

# Operating and monitoring systems

KVM system SERIES 600

Device platform MANTA

OS ET-687-DVI3-MM



- KVM Operator Station, 24"WU display, 1920 x 1200
- Zone 1, 2, 21, 22 and Division 2
- Optional resistive glass or foil touch screen
- Data transmission via multi-mode fibre optic up to 550 m

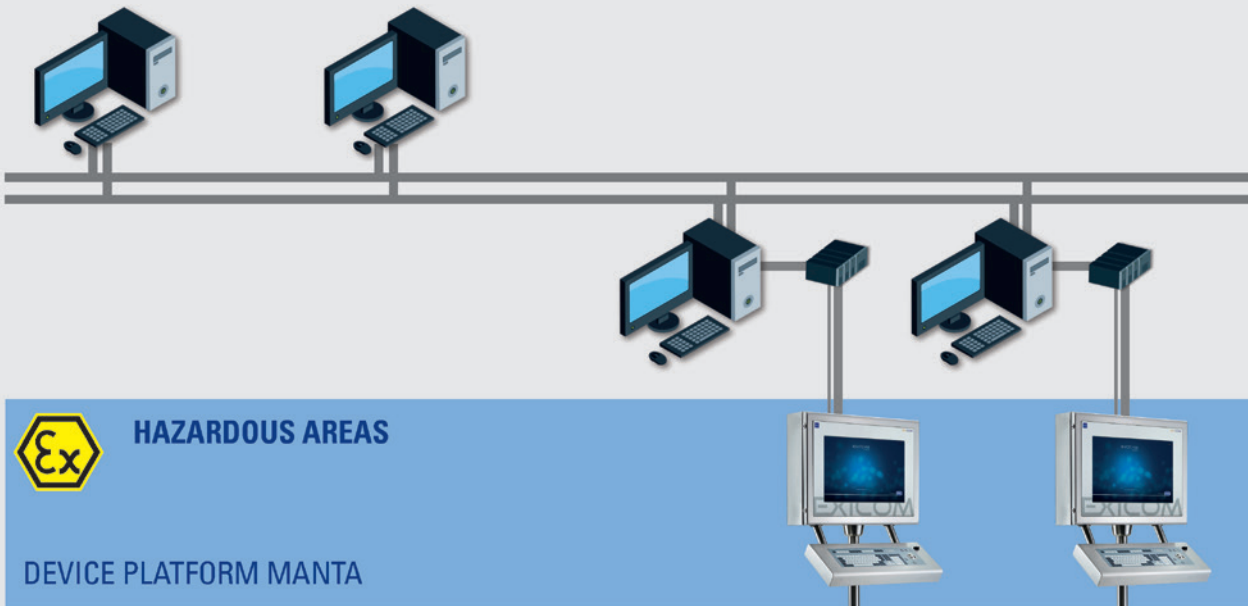
WebCode ET687A



The OS ET-687-DVI3 HMI series includes KVM operator stations for 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. 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 multi-mode fibre optic up to 550 m.

## KVM SYSTEMS INTEGRATION

### PC WORKSTATIONS



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## Technical Data

### General

Series	Operator Station OS ET-687 (discontinued)
Product description	24" KVM system
Technology	Remote HMI KVM
HMI type	Operator Station
WebCode	ET687A

### 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
Ship certificates	DNV / GL
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
KCC certification	Depending on built-in components
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 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	typically 50 W / 100 W at O30 / max. 150 W (typically 170 BTU / 341 BTU at O30 / max. 510 BTU)
Transfer technology	KVM-DVI3

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## Electrical Data

Ethernet / Data	FO multi-mode
Data cable	50/125 µm FO cable or 62.5/125 µm FO cable
Data cable length	max. 550 m, with 50 µm FO cable max. 300 m, with 62.5 µm FO cable
Interface medium	Multi-mode optical fibre cable
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 in / 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)
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 e)

## 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

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## Display

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	64.5 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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