

# ET-416 – 10.4" (800 x 600)

NO. DS200640140101 | EN  
2014 | V 03.02.11



## ET-416 – 10.4" (800 x 600)

### Highlights

- Rugged Panel PCs for temperatures ranging between -40 °C up to +55 °C [-40 °F up to +131 °F]
- Rugged, modular structured product design
- Without additional enclosure suitable for use in hazardous areas / many enclosure and mounting options

### Explosion Protection

Examination Certificate / Identification



#### ATEX directive 94/9/EG

TÜV 11 ATEX 7041 X

#### ET-xx6-A-Tx

II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb

II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66

#### ET-xx6-A-Fx

II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb

II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66

#### IECEX

TUR 11.0006X

#### ET-xx6-A-Tx

Ex d e ia ib mb [ia ib] IIC T4 Gb

Ex ia tb [ia ib] IIIC T80°C Db IP66

#### ET-xx6-A-Fx

Ex d e ia ib mb [ia ib op is] IIC T4 Gb

Ex ia tb [ia ib op is] IIIC T80°C Db IP66

#### GOST-R

POCC DE.ГБ04.В01741

#### Operating licence

PCC 00-047986

#### ET-xx6-A-Tx

2Exdeiaibmb[iaib]IIC T4

DIP A21 TA80°C, IP66

#### ET-xx6-A-Fx

2Exdeiaibmb[iaibopis]IIC T4

DIP A21 TA80°C, IP66

#### KGS / KCC

12-GA4B0-0215X

12-GA4B0-0317X

Ex d e ia ib mb [ia ib] IIC T4

Ex ia tb [ia ib] IIIC T80°C Db IP66

#### NEC / UL

20130611-E202379

Class I, Division 2, Groups A, B, C, D

Class II, Division 2, Groups F, G

Class III Hazardous Locations

Class I, Zone 2, Group IIC

### Firmware/Software

- OPEN HMI – open for all software applications
- Ready-to-run operating system in 25 languages
- Windows Embedded Standard 2009 / 7 Ultimate
- Optional installation of visualization software e. g. WinCC flexible® / Factory Talk View® / Vijejo Citect®, etc.

### Description

The ET-416 Panel PC with high bright 10.4" screen is the ideal start into the ET-400 series – certified for use in hazardous areas zone 1, 2, 21, 22. Similar to the ET-406, but without softkeys, the ET-416 is specifically suitable for visualization tasks. This full-fledged PC can be integrated in the company network architecture, and is able to simultaneously and independently process other applications on-site. This HMI is highly versatile, and comes with intuitive touch screen and 12 function keys.

The ET-416 is ready-to-run worldwide, with pre-installed, multilingual Windows Embedded Standard 2009 or -7 Ultimate operating system (QNX, Linux optional) – without time-consuming installation of drivers or operating systems. All pre-installed operating systems are protected against external manipulations. In the rare case of a system failure, the BACKUP/RECOVERY solution via USB stick allows to immediately restore the original state.

Thanks to the modern heat pipe technology combined with protection screen and enclosure heater, the Panel PC operates at temperatures ranging between -20 °C up to +55 °C (+50 °C in permanent operation / with heater and protection screen -40 °C).

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## CEC / CSA

2512677

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

## INMETRO

UL-BR 12.0265X

### ET-xx6-A-Tx

Ex d e ia ib mb [ia ib] IIC T4 Gb

Ex ia tb [ia ib] IIIC T80°C Db IP66

### ET-xx6-A-Fx

Ex d e ia ib mb [ia ib op is] IIC T4 Gb

Ex ia tb [ia ib op is] IIIC T80°C Db IP66

## CNEX (China)

CNEx14.0065X

Ex d e ia mb [ia ib] IIC T4 Gb

## DNV (Det Norske Veritas)

A-12989

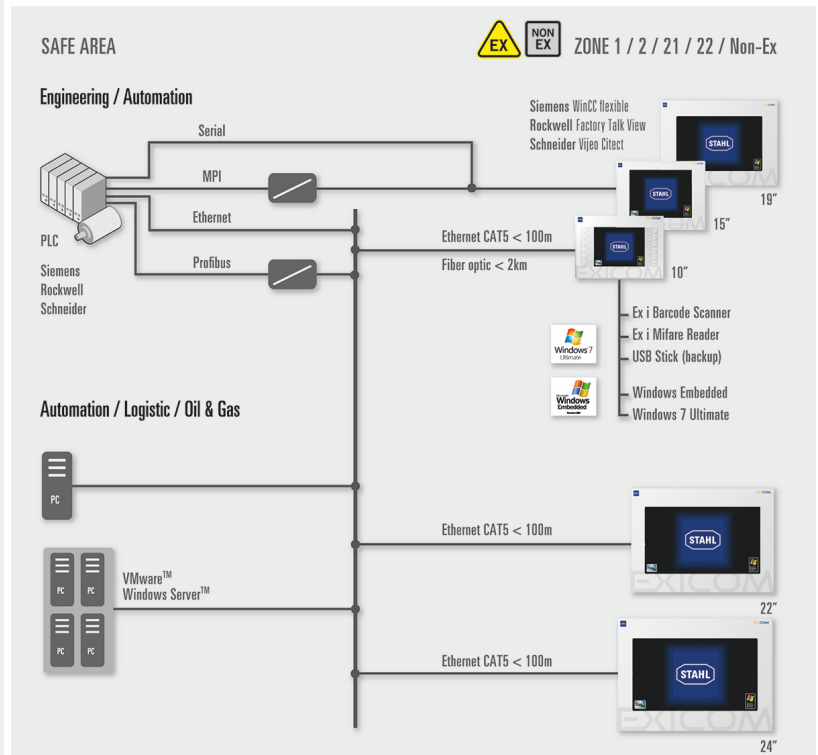
## LR (Lloyd's Register)

11/20032

## Ingress protection

Front and back side IP66

## Operating Principle



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## Technical Data

Mounting design	Front panel mounting
Display	26 cm (10.4") TFT color display 16,777,216 colors SVGA 800 x 600 Aspect ratio 4:3 Brightness 400 cd/m <sup>2</sup> Contrast 700:1 8 wire resistive touch screen as standard
Backlighting	LED technology Service life 130,000 h at +10 °C [ +50 °F] 55,000 h at +35 °C [ +95 °F] 40,000 h at +55 °C [+131 °F]
Display function keys	12 function keys Polyester film on aluminum plate
External keyboard	Yes (optional), 105 / 107 keys, incl. trackball / joystick (Ex ia)
Processor	ATOM 1.6 GHz
RAM	1 / 2 GB
Memory	4 / 16 GB, 128 GB MLC / SLC (Solid State Card)
Memory upgrade optional	Hard drive EXICOM-SHD-xxx 100 GB
Operating system	Windows XP Embedded MUI Windows 7 MUI
Standard Software	WinCC flexible, IFix, RSView (for more software solutions, please refer to the homepage)
Interfaces	1 x Ethernet 10/100BaseTx (Ex e) or FO 100BaseFx, 100 Mbit (Ex op is) 2 x USB (Ex e) 2 x USB (Ex ib) 2 x PS/2 (Ex ia) (keyboard, pointing device) 1 x RS-232 / RS-422 / RS-485 (Ex e) 1 x Audio line out (Ex e) <b>Optional interfaces</b> 1 x RSi (Ex ib) data and data supply for readers 1 x RS-232 / RS-422 / RS-485 (Ex e) WLAN via USB (Ex e)
Dimensions (W x H x D)	372 x 270 x 150 mm (14.65 x 10.63 x 5.90")
Cutout	359.5 x 257.5 (+/- 0.5) mm (14.12 x 10.14 (+/-0.02")
Weight	13.2 kg (29 lbs)
Power supply	24 VDC (20.4 up to 28.8 VDC); 1.2 A; 28.8 W optional: external power supply 90 - 253 VAC
Permissible ambient temperature ranges	Operation -20 °C up to +55 °C* [ -4 °F up to +131 °F] Operation with heater ** -30 °C up to +55 °C* [-22 °F up to +131 °F] Operation with heater **, enclosure insulation, protection screen -40 °C up to +55 °C* [-40 °F up to +131 °F] Storage -30 °C up to +60 °C [-22 °F up to +140 °F] * ET-4x6-A and ET-5x6-A: 5 h maximum operation at +55 °C [+131 °F]; continuous operation (24/7) at +50 °C [+122 °F] ** The heater has to be designed to ensure that the temperature inside the enclosure of the operating unit does not fall below -20 °C [-4 °F] (-30 °C [-22 °F] only at the front side)
Heat dissipation	Front plate cooling by heat pipe approx. 50 % through front plate, approx. 50 % through back side

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Relative humidity	90 % at +40 °C [+104 °F], non condensing
Vibration	Operation: 3 up to 22 Hz: 1 mm (0.04") 22 up to 500 Hz: 9.8 m/s <sup>2</sup> = 1 g (32 ft/s <sup>2</sup> = 0.03 oz) Transportation: 3 up to 9 Hz: 3.5 mm (0.14") 9 up to 500 Hz: 9.8 m/s <sup>2</sup> = 1 g (32 ft/s <sup>2</sup> = 0.03 oz)
Shock	Operation: 15 g / 11 ms (0.52 oz/11 ms) Transportation: 25 g / 6 ms (0.88 oz/6 ms)
Material front side	UV-resistant polyester film on seawater-resistant aluminum, incl. touch screen und protective safety glass
Material back side	Stainless steel
Ingress protection	Front and back side IP66