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PC100
Modular Ex-PC

PC100 - Concept

The future of HMI-devices for the use in explosion endangered areas is less based on short lived proprietary products but more on all-purpose, modular products of latest technology and highest capability.
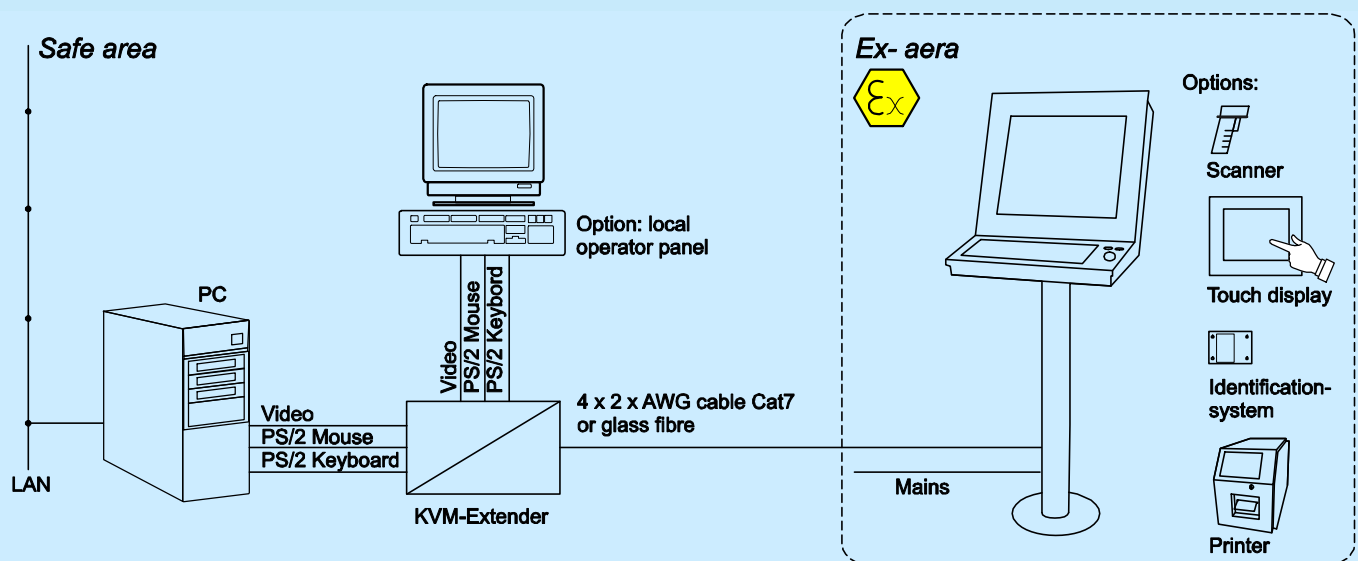
As a user, you should have a HMI-device at your disposal, which is completely autonomous from today's PC-platforms and software and thereby featuring a long product life cycle.

This trend led to the development of the PC100-concept, which comes up to today's and future requirements by use of an intelligent combination of different Ex-protection classes.

A high degree of technical and functional independency is reached by the use of standard components, which allows the integration of latest technology at anytime.

The stainless steel designer housing is specific to the needs of international production facilities with varying requirements (GMP-guideline, clean rooms, etc.).

The PC100 offers a multiplicity of potentials to cope with the special demands of our customers. On this account, numerous options are available for the PC100 as well as a non-Ex-device for industry-compatible applications in non-hazardous areas.

Safe area

PC

LAN

Video
PS/2 Mouse
PS/2 Keyboard

Video
PS/2 Mouse
PS/2 Keybord

Option: local operator panel

KVM-Extender

4 x 2 x AWG cable Cat7 or glass fibre

Ex- aera

Ex

Mains

Options:

Scanner

Touch display

Identification-system

Printer

Advantages in comparison

☼ No additional, complex Ex i- solution with multiple power supplies, which must be installed in a short distance (approx. 5 m) to the display. No Ex i- multi wire connection between Ex i- power supply and display

→ *PC100: Direct feed of the main voltage (230V AC or others) using the integrated Ex e terminal box at the TFT display*

☼ No special Ex i- KVM- Extender

→ *PC100: Standard VGA- KVM- extender based on copper 2 x 4 x AWG 24 or glass fibre, connected in the integrated Ex e- terminal box – **no intrinsic safety proof is required**!*

☼ No molding at the display needed to handle the energy by coupling of intrinsically safe circuits

→ *PC100: Standard display with resin filling*

☼ No pressured air and waiting time while purging required, no turn off by failure of pressured air

→ *PC100: Only electrical power required*

☼ No special displays limited by maximum power consumption, special technology or selected manufacturer

→ *PC100: update to newest display technology at any time*

☼ No resistive touch display with polyester foil

→ *PC100: Touch display
The PC100 owns a robust surface from hardened glass. Thereby it is superior to the usually used resistive touch solutions in the properties of contrast, viewing angle and mechanical lifespan.*

☼ No multi wiring at installation

→ *PC100: All modules of the PC100 like display, KVM, keyboard and Trackball are coupled by plug connectors*

☼ No Ex d housing

→ *PC100: Display module depth of 105 mm, built in the Design housing. Available material: stainless steel, steel, aluminium or in your actual existing control panel*

☼ No short lived proprietary housing

→ *PC100 The modules are mounted in a design housing of stainless steel (IP65), suitable for food or pharmaceutical industry*

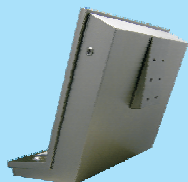**PC100 - Standard housing mounted on a pillar,**
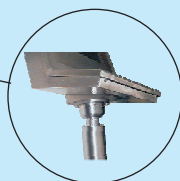
Solid mounted or with swivel joint (350 °)
Pillar diameter 100 mm, more warp resistantance
than usual 60 mm systems

PC100 Standard housing with 15° angle adapter or mounted direct to wall

Direct to wall: Mounting with a minimum construction height
Construction height at the display area approx. 140 mm, Construction height
at the keyboard area maximum 350 mm
Case opening at the front with pneumatic spring - for easy wiring

With 15° angle adapter: Provides ergonomic wall mounting
Angle adaptor for operater workstation according NAMUR-recommendation
Keyboard and display in 15 ° inclination to the operator

PC100 Standard housing mounted on a wall bracket

Solid mounted or on a swivel joint (350 °)
Wall bracket system with 100 mm pipe diameter
Raised bends and warp resistance

PC100 Display module for panel mounting

Front-sided protection class of the display: IP65
Necessary protection class of the panel: at least IP54
Small module depth: 105 mm (8.4 " and 10.4 " displays: 85 mm)
Simple panel mounting with threaded bolts

PC100 Touch housing for direct wall mounting

Construction height only 140 mm
Case opening on the front provides direct mounting on the wall
Opening assisted by pneumatic spring - for easy wiring

PC100 Ergonomy

Special edition with variable inclination of display and keyboard

PC100 mobile Application

Special edition PC100 for mobile operation

PC100 - Components

Display modules *(TÜV 00 ATEX 1607X)*

Touch display module 8,4"

PC100- Module with
superior PC100- Touch-
technology (non resistiv)
Max. resolution: VGA

Touch display module 10,4"

PC100- Module with
superior PC100- Touch-
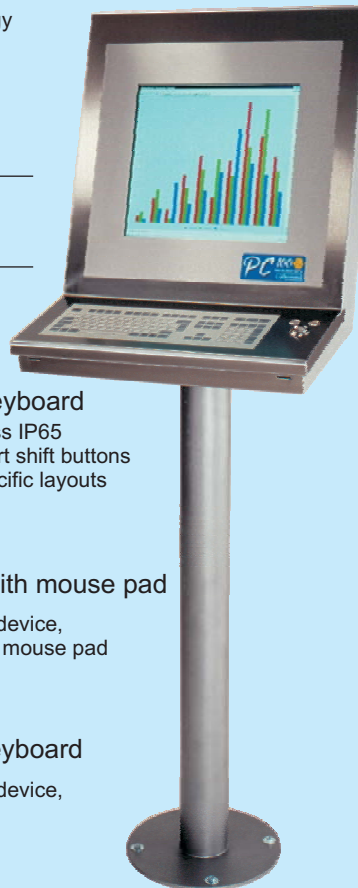technology (non resistiv)
Max. resolution: XGA

Display module 15"/19"

Module with standard TFT- display
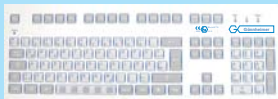or with
PC100- Touch technology
Max. resolution: SXGA

Display module 21"

Module with standard TFT- display
or with
PC100- Touch technology
Max. resolution: UXGA

Pointing devices

Track ball TB153.0.0

Intrinsically safe track ball
with two buttons and
stainless steel ball 38/50 mm
Protection class IP65

TB153.0.2

Industrial mouse
Alternative intrinsically safe
pointing device
no moving parts, IP65

TB153.0.3

Miniature mouse
Alternative intrinsically safe
pointing device
no moving parts, IP65

TB153.0.5
Industrial joysticks

Multi function joystick
2 Axis
2 buttons on head
USB + PS/2

Keyboards

KB153.0
Standard keyboard

Protection class IP65
105 Keys, short shift buttons
Language specific layouts
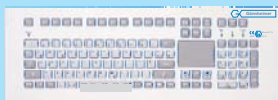
KB153.2
Keyboard with mouse pad

Like standard device,
with additional mouse pad

KB153.4
Compact keyboard

Like standard device,
only 30 keys

KB153.1
Keyboard with stainless steel housing

Protection class IP65
105 Keys, Language specific layouts

KB153.7
Wireless keyboard

Wireless keyboard with short shift buttons,
Water- und Dust-proof, IP65!

Accessories

Touch display

PC100- module with
superior PC100- Touch-
technology (non resistive)
TÜV 00 ATEX 1607 X

Identification ID153

Contactless reading
of several protocols
Serial Interface to PC
TÜV 01 ATEX 1720 X

Scanner HS153

Ex i- Barcode scanner
for all usual barcodes
Robust design
Serial connection to PC
TÜV 02 ATEX 1811

EEx p- Printer

Costumized printer
with paper output in
hazardous area, specific
stainless steel housing
DMT 02 ATEX E 086

Key switch

Provides secure access
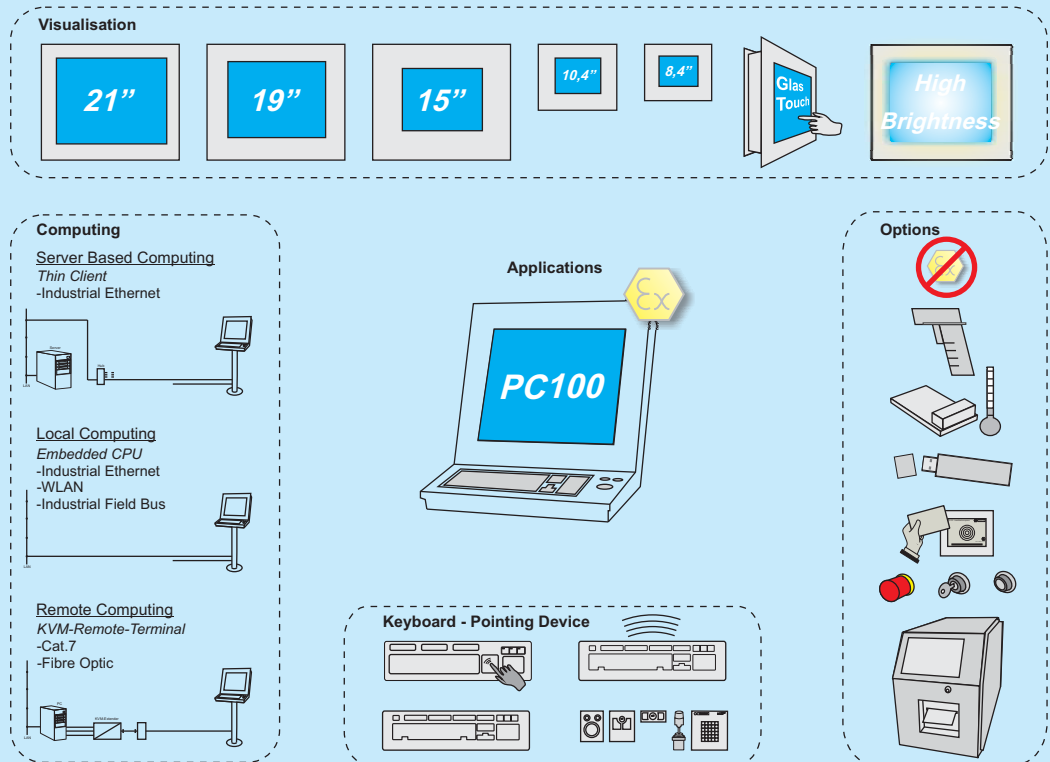to the PC terminals
(conform FDA)

Additional
serial Interfaces

PC100 - New peripherals, accesoires and components

PC100 - Scope

Visualisation

21" 19" 15" 10,4" 8,4" Glas Touch High Brightness

Computing

Server Based Computing
Thin Client
-Industrial Ethernet

Local Computing
Embedded CPU
-Industrial Ethernet
-WLAN
-Industrial Field Bus

Remote Computing
KVM-Remote-Terminal
-Cat.7
-Fibre Optic

Applications

PC100

Ex

Keyboard - Pointing Device

Options

PC100 - Embedded CPU - Thin Client applications

- **Embedded CPU** (Local computing): the CPU is placed local, in hazardous area. Connection to LAN via Cat.7 ETHERNET, WLAN or Industrial Field Bus
- **Thin Client** (Server based computing) the server is placed in safe area, the Remote Terminal (PC100) is placed in hazardous area. Connection to LAN via Industrial Field Bus

PC100 - Display advancements

- **Display size 21"**: maximum resolution: UXGA (1600 x 1200 pixels)
- **Resistive Touch display**: economically priced touch solution
- **High Brightness- Display**: for bright enviroments,
  available for all display sizes

ID153 - Identification system for PC100 new ergonomic design

- Reads transponder cards (TROVAN, MIFARE, Legic etc.)
- New ergonomically integration into PC100 housing
- Different PC interfaces available

FD153 - USB 2.0 Flashdisk

- Rapid data exchange in Zone 1/21
- Up to 16 GB
- Ex i- USB 2.0 Interface
- Full USB 2.0 compartibel via new KI153 - USB 2.0
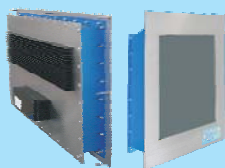
PC 100 - Options

PC100 for non Ex- Area

Reduced weight (no filling material)

Optional fan on the rear plate of display module

Optional signal lights (e.g. on the top of the housing)

Special buttons

Integration of any switch and push-button series

For the realization of an individual control function

Protection class IP65 front-sided

Ex- heating / cooling

For application in outdoor-area with extreme ambient temperatures

Supply via separate Ex e- clamp housing inside the PC100

Technical Details

	Display module 19"	Display module 15"	Display module 10,4"	Display module 8,4"
Ex- protection	II 2 G, Ex e q [ib] IIC T4			
EC- Certificate	TÜV 00 ATEX 1607 X			
Mounting	Hazardous area, Zone 1 and Zone 2			
Mains	230V AC, 110V AC, 24V DC			
Display- resolution	SXGA: 1280 x 1024	XGA: 1024 x 768	XGA: 1024 x 768	VGA: 640 x 480
Dimensions front frame (Module)	530 x 450 mm	530 x 450 mm	329 x 274 mm	286 x 238 mm
Installation depth	105 mm	105 mm	85 mm	85 mm
Weight (Module)	ca. 37 kg	ca. 29 kg	ca. 12 kg	ca. 10 kg
Weight (complete Standard housing)	ca. 58 kg	ca. 50 kg	depends on housing	depends on housing
Housing protection	Front: IP 65			
Ambient temperature	0°C up to 40°C, extended temperature range on demand			

See EC-TYPE EXAMINATION CERTIFICATE TÜV 00 ATEX 1607 X for further specifications

Type code

PC100		.x	.x	.x	.x	.x	.x

Mains
230V AC 0
110V AC 3
24V DC 6

Display:
TFT, 8,4" .... .02
TFT, 10,4" .... .01
TFT, 15" 0
TFT, 19" 3

Remote to PC:
4 x 2 x twisted pair cable 0
Glass fibre 1

Ambient housing:
Without (only display- module) 0
Design housing² with writing desk .. .1
Design housing² without writing d. .4
Individual housing 9

Front window:
Normal 0
Anti reflexion coating 1

Touch screen:
Without 0
Integrated Touch screen 1

Transmission capacity

Standard KVM- extender

| Distance	Display- resolution
Up to 300 m	XGA (1024 x 768)
Up to 120 m	SXGA (1280 x 1024)
Up to 60 m	UXGA (1600 x 1200)

KVM- Extender up to 10 km on demand

Further Options on Demand:

- Individually adapted housing
- Housing material: V4A, stainless steel coated or varnished,
- Bracket mounting, pillar mounting and angle adaptor
- Three keys Trackball

2: Suitable only for display size 15" and bigger

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Dimensions of design housing with writing desk

620.0
130.0
600.0
140.0
539.6
351.3
62.5
120.0°
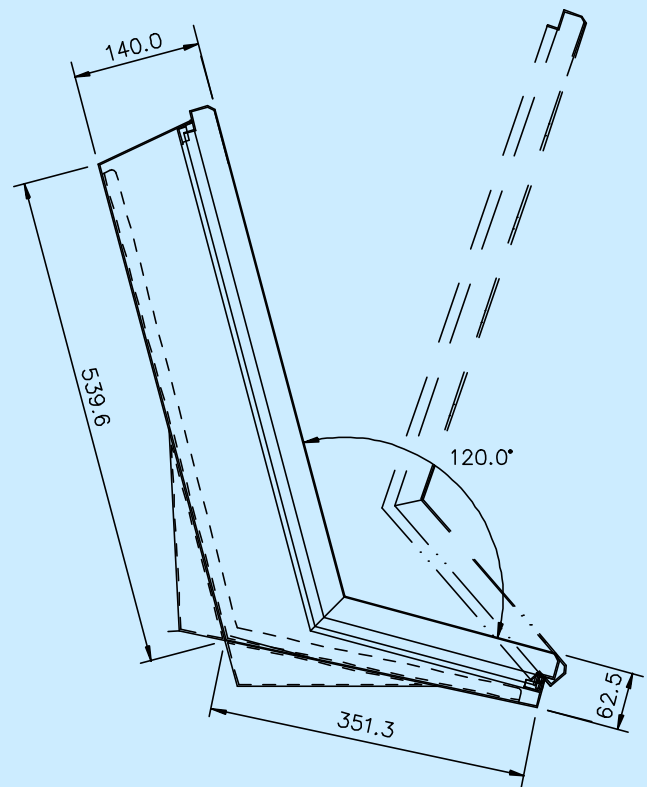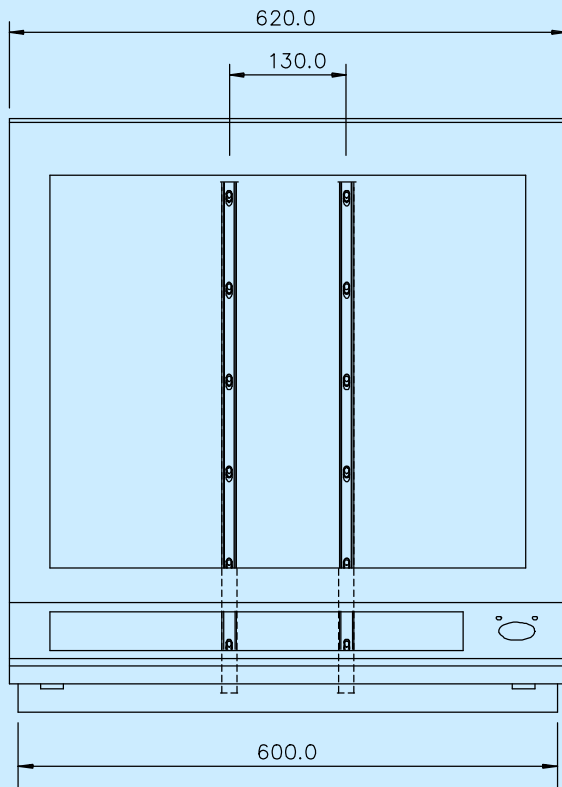
Dimensions of design housing without writing desk

620.0
130.0
622.0
582.5
140.0