

Operating and monitoring systems

Operator Interface SERIES 300

Device platform EAGLE

PM ET-306-FX



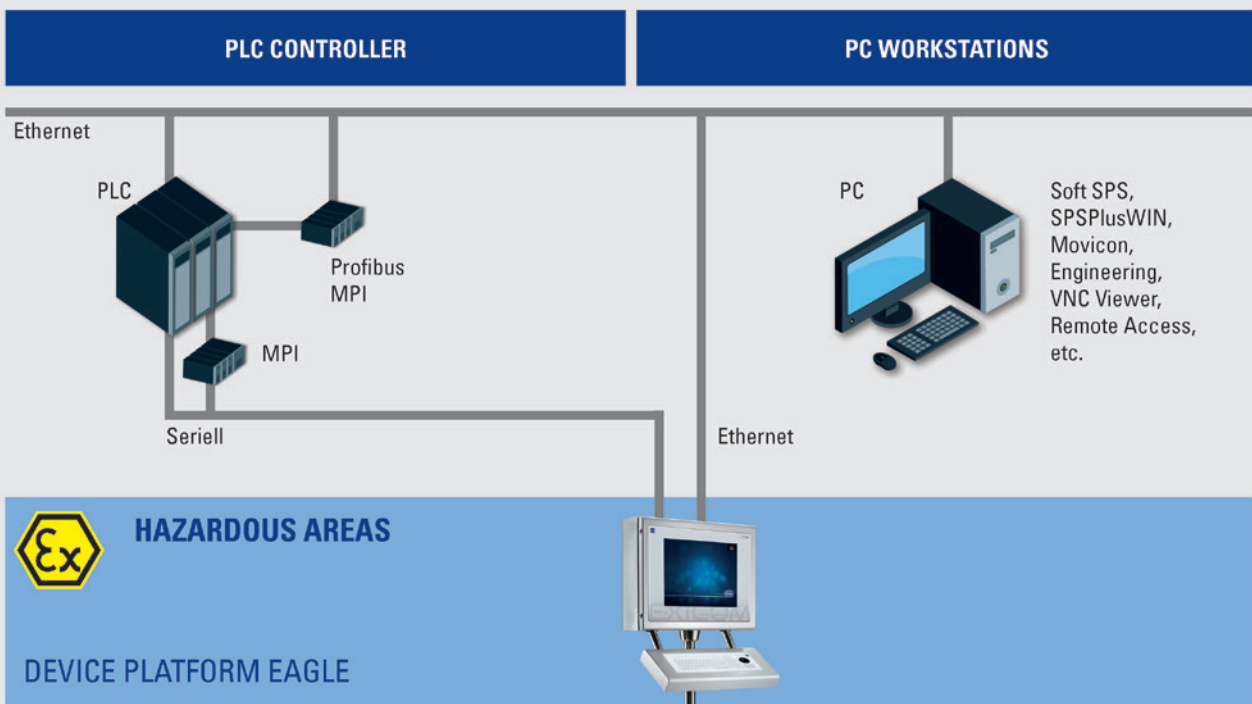
- Operator Interface for panel mounting
- 10" display, 640 x 480 pixels with resistive foil touch screen
- 12 function keys, 10 soft keys, 30 alphanumeric keys
- Zone 1, 2, 21, 22 und Division 2, can be installed in hazardous areas without additional enclosure
- Data transmission via Ethernet as 100Base-FX via multi-mode fibre optic up to 2 km

WebCode **ET306AA**



R. STAHL's PM ET-306 HMI systems are Operator Interfaces for panel mounting in 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). Country-specific keyboards, pointer instruments and RFID and barcode scanners are useful accessories making work easier and extending functionality. For visualisation, you can choose either Movicon CE or SPSPlus RT from our software portfolio. Data is transmitted via Ethernet as 100Base-FX via multi-mode fibre optic up to 2 km.

OPERATOR INTERFACE INTEGRATION



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Technical Data

General

Series	Panel mount device PM ET-306 (discontinued)
Product description	10.4" Operator Interface
Technology	Operator Interface
HMI type	Panel mount device
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
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
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

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Explosion Protection

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
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)
Additional software	SPSPPlusWIN V 6 Progea Movicon11
Ethernet / Data	100Base-FX (Ex op is)
Data cable	62.5/125 µm optical fibre cable
Data cable length	max. 2000 m
Interface medium	Multi-mode optical fibre cable

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Electrical Data

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 FO	SC duplex female connector
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	-
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

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Display

Backlight service life	70000 h at +25 °C 35000 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 ... +55 °C
Ambient temperature operation 1	-30 °C ... +55 °C with heater
Storage temperature	-30 °C ... +60 °C
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
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)	400 mm x 270 mm 150 mm
Cut-out (WxH)	385.5 mm x 257.5 mm
Wall thickness	≤ 8 mm

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Mechanical Data

Depth of cut-out	150 mm
Mounting position	vertical or horizontal
Weight	13.6 kg
Material front	Polyester on aluminium
Material back	Stainless steel
Ingress protection	IP66
IP enclosure front	IP66
IP enclosure back	IP66
Fixing frame	yes
Cable gland type	8161 (Ex e)
Cable gland number	6 x M16, 3 x M20
Cable gland thread size	M16 x 1.5 / M20 x 1.5
Cable gland cable diameter range	M16 = 5 ... 9 mm / M20 = 7 ... 13 mm
Cable gland wrench size	M16 = SW 20 / M20 = SW 24
Breather	yes, part of the enclosure and device approval

Mounting / Installation

Mounting option	Panel mount
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Components

Keyboard	optional, 105 keys
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