C
Ambient temperature operation 1	-40 °C ... +65 °C with heater
Storage temperature	-40 °C ... +70 °C
Cold start temperature	-10 °C or -40 °C
Temperature note 1	The cold-start temperature depends on the "outdoor installation" (with / without heater).
Temperature note 2	Cold-start temperature: If the HMI device is switched on at temperatures below -10 °C, the electronics and the display will need a certain warm-up time before everything works smoothly and the display starts to be legible. Depending on how low the temperature is, this process may last up to 3 hours.
Heat dissipation	Via heat pipes and cooling fins
Damp heat	+55 °C / 95 %
Damp heat cyclic	+55 °C (±2 °C) ≥ 95 % Humidity location class B
Corrosion resistance	Salt water 5 % NaCl / +20 °C / 2 h 93 % r.H. / +40 °C / 168 h
Vibration sinus	5 to 13.2 Hz: ±1 mm 13.2 to 100 Hz: ±0.7 g Change cycle 1 oct/min Axis X, Y, Z
Vibration sinus 1	5 to 58 Hz: ±0.075 mm 58 to 500 Hz: ±1 g Change cycle 1 oct/min Axis X, Y, Z
Vibration sinus 2	5 to 1000 Hz 5 g
Shock	18 Shocks 25 g / 6 ms Axis X, Y, Z

#### Mechanical Data

Dimensions	553 mm x 458 mm x 141 mm (+52 mm for cable entries)
Cut-out	No panel mount
Mounting position	any
Weight	35 kg

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## Mechanical Data

Material front	Seawater resistant powder-coated aluminium, hardened glass
Material back	Seawater-resistant powder coated aluminium
Ingress protection	IP66
IP enclosure front	IP66
IP enclosure back	IP66
Cable gland type	HSK-MZ-Ex
Cable gland number	3 x M16, 3 x M20, 2 x M25
Cable gland thread size	M16 x 1.5 / M20 x 1.5 / M25 x 1.5
Cable gland cable diameter range	M16 = 4 ... 8 mm / M20 = 10 ... 14 mm / M25 = 14 ... 18 mm
Cable gland width across flats	M16 = SW 19 / M20 = SW 22 / M25 = SW 30

## Mounting / Installation

Enclosure type	Rugged Panel Design (RP)
Mounting option	VESA 200 (standard), yoke, handle and feet, sun-shade, panel mounting
Mounting type	when switched on: a fixed device (stationary, non-portable equipment)

## Components

Keyboard	optional, attached keyboard and pointing device (trackball, or joystick (Ex ia)) or desktop keyboard with 105 keys (Ex ia) and optical desktop mouse (Ex ia)
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