

**Medical Panel PC with 6th Gen. Intel® Core™ / Celeron® CPU,
4 GB DDR4 RAM, Wi-Fi 802.11a/b/g/n/ac, P-CAP Touchscreen,
Three Battery Bays, 5-Megapixel Camera and Microphone**

POCm-W22C-ULT3 POCm-W24C-ULT3

Quick Installation Guide

Version 1.01



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Revision







Date	Version	Changes
September 11, 2018	1.01	Minor update
August 28, 2018	1.00	Initial release

Intended Use

The POCm-W22/24C-ULT3 medical panel PC is intended to be used to display general purpose medical images. The device shall not be used for diagnosis purpose or life supporting system.

Equipment connected to analog or digital interfaces must comply with the respective IEC Standards (e.g. IEC 60950 for data processing equipment and IEC 60601-1 for medical equipment). Furthermore all configurations shall comply with the current version of the standard for SYSTEMS IEC 60601-1-1. Everybody who connects additional equipment to the signal input part or signal output part configure a medical system, and is therefore responsible that the system complies with current version of the requirements of the system standard IEC 60601-1-1. If in doubt, consult the technical service department or your local representative.

Manual Conventions

	WARNING Warnings appear where overlooked details may cause damage to the equipment or result in personal injury. Warnings should be taken seriously.
	CAUTION Cautionary messages should be heeded to help reduce the chance of losing data or damaging the product.
	NOTE These messages inform the reader of essential but non-critical information. These messages should be read carefully as any directions or instructions contained therein can help avoid making mistakes.
	OPERATING INSTRUCTION Follow operating instructions or consult instructions for use.
	IEC 60417-5009: Stand-by
	IEC 60417-5031: Direct current

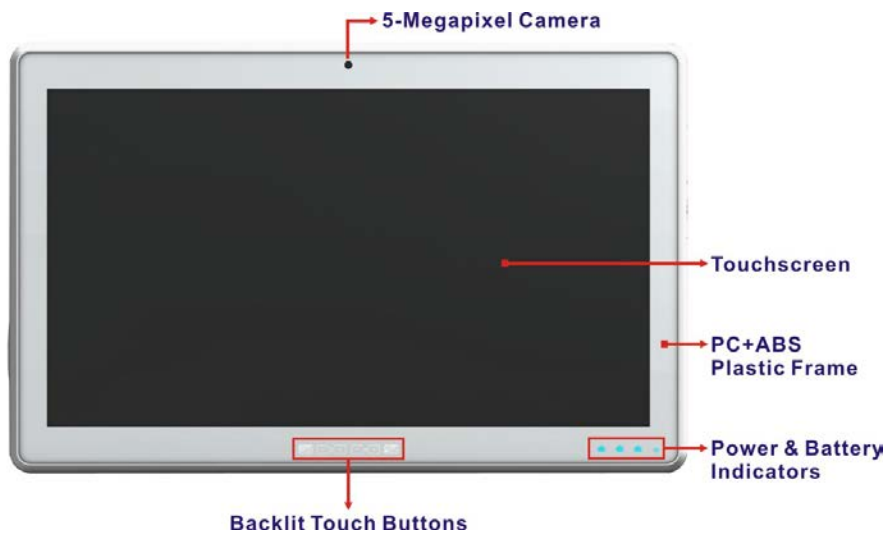
Overview



The POCm-W22/24C-ULT3 is a 6th generation Intel® Core™ i5-6300U processor powered medical-grade panel PC with a rich variety of functions and peripherals. All POCm-W22/24C-ULT3 models are designed for easy and simplified integration into point-of-care (POC) applications. The system comes with 4 GB of preinstalled DDR4 memory and supports a maximum of 32 GB ensuring smooth data throughputs with reduced bottlenecks and fast system access.

Two RS-232/422/485 serial ports, four USB 3.0 ports and two USB 2.0 ports provide simplified connectivity to a variety of external peripheral devices. Wi-Fi 802.11a/b/g/n/ac high speed wireless and two RJ-45 GbE connectors allow for smooth connection of the system to an external LAN. Three hot-swappable battery bays allow installation of three batteries to provide continuous power for 8~16 hours.

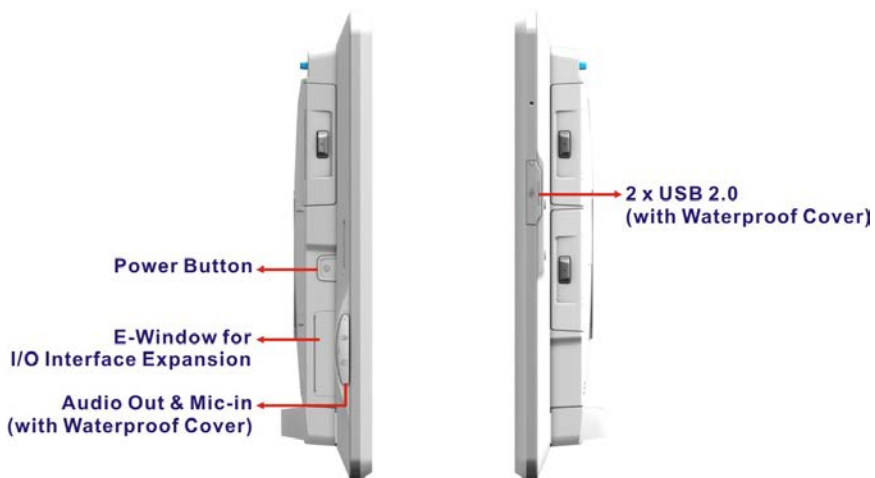
Front Panel



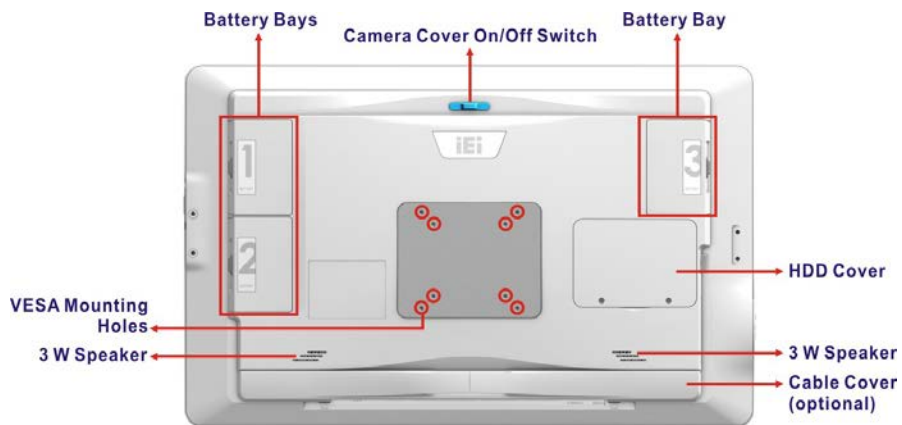
Bottom Panel



Side Panel




Rear Panel



System Specifications

	POCm-W22C-ULT3	POCm-W24C-ULT3
LCD and Touchscreen		
LCD Size	21.5" (16:9)	23.8" (16:9)
Max. Resolution	1920 (W) x 1080 (H)	1920 (W) x 1080 (H)
Brightness (cd/m2)	250	250
Contrast Ratio	1000:1	1000:1
LCD Color	16.7M (RGB 6-bit)	16.7M (RGB 6-bit + Hi-FRC)
Pixel Pitch (mm)	0.24825 (H) x 0.24825 (V)	0.2745 (H) x 0.2745 (V)
Viewing Angle (H-V)	170°/160°	178°/178°
Backlight MTBF	30,000 hrs (LED backlight)	30,000 hrs (LED backlight)
Touchscreen	Projected capacitive type with USB interface	
Multi-touch	10-point touch	
Touch Controller	EETI	
Surface Hardness	6H	
System		
CPU	Intel® Celeron® 3855U / Intel® Core™ i5-6300U / Intel® Core™ i7-6600U	
Memory	Two 260-pin 2133/1866 MHz dual-channel non-ECC unbuffered DDR4 SO-DIMMs supported (system max. 32 GB) Preinstalled with 4 GB memory	
GbE Controller	LAN1: Intel I211 Ethernet controller LAN2: Intel® I219 Ethernet controller	
I/O Ports	1 x DC input jack 2 x HDMI output connector 2 x GbE LAN (RJ-45 connector) 2 x RS-232/422/485 serial port (DB-9 connector) 4 x USB 3.0 connectors 2 x USB 2.0 connectors (side panel) 1 x Audio out (side panel) 1 x Mic-in (side panel) 1 x Digital microphone	
Storage	One 2.5" SATA 6Gb/s HDD bay	
Audio	Two 3 W speakers	
Webcam & Microphone	5-megapixel CMOS front-facing camera with auto focus and digital microphone	
Expansion Interface	2 x M.2 M-key 2242/2260/2280 slot (PCIe + SATA) with RAID 1 x M.2 A-/E-key 2242 slot (PCIe + USB) 1 x Full-size/Half-size PCIe Mini (PCIe + USB)	

TPM	TPM 2.0 (optional)	
Other Features		
Function Keys	1 x Power on/off 1 x Brightness up 1 x Brightness down 1 x Volume up 1 x Volume down 1 x Touch lock (clean mode) or LCD on/off	
LED Indicators	3 x Battery indicator 1 x Power indicator	
Cooling Method	Fanless	
Connectivity		
Wi-Fi and Bluetooth	802.11a/b/g/n/ac dual band, Bluetooth v4.2 (M.2 2230 module, Intel® 8265)	
LAN	Two GbE LAN connectors	
Physical		
Construction Material	PC+ABS plastic with anti-bacterial material	
Mounting	Wall and stand mounting VESA 75 mm x 75 mm or 100 mm x 100 mm	
Dimensions (W x H x D)	543 x 350 x 71 (mm)	594.6 x 379.6 x 71 (mm)
Net Weight	7.07 kg	8.18 kg
Environment		
Storage/Transportation	Temperature	-20°C ~ 60°C
	Humidity	10% ~ 90% (non-condensing)
	Pressure	700 hPa ~ 1060 hPa
Operating	Temperature	0°C ~ 40°C
	Humidity	10% ~ 90% (non-condensing)
	Pressure	700 hPa ~ 1060 hPa
Vibration	1G	
Shock	Operating Shock: 5G peak acceleration (11ms duration) Non-Operating Shock: 10G peak acceleration (11ms duration)	
IP Level	IP 65 compliant front panel	
Power		
Power Input	19 V DC	
Power Adapter	150 W FSP FSP150M-ABA medical-grade power adapter (P/N: 63040-010150-400-RS)	
	Input: 100 V AC ~ 240 V AC, 50 Hz ~ 60 Hz, 2A ~ 0.85A	
	Output: 19 V  7.89 A	
Battery	3 x Hot-swappable battery bay	

Installation Precautions

When installing the medical panel PC, please follow the precautions listed below:

- **Manufacturer authorization:** Do not modify this equipment without authorization of manufacturer.
- **Certified Engineers:** Only certified engineers should install and modify the hardware settings.
- **Power turned off:** When installing the medical panel PC, make sure the power is off. Failing to turn off the power may cause severe injury to the body and/or damage to the system.
- **Anti-static Discharge:** If a user open the rear panel of the medical panel PC, to configure the jumpers or plug in added peripheral devices, ground themselves first and wear an anti-static wristband.



WARNING:

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
 - Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion.
 - Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas.
 - A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.
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Mounting the System



WARNING:

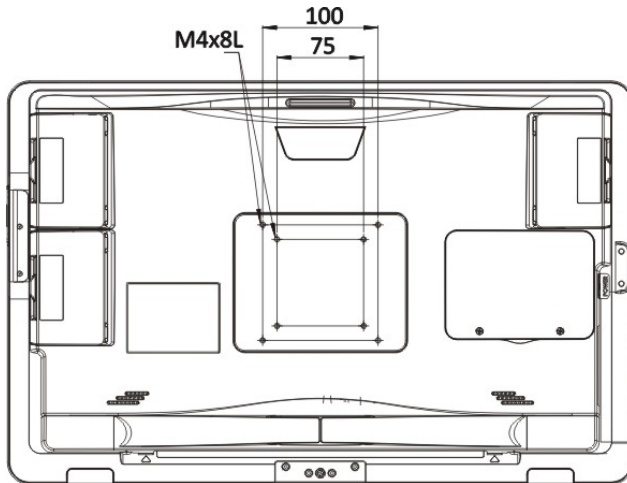
Use suitable mounting apparatus and be sure to secure the screws of the mounting apparatus tightly to avoid risk of injury.



NOTE:

When mounting the POCm-W22/24C-ULT3 flat panel PC, it is better to have more than one person to help with the installation to make sure the POCm-W22/24C-ULT3 does not fall down and get damaged.

The POCm-W22/24C-ULT3 is VESA (Video Electronics Standards Association) compliant and can be mounted on a mounting device with a 75 mm or 100 mm interface pad. The POCm-W22/24C-ULT3 VESA mount retention screw holes are shown below. Refer to the installation guide that came with the mounting device to mount the POCm-W22/24C-ULT3.



Powering On the System



WARNING:

To avoid risk of electric shock, this equipment must only be connected to supply mains with protective earth.



CAUTION:

The FSP FSP150M-ABA power adapter came with the POCm-W22/24C-ULT3 is a forming part of the medical device.

- Step 1:** Connect the power cord to the power adapter. Connect the other end of the power cord to a power source.
- Step 2:** Connect the power adapter to the power connector of the POCm-W22/24C-ULT3.
- Step 3:** Locate the power button on the right panel.
- Step 4:** Short press the power button to turn on the POCm-W22/24C-ULT3.

Shutdown Procedure

Turn off the power and disconnect the power cord.

To prevent the risk of electric shock, make sure power cord is unplugged from wall socket. To fully disengage the power to the unit, please disconnect the power cord from the AC outlet. Refer servicing to qualified service personnel. The AC outlet shall be readily available and accessible.

Troubleshooting

If the following situations happen, contact your distributor, sales representatives or IEI customer service center for technical support.

- The HDD is installed correctly, but the POCm-W22/24C-ULT3 is unable to boot with AC power input after pressing the power button.
- Unable to shut down the POCm-W22/24C-ULT3 normally

Please have the following information prepared prior to reporting the abnormal situations:

- Product name and S/N
- OS, BIOS version and applications
- A complete description of the abnormal situation (with photos or video if available)

System Maintenance

If the components of the POCm-W22/24C-ULT3 fail they must be replaced. Please contact the system reseller or vendor to purchase the replacement parts.






Maintenance and Cleaning

Prior to cleaning any part or component of the POCm-W22/24C-ULT3, please read the details below.

- To clean the POCm-W22/24C-ULT3,
 - remove dirt with a lightly moistened cloth. Then wipe the external chassis with a soft dry cloth.
 - use 75% ethanol alcohol to clean the external chassis.
- Cleaning frequency: follow the cleaning method guidelines of the hospital.
- Except for the LCD panel, never spray or squirt liquids directly onto any other components.
- The interior of the POCm-W22/24C-ULT3 does not require cleaning. Keep fluids away from the POCm-W22/24C-ULT3 interior.
- Never drop any objects or liquids through the openings of the POCm-W22/24C-ULT3.

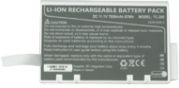


Accessories

The medical panel PC is shipped with the following components:

Quantity	Item	Image
1	POCm-W22/24C-ULT3 medical panel PC	
1	Power cord (P/N: 32702-000200-100-RS)	
1	150 W FSP FSP150M-ABA medical-grade power adapter (P/N: 63040-010150-400-RS)	
4	Round-head screw (M3*3) for HDD installation (P/N: 44003-030032-RS)	
1	Quick Installation Guide	

Optional Items

The following components may be separately purchased:

Item and Part Number	Image
Li-ion battery pack, 7800 mAh (P/N: 31603-000069-RS)	
Cable cover (P/N: 43106-0272Q7-00-RS)	
20-pin Infineon TPM 2.0 module, software management tool, firmware v5.5 (P/N: TPM-IN02-R20)	

DECLARATION OF CONFORMITY



This equipment is in conformity with the following EU directives:

- EMC Directive (2004/108/EC, 2014/30/EU)
- Low-Voltage Directive (2006/95/EC, 2014/35/EU)
- RoHS II Directive (2011/65/EU, 2015/863/EU)
- Medical Device Directive 93/42/EEC: EN 60601-1

If the user modifies and/or install other devices in the equipment, the CE conformity declaration may no longer apply.

If this equipment has telecommunications functionality, it also complies with the requirements of the Radio Equipment Directive 2014/53/EU.

IEI Integration Corp declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

FCC WARNING



This equipment complies with part 18 of the FCC Rules.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

ROHS STATEMENT



The label on the product indicates this product conforms to European (EU) Restriction of Hazardous Substances (RoHS) that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

CHINA ROHS



The label on the product indicates the estimated “Environmentally Friendly Use Period” (EFUP). This is an estimate of the number of years that these substances would “not leak out or undergo abrupt change.” This product may contain replaceable sub-assemblies/components which have a shorter EFUP such as batteries and lamps. These components will be separately marked.

Safety Precautions



WARNING:

The precautions outlined below should be strictly followed. Failure to follow these precautions may result in permanent damage to the POCm-W22/24C-ULT3.

General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

- To prevent the risk of electric shock, make sure power cord is unplugged from wall socket. To fully disengage the power to the unit, please disconnect the power cord from the ac outlet. Refer servicing to qualified service personnel. The AC outlet shall be readily available and accessible.
- Users must not allow SIP/SOPs and the patient to come into contact at the same time.
- Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked “Hospital Only” or “Hospital Grade”.
- Follow the electrostatic precautions outlined below whenever the POCm-W22/24C-ULT3 is opened.
- Make sure the power is turned off and the power cord is disconnected whenever the POCm-W22/24C-ULT3 is being installed, moved or modified.
- Do not apply voltage levels that exceed the specified voltage range. Doing so may cause fire and/or an electrical shock. Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.
- Electric shocks can occur if the POCm-W22/24C-ULT3 chassis is opened when the POCm-W22/24C-ULT3 is running. To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
- **DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.**
- Do not drop or insert any objects into the ventilation openings of the POCm-W22/24C-ULT3.
- If considerable amounts of dust, water, or fluids enter the POCm-W22/24C-ULT3, turn off the power supply immediately, unplug the power cord, and contact the POCm-W22/24C-ULT3 vendor.

- DO NOT:
 - Drop the POCm-W22/24C-ULT3 against a hard surface.
 - Strike or exert excessive force onto the LCD panel.
 - Touch any of the LCD panels with a sharp object
 - In a site where the ambient temperature exceeds the rated temperature

Product Disposal

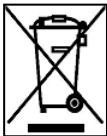


CAUTION:

Risk of explosion if battery is replaced by an incorrect type. Only certified engineers should replace the on-board battery.

Dispose of used batteries according to instructions and local regulations.

- Outside the European Union - If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union—The device that produces less waste and is easier to recycle is classified as electronic device in terms of the European Directive 2012/19/EU (WEEE), and must not be disposed of as domestic garbage.



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

Classification

- Power by Class I power supply (IEI, POCm-W22/24C-ULT3)
- No Applied Part.
- No protection against the ingress of water: IPX0
- Mode of operation: Continuous Operation

The equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide: Not AP or APG Category.

EMC Test Summary

Guidance and manufacturer's declaration – electromagnetic emissions		
The model POCm-W22/24C-ULT3 is intended for use in the electromagnetic environment specified below. The customer or the user of the model POCm-W22/24C-ULT3 should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11		The model POCm-W22/24C-ULT3 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11		The model POCm-W22/24C-ULT3 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2		
Voltage fluctuations/ flicker emissions IEC 61000-3-3		

Recommended separation distances between portable and mobile RF communications equipment and the model POCm-W22/24C-ULT3			
The model POCm-W22/24C-ULT3 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the model POCm-W22/24C-ULT3 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model POCm-W22/24C-ULT3as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1,2\sqrt{P}$	80 MHz to 800 MHz $d = 1,2\sqrt{P}$	800 MHz to 2,5 GHz $d = 2,3\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.


NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Guidance and manufacturer's declaration – electromagnetic immunity			
The model POCm-W22/24C-ULT3 is intended for use in the electromagnetic environment specified below. The customer or the user of the model POCm-W22/24C-ULT3 should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV line(s) to line(s) ±2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT)	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT)	Mains power quality should be that of a typical commercial or hospital environment. If the user of the model POCm-W22/24C-ULT3 requires continued operation during power mains interruptions, it is recommended that the model

	for 25 cycles <5 % <i>UT</i> (>95 % dip in <i>UT</i>) for 5 sec	for 25 cycles <5 % <i>UT</i> (>95 % dip in <i>UT</i>) for 5 sec	POCm-W22/24C-ULT3 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: <i>UT</i> is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration – electromagnetic immunity			
The model POCm-W22/24C-ULT3 is intended for use in the electromagnetic environment specified below. The customer or the user of the model POCm-W22/24C-ULT3 should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the model POCm-W22/24C-ULT3, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	V/m	Recommended separation distance $d = 1,2\sqrt{P}$ $d = 1,2\sqrt{P}$ 80 MHz to 800 MHz $d = 2,3\sqrt{P}$ 800 MHz to 2,5 GHz where <i>P</i> is the maximum output power rating of the transmitter in watts (<i>W</i>) according to the transmitter manufacturer and <i>d</i> is the recommended separation distance in metres (m).

			<p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
<p>NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>			
<p>^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the model POCm-W22/24C-ULT3 is used exceeds the applicable RF compliance level above, the model POCm-W22/24C-ULT3 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the model POCm-W22/24C-ULT3.</p> <p>^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than V/m.</p>			

<h2>Contact Information</h2>
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