

Operating and Monitoring Systems

Panel PC / Thin Client
Device platform ORCA
ORCA PM M59A



- Modular Panel PC / Thin Client Panel-mount device, 22" display
- Zone 2, 22, Class I, Zone 2 / Div 2, IP66, GMP compliant
- Robust touch screen, protected behind reflection-free glass
- Data transmission via Ethernet copper up to 100 m and / or glass fibre up to 10 km

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ORCA's M59A Panel-mount devices are modular explosion-proof Panel PCs or Thin Clients for Zones 2 and 22 as well as for Class I, Zone 2, Division 2. Their brilliant 22-inch widescreen displays with robust multi-touch capable touchscreen have a resolution of 1280 x 1080 pixels (format 16:9). The devices have an all-round IP66 rating. You can configure processors, memory variants, interfaces and SSDs. Data transmission is via Ethernet as 10/100/1000Base-TX, 1000Base-SX or 1000Base-LX.

Technical Data

General	
Series	ORCA Panel PCs / Thin Clients panel-mount devices
Product description	22" Panel PC / Thin Client
HMI type	Panel-mount device
Technology	Panel PCs / Thin Clients
Explosion Protection	
Application range (zones)	2 22
Application range (divisions)	Class I, Zone 2 / Division 2 Class II, Division 1 and 2 Class III
IECEX certification	IECEX UL 23.0007X
ATEX certification	UL 23 ATEX 2902X
NEC certification	in approval
CEC certification	in approval
PESO certification	in approval
BIS certification	in approval
KCC certification	in approval
KCS certification	in approval
CCC certification	in approval
CNEX certification	in approval
IECEX gas explosion protection	Ex ec ib qb [ib Gb] [ia Ga] IIC T4 Gc
IECEX dust explosion protection	Ex tc [ib Db] [ia Da] IIIC T115°C Dc
ATEX gas explosion protection	Ex II 3(1) G Ex ec ib qb [ib Gb] [ia Ga] IIC T4 Gc
ATEX dust explosion protection	Ex II 3(1) D Ex tc [ib Db] [ia Da] IIIC T115°C Dc
Electrical Data	
Power supply	24 VDC or 230 VAC

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Electrical Data

Rated operational voltage DC	DC option: 24 V
Rated voltage range DC	19.2 V - 31.2 V
Rated operational voltage AC	AC option: 110 / 230 V
Rated voltage range AC	85 V - 250 V
Processor type	E-Box Standard: Intel® ATOM™ E3940 E-Box Pro: Intel® ATOM™ E3940 or Intel® Core i5™ 8365UE
Processor details	Intel® ATOM™: 1.6 / 1.8 GHz, Quad Core Intel® Core i5™: 1.6 / 4.1 GHz, Quad Core, 8 threads, 6 MB Cache
RAM	ATOM: 4 GB / 8 GB i5: 16 GB
Data memory	ATOM: 64 GB / 128 GB i5: 240 GB
Graphics controller	ATOM: Intel® HD graphics 500 i5: Intel® UHD graphics 620
Operating system	None None / PXE Boot Windows™ 10 2019 LTSC IGEL OS
Operating system note	IGEL OS: pre-installed without licence
Image	None Windows™ 10 2019 LTSC 32-Bit Windows™ 10 2019 LTSC 64-Bit Windows™ 10 2019 LTSC 64-Bit Remote HMI Firmware V6 Windows™ 10 2019 LTSC 64-Bit Movicon 11 IGEL OS
Ethernet / Data	E-Box Standard: 10/100/1000Base-TX E-Box Pro: 2x 10/100/1000Base-TX oder 1x 10/100/1000Base-TX + 2x 1000Base-SX oder 1x 10/100/1000Base-TX + 2x 1000Base-LX
Data cable	TX: min. CAT5 SX: FO cable 50/125 µm or 62.5/125 µm LX: FO cable 9/125 µm
Data cable length	TX: 100 m SX: 50 µm: 500 m SX: 62.5 µm: 300 m LX: 10 km
Data cable notice	TX: Ex e screw terminals
Interface medium	TX: min. CAT5 Data transmission SX: multi-mode optical cable LX: single mode optical cable
Interface USB	E-Box Standard: 2x USB Ex ia (for keyboard, pointing device) 1x USB Ex ib (for USBi-Drive) 1x USB Ex e (LS/FS/HS 500 mA) E-Box PRO: 2x USB Ex ia (for keyboard, pointing device), 1x USB Ex ib (for USBi-Drive) 1x USB Ex e (LS/FS/HS 500 mA) 1x USB Ex e (LS/FS/HS for Bus Powered Devices only, 500 mA)
Interface serial	RS-232 / RS-422 / RS-485 switchable
Plug version FO	SX / LX: LC - Duplex socket

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Electrical Data

Battery	> 5 years
Capacitor buffered	approx. 4 days

Display

Display version	TFT colour display
Display version 2	16.7 million colours
Display size inch	22
Display size centimetres	55
Display resolution	1920 x 1080; 1680 x 1080; 1280 x 1024; 1024 x 768
Total pixels	1920 x 1080
Display dimensions	16:9
Display brightness	350 cd/m ²
Display contrast	1:1000
Touchscreen	Yes
Touchscreen technology	Projected capacitive (PCAP), multi-touch
Touchscreen activation	Touch, no activation pressure required
Touchscreen input method	Finger, thin gloved finger or special gloves, conductive stylus
Touchscreen durability	Very good
Touchscreen transmissivity / optic	Very good
Touchscreen surface contaminants	Unaffected (may however be affected by conductive fluids such as saltwater)
Touchscreen abrasive resistance	No abrasion by finger or rubber
Backlight	LED Technology
Backlight service life	50000 h +25 °C
Front plate (display)	Glass, polyester on powder-coated aluminium
Function keys	Optionally via keyboard with integrated trackball, joystick or touchpad
Softkeys	Optionally via keyboard with integrated trackball, joystick or touchpad
Cursor keys	Optionally via keyboard with integrated trackball, joystick or touchpad
Alphanumeric keys	Optionally via keyboard with integrated trackball, joystick or touchpad
System keys	Optionally via keyboard with integrated trackball, joystick or touchpad

Ambient Conditions

Ambient temperature operation	-20 °C ... +55 °C
Storage temperature	-40 °C ... +60 °C
Relative humidity	10 to 90 % at +40 °C, non-condensing
Vibration sinus	5 to 13.2 Hz: ±1 mm 13.2 to 100 Hz: ±0.7 g Axis X, Y, Z
Shock	15 g / 11 ms
Positive pressure operation	<= 20 mbar

Mechanical Data

Dimensions (WxHxD)	E-Box Standard: 565 mm x 400 mm x 108 mm E-Box Pro: 565 mm x 400 mm x 117 mm
Mounting possibility	Front installation
Cut-out (WxH)	547 mm x 382 mm
Wall thickness	≤ 8 mm
Depth of cut-out	E-Box Standard: 99 mm; E-Box Pro: 108 mm
Mounting position	any

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Mechanical Data

Weight	E-Box Standard: 14.9 E-Box Pro: 17 kg
Material front	Glass, polyester on powder-coated aluminium
Material back	Aluminium
Ingress protection	IP66
IP enclosure front	IP66
IP enclosure back	IP66
Fixing frame	yes
Breather	yes, part of the enclosure and device approval
Weight	-

Mounting / Installation

Mounting option	Front installation
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