

# Operating and monitoring systems

Thin Client SERIES 500

Device platform MANTA

PM ET-587-SX



- Thin Client for panel mounting, 24"WU display, 1920 x 1200
- Zone 1, 2, 21, 22, can be installed in hazardous areas without additional enclosure
- Optional resistive glass or foil touch screen
- Data transmission as 1000Base-SX via multi-mode fibre optic up to 550 m and as 10/100Base-TX via CAT7 up to 100 m

WebCode **ET587A**



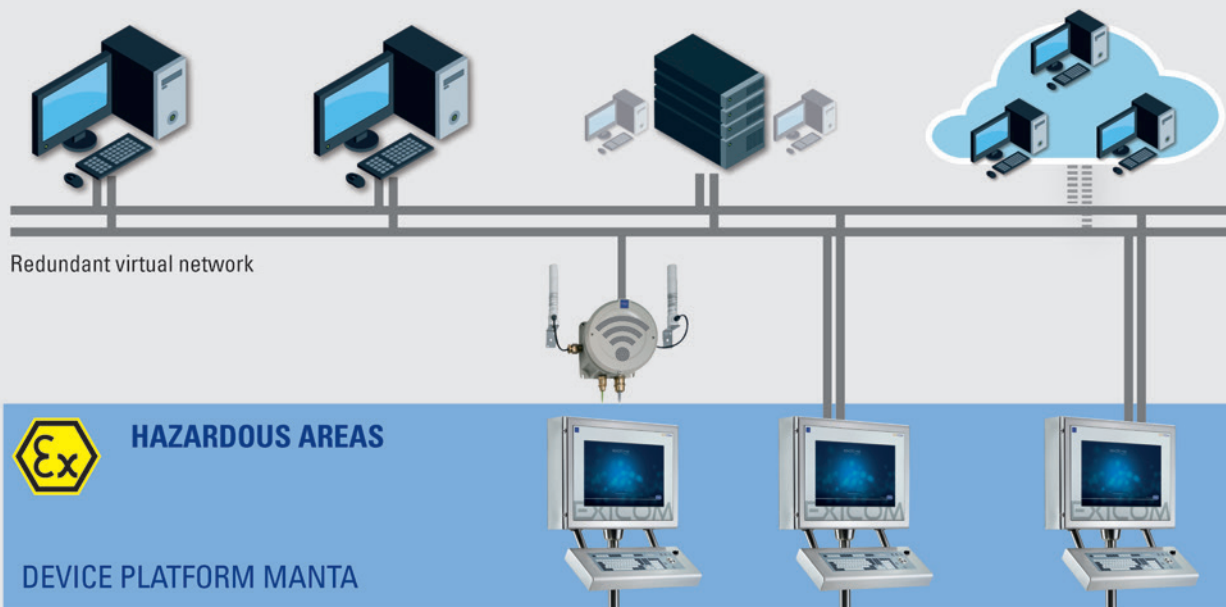
The PM ET-587 HMI series includes Thin Clients for panel mounting in hazardous zones 1, 2, 21, 22 and Division 2. Their brilliant 24"WU widescreen displays with a resolution of 1920 x 1200 pixels (format 16:10) are available with or without touch screen. Country-specific keyboards, pointer instruments and RFID and barcode scanners are useful accessories making work easier and extending functionality. Data is transmitted as 1000Base-SX via multi-mode fibre optic up to 550 m, as 10/100Base-TX via CAT7 up to 100 m or simultaneously via both interfaces.

## THIN CLIENT INTEGRATION

PC WORKSTATIONS

VIRTUALIZED SERVERS AND WORKSTATIONS

AUTOMATION IN THE CLOUD



## Technical Data

### General

Series | Panel mount device PM ET-587 (discontinued)

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## General

Product description	24" Thin Client
Technology	Remote HMI Thin Client
HMI type	Panel mount device
WebCode	ET587A

## Explosion Protection

Application range (zones)	1 2 21 22
Application range (divisions)	Class I, Division 2
Certifications	ATEX, IECEx, EAC, NEC, CEC, PESO, KGS, RCM
IECEx certification	IECEx BVS 11.0075X
ATEX certification	BVS 11 ATEX E 102 X
NEC certification	70011698
CEC certification	70011698
KCS certification	12-GA4BO-0617X
IECEx gas explosion protection	Ex eb q [ia op is Ga] IIC T4 Gb
IECEx dust explosion protection	Ex tb IIIC [ia op is Da] IP65 T110°C Db
ATEX gas explosion protection	II 2(1) G Ex eb q [ia op is Ga] IIC T4 Gb
ATEX dust explosion protection	II 2(1) D Ex tb IIIC [ia op is Da] IP65 T110°C Db
NEC explosion protection	Class I, Zone 1 AEx e q [ia] IIC T4 Gb
CEC explosion protection	Ex e q [ia] IIC T4 Gb Class I, Division 2
KCS explosion protection	Ex e q IIC T4 Ex tb IIIC IP64 T110°C Ex ia IIC T4 Ex ia IIIB T110°C

## Electrical Data

Rated operational voltage DC	24 V
Voltage range DC	20 – 30 V
Rated operational voltage AC	230 V
Voltage range AC	100 – 240 V
Power consumption DC	3 A
Power consumption AC 1	1 A
Protection fuse DC	5 AT
Protection fuse AC	5 AT
Rated operational power	typ. 50 W / 100 W with O30 / max. 150 W (typ. 170 BTU / 341 BTU with O30 / max. 510 BTU)
Processor type	ATOM E3845
Processor details	Intel Bay Trail (BT); 1.91 GHz; quad core
RAM	4 GB
Data memory	64 GB MLC 128 GB MLC
Graphics controller	integrated Intel Gen. 7 HD Graphics
Memory technology	SSD solid state flash drive M.2
Operating system	Windows 10 IoT Enterprise

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## Electrical Data

Language support	via operating system
Image	Remote Firmware
Ethernet / Data	1x 1000Base-SX (Ex op is) 1x 10/100Base-TX (Ex e)
Data cable	SX: 50/125 µm FO cable TX: CAT7 installation cable AWG23
Data cable length	SX: max. 550 m, for 50 µm FO cable TX: max. 100 m
Interface medium	SX: Multi-mode optical fibre cable TX: CAT7 data transmission
Frequency range	50 – 60 Hz
Interface USB	2 x USB (Ex ia) 1 x USB (Ex e) 2 x USB (Ex ia) (keyboard, pointing device)
Interface serial	1 x RS-232 (Ex e)
Interface audio	1 x Audio line out (Ex e)
WLAN	optional via USB
Connection compartment	Power supply direct in integrated Ex e connection box
Connections	via screw terminals, green
Voltage output	12 V DC, max. 500 mA
Wiring	flexible cable up to 2.5 mm <sup>2</sup> (AWG14) fixed cable up to 4 mm <sup>2</sup> (AWG12)
Max. input voltage U <sub>m</sub>	250 VAC
Audio sound	optional: Audio amplifier (mono amplifier) 3.5 W, for 2x loudspeaker connection (Ex e)
Real-time clock	Yes
Real-time clock data buffer	Lithium battery and capacitor buffered, maintenance-free
Battery buffered	> 5 years
Capacitor buffered	at least 4 days

## Display

Display version	TFT Colour display
Display version 2	16.7 million colours
Display size inch	24
Display size centimetres	61
Display resolution	WUXGA
Total pixels	1920 x 1200
Display dimensions	16:10
Display brightness	300 cd/m <sup>2</sup>
Display contrast	1000:1
Display viewing angle horizontal	178° at CR ≥5
Display viewing angle vertical	170° at CR ≥5
Display	Glass
Touchscreen	optional, resistive
Touchscreen technology	5-wire glass or membrane touch
Touchscreen activation	Foil touch: low activation pressure (0.1 up to max. 1 N) Glass touch: medium activation pressure (1.8 up to max. 2.5 N)
Touchscreen input method	Finger, gloved finger or stylus

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## Display

Touchscreen durability	Foil touch: Polyester foil is easily scratched, with high pressure force the spacer dots could be damaged. Glass touch: Quite good, but with high pressure force the spacer dots could be damaged.
Touch screen scratch hardness MoHS	Foil touch: - Glass touch: >5
Touchscreen scratch hardness pencil test ISO15184	Foil touch: 3H Glass touch: 9H
Touchscreen transmissivity / optic	Foil touch: small milky effect due to the foil Glass touch: very good
Touchscreen surface contaminants	unaffected
Touchscreen abrasive resistance	36 million times with a silicone rubber of R8 finger, hitting rate 250 g at 2 times per second
Backlight	LED Technology
Backlight service life	50 000 h at +20 °C
Front plate (display)	Aluminium

## Ambient Conditions

Ambient temperature operation	-20 °C ... +60 °C
Ambient temperature operation 1	-30 °C ... +60 °C with heater version O30
Storage temperature	-30 °C ... +70 °C
Cold start temperature	-10 °C
Temperature note 1	The O30 version is only available for the AC version devices !
Temperature note 2	Operating temperature +60 °C for a maximum of 5 h, for constant operation (24/7) +50 °C.
Temperature note 3	Cold start temperature: If the HMI device is switched on at a temperature below -10 °C the display will need a certain amount of time to warm up until everything is clearly visible. Depending on how low the temperature is, this process may last up to 3 hours.
Heat dissipation	about 40 % via the front plate and 60 % via the enclosure
Relative humidity	10 to 90 % at +40 °C, non-condensing
Damp heat cyclic	+55 °C (±2 °C) ≥95 % (only device with glass touch (TG))
Dry heat	+65 °C
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	71.7 to 79.2 Hz: ±0.7 g 120 min. Change cycle 1 oct/min Axis X
Vibration sinus 2	30 Hz: ±0.7 g 90 min. Change cycle 1 oct/min Axis Y, Z

## Mechanical Data

Dimensions (WxHxD)	660 mm x 475 mm x 110 mm
Cut-out (WxH)	615 mm x 435 mm (+/- 0.5 mm)
Wall thickness	≤ 5 mm
Depth of cut-out	110 mm
Mounting position	vertical or horizontal
Weight	32 kg

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## Mechanical Data

Material front	Aluminium
Material back	Steel
Ingress protection	IP66
IP enclosure front	IP66
IP enclosure back	IP65
Cable gland type	HSK-M-Ex
Cable gland number	2 x M16, 1 x M20, 3 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 = 6 ... 12 mm / M25 = 14 ... 18 mm
Cable gland wrench size	M16 = SW 19 / M20 = SW 22 / M25 = SW 30

## Mounting / Installation

Mounting option	Panel mount
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## Components

Keyboard	optional, 107 keys with trackball / joystick / mouse / touchpad (Ex ia)
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