Operating and monitoring systems
Thin Client SERIES 500
Device platform MANTA
OS ET-577-TX

The OS ET-577 HMI series includes Thin Client Operator Stations for zones 1, 2, 21, 22 and Division 2. Their brilliant 24" widescreen displays with a resolution of 1920 x 1080 pixels (format 16:9), 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 via Ethernet as 10/100Base-TX via CAT7 up to 100 m.

**Technical Data**

**General**

<table>
<thead>
<tr>
<th>Series</th>
<th>Operator Station OS ET-577</th>
</tr>
</thead>
</table>

**Technical Data**

- Thin Client Operator Station, 24" display, full HD 1920 x 1080
- Zone 1, 2, 21, 22, stainless steel enclosure IP66, optional acc. to GMP
- Optional resistive glass or foil touch screen
- Data is transmitted via Ethernet as 10/100Base-TX via CAT7 up to 100 m
### General

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product description</td>
<td>24&quot; Thin Client</td>
</tr>
<tr>
<td>Technology</td>
<td>Remote HMI Thin Client</td>
</tr>
<tr>
<td>HMI type</td>
<td>Operator Station</td>
</tr>
<tr>
<td>WebCode</td>
<td>ET577A</td>
</tr>
</tbody>
</table>

### Explosion Protection

| Application range (zones)    | 1<br>2<br>21<br>22 |
| Application range (divisions)| Class I, Division 2   |
| Certifications               | ATEX, IECEx, NEC, CEC, EAC, KGS |
| Certification IECEx          | IECEx BVS 11.0075X     |
| Certification ATEX           | BVS 11 ATEX E 102 X    |
| Certification EAC            | TC RU C-DE.Г6O4.B00478 |
| Certification NEC            | 70011698               |
| Certification CEC            | 70011698               |
| Certification KGS            | 12-GA4BO-0617X         |
| Certification note           | 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. |

### Gas explosion protection IECEx

Ex eb q [ia op is Ga] IIC T4 Gb

### Dust explosion protection IECEx

Ex tb IIIc [ia op is Da] IP65 T110°C Db

### Gas explosion protection ATEX

II 2(1) G Ex eb q [ia op is Ga] IIC T4 Gb

### Dust explosion protection ATEX

II 2(1) D Ex tb IIIc [ia op is Da] IP65 T110°C Db

### Gas explosion protection EAC

1Ex e q [ia op is Ga] IIC T4 Gb X

### Dust explosion protection EAC

Ex tb IIIc [ia op is Da] IP65 T110°C Db

### Explosion protection NEC

Class I, Zone 1 AEx e q [ia] IIC T4 Gb

### Explosion protection CEC

Ex e q [ia] IIC T4 Gb<br>Class I, Division 2

### Explosion protection KGS

Ex e q IIC T4<br>Ex tb IIIc IP64 T110°C<br>Ex ia IIC T4<br>Ex ia IIIB T110°C

### Electrical Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational voltage DC</td>
<td>24 V</td>
</tr>
<tr>
<td>Voltage range DC</td>
<td>20 – 30 V</td>
</tr>
<tr>
<td>Rated operational voltage AC</td>
<td>230 V</td>
</tr>
<tr>
<td>Voltage range AC</td>
<td>100 – 240 V</td>
</tr>
<tr>
<td>Frequency range</td>
<td>50 – 60 Hz</td>
</tr>
<tr>
<td>Power consumption DC</td>
<td>3 A</td>
</tr>
<tr>
<td>Power consumption AC 1</td>
<td>1 A</td>
</tr>
<tr>
<td>Protection fuse DC</td>
<td>5 AT</td>
</tr>
<tr>
<td>Protection fuse AC</td>
<td>5 AT</td>
</tr>
<tr>
<td>Rated operational power</td>
<td>typ. 50 W / 100 W with O30 / max. 150 W (typ. 170 BTU / 341 BTU with O30 / max. 510 BTU)</td>
</tr>
<tr>
<td>Processor type</td>
<td>ATOM E3845</td>
</tr>
</tbody>
</table>
### Operating and monitoring systems

**Thin Client SERIES 500**

**Device platform MANTA**

**OS ET-577-TX**

#### Electrical Data

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor details</td>
<td>Intel Bay Trail (BT); 1.91 GHz; quad core</td>
</tr>
<tr>
<td>RAM</td>
<td>4 GB</td>
</tr>
<tr>
<td>Data memory</td>
<td>64 GB MLC</td>
</tr>
<tr>
<td></td>
<td>128 GB MLC</td>
</tr>
<tr>
<td>Graphics controller</td>
<td>integrated Intel Gen. 7 HD Graphics</td>
</tr>
<tr>
<td>Memory technology</td>
<td>SSD solid state flash drive M.2</td>
</tr>
<tr>
<td>Operating system</td>
<td>Windows 10 IoT Enterprise</td>
</tr>
<tr>
<td>Language support</td>
<td>via operating system</td>
</tr>
<tr>
<td>Image</td>
<td>Remote Firmware</td>
</tr>
<tr>
<td>Ethernet / Data</td>
<td>10/100Base-TX (Ex e)</td>
</tr>
<tr>
<td>Data cable</td>
<td>CAT7 installation cable AWG23</td>
</tr>
<tr>
<td>Data cable length</td>
<td>max. 100 m</td>
</tr>
<tr>
<td>Interface medium</td>
<td>CAT7 data transmission</td>
</tr>
<tr>
<td>Interface USB</td>
<td>2 x USB (Ex ia)</td>
</tr>
<tr>
<td></td>
<td>1 x USB (Ex e)</td>
</tr>
<tr>
<td></td>
<td>2 x USB (Ex ia) (keyboard, pointing device)</td>
</tr>
<tr>
<td>Interface serial</td>
<td>1 x RS-232 (Ex e)</td>
</tr>
<tr>
<td>Interface audio</td>
<td>1 x Audio line out (Ex e)</td>
</tr>
<tr>
<td>WLAN</td>
<td>optional via USB</td>
</tr>
<tr>
<td>Connection compartment</td>
<td>Power supply direct in integrated Ex e connection box</td>
</tr>
<tr>
<td>Connections</td>
<td>via screw terminals, green</td>
</tr>
<tr>
<td>Wiring</td>
<td>flexible cable up to 2.5 mm² (AWG14)</td>
</tr>
<tr>
<td></td>
<td>fixed cable up to 4 mm² (AWG12)</td>
</tr>
<tr>
<td>Max. input voltage $U_m$</td>
<td>250 VAC</td>
</tr>
<tr>
<td>Audio sound</td>
<td>optional: Audio amplifier (mono amplifier) 3.5 W, for 2x loudspeaker connection (Ex e)</td>
</tr>
<tr>
<td>Voltage output</td>
<td>12 V DC, max. 500 mA</td>
</tr>
<tr>
<td>Real-time clock</td>
<td>Yes</td>
</tr>
<tr>
<td>Real-time clock data buffer</td>
<td>Lithium battery and capacitor buffered, maintenance-free</td>
</tr>
<tr>
<td>Battery buffered</td>
<td>&gt; 5 years</td>
</tr>
<tr>
<td>Capacitor buffered</td>
<td>at least 4 days</td>
</tr>
</tbody>
</table>

#### Display

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display version</td>
<td>TFT Colour display</td>
</tr>
<tr>
<td>Display version 2</td>
<td>16.7 million colours</td>
</tr>
<tr>
<td>Display size inch</td>
<td>24</td>
</tr>
<tr>
<td>Display size centimetres</td>
<td>61</td>
</tr>
<tr>
<td>Display resolution</td>
<td>Full HD</td>
</tr>
<tr>
<td>Total pixels</td>
<td>1920 x 1080</td>
</tr>
<tr>
<td>Display dimensions</td>
<td>16:9</td>
</tr>
<tr>
<td>Display brightness</td>
<td>300 cd/m²</td>
</tr>
<tr>
<td>Display contrast</td>
<td>1000:1</td>
</tr>
<tr>
<td>Display viewing angle horizontal</td>
<td>178° at CR ≥5</td>
</tr>
<tr>
<td>Display viewing angle vertical</td>
<td>170° at CR ≥5</td>
</tr>
<tr>
<td>Display</td>
<td>Glass</td>
</tr>
<tr>
<td>Touchscreen</td>
<td>Optional resistive</td>
</tr>
<tr>
<td>Touchscreen technology</td>
<td>5-wire glass or membrane touch</td>
</tr>
</tbody>
</table>
### Ambient Conditions

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature operation</td>
<td>-20 °C … +55 °C</td>
</tr>
<tr>
<td>Ambient temperature operation 1</td>
<td>-30 °C … +55 °C with heater version O30</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-30 °C … +70 °C</td>
</tr>
<tr>
<td>Cold start temperature</td>
<td>-10 °C</td>
</tr>
<tr>
<td>Temperature note 1</td>
<td>The O30 version is only available for the AC version devices!</td>
</tr>
<tr>
<td>Temperature note 2</td>
<td>Operating temperature +55 °C for a maximum of 5 h, for constant operation (24/7) +50 °C.</td>
</tr>
<tr>
<td>Temperature note 3</td>
<td>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.</td>
</tr>
<tr>
<td>Temperature note general</td>
<td>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.</td>
</tr>
<tr>
<td>Heat dissipation</td>
<td>about 40 % via the front plate and 60 % via the enclosure</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>10 to 90 % at +40 °C, non-condensing</td>
</tr>
<tr>
<td>Damp heat cyclic</td>
<td>+55 °C (±2 °C) ≥95 % (only device with glass touch (TG))</td>
</tr>
<tr>
<td>Dry heat</td>
<td>+65 °C</td>
</tr>
</tbody>
</table>
| 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 |
Operating and monitoring systems
Thin Client SERIES 500
Device platform MANTA
OS ET-577-TX

### Mechanical Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (WxHxD)</td>
<td>740 mm x 872 mm x 400 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>64.5 kg</td>
</tr>
<tr>
<td>Material front</td>
<td>Aluminium / stainless steel</td>
</tr>
<tr>
<td>Material back</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Ingress protection</td>
<td>IP66</td>
</tr>
<tr>
<td>Breather</td>
<td>optional</td>
</tr>
<tr>
<td>Keyboard note</td>
<td>With a keyboard with trackball, the operator station's ingress protection is reduced to IP54, when the trackball is moved.</td>
</tr>
<tr>
<td>Mechanical data note</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Mounting / Installation

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure type</td>
<td>Stainless steel enclosure (FR)</td>
</tr>
<tr>
<td></td>
<td>optional clean room (CFR)</td>
</tr>
<tr>
<td>Mounting option</td>
<td>Wall, elbow, stand</td>
</tr>
<tr>
<td>Components</td>
<td>Optional, 107 keys with trackball / joystick / mouse / touchpad (Ex ia)</td>
</tr>
</tbody>
</table>

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.