



# SIMATIC IPC227E and SIMATIC IPC277E

## Technical slides

# Overview

## SIMATIC IPC227E

Basis Model



PCIe Model

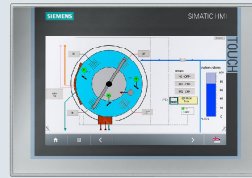


## SIMATIC IPC277E

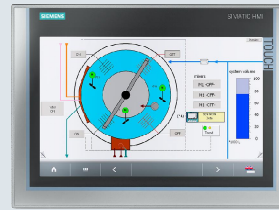
Singletouch



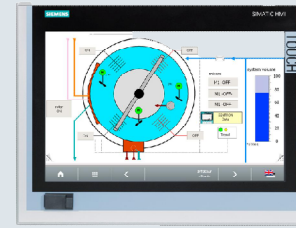
7"



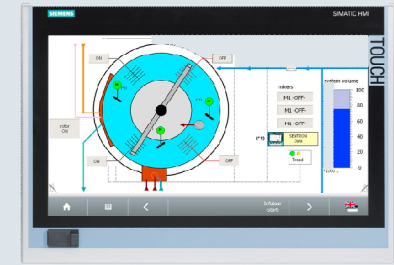
9"



12"

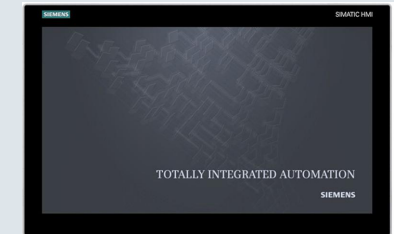
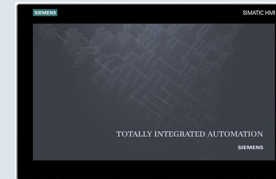
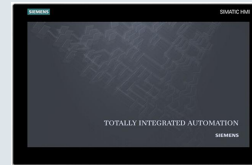


15"



19"

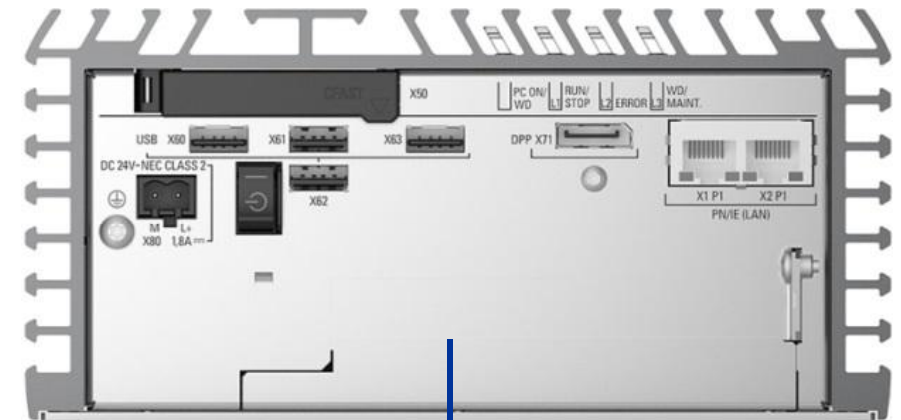
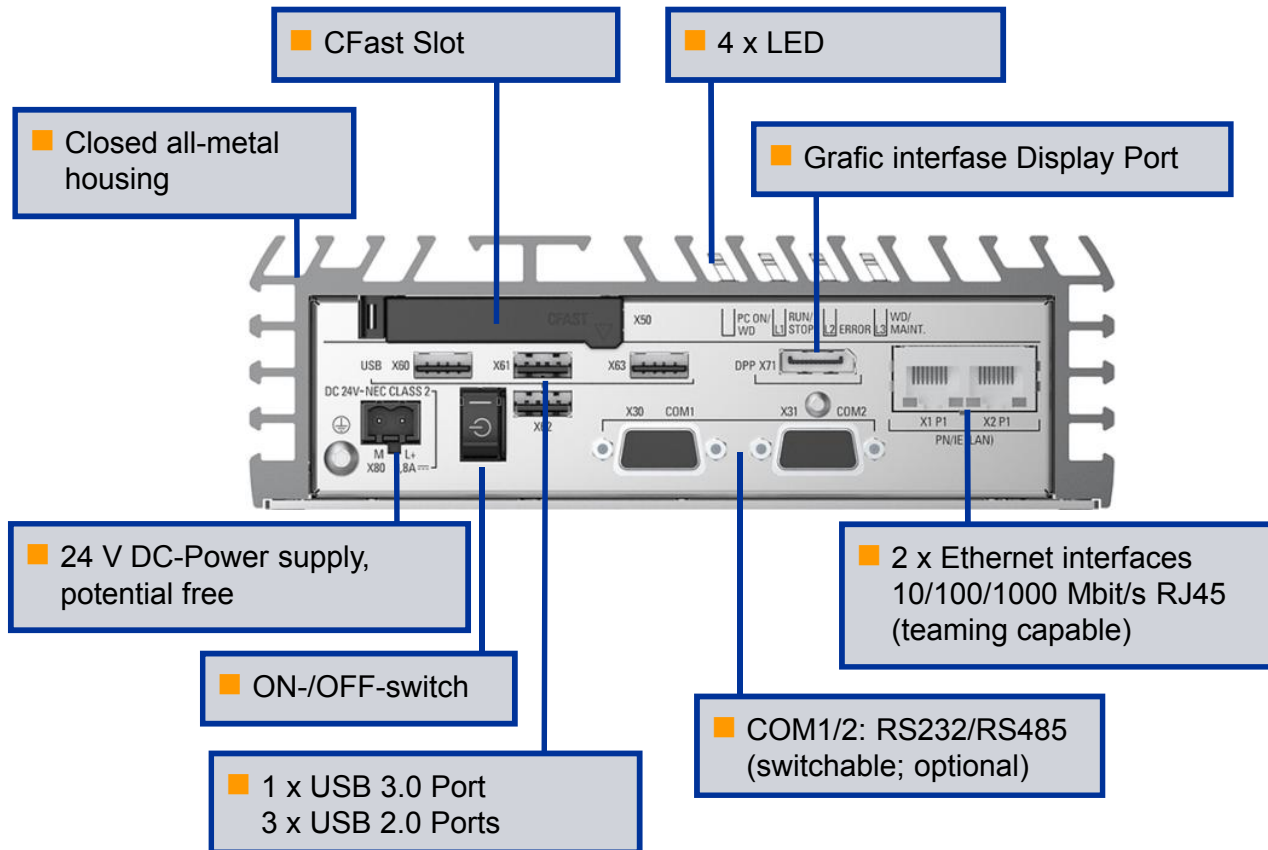
Multitouch



# Overview of the serial Interfaces SIMATIC IPC227E

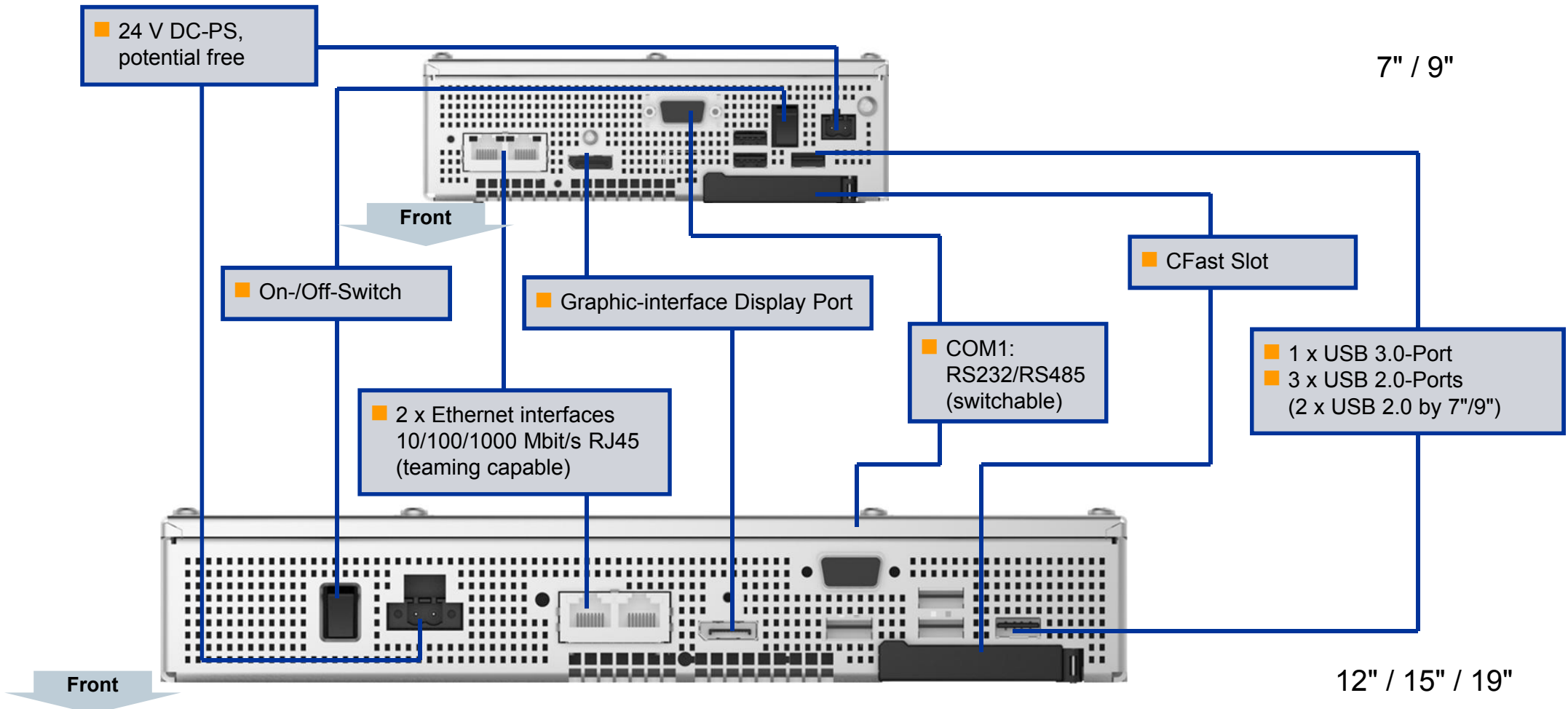
**Base model**

**PCIe model**



■ additional:  
 extension slot  
 1 x PCIe (x1)

# Overview of PC- Interfaces SIMATIC IPC277E



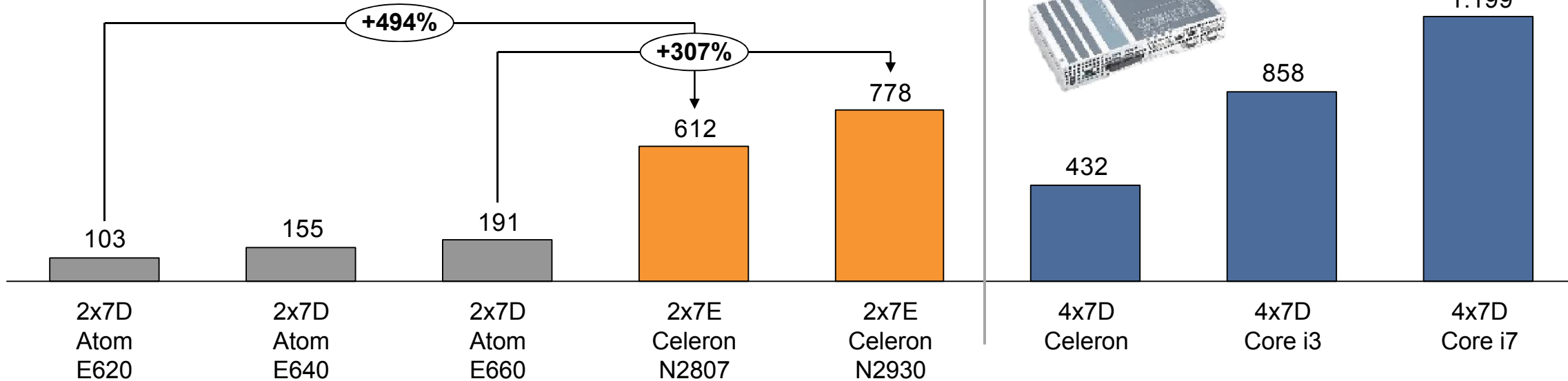
# Nano IPC2x7E - Performance compared (Passmark 7.0 Rating)



**3..4-times Performance !**



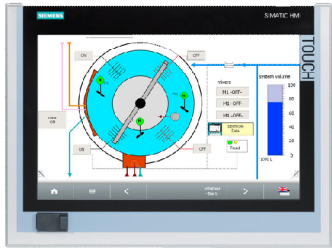
**Compare 4x7D**



Setting: 250 GB HDD, 1 x 2 GB RAM, without optical drive , Windows 7 Ultimate 32bit; mean value total value

**Nano IPC2x7E: Considerably increased Performance compare to the "D"-Generation**

# Batteryless Operating SIMATIC IPC227E / IPC277E



- Storage of BIOS-Setup-Data in EEPROM possible (instead in batterybacked CMOS)
- Storage operating hours counter in addition to CMOS in operating system-Registry
- For the storage of remanent Data in NVRAM no Batterybacking necessary
- If time not required or time-synchronization over LAN → resignation of Battery possible

## Delivery status

- Integrated battery, exchangeable and removable

## Thoroughly batteryless operating possible

- No change of the system behaviour even when battery is discharged
- Removing of the battery possible for those applications who don't allow integrated batteries

# Technical Data

## SIMATIC IPC227E / IPC277E PC-unit

Layout	
Processor	<ul style="list-style-type: none"><li>▪ Intel Celeron N2930, 1,83 GHz, Quad Core</li><li>▪ Intel Celeron N2807, 1,58 GHz, Dual Core</li></ul>
RAM	<ul style="list-style-type: none"><li>▪ 8 GB RAM or 4 GB RAM or 2 GB RAM</li><li>▪ SODIMM/capped, DDR3L</li></ul>
Chip set	<ul style="list-style-type: none"><li>▪ Integrated in processor</li></ul>
Remanent Data	<ul style="list-style-type: none"><li>▪ 512 kByte NVRAM (MRAM; optional)</li><li>▪ Batteryless operating possible</li></ul>
Grafic	<ul style="list-style-type: none"><li>▪ Integrated in processor</li><li>▪ 8 bis 256 MByte, up to 2560x1600, 16 Mio colours</li><li>▪ Wake-on-LAN; Wake-on-Touch (277E)</li></ul>
Power save mode	<ul style="list-style-type: none"><li>▪ Speed-Step</li><li>▪ Sleep-States</li></ul>
Operating system	<ul style="list-style-type: none"><li>▪ Windows Embedded Standard 7-E, 32 Bit / 64 Bit</li><li>▪ Windows Embedded Standard 7-P, 32 Bit / 64 Bit</li><li>▪ Windows 7 Ultimate, MUI, 32 Bit / 64 Bit</li><li>▪ Windows 10 Enterprise LTSC 2016, 64 Bit</li><li>▪ Suited-for-Linux-certificate</li><li>▪ VxWork-tested</li></ul>
Power supply	<ul style="list-style-type: none"><li>▪ DC 24 V; 19,2 ... 28,8 V</li><li>▪ On-/ Off- Switchable</li></ul>

# Technical Data

## SIMATIC IPC227E / IPC277E PC-unit

Mass storages	
CFast	<ul style="list-style-type: none"><li>▪ From the outside accessible CFast-Slot always available</li><li>▪ 16 GByte or</li><li>▪ 8 GByte or</li><li>▪ 4 GByte</li></ul>
Solid-State Drive	<ul style="list-style-type: none"><li>▪ 80 GByte SATA or</li><li>▪ 240 GByte SATA</li></ul>
Hard Disc	<ul style="list-style-type: none"><li>▪ Only by IPC227E: 320 GByte SATA</li></ul>
Interfaces	
COM	<ul style="list-style-type: none"><li>▪ RS232/RS485/RS422 im BIOS switchable</li><li>▪ without / 2 x (IPC227E); 1x (IPC277E)</li></ul>
USB	<ul style="list-style-type: none"><li>▪ 1 x USB 3.0</li><li>▪ 3 x USB 2.0 (2 x bei IPC277E 7" / 9")</li></ul>
Ethernet	<ul style="list-style-type: none"><li>▪ 2 x Gigabit (RJ 45), teaming capable;</li><li>▪ Realized with two independent Intel Springville i210 LAN-Controllers</li></ul>
PROFINET IO with RT	<ul style="list-style-type: none"><li>▪ via Standard Ethernet interfaces</li></ul>
Grafic	<ul style="list-style-type: none"><li>▪ 1 x Display Port (DP++ V1.1)</li></ul>
Arrangement	<ul style="list-style-type: none"><li>▪ All devices on one side</li></ul>



# Technical Data

## SIMATIC IPC227E

### SW-Bundles

#### Ready-to-run SW-Bundles

- CPU 1507S
- WinCC RT Advanced V14, 128PT / 512PT / 2048PT / 4096PT
- Combinations CPU 1507S and WinCC RT Advanced V14

### Miscellaneous

#### Diagnose

- Simatic DiagBase pre-installed
- Simatic DiagMonitor as accessory
- Only by IPC227E: 4 x LED; 3 of them as User-LED free programmable (usefull for Software Controller for Run/Stop, accumulative failures, Maintenance)

#### Monitoring functions

- Temperature, Watchdog, Mass storage device, CMOS-Battery (local report per Software SIMATIC IPC DiagBase; Battery even by BIOS-Boot)

#### Batteryless operating

- batteryless operating possible, when there is no need for time synchronization / time synchronization through LAN

#### Service-USB-Flash-Drive

- BIOS- und SW-Update; Partition changes, Diagnose-SW: through SIMATIC IPC Service USB-Flash-Drive (as accessory)

# Technical Data

## SIMATIC IPC227E

### Model - versions

#### PCIe version

- additionally 1 x Extension Slot PCIe x1(V2.0)
- for PCIe-cards up to 175 mm length
- Integrated card blank holder
- permissible power dissipation PCIe-Card max. 5 W
- For example for the integration of additionaly Ethernet- port, serial interfaces etc.
- Integration of SIMATIC communications-CPs not in focus

### Dimensions

#### Basis version

- W x H x D = ca. 191 x 100 x 60 mm

#### PCIe version

- W x H x D = ca. 191 x 187 x 91 mm

# Technical Data

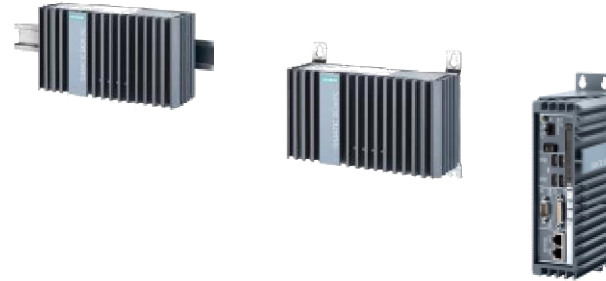
## SIMATIC IPC227E

### Installation options

#### Assembly types

- Hat rail or
- Wall mounting or
- Book mounting

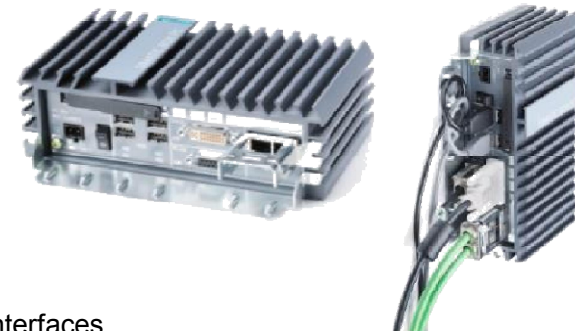
(assembly material selectable in configurator)



### Accessories

#### Cable strain relief

- Cable strain relief device and Cable strain relief Industrial Ethernet plug
- Set with each 5 bracings
- MLFB-Nr.: 6ES7648-1AA50-0XL0



#### Dust protection-Set Interfaces

- Protection of the interfaces against immersive dust
- Set for 40 USB- and 20 LAN- and 10 Display-Port-interfaces (self-contained COM- interface socket, meaning in this place no cap is needful)
- MLFB-Nr.: 6ES7648-1AA50-0XG0

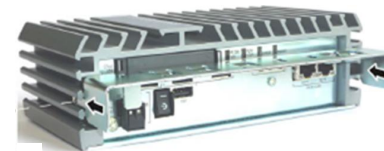


# Technical Data

## SIMATIC IPC227E

Environment conditions		
Vibration	<ul style="list-style-type: none"> <li>Up to 1 g</li> </ul>	
Shock	<ul style="list-style-type: none"> <li>Up to 15 g</li> </ul>	
Ambient temperature Operating	<ul style="list-style-type: none"> <li>Base-version; PCIe-version (PCIe load max. 3 W)                             <ul style="list-style-type: none"> <li>CFast</li> <li>horizontal operation</li> </ul> </li> </ul>	0 ... +60 °C
	<ul style="list-style-type: none"> <li>Base-version; PCIe-version (PCIe load max. 5 W)                             <ul style="list-style-type: none"> <li>CFast, SSD</li> <li>horizontal and vertikal operation</li> </ul> </li> </ul>	0 ... +50 °C
	<ul style="list-style-type: none"> <li>All versions with HDD                             <ul style="list-style-type: none"> <li>horizontal and vertikal operation</li> </ul> </li> <li>all data for: USB load max. 6 W</li> </ul>	+5 ... +40 °C
Protection against foreign particles	<ul style="list-style-type: none"> <li>&gt;= 1 mm</li> </ul>	
Certificates / Licenses	<ul style="list-style-type: none"> <li>CE</li> <li>UL</li> <li>Shipbuilding (GL, LRS, BV, DNV, NK, ABS)</li> <li>ATEX/IECEX</li> </ul>	
Power consumption	<ul style="list-style-type: none"> <li>ab 8 W</li> <li>max. 32 W</li> </ul>	

Cable strain relief ATEX/IECEX  
(included in scope of delivery of the option)



# Technical Data

## SIMATIC IPC277E



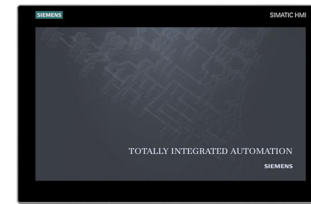
SIMATIC IPC277E Front design								
	7" Singletouch	9" Singletouch	12" Singletouch	15" Singletouch	19" Singletouch	12" Multitouch	15" Multitouch	19" Multitouch
Resolution	800 x 480	800 x 480	1280 x 800	1280 x 800	1366x768	1280 x 800	1366x768	1366x768
MTBF backlight (LED)	Up to 80.000 h				Up to 50.000 h			
Dimming backlight	0..100 %							
Brightness	Up to 400 cd/m <sup>2</sup>							
Viewing angle	ca. 170 ° (vertical / horizontal)							
Mounting position	landscape orientation portrait orientation							
Additional interfaces				Front-USB	Front-USB			
Assembly dimensions approx. [mm]	197 x 141 x 71	251 x 166 x 71	310 x 221 x 66	399 x 291 x 76	464 x 318 x 76	299 x 211 x 76	382 x 241 x 76	448 x 278 x 76
Dimensions approx. [mm]	214 x 158	274 x 190	330 x 241	416,5 x 298	483 x 337	315 x 227	398 x 257	464 x 294

# Technical Data SIMATIC IPC277E

## Mounting

Mounting positions

- Landscape
- Protrait



Front-USB interface

- by 15"/19" (or as ext. accessory)



# Technical Data

## SIMATIC IPC277E

External conditions	
Vibration	<ul style="list-style-type: none"><li>▪ 1 g</li></ul>
Shock	<ul style="list-style-type: none"><li>▪ 5 g</li></ul>
Ambient temperature Operating	<ul style="list-style-type: none"><li>▪ 0 °C .. 50 °C landscape format (Standard mounting position horizontal; 45 °C by 19")</li><li>▪ 0 °C .. 40 °C portrait format</li></ul>
Protection class conformable to EN 60529	<ul style="list-style-type: none"><li>▪ Front side: IP65</li><li>▪ Rear side: IP20</li></ul>
Licenses	<ul style="list-style-type: none"><li>▪ CE</li><li>▪ UL</li><li>▪ Shipbuilding (für Singletouch 7", 9", 12"; for Multitouch 12", 15", 19" in preparation)</li></ul>
Power drain	<ul style="list-style-type: none"><li>▪ 7": max. ca. 27 W</li><li>▪ 9": max. ca. 29 W</li><li>▪ 12": max. ca. 34 W</li><li>▪ 15": max. ca. 42 W</li><li>▪ 19": max. ca. 45 W</li></ul>

# Migration

## SIMATIC IPC227D to IPC227E

### Installation compatibility

Housing dimensions

No modifications



Mounting options

- Hat rail / Wall mount / book mount assembly as usual
- Side mounting not applicable



### Interfaces compatibility

PCIe-Slots (optional)

No modifications



Serial interface (s)

- 2x COM (switchable: RS232 / RS485 / RS422; optional) instead of 1x COM (configurable: RS232 or RS485)
- Devices -version COM (with 3 more RS232 interfaces) not applicable



Digital in-/output

Devices-version IO with each 4 digital in-/output not applicable



Grafic- pin

1x Display Port instead of 1x DVI-D



### Software-compatibility

Software

Applications continue to be usable; if needed there are new Dreiver to be loaded



Operating system-Support

Windows XP / Windows Embedded Standard 2009 no more available



### Image-Kompatibilität

Image

New Chip set, therefore not Image-compatible








# Migration

## SIMATIC IPC277D to IPC277E

### Installation compatibility


Front	Singletouch: 7" / 9" / 12" / 15" / 19"	as before	
	Multitouch: 12" / 15" / 19"	note: dimensions / cut out changed	

### Interfaces compatibility

Serial Interface(s)	1x COM (switchable: RS232 / RS485) <u>instead of</u> 1x COM (RS232)	
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Grafic pin	1x Display Port-pin in addition (so far without)	
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### Software-compatibility

Software	Applications continue to be usable; if needed there are new Dreiver to be loaded	
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Operatingsystem-Support	Windows XP / Windows Embedded Standard 2009 <u>no</u> more available	
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### Image-compatibility

Image	New Chip set, therefore <u>not</u> Image-compatible	
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