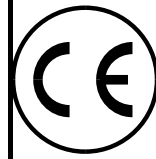
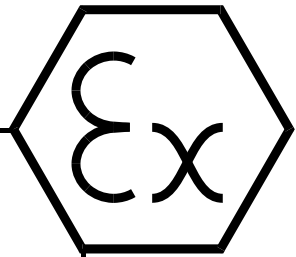


Manual

Ex- PC PC100 -CPU



manual_PC100_Band_General_CPU.doc



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Contents


1	General	3
1.1	<i>General safety guidelines</i>	3
1.2	<i>Safety guidelines for explosion proof devices</i>	4
2	Ex- PC: PC100	5
2.1	<i>Short description</i>	5
3	General mounting and wiring	5
3.1	<i>Mounting</i>	5
3.2	<i>Ways of mounting</i>	6
3.3	<i>Connecting and commissioning</i>	7
4	Operation	7
4.1	<i>Display settings / CPU power</i>	7
5	Annex	8
5.1	<i>Technical details</i>	8
5.2	<i>Terminals and limits</i>	8
5.3	<i>Intrinsically safety proof</i>	9
5.4	<i>Type code</i>	10
5.5	<i>Dimensions display module PC100 (without heat sink and Ex e- terminal boxes), keyboard- and trackball module</i>	11

1 General

The symbols WARNING, CAUTION, NOTE

 Warning	<p>This symbol warns of a serious hazard. Failure to observe this warning may result in injury, death or the destruction of property.</p>
 Caution	<p>This symbol warns of a possible failure. Failure to observe this caution may result in the total failure of the device, the system or even the whole application to which it is connected.</p>
 Note	<p>This symbol highlights important information.</p>

1.1 General safety guidelines

 Warning	<p>To ensure safe and reliable operation, the notes and warnings contained in this manual must be observed.</p> <p>Caution, this device uses mains voltage! Failure to observe these warnings may result in serious personal injury or damage to property.</p> <p>The commissioning of this device may only be carried out by technically qualified personnel who must observe local safety regulations.</p> <p>Attention: Follow regulations for handling and installation of explosion proof devices in hazardous areas!</p>
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1.2 Safety guidelines for explosion proof devices

Application and Standards

This instruction manual applies to explosion protected control panels of type of protection types below. This apparatus is only to be used as defined and meets requirements of EN 60 079 particularly EN60 079-14 "electrical apparatus for potentiality explosive atmospheres". It can be used in hazardous locations which are hazardous due to gases and vapours according to the explosion group and temperature class as stipulated on the type label. When installing and operating the explosion protected distribution and control panels the respective nationally valid regulations and requirements are to be observed.

General Instructions

The control panel has to have a back-up fuse as stipulated. The mains connection must have a sufficient short circuit current to ensure safe breaking of the fuse. To achieve an impeccable and safety device operation, please take care for adept transportation, storage and mounting, as well as accurate service and maintenance. Operation of this device should only be implemented by authorised persons and in strict accordance with local safety standards. The electrical data on the type label and if applicable, the "special conditions" of the test certificate *TÜV 00 ATEX 1607 X* is to be observed.

For outdoor installation it is recommended to protect the explosion protected distribution and control panel against direct climatic influence, e.g. with a protective roof. The maximum ambient temperature is 40°C, if not stipulated otherwise.

Terminal compartment in Increased Safety

When closing, it is to be ensured that the gaskets of the terminal compartment remain effective, thus maintaining degree of protection IP 54. Unused entries are to be closed off by impactproof stopping plugs, which are secured against self-loosening and turning.

Maintenance Work

The gaskets of Ex-e-enclosures are to be checked for damages and replaced, if required. Terminals, especially in the Ex-e-chamber are to be tightened. Possible changes in colour point to increased temperature. Cable glands, stopping plugs and flanges are to be tested for tightness and secure fitting.

Intrinsically Safe Circuits

Erection instructions in the testing certificates of intrinsically safe apparatus are to be observed. The electrical safety values stipulated on the type label must not be exceeded in the intrinsically safe circuit. When interconnecting intrinsically safe circuits it is to be tested, whether a voltage and/or current addition occurs. The intrinsic safety of interconnected circuits is to be ensured. (EN 60079-14, section 12)



Safety Measures: to read and to comply

Work on electrical installations and apparatus in operation is generally forbidden in hazardous locations, with the exception of intrinsically safe circuits. In special cases work can be done on non-intrinsically safe circuits, on the condition that during the duration of such work no explosive atmosphere exists. Only explosion protected certified measuring instruments may be used to ensure that the apparatus is voltage-free. Grounding and short circuiting may only be carried out, if there is no explosion hazard at the grounding or short circuit connection.

Warning! Extreme caution is advised when handling this device. High electrical discharge is possible and can be fatal.

2 Ex- PC: PC100

2.1 Short description

The PC100 is an industrial PC designed for use in Ex- zone 1.

3 General mounting and wiring

See connection of external storages in further sections.

3.1 Mounting

Choose a solid place for mounting.



Warning

**Please note the following Standard of Compliance:
TÜV 00 ATEX 1607 X and the regulative EN 60079 especially EN 60079-14**



Caution

Connect the housing of the PC100 to potential equalization in hazardous area



Caution

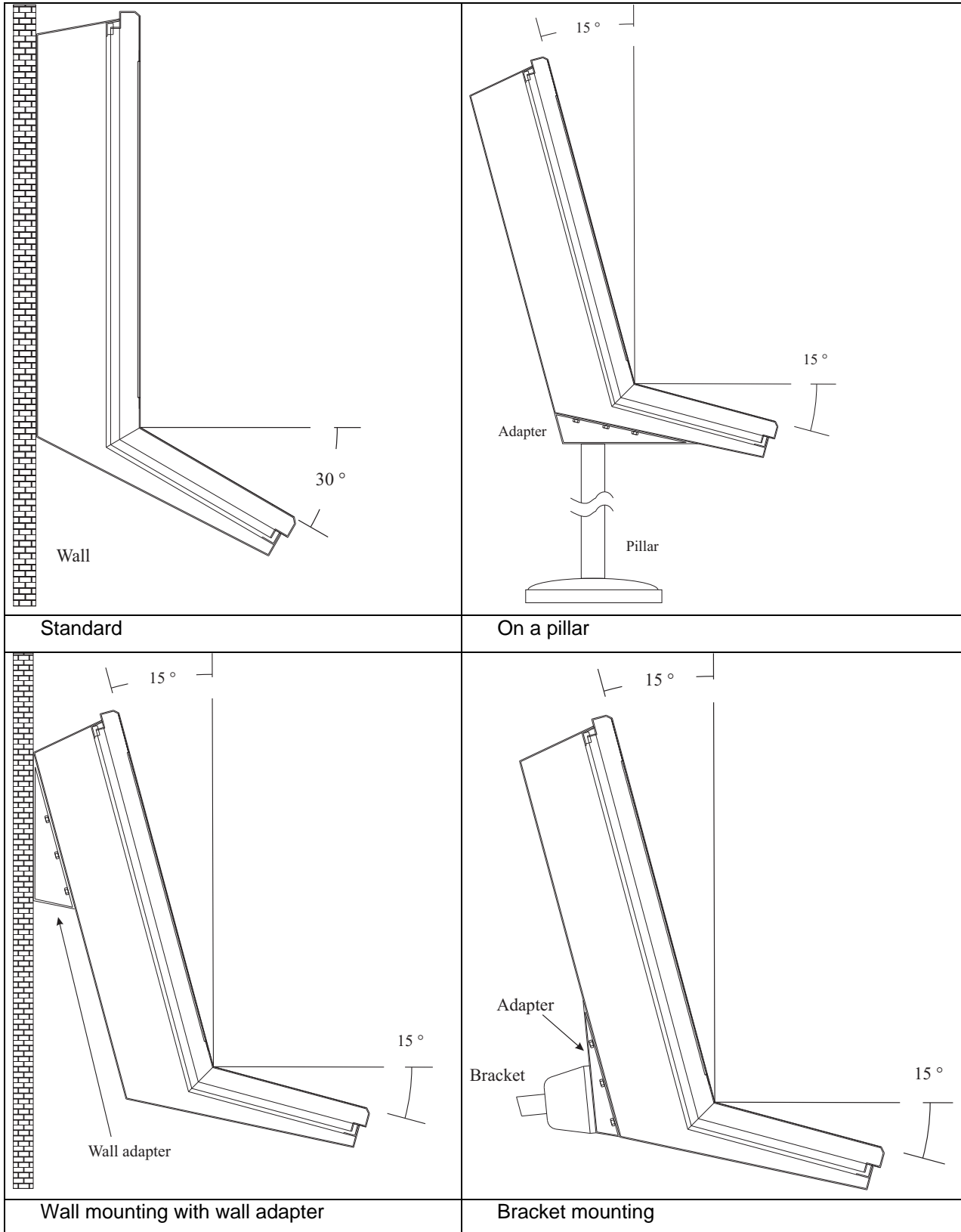
Use the PC100 module (type PC100.x.x.x.0.x) only in a housing with minimum protection class IP54



Caution

Warning! Electrostatic hazard! Clean die keyboard KB153 only with a humid cloth!

3.2 Ways of mounting



3.3 Connecting and commissioning

Information about the connection and start-up takes are given in section "KVM - connection" resp. "Installation".

4 Operation

4.1 Display settings / CPU power

For adjustment of the embedded TFT Display and power control of the CPU inside the PC100 module the intrinsically safe remote control can be used. With the remote control, e.g. bright-

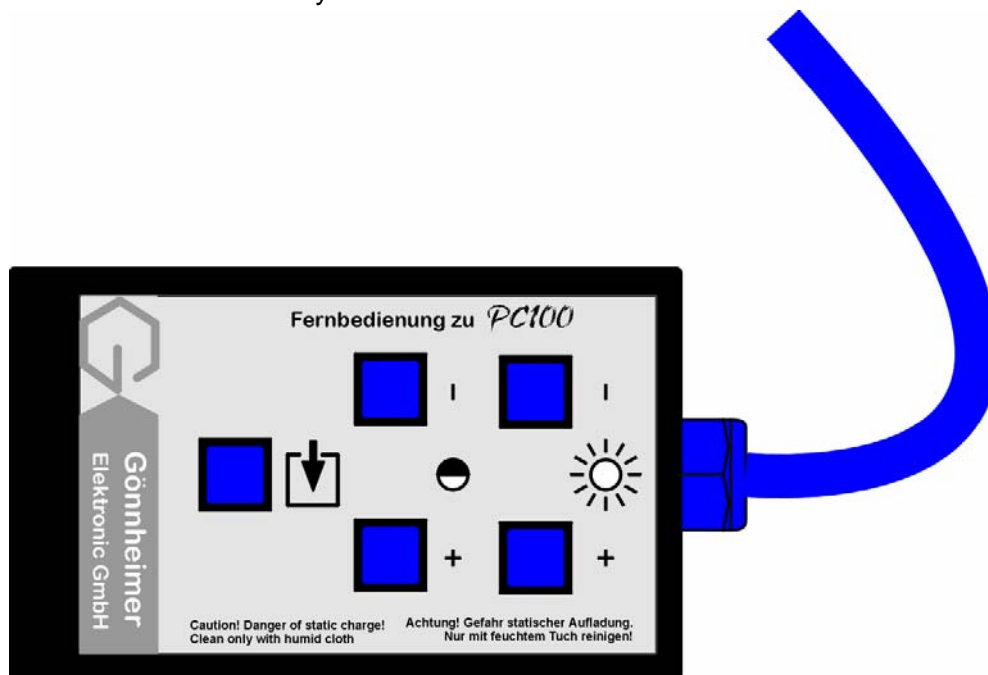


Figure 1: sample remote control for video adjustment

5 Annex

5.1 Technical details

Mains	230V AC,
Power consumption	15" Display + CPU: approx. 60 W
Mounting	Hazardous area, Zone 1
Certificate	TÜV 00 ATEX 1607 X
Ex- Protection	II 2 G, EEx e q [ib] IIC T4
Protection class	Front: IP 65
Ambient temperature	0°C (Standard) up to 40°C
Display	15" (XGA: 1024 x 768)
Dimensions	Display module: 530 x 450 x 135 mm
Weight	approx. 50 kg (including housing)

5.2 Terminals and limits

Generally binding are the limits in the certificate TÜV 00 ATEX 1607 X

Ex e Terminals	Min. and max. clamping torque	min. 0,6 Nm max. 0,8 Nm
	Min. and Max. wire cross-section	steep: 0,2 – 4 mm ² flexible: 0,2 – 2,5 mm ²

Intrinsically safe inputs					
terminal	U ₀	I ₀	P ₀	C ₀ , L ₀	Comment
Plug 3 Pins 2, 1	27,4V	2,7mA	77mW	87nF, 1mH	Only to connect passive switches
Plug 3 Pins 3, 1	27,4V	2,7mA	77mW	87nF, 1mH	Only to connect passive switches
Plug 3 Pins 4, 1	27,4V	2,7mA	77mW	87nF, 1mH	Only to connect passive switches
Plug 3 Pins 5, 1	27,4V	2,7mA	77mW	87nF, 1mH	Only to connect passive switches
Plug 3 Pins 6, 1	27,4V	2,7mA	77mW	87nF, 1mH	Only to connect passive switches
Plug 1 Pins 1 ... 4	5,8V	204mA	392mW	46µF, 0,5mH	
Plug 2 Pins 1 bis 4	5,8V	204mA	392mW	46µF, 0,5mH	
Other					
terminal	U _m	I _m	P	Comment	
Mains wire	253V AC			mains	
Data wire	253V AC			VGA Signal	

Table 1 Ex- limits

5.3 Intrinsically safety proof

Name / dev. Seeger	Phone. +49 6321 49919-19	Fax 49 6321 49919-41	
company Gönnheimer Elektronik GmbH	Location	plant	
building	Measurement circuit	Measurement location	Ex-Zone

assumed wire data:

Capacity: 200 pF/m

Inductivity 100nH/m

Sicherheitsfaktor

<i>Active equipment</i>		1. passive equipment		2. passive equipment	
identifier	Keyboard interface	identifier	Keyboard	identifier	Tracker ball
Type	KI 153	Type	KB 153	Type	TB 153
Manufacturer	Gönnheimer Elektronik GmbH	Manufacturer		Manufacturer	
Mat_Nr.		Mat_Nr.		Mat_Nr.	
Help power		Help power		Help power	
Special		Special		Special	
Certificate	TÜV 99 ATEX 1440 X	Certificate		Certificate	
Additional		Additional		Additional	
Ex- protection	[EEx ib] II C	Ex- protection	EEx ib II C T4	Ex- protection	EEx ib II C T4
T max		T max	50 °C	T max	50 °C
U ₀ max [V]	5,8 V	U ₀ max [V]	5,8 V	U ₀ max [V]	5,8 V
I _k max [mA]	204 mA	I _k max [mA]	204 mA	I _k max [mA]	204 mA
P max [W]	392 mW	P max [W]	392 mW	P max [W]	392 mW
La max [mH]	0,5 mH	Li max [mH]	-	Li max [mH]	-
Ca max [nF]	46 µF	Ci max [nF]	25 µF	Ci max [nF]	5 µF
Max. wire length		..105 m			

Conclusion:

The combination is suitable for T4 <input type="checkbox"/> T5 <input type="checkbox"/> T6 <input type="checkbox"/>	Date	Subscription
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5.4 Type code

	PC100	.X	.X	.X	.X	.X	.X
Mains:							
230V AC.....	.0						
120V AC.....	.2						
110V AC.....	.3						
24V AC.....	.5						
24V DC.....	.6						
Display size:							
TFT with 8,4 “ .....	.02						
TFT with 10,4 “ .....	.01						
TFT with 15 “ .....	.0						
TFT with 19 “ .....	.3						
TFT with special size .....	.9						
Connection to PC:							
4 x 2 Twisted pair .....	.0						
fibre optics .....	.1						
Housing:							
no housing .....	.0						
stainless steel .....	.1						
steel lacquered.....	.2						
Aluminium.....	.3						
Special .....	.9						
Window:							
Normal .....	.0						
Anti reflection coating .....	.1						
Touch:							
No touch.....	.0						
Touch display .....	.1						

5.5 Dimensions

Display module PC100 (without heat sink and Ex e-terminal boxes), keyboard- and trackerball module

