

# MT-456 – 19" (1280 x 1024)

NO. DS200640240103 | EN  
2014 | V 03.02.11



## MT-456 – 19" (1280 x 1024)

### 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 7103 X

#### MT-xx6-A-Tx

II 3 (2/3) G Ex d e ia ib mb nA [ia Gb] [ic] IIC T4 Gc

II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66

#### MT-xx6-A-Fx

II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc

II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66

#### IECEx

TUR 11.0015X

#### MT-xx6-A-Tx

Ex d e ia ib mb nA [ib Gc] [ic] IIC T4 Gc

Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66

#### MT-xx6-A-Fx

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

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

#### GOST-R

POCC DE.ГБ04.Б01741

#### Operating licence

PCC 00-047986

#### MT-xx6-A-Tx

2ExdeiaibmbnA[ib][ic]IIC T4

DIP A21 TA80°C, IP66

#### MT-xx6-A-Fx

2ExdeiaibmbnA[ibopis][ic]IIC T4

DIP A21 TA80°C, 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® / Vijeo Citect®, etc.

### Description

MT-456 – high bright 19" monitor with integrated Panel PC for complex visualization and operating tasks in hazardous areas, Zone 2, 22.

For PCS / ERP and EMS tasks, the MT-456 can be integrated in the company network, and, as stand-alone Panel PC, can independently perform automation tasks on site. The MT-456 comes standard with intuitive touch screen and customizable function keys, making the MT-456 a highly versatile HMI.

The MT-456 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.

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## CEC / CSA

2512677

Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc, Type 4X, IP66

Ex ia tc [ib ic] IIC T80°C Dc, IP66

Class II, Division 2, Groups E, F, G, T80°C

## INMETRO

UL-BR 12.0398X

## MT-xx6-A-Tx

Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc

Ex ia tc [ib Db] [ic] IIC T80°C Dc IP66

## MT-xx6-A-Fx

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

Ex ia tc [ib op is Db] [ic] IIC T80°C Dc IP66

## CNEX (China)

CNEx14.0049X

Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc

## DNV (Det Norske Veritas)

A-12989

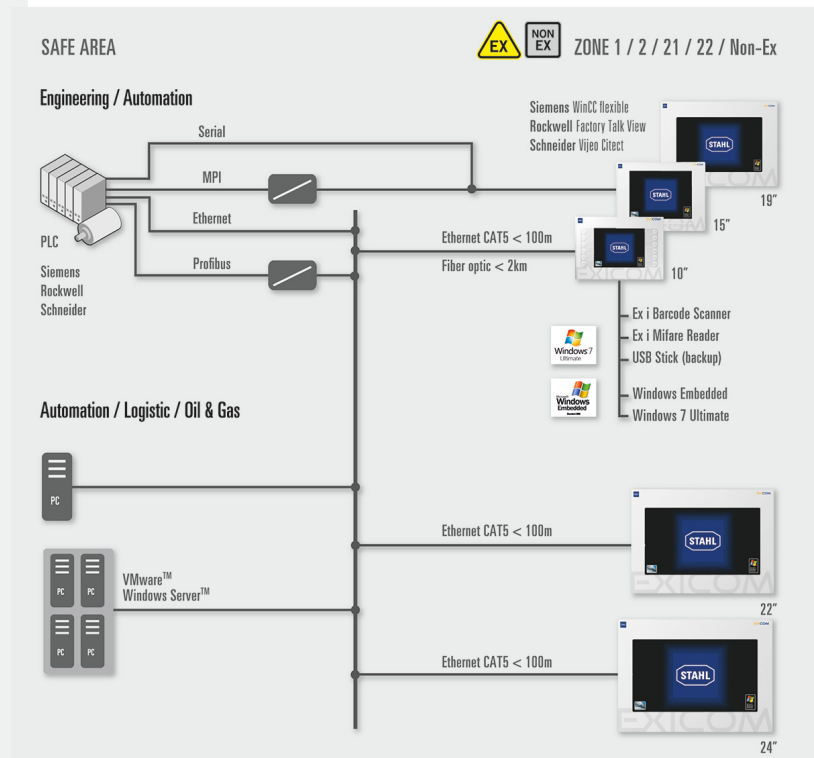
## LR (Lloyd's Register)

11/20032

## Ingress protection

Front and back side IP66

## Operating Principle



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## Technical Data

Mounting design	Front panel mounting
Display	48 cm (19") TFT color display 16,777,216 colors SXGA 1280 x 1024 Aspect ratio 5:4 Brightness 350 cd/m <sup>2</sup> Contrast 1000:1 8 wire resistive touch screen as standard
Backlighting	LED technology Service life 50,000 h at +10°C [+50 °F]
Display function keys	8 function keys, polyester film on aluminum plate switching cycles > 1 million
External keyboard	Yes (optional), 105 / 107 keys, incl. trackball / joystick (Ex ib/ic)
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 nA) or FO 100BaseFx, 100 Mbit (Ex op is) 2 x USB (Ex nA) 2 x USB (Ex ib/ic) 2 x PS/2 (Ex ib/ic) (keyboard, pointing device) 1 x RS-232 / RS-422 / RS-485 (Ex nA) 1 x Audio line out (Ex nA) <b>Optional Interfaces</b> 1 x RSi (Ex ib/ic) data and data supply for readers 1 x RS-232 / RS-422 / RS-485 (Ex nA) WLAN via USB (Ex nA)
Dimensions (W x H x D)	535 x 425 x 165 mm (21.06 x 16.73 x 6.49")
Cutout	522.5 x 412.5 (+/- 0.5) mm (20.57 x 16.24 (+/- 0.02"))
Weight	25 kg (55 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 50 % through front plate, approx. 50 % through back side
Relative humidity	90 % at +40 °C [+104 °F], non condensing
Vibration	Operation: 3 up to 22 Hz; 1 mm (0.04")

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	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	V-resistant polyester film on seawater-resistant aluminum, incl. touch screen und protective safety glass Optional: stainless steel film on seawater-resistant aluminum, incl. touch screen and protective safety glass
Material back side	Stainless steel
Ingress protection	Front and back side IP66