

Operating and monitoring systems

Operator Interface SERIES 300

Device platform EAGLE

OS ET-306-TX



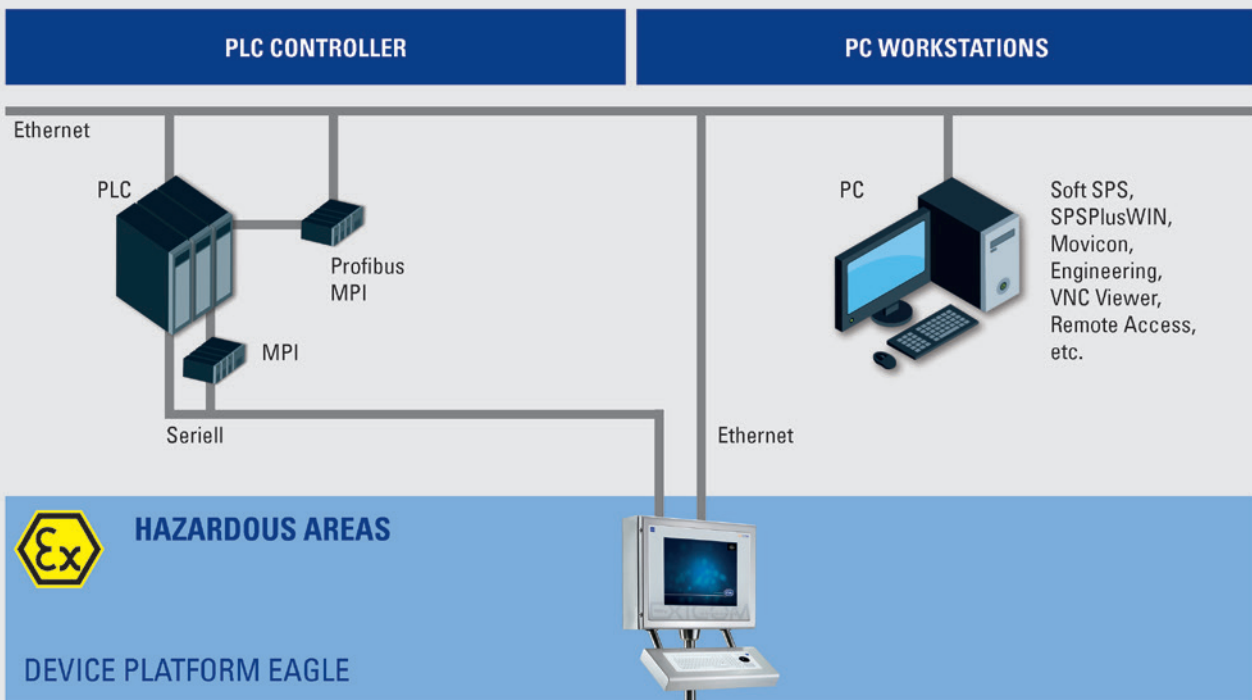
- Operator Interface Operator Station
- 10" display, 640 x 480 pixels with resistive foil touch screen
- 12 function keys, 10 soft keys, 30 additional keys
- Zone 1, 2, 21, 22 and Division 2, optional GMP-compliant enclosure
- Data is transmitted via Ethernet as 10/100Base-TX via CAT5 cable up to 100 m.

WebCode **ET306AA**



R. STAHL's OS ET-306 HMI systems are Operator Interface Operator Stations for hazardous zones 1, 2, 21 and 22 as well as Division 2. Their brilliant 10" displays with analogue-resistive touch screen have a resolution of 640 x 480 pixels (format 4:3). The stainless steel enclosures (SS304 or SS316L) are available with a front opening or in cleanroom-compliant design and with different mounting options. Accessories to expand functionality include country-specific keyboards, pointer instruments, RFID readers and barcode scanners. For visualisation, you can choose either Movicon CE or SPSPPlus RT from our software portfolio. Data is transmitted via Ethernet as 10/100Base-TX via CAT5 cable up to 100 m.

OPERATOR INTERFACE INTEGRATION



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Technical Data

General

Series	Operator Station OS ET-306 (discontinued)
Product description	10.4" Operator Interface
Technology	Operator Interface
HMI type	Operator Station
WebCode	ET306AA

Explosion Protection

Application range (zones)	1 2 21 22
Application range (divisions)	Class I, Division 2 Class II, Division 1 and 2 Class III
Certifications	ATEX, IECEx, NEC, CEC, EAC, INMETRO, CNEX, KGS, PESO
Ship certificates	DNV, LR, ABS
IECEx certification	IECEx TUR 11.0006X
ATEX certification	TÜV 11 ATEX 7041 X
NEC certification	20130611-E202379
CEC certification	2512677
INMETRO certification	UL-BR 12.0265X
CNEX certification	CNEx14.0065X
KCS certification	12-GA4BO-0215X 12-GA4BO-0317X
PESO certification	A/P/HQ/MH/104/5004(P391127) P391127/1
DNV certification	Certificate number: A-12989 File number: 899.60 Order number: 262.1-001689-6
LR certification	11/20032
ABS certification	15-HG1418766-1-PDA
Notice certification	The certificates and explosion protection markings apply to a standard device combination of display and enclosure. Any additional built-in or added components may have an impact on / change these.
IECEx gas explosion protection	ET-306-A-TX Ex db eb ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX Ex db eb ia ib mb [ia ib op is] IIC T4 Gb
IECEx dust explosion protection	ET-306-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
ATEX gas explosion protection	ET-306-A-TX II 2 (2) G Ex db eb ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX II 2 (2) G Ex db eb ia ib mb [ia ib op is] IIC T4 Gb

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Explosion Protection

ATEX dust explosion protection	ET-306-A-TX II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
NEC explosion protection	Class I, Division 2, Groups A, B, C, D Class II, Division 2, Groups F, G Class III Class I, Zone 2, Group IIC
CEC explosion protection	Ex d e ia ib mb [ia ib] IIC T4 Gb, Type 4X, IP66 Ex ia tb [ia ib] IIIC T80°C Db, IP66 Class II, Division 1, Groups E, F, G, T80°C
CNEX gas explosion protection	ET-306-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
CNEX dust explosion protection	ET-306-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
KCS explosion protection	Ex d e ia ib mb [ia ib] IIC T4 Ex ia tb [ia ib] IIIC T80°C Db IP66
INMETRO gas explosion protection	ET-306-A-TX Ex d e ia ib mb [ia ib] IIC T4 Gb ET-306-A-FX Ex d e ia ib mb [ia ib op is] IIC T4 Gb
INMETRO dust explosion protection	ET-306-A-TX Ex ia tb [ia ib] IIIC T80°C Db IP66 ET-306-A-FX Ex ia tb [ia ib op is] IIIC T80°C Db IP66
PESO explosion protection	Ex d e ia ib mb [ia ib] IIC T4 Gb

Electrical Data

Rated operational voltage DC	24 V
Voltage range DC	20.4 – 28.8 V
Rated operational voltage AC	optional, external power supply 230 VAC
Voltage range AC	90 – 253 V
Power consumption DC	1.2 A
Rated operational power	36 W
Processor type	ATOM E3815
Processor details	Intel Bay Trail (BT); 1.46 GHz; single core
RAM	2 GB
Data memory	16 GB
Graphics controller	integrated Intel Gen. 7 HD Graphics
Memory technology	Flash memory M.2
Operating system	Windows Embedded Compact 7
Language support	global, multilingual language support
Image	via - SPSPPlusWIN project file (SPSPPlus RT) - Movicon project file (Movicon CE 4096 I/O)

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Electrical Data

Additional software	SPSPlusWIN V 6 Progea Movicon11
Ethernet / Data	10/100Base-TX (Ex e)
Data cable	CAT5 installation cable AWG22
Data cable length	max. 100 m
Interface medium	CAT5 data transmission
Frequency range	47 – 63 Hz
Interface USB	2 x USB (Ex ib) 2 x USB (Ex e)
Interface serial	1 x RS-232 / RS-422 / RS-485 (Ex e)
Interface PS/2	for external keyboard (Ex ia)
Optional interface 1	-
Optional interface 2 reader	optional, reader interface (Ex ib)
Interface audio	1 x Audio line out (Ex e)
Connection compartment	Power supply direct in integrated Ex e connection box
Connections	via screw terminals, green, 2.5 mm ² (AWG14) (Ex e)
Wiring	Flexible conductors 0.2 to 2.5 mm ² (AWG24 to AWG14) Rigid conductors 0.2 to 2.5 mm ² (AWG24 to AWG14)
Plug version USB	1x USB connector type A
Max. input voltage U _m	30 VDC
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
Status LED	below the back lid: for activity on: - Solid state drive or HD - Ethernet Link - COM 1 and COM 2

Display

Display version	TFT Colour display
Display version 2	16.7 million colours
Display size inch	10.4
Display size centimetres	26
Display resolution	VGA
Total pixels	640 x 480
Display dimensions	4:3
Display brightness	TFT 450 cd/m ²
Display contrast	TFT 700:1
Touchscreen	analogue resistive
Touchscreen technology	5-wire
Touchscreen activation	Low activation pressure (0.1 up to max. 1 N)
Touchscreen input method	Finger, gloved finger or stylus
Touchscreen durability	Polyester foil is easily scratched, with high pressure force the spacer dots could be damaged.
Touch screen scratch hardness MoHS	-

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Display

Touchscreen scratch hardness pencil test ISO15184	3H
Touchscreen transmissivity / optic	Small milky effect due to the foil
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	70 000 h at +25 °C 35 000 h at +55 °C
Front plate (display)	Polyester on aluminium
Function keys	12
Softkeys	10
Cursor keys	yes
Alphanumeric keys	12
System keys	14

Software

Number of protocol drivers	a maximum of 4 simultaneously
Number of process images	>1000 dynamic
Number of text messages	dynamically limited by main memory
Number of variables	255 per image
Number of messages	4096 fault messages 4096 operation messages
Font sets	4 independent Windows uncondensed fonts

Ambient Conditions

Ambient temperature operation	-20 °C ... +50 °C
Ambient temperature operation 1	-30 °C ... +50 °C with heater
Storage temperature	-30 °C ... +60 °C
Temperature note 2	The heater used must be of such a design that the temperature inside the HMI's enclosure does not fall below -20°C (-30°C at the front only).
Temperature note 3	The components integrated in the enclosure may only be operated when the temperatures inside the enclosure are within the permitted (certified) temperature range for these components. Further measures may be necessary.
Temperature note general	The temperature details apply to a standard device combination with display and enclosure. Any additional built-in or added components may have an impact on / change these.
Heat dissipation	about 50% via the front plate and 50% via the enclosure
Relative humidity	90% at +40 °C, without condensation
Damp heat	+55 °C / 95 %
Damp heat cyclic	+55 °C / 90-100 % +20 °C / 80-100 %
Corrosion resistance	ISA-S71.04-1985, severity level G3
Vibration sinus	5 to 13.2 Hz: ±1 mm 13.2 to 100 Hz: ±0.7 g Axis X, Y, Z
Vibration sinus 1	10 Hz, 1 g 450 Hz, 1 g Change cycle 1 oct/min Operating mode 1.2 Axis X, Y, Z

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Ambient Conditions

Vibration broadband random	10 Hz, 0.01 PSD[(m/s ²) ² /Hz] 450 Hz, 0.01 PSD[(m/s ²) ² /Hz] Grms 2.11 Axis X, Y, Z
Shock	20 Shocks 20 g/11 ms
EMC Immunity	According IEC 61000-6-2 (01/2005) and DIN EN 61323-1 (10/2006) for industrial areas
EMC Emission	According IEC 61000-6-4 (02/2011), DIN EN 55011 / CISPR 11 (03/2008) for industrial environments and DIN EN 55022 / CISPR 22 (05/2008) for Class A
Positive pressure operation	< = 20 mbar

Mechanical Data

Dimensions (WxHxD)	720 mm x 820 mm x 400 mm
Weight	45.6 kg
Material front	Polyester on aluminium / stainless steel
Material back	Stainless steel
Ingress protection	IP66
Breather	optional
Keyboard note	With a keyboard, the operator station's ingress protection is reduced to IP65 and with a trackball even further to IP54 when the trackball is moved.
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.

Mounting / Installation

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

Components

Keyboard	optional, 105 keys
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