

# Operating and monitoring systems

Thin Client SERIES 500

Device platform MANTA

OS MT-587-SX



- Thin Client Operator Station, 24"WU display, 1920 x 1200
- Zone 2, 22, stainless steel enclosure IP66, optional acc. to GMP
- 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 **MT587A**



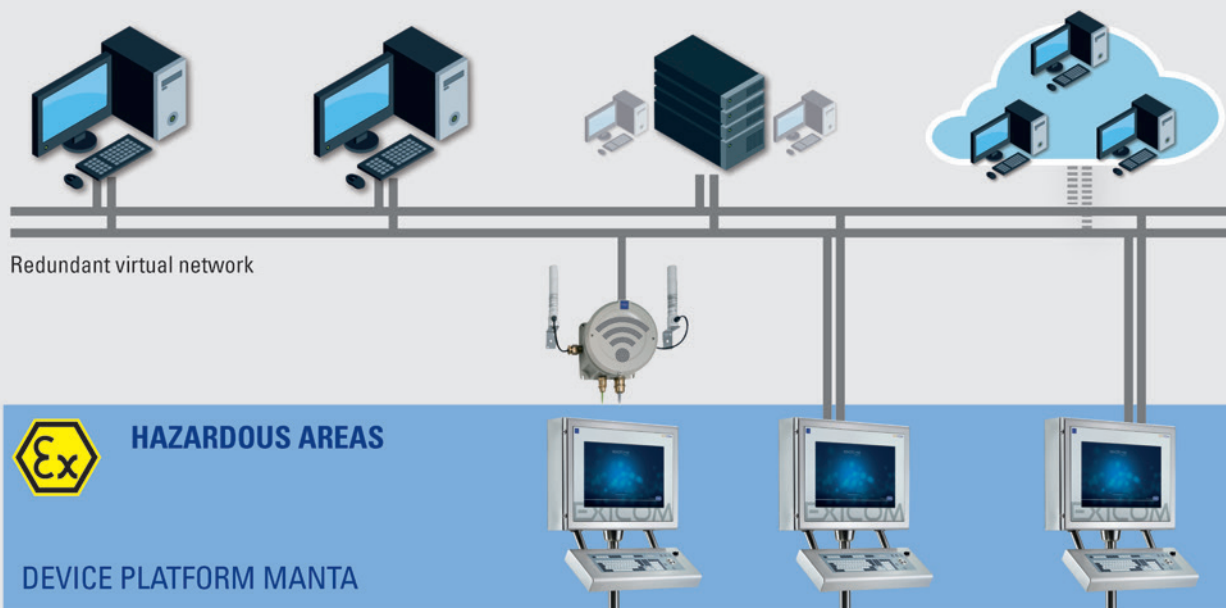
The OS MT-587 HMI series consists of Thin Client Operator Stations for hazardous zones 2 and 22. Their brilliant 24" WU widescreen displays with a resolution of 1920 x 1200 pixels (format 16:10), and are available with or without touch screen. The stainless steel enclosures (SS304 or SS316L) are available with a front opening or in cleanroom-compliant design and with different mounting options. 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



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## Technical Data

### General

Series	Operator Station OS MT-587 (discontinued)
Product description	24" Thin Client
Technology	Remote HMI Thin Client
HMI type	Operator Station
WebCode	MT587A

### Explosion Protection

Application range (zones)	2 22
Certifications	ATEX, IECEx, EAC, CNEX
IECEx certification	IECEx BVS 14.0034X
ATEX certification	BVS 12 ATEX E 033 X
CNEX certification	CNEX14.2205X
Notice certification	The certificates and explosion protection markings apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
IECEx gas explosion protection	Ex nA nR [ja op is Ga] IIC T4 Gc
IECEx dust explosion protection	Ex tc IIIC [ja op is Da] IP66 T110°C Dc
ATEX gas explosion protection	II 3(1) G Ex nA nR [ja op is Ga] IIC T4 Gc
ATEX dust explosion protection	II 3(1) D Ex tc IIIC [ja op is Da] IP66 T110°C Dc
CNEX gas explosion protection	Ex nA nR [ja op is Ga] IIC T4 Gc
CNEX dust explosion protection	Ex tc IIIC [ja op is Da] IP66 T110°C Dc

### 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 10 IoT Enterprise
Language support	via operating system
Image	Remote Firmware
Ethernet / Data	1x 1000Base-SX (Ex op is) 1x 10/100Base-TX (Ex nA)
Data cable	SX: 50/125 µm FO cable TX: CAT7 installation cable AWG23

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## Electrical Data

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 nA) 2 x USB (Ex ia) (keyboard, pointing device)
Interface serial	1 x RS-232 (Ex nA)
Interface audio	1 x Audio line out (Ex nA)
WLAN	optional via USB
Connection compartment	Power supply direct in integrated connection box
Connections	via spring clamp 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)
Plug version FO	LC duplex connector
Max. input voltage U <sub>m</sub>	250 VAC
Audio sound	optional: Audio amplifier (mono amplifier) 3.5 W, for 2x loudspeaker connection (Ex nA)
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
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

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## Display

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 ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °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 +55 °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.
Temperature note general	The temperature details apply to a standard device combination with display, keyboard and enclosure. Any additional built-in or added components may have an impact on / change these.
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)	740 mm x 872 mm x 400 mm
Weight	48.5 kg
Material front	Aluminium / stainless steel
Material back	Stainless steel
Ingress protection	IP66
Breather	optional
Keyboard note	With a keyboard with trackball, the operator station's ingress protection is reduced to IP54, when the trackball is moved.

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## Mechanical Data

Mechanical data note	The mechanical data apply to an FR enclosure with display and keyboard. Other enclosure types as well as any additional built-in or added components may have an impact on / change these.
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## Mounting / Installation

Enclosure type	Stainless steel enclosure (FR) optional clean room (CFR)
Mounting option	Wall, elbow, stand

## Components

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