

# PWS-870

## 10" Industrial Tablet with 4th Generation Intel® Core™ i Processor



### Features

- MIL-STD-810G and IP65 certified, can withstand drops of up to 4ft.
- 10.1" HD high-brightness, multi-touch, Gorilla Glass panel with digitizer
- 4th generation Intel® Core™ i processor supports Windows 8
- Built-in 4G LTE, WLAN (802.11 a/b/g/n/ac), BT4.0, and GPS modules with Beidou/GLONASS support
- Hot-swappable battery provides up to 11 hours operation<sup>(1)</sup>
- Built-in dual cameras, 1D/2D barcode scanner, and NFC RFID
- Rich peripherals with vehicle docking station, desk docking station, and extension module support



### Introduction

The PWS-870 is a fully rugged mobile tablet featuring a 10.1" HD resolution capacitive Multi Touch panel, an Intel Core i processor, mSATA SATA3 SSD storage, USB 3.0 and HDMI communication I/O ports. For communication it comes with 802.11 a/b/g/n/ac WiFi, Bluetooth, GPS, and 4G LTE. One of the most important unique design features is its built-in data collection features: 2M/5M dual cameras, 1D/2D barcode reader, and NFC RFID reader. To mobile field workers, hot-swappable external battery for long-lasting support allows the system to operate for up to 11 hours at a time. The fully-rugged design (MIL-STD-810G, IP65 dust & water resistant and 4-foot drop) allows PWS-870 to perform in harsh environments. With sunlight readable display, PWS-870 is a perfect device for outdoor work.

### Specifications

|                       |                 |                                                                                                                                                                                                                  |                                                                                                 |
|-----------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Motherboard           | CPU & Chipset   | Intel® Core™ i3 Processor 1.7 GHz 4010U<br>Intel® Core™ i5 Processor 1.9 GHz 4300U with Turbo Boost to 2.9GHz<br>Intel® Core™ i7 Processor 1.7 GHz 4650U with Turbo Boost to 3.3 GHz                             |                                                                                                 |
|                       | Memory          | SO-DIMM DDR3L 1600 MHz up to 8 GB <sup>(2)</sup>                                                                                                                                                                 |                                                                                                 |
|                       | Storage         | Support mSATA SATAIII SSD 64 GB ~ 256 GB <sup>(2)</sup>                                                                                                                                                          |                                                                                                 |
| Display & Touchscreen | Display         | 10.1" HD (1366x768) Low reflection LED Backlight LCD (400 nits default; 950 nits by project)                                                                                                                     |                                                                                                 |
|                       | Touch Panel     | Capacitive multi touch<br>Sunlight readable feature<br>Display with Corning® Gorilla® Glass Gen3                                                                                                                 |                                                                                                 |
|                       | Sensor          | Ambient light, Accelerometer (G-Sensor), E-compass, Gyroscope Sensor<br>- Screen Rotation: 0°, 90°, 270°                                                                                                         |                                                                                                 |
|                       |                 |                                                                                                                                                                                                                  |                                                                                                 |
| System                | WLAN+Bluetooth  | IEEE 802.11 a/b/g/n/ac+ Bluetooth V4.0(class2)+EDR                                                                                                                                                               |                                                                                                 |
|                       | WWAN            | Integrated 4G (LTE,HSPA+, GSM/GPRS/EDGE)<br>MC7305 for EU B1/B3/B7/B8/B20<br>MC7355 for US B2/B4/B5/B13/B17/B25                                                                                                  |                                                                                                 |
|                       | GNSS            | Dedicated GPS, Beidou and Glonass                                                                                                                                                                                |                                                                                                 |
|                       | Camera          | Front Camera: 2M pixel CMOS sensor; supports video streaming<br>Rear Camera: 5M pixel CMOS sensor; with LED flash light and auto focus control                                                                   |                                                                                                 |
|                       | Data Collection | Optional built-in 1D barcode scanner (Honeywell N4313)<br>Optional built-in 2D barcode scanner (Honeywell N5600)<br>Optional built-in NFC RFID reader (13.56MHz, supports ISO14443A/B, ISO15693, MIFARE, Felica) |                                                                                                 |
|                       | Security        | 1. Optional fingerprint scanner<br>2. TPM 1.2<br>3. Kensington cable lock slot                                                                                                                                   |                                                                                                 |
|                       | Audio           | Integrated speakers (2W)<br>Integrated microphone                                                                                                                                                                |                                                                                                 |
|                       | Input           | Capacitive multi touch<br>Programmable button x2                                                                                                                                                                 | Capacitive pen<br>On-screen QWERTY keyboard                                                     |
|                       | LED             | Power LED<br>Battery LED<br>RFID LED                                                                                                                                                                             |                                                                                                 |
|                       | I/O             | USB 3.0 x2; USB 2.0 x1<br>HDMI 1.4 x1<br>SD card slot x1 (SDXC/UHS1/UHS2)<br>Audio combo jack (Line-in/Line-out) x1                                                                                              | DC-in x1<br>Docking port x1 (32PIN)<br>(USB3.0, USB2.0, PCIE Gen2, Display port)<br>SIM slot x1 |
|                       | Battery         | Main battery: 4S1P 14.4V 2730mAh<br>Hot-Swappable external battery: 4S2P 14.4V 4080mAh<br>With Hot-Swappable external battery up to 11hrs <sup>(1)</sup>                                                         |                                                                                                 |
|                       | Power Input     | 19V ± 5%                                                                                                                                                                                                         |                                                                                                 |
|                       | OS              | Windows Embedded 8.1 Industry Pro (Default), Windows Embedded 8 Standard (Default),<br>Windows 7 Pro 64bit (By project), Linux Ubuntu (By project)<br>Windows 10 IoT 64 bit (By project)                         |                                                                                                 |

(1) The battery life estimates based on MobileMark 2007 performance. Battery performance will vary by system setting and configuration.

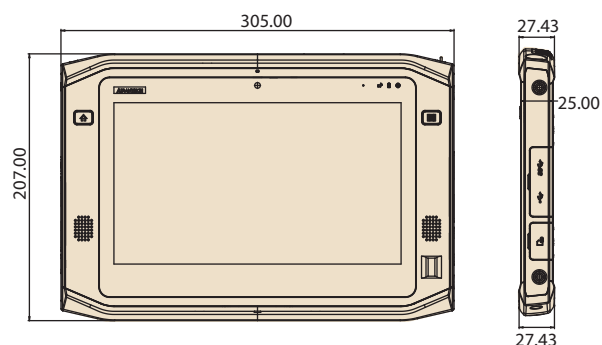
(2) Only Advantech is able to change SSD and Memory.

## Specifications Cont.

|                    |                           |                                                                                                                                                                                                                                                |
|--------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment        | Temperature & Humidity    | Operating Temperature -20° C ~ 50° C (Charge: 0° C ~ +40° C for the battery protection)<br>Storage Temperature -20 ~ 60° C<br>Operating Humidity 5% ~ 95% @ 40° C                                                                              |
|                    | IP Rating                 | IP65                                                                                                                                                                                                                                           |
|                    | Vibration                 | MIL-STD-810G                                                                                                                                                                                                                                   |
|                    | Drop                      | 4 feet                                                                                                                                                                                                                                         |
| Certifications     | EMC/RF                    | CE/FCC/CCC/PTCRB/SAR                                                                                                                                                                                                                           |
|                    | Safety                    | UL/CE/CB/CCC                                                                                                                                                                                                                                   |
| Peripheral         | Peripheral <sup>(3)</sup> | <ul style="list-style-type: none"> <li>Universal Cover (Handle, stand, hand strap, and shoulder belt)</li> <li>Extension modules for MSR, UHF RFID, extra IO ports solution</li> <li>Desk docking station</li> <li>External battery</li> </ul> |
|                    |                           | <ul style="list-style-type: none"> <li>Car adapter</li> <li>Vehicle docking station</li> <li>Multiple Battery Charger</li> </ul>                                                                                                               |
| Dimension & Weight | Dimensions                | 305 (L) x 207 (W) x 25~27 (H) mm                                                                                                                                                                                                               |
|                    | Weight                    | 1.4 kg                                                                                                                                                                                                                                         |

(3) For the peripherals' availability, please check with Advantech's sales directly.

## Dimensions



Unit: mm

## I/O Connectors



- 2M Camera
- Home Key (Programmable)
- Function Key (Programmable)
- Speakers
- Fingerprint (Optional)

- 5M AF Camera with Flash Light
- FAN
- NFC RFID Reader (Optional)
- Capacitive Pen
- Latch (For External Battery)

- Kensington Lock
- Power Button
- Audio Combo Jack
- HDMI Connector (1.4)
- USB Connector (USB3.0)
- DC-in

- Screw Hole for Extension Module
- USB Connector (USB3.0)
- USB Connector (USB2.0)
- SD Card Slot (SDXC)
- Screw Hole for Extension Module

## Ordering Information

| Part Number        | Configuration |                 |          |          |                |      |    |      |        |            |              |     | Fingerprint |
|--------------------|---------------|-----------------|----------|----------|----------------|------|----|------|--------|------------|--------------|-----|-------------|
|                    | CPU           | LCD             | Memory   | Storage  | Front/Rear CAM | WiFi | BT | GNSS | 4G     | OS         | Barcode RFID | NFC |             |
| PWS-870-3S6W0E000E | Core i3       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | N/A  | N/A    | WES 8      | N/A          | N/A | N/A         |
| PWS-870-3S6W00000E | Core i3       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | N/A  | N/A    | N/A        | N/A          | N/A | N/A         |
| PWS-870-3S6G4E5F0E | Core i3       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-US | WES 8      | 2D           | NFC | FingerPrint |
| PWS-870-3S6G6E5F0E | Core i3       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-EU | WES 8      | 2D           | NFC | FingerPrint |
| PWS-870-3H6G6E5F0E | Core i3       | High Brightness | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-EU | WES 8      | 2D           | NFC | FingerPrint |
| PWS-870-5S6G4P5F0E | Core i5       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-US | Win8.1 Pro | 2D           | NFC | FingerPrint |
| PWS-870-5S6G6P5F0E | Core i5       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-EU | Win8.1 Pro | 2D           | NFC | FingerPrint |
| PWS-870-7S6G4P5F0E | Core i7       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-US | Win8.1 Pro | 2D           | NFC | FingerPrint |
| PWS-870-7S6G6P5F0E | Core i7       | Sunlight        | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-EU | Win8.1 Pro | 2D           | NFC | FingerPrint |
| PWS-870-7H6G6P5F0E | Core i7       | High Brightness | DDR3 4GB | SSD 64GB | V              | V    | V  | V    | LTE-EU | Win8.1 Pro | 2D           | NFC | FingerPrint |

## Packing List

| Part Number      | Description        |
|------------------|--------------------|
| 96PSA-A65W19V1-1 | 65W Adapter *1 pcs |
| 9680015843       | Stylus Pen * 1 pcs |

# Accessories

## Accessories for PWS-870 Series



### Universal Cover Package



#### Features

- P/N: PWS-870-UCOVER00E
- Material: Plastic, PVC
- Color: Black
- Dimension: 305 x 254.2 x 88.4 mm
- Weight: 500g (universal cover, hand strap and shoulder belt)
- Package content: universal cover, hand strap, shoulder belt

### MSR & Smart Card Reader Extension



#### Features

- P/N: PWS-870-EXT300E
- Smart Card Reader
  - ISO 7816 PC/SC
  - EMV 4.0 Level 1
  - Supports I2C memory card, SLE4418, SLE4428, SLE4432, SLE4442, SLE4436, SLE5536, SLE6636, AT88SC1608, AT45D041 card
- MSR (Magnetic Card Reader)
  - MagneSafe IntelliHead
  - Supports US 7810 & ISO 7811/AAMVA
  - Card speed: 6 to 60 ips (15.4 to 12.4 cm/s)
  - Triple DES encryption
  - DUKPT key management
- Operating temperature: -20° C ~ 50° C
- Storage temperature: -20° C ~ 60° C
- Dimension: 192.2 x 40.2 x 25 mm
- Weight: 120g

### I/O Extension



#### Features

- P/N: PWS-870-EXT100E
- Interfaces: USB 3.0 (type A, 5V/0.9A) x 1, RS-232 (D-Sub 9) x 2, 10/100/1000 Ethernet (RJ45) x 1
- Operating temperature: -20° C ~ 50° C
- Dimension: 192.2 x 45.2 x 25 mm
- Weight: 140g

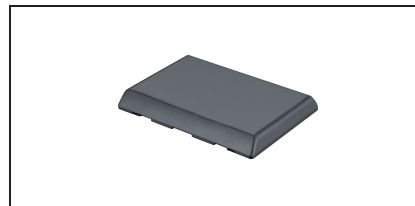
### UHF RFID Extension



#### Features

- P/N: PWS-870-EXT200E (EU) / PWS-870-EXT210E (US)
- RFID output power: 0.063 watt EIRP
- RFID antenna type: Linear Polarization
- Frequency: EU: 865 ~ 868MHz / US: 902 ~ 928MHz
- Tag standard supported: EPC Class 1 Gen 2 / ISO 18000-6C
- Operating temperature: -20° C ~ 50° C
- Maximum output power: +18dBm (Conductive)
- Dimension: 192.2 x 40.2 x 25 mm
- Weight: 110g

### External Battery



#### Features

- P/N: PWS-870-BAT100E
- Capacity: 14.8V 4080mAh
- IP rating: IP65 with PWS-870
- Dimension: 141.2 x 106.2 x 17 mm
- Weight: 385g

### Multiple Battery Charger



#### Features

- P/N: PWS-870-MBC00E
- Store and charge up to 4 PWS-870 external batteries
- Charging time: 4 hr
- LEDs indicate charge status
- Easy to fix on the table by screws
- Power input: 19.5V/7.7A
- Dimension: 214.4 x 229.4 x 60 mm
- Weight: 1.4kg

# Accessories

## PWS-870 Vehicle Docking Station



### Features

- CAN 2.0 A/B (J1939) and OBDII (ISO 15765) support for vehicle diagnosis
- Anti-theft locking mechanism
- External GPS SMA antenna
- Device docking and removal within 1 second
- Ignition control
- Accommodates port replication
- Compliant with MIL-STD-810G and SAE J1455 for vibration and shock tolerance
- E-Mark compliant and supports 12V/24 V vehicle power

### Introduction

The PWS-870 high strength composite vehicle docking station is designed to hold the PWS-870 tablet safely and securely. The vehicle docking station comes with a locking mechanism for theft deterrence. It offers complete port replication for users accessing audio jacks, USB, RS-232, DI, DO, LAN, and GPS SMA connector. One of the most important and unique design features is it has CAN bus support for vehicle communication. It's a perfect solution for police car, fire bridge, ambulance, forklift, and different kinds of transportation applications.

### Product Specifications

| Function      | Item                  | Description                                                                                                                                                      |
|---------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IO connectors | HDC                   | 1 x HDC connector                                                                                                                                                |
|               | HDC IO ports          | 1 RS-232, 1x CAN 2.0 A/B (support J1939); OBDII (support ISO 15765) protocol, 1 x Line-in & 1 x Line-out, 2 x DI & 2 x DO                                        |
|               | USB                   | 2 x USB 3.0 (locking type)                                                                                                                                       |
|               | Ethernet              | 1 x 100/1000 LAN port (M12)                                                                                                                                      |
|               | SMA for GPS           | 1 for external GPS Antenna                                                                                                                                       |
|               | DC in                 | 1 x Power Jack (M12) 19V $\pm$ 5% (pair with a car adapter: PWS-770-CAD1200E, PWS-770-CAD2400E, PWS-770-CADAP00E. b. DC-in(M12) to adapter cable: 1700021797-01) |
| Environment   | IP Rating             | IP54 (with tablet docked and all cables connected)                                                                                                               |
|               | Operating Temperature | -20° C ~ 50° C (Charge: 0° C ~ 40° C) with tablet                                                                                                                |
|               | Storage Temperature   | -40° C ~ 85° C                                                                                                                                                   |
|               | Vibration/Shock       | MIL-STD-810G, Method 514.5; SAE J1455                                                                                                                            |
|               | EMC                   | CE, FCC                                                                                                                                                          |
|               | Safety                | UL, CB                                                                                                                                                           |
|               | Vehicle-related       | E-Mark (E13)<br>(pair with PWS-770-CAD1200E, PWS-770-CAD2400E)                                                                                                   |
| Mounting      | Mounting Way          | VESA (75 x 75 mm)                                                                                                                                                |
| Weight        |                       | 950g                                                                                                                                                             |
| Dimension     |                       | 240.5 x 280.9 x 95.4 mm                                                                                                                                          |

### Ordering Information

| Part Number        | Description                                                                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| PWS-870-VCRADLE00E | PWS-870 Vehicle docking station, with LAN Cable M12(M) cable 8P/RJ45(F) (5cm)                                                                            |
| PWS-870-VCRADLE01E | PWS-870 Charge only Vehicle docking station                                                                                                              |
| PWS-870-VMOUNT00E  | PWS-870 Vehicle docking station without i/o ports                                                                                                        |
| PWS-770-CADAP00E*  | PWS-770/PWS-870 Car Adapter DC to DC 10-32V 90W (120cm) to Cigar Lighter; M12 Plug                                                                       |
| PWS-770-CAD1200E*  | PWS-770/PWS-870 Car Adapter DC to DC 10-32V 90W with 12V Relay (120cm); M12 Plug                                                                         |
| PWS-770-CAD2400E*  | PWS-770/PWS-870 Car Adapter DC to DC 10-32V 90W with 24V Relay (120cm); M12 Plug                                                                         |
| 1700021797-01      | M12 plug to DC-in cable (10cm)<br>Note: Connect from PWS-770/PWS-870 Vehicle docking DC-in (M12) to Power adapter Jack (96PSA-A65W19V1-1)                |
| PWS-870-CHDC00E    | PWS-870 Vehicle docking HDC Cable RS232 x1; CAN2.0 x1; DIx2; DOx2; Line-in x1; Line-out x1 (200cm)                                                       |
| PWS-770-GPSAN00E   | GPS antenna 5.5V 22mA (500cm)                                                                                                                            |
| RAM-MOUNT-06E      | 5.625" double socket arm for 1.5" ball base, 3.625" VESA base at both sockets                                                                            |
| RAM-MOUNT-07E      | 5.625" double socket arm for 1.5" ball base, One side is 3.625" VESA base, on the other side, the socket with flat 2.5" diameter base AMPSS hole pattern |
| PWS-870-VDOCK-CBE  | Vehicle docking starter cable kit (power cable, HDC cable & GPS antenna)                                                                                 |

Note:

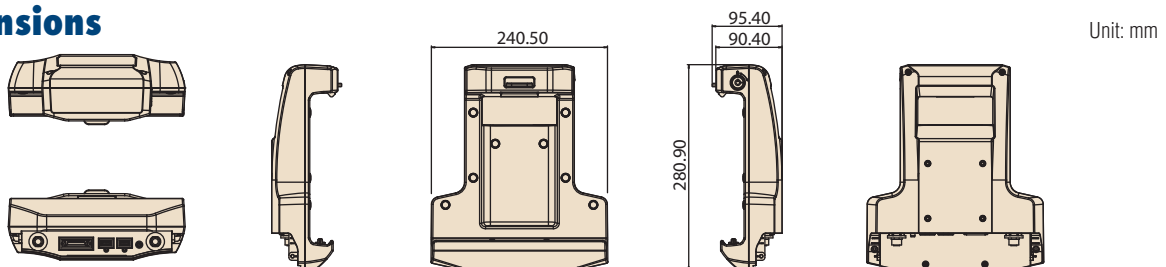
1. PWS-870 Vehicle Docking packages include LAN Cable for M12 to RJ45 connector. The car adapter is optional. Do not attempt to connect Car adapter M12 plug to PWS-870 tablet DC-in
2. For first time purchase, we strongly recommend to purchase starter cable kit & power adapter (select suitable power adapter from the there adapters marked with\*) for evaluation

### Bottom view IO ports



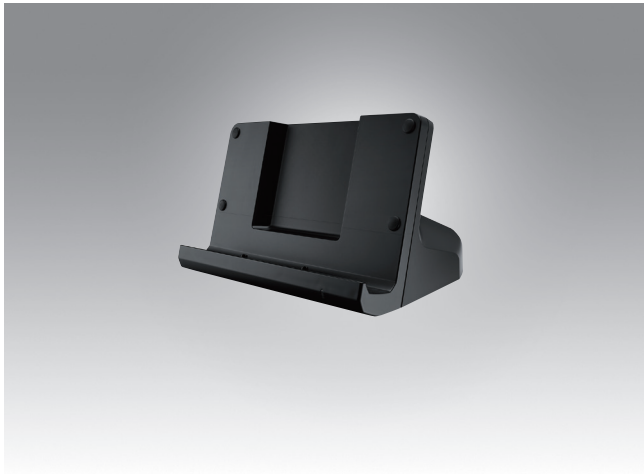
1. 1 x LAN 100/1000 (M12)
2. 1 x GPS SMA
3. 2 x USB 3.0 (locking type)
4. 1 x HDC: RS232 x1; CAN2.0 x1; DIx2; DOx2; Line-in x1; Line-out x1
5. 1 x DC-in (M12)

### Dimensions



# Accessories

## PWS-870 Desk Docking Station



### Features

- Offers complete port replication for PWS-870
- Operating temperature -20° C ~ 50° C

### Introduction

The desk docking station is designed to dock PWS-870 tablet when you are at your home or on your office desk. When docked, you can charge both the internal and external batteries or transfer data from your tablet PC to another PC.

### Product Specifications

| Feature                 | Description                                                                                               |
|-------------------------|-----------------------------------------------------------------------------------------------------------|
| Product Name            | PWS-870 Desk Docking Station                                                                              |
| External I/O Interfaces | One LAN port (10/100/1000)                                                                                |
|                         | One VGA port                                                                                              |
|                         | One RS-232                                                                                                |
|                         | Two USB 3.0 host connectors                                                                               |
|                         | One DC-in (19 V $\pm$ 5%)                                                                                 |
| Environment             | Operating Temperature -20° C ~ 50° C<br>Storage Temperature -20° C ~ 60° C<br>Operating Humidity 5% ~ 95% |
| Certifications          | CE, FCC, UL, CB                                                                                           |
| Physical Size           | 223.8 x 146.7 x 128.5 mm                                                                                  |
| Weight                  | 820g                                                                                                      |



| No. | Component   | Function                                         |
|-----|-------------|--------------------------------------------------|
| 1   | LAN port    | Connect an RJ-45 cable to access LAN connection  |
| 2   | VGA port    | Connect a VGA port to connect to another monitor |
| 3   | Serial port | Connect a serial cable to connect to another PC  |
| 4   | USB ports   | Connect USB connectors to transfer data          |
| 5   | DC-IN       | Connect the AC adapter to charge the battery     |

Note: In order to prevent the damage to both PWS-870 and the desk docking station, please do not attempt to use with other tablets.

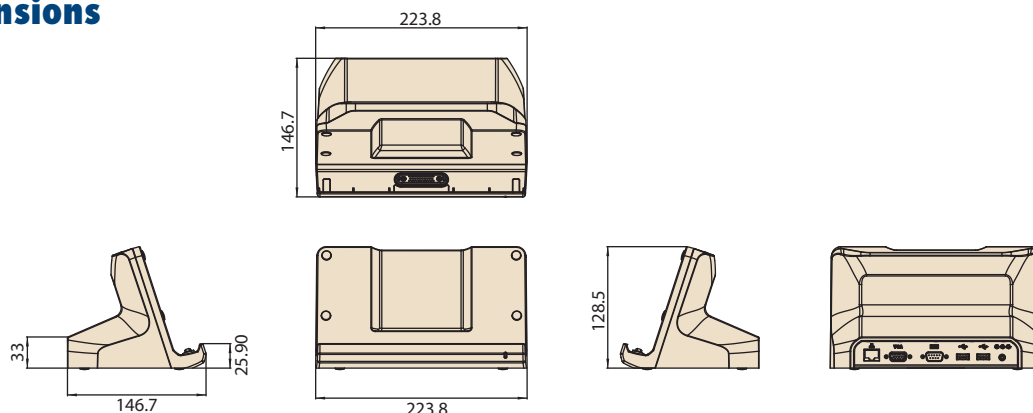
### Ordering information

| Part Number       | Description                  |
|-------------------|------------------------------|
| PWS-870-CRADLE00E | PWS-870 Desk Docking Station |

Note: The package does not include power adapter. Please use PWS-870 tablet's power adapter directly.

### Dimensions

Unit: mm





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.