

# Operating and monitoring systems

Panel PC SERIES 400

Device platform MANTA

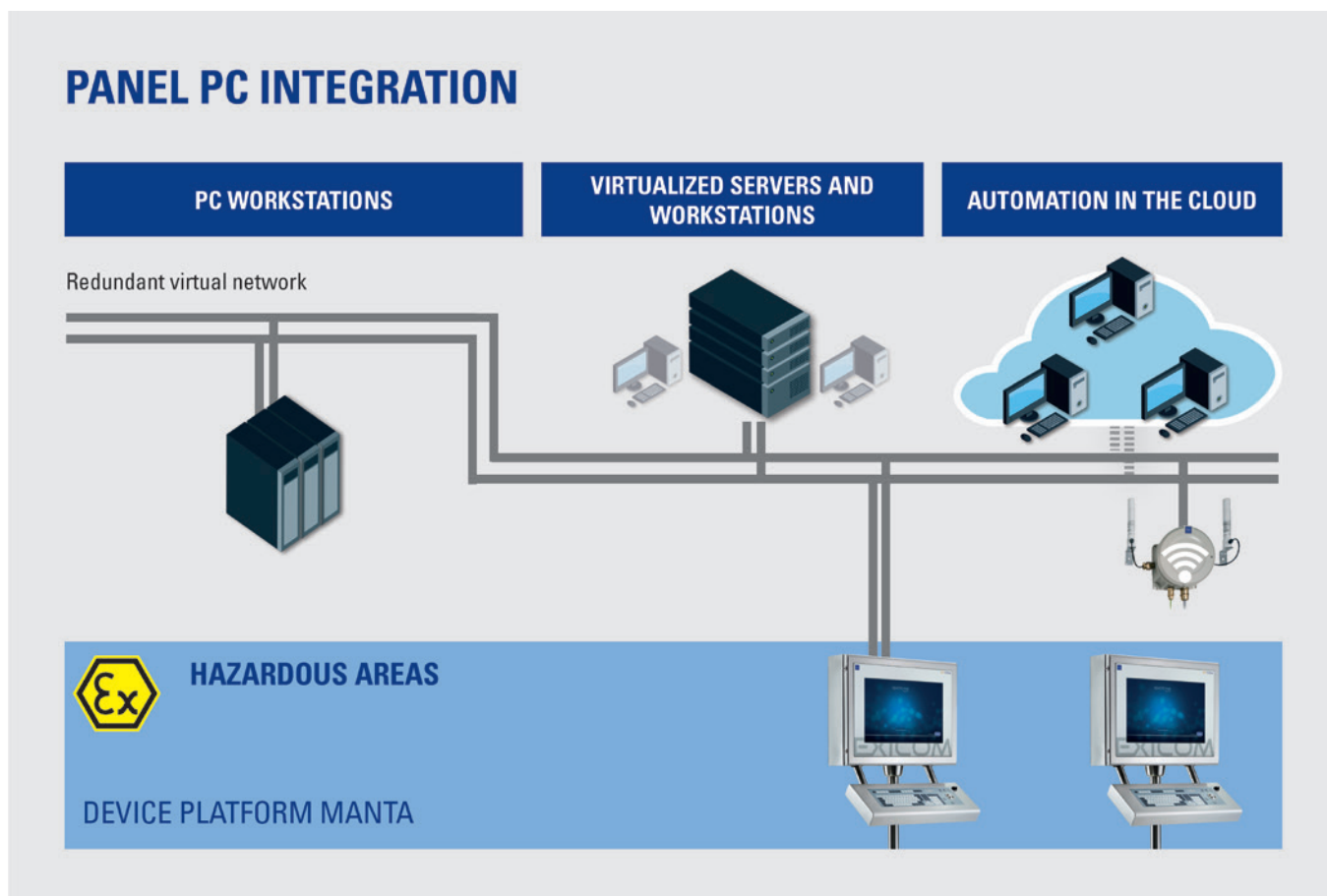
PM IT-487-FX



- Panel PC for panel mounting, quad core ATOM E3845, 24"WU display, 1920 x 1200
- For installation in safe areas
- Optional resistive glass or foil touch screen
- Data transmission via Ethernet as 100Base-FX via multi-mode fibre optic up to 2 km

WebCode **IT487A**

The PM IT-487 HMI series includes Panel PCs for panel mounting in safe areas. Their brilliant 24"WU widescreen displays with a resolution of 1920 x 1200 pixels (format 16:10), are available with or without touch screen. Accessories such as country-specific keyboards, pointer instruments and RFID and barcode scanners make work easier and extend functionality. The state-of-the-art quad core processors can be complemented with various memory sizes and SSDs. Data is transmitted via Ethernet as 100Base-FX via multi-mode fibre optic up to 2 km.



## Technical Data

### General

Series	Panel mount device PM IT-487 (discontinued)
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#### General

Product description	24" Panel PC
Technology	Panel PC
HMI type	Panel mount device
WebCode	IT487A

#### Explosion Protection

Application range (zones)	Non-Ex
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#### 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 at O30 / max. 150 W (typ. 170 BTU / 341 BTU at 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 SLC 128 GB MLC
Graphics controller	integrated Intel Gen. 7 HD Graphics
Memory technology	SSD solid state flash drive M.2
Operating system	Windows Embedded Standard 7 (64-Bit) Windows 7 Ultimate (64-Bit) Windows 10 IoT Enterprise 2016 LTSP (64 bit) (included in standard delivery) Windows 10 IoT Enterprise 2016 LTSP (32 bit) (optional on USB stick)
Language support	via Windows operating system
Ethernet / Data	100Base-FX
Data cable	62.5/125 µm FO cable
Data cable length	max. 2000 m
Interface medium	Multi-mode optical fibre cable
Frequency range	50 – 60 Hz
Interface USB	2 x USB (Hub) 1 x USB (Root) 2 x USB (Hub) (keyboard, pointing device)
Interface serial	1 x RS-232
Interface audio	1 x Audio Line out
WLAN	optional via USB
Connections	via standard plug
Plug version FO	LC duplex connector
Plug version USB	USB-A connector
Max. input voltage $U_m$	250 VAC
Real-time clock	Yes
Real-time clock data buffer	Lithium battery and capacitor buffered, maintenance-free
Battery buffered	> 5 years

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#### Electrical Data

Capacitor buffered	at least 4 days
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#### 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
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	50000 h at +20 °C
Front plate (display)	Aluminium
<b>Ambient Conditions</b>	
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

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## 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	10 kg
Material front	Aluminium
Material back	Steel
Ingress protection	IP66
IP enclosure front	IP66
IP enclosure back	IP20

## Mounting / Installation

Mounting option	Panel mount
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## Components

Keyboard	optional, 107 keys with trackball / joystick / mouse / touchpad
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