Introduction
The PWS-870 is a fully rugged mobile tablet featuring a 10.1” HD resolution capacitive Multi Touch panel, an Intel Core processor, mSATA SATA3 SSD storage, USB 3.0 and HDMI communication IO 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, Intel® Core™ i5 Processor 1.9 GHz 4300U with Turbo Boost to 2.9GHz, 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(*2)
- **Storage**: Support mSATA SATAIII SSD 64 GB ~ 256 GB(*2)

### Display & Touchscreen
- **Display**: 10.1” HD (1366x768) Low reflection LED Backlight LCD (400 nits default, 950 nits by project)
- **Touch Panel**: Capacitive multi touch
- **Display with Corning® Gorilla® Glass Gen3
- **Sensor**: Ambient light, Accelerometer (G-Sensor), E-compass, Gyroscope Sensor

### System
- **WLAN+Bluetooth**: IEEE 802.11 a/b/g/n/ac+ Bluetooth V4.0(class2)+EDR
- **WWAN**: Integrated 4G (LTE,HSPA+,GSM/GPRS/EDGE)
- **MC7305 for EU B1/B3/B7/B8/B20**
- **GNSS**: Dedicated GPS, Beidou and Glonass
- **Camera**: Front Camera: 2M pixel CMOS sensor; supports video streaming
- **Rear Camera**: 5M pixel CMOS sensor; with LED flash light and auto focus control
- **Optional built-in 1D barcode scanner (Honeywell N4313)**
- **Optional built-in 2D barcode scanner (Honeywell N6500)**
- **Optional built-in NFC RFID reader (13.56MHz, supports ISO1443A/B, ISO15693, MIFARE, Felica)**

### Security
- **1. Optional fingerprint scanner**
- **2. TPM 1.2**
- **3. Kensington cable lock slot**

### Audio
- **Integrated speakers (2W)
- **Integrated microphone**

### Input
- **Capacitive multi touch Programmable button x2**
- **Capacitive pen On-screen QWERTY keyboard**

### LED
- **Power LED**
- **Battery LED**
- **RFID LED**

### I/O
- **USB 3.0 x2, USB 2.0 x1**
- **HDMI 1.4 x1**
- **SD card slot x1 (SDXC/UNS1/UNS2)**
- **Audio combo jack (Line-in/Line-out) x1**
- **DC-in x1**
- **Docking port x1 (32PIN) (USB3.0, USB2.0, PCIe Gen2, Display port)**
- **SIM slot x1**

### Battery
- **Main battery: 4S1P 14.4V 2730mAh**
- **Hot-Swappable external battery: 4S2P 14.4V 4080mAh**
- **With Hot-Swappable external battery up to 11hrs**

### Power Input
- **19V ± 5%**

### OS
- **Windows Embedded 8.1 Industry Pro (Default), Windows Embedded 8 Standard (Default), Windows 7 Pro 64bit (By project), Linux Ubuntu (By project) Windows 10 IoT 64 bit (By project)**

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(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.

<table>
<thead>
<tr>
<th>Environment</th>
<th>Part Number</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature &amp; Humidity</td>
<td>Operating Temperature: -20° C ~ 50° C (Charge: 0° C ~ +40° C for the battery protection)</td>
<td>Storage Temperature: -20° C ~ 60° C</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP65</td>
<td>MIL-STD-810G</td>
</tr>
<tr>
<td>Vibration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drop</td>
<td>4 test</td>
<td></td>
</tr>
<tr>
<td>Certifications</td>
<td>CE/FCC/CCC/PTCRB/SAR</td>
<td>UL/CREPCC</td>
</tr>
<tr>
<td>Peripheral</td>
<td>Peripheral:</td>
<td>Full range of accessories dual purpose devices</td>
</tr>
<tr>
<td></td>
<td>- Universal Cover (Handle, stand, hand strap, and shoulder belt)</td>
<td>- Car adapter</td>
</tr>
<tr>
<td></td>
<td>- Extension modules for MSR, UHF RFID, extra IO ports solution</td>
<td>- Vehicle docking station</td>
</tr>
<tr>
<td></td>
<td>- Desk docking station</td>
<td>- Multiple Battery Charger</td>
</tr>
<tr>
<td>Dimension &amp; Weight</td>
<td>Dimensions: 305 (L) x 207 (W) x 25–27 (H) mm</td>
<td>Weight: 1.4 kg</td>
</tr>
</tbody>
</table>

### Dimensions

![Dimensions Diagram](image)

#### I/O Connectors

1. 2M Camera
2. Home Key (Programmable)
3. Function Key (Programmable)
4. Speakers
5. Fingerprint (Optional)
6. 5M AF Camera with Flash Light
7. FAN
8. NFC RFID Reader (Optional)
9. Capacitive Pen
10. Latch (For External Battery)
11. Kensington Lock
12. Power Button
13. Audio Combo Jack
14. HDMI Connector (1.4)
15. USB Connector (USB3.0)
16. DC-in
17. Screw Hole for Extension Module
18. USB Connector (USB3.0)
19. USB Connector (USB2.0)
20. SD Card Slot (SDXC)
21. Multiple Battery Charger

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CPU</th>
<th>LCD</th>
<th>Memory</th>
<th>Storage</th>
<th>WiFi</th>
<th>BT</th>
<th>GNSS</th>
<th>4G</th>
<th>OS</th>
<th>Barcode</th>
<th>RFID</th>
<th>NFC</th>
<th>Fingerprint</th>
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</thead>
<tbody>
<tr>
<td>PWS-870-3S9W0E000E</td>
<td>Core i3</td>
<td>Sunlight</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>PWS-870-3S9W00000E</td>
<td>Core i3</td>
<td>Sunlight</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>PWS-870-3S9G6E5F0E</td>
<td>Core i3</td>
<td>Sunlight</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>LTE-US</td>
<td>WES 8</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>PWS-870-3S9G6F5F0E</td>
<td>Core i3</td>
<td>Sunlight</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>LTE-EU</td>
<td>WES 8</td>
<td>2D</td>
<td>NFC</td>
<td>FingerPrint</td>
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<tr>
<td>PWS-870-3H6G6E5F0E</td>
<td>Core i3</td>
<td>High Brightness</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>LTE-EU</td>
<td>WES 8</td>
<td>2D</td>
<td>NFC</td>
<td>FingerPrint</td>
</tr>
<tr>
<td>PWS-870-3S9G6F5F0E</td>
<td>Core i3</td>
<td>Sunlight</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>LTE-US</td>
<td>Win8.1 Pro</td>
<td>2D</td>
<td>NFC</td>
<td>FingerPrint</td>
</tr>
<tr>
<td>PWS-870-3S9G6F5F0E</td>
<td>Core i3</td>
<td>Sunlight</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>LTE-US</td>
<td>Win8.1 Pro</td>
<td>2D</td>
<td>NFC</td>
<td>FingerPrint</td>
</tr>
<tr>
<td>PWS-870-3H6G6P5F0E</td>
<td>Core i3</td>
<td>High Brightness</td>
<td>DDR3 4GB</td>
<td>SSD 64GB</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>LTE-EU</td>
<td>Win8.1 Pro</td>
<td>2D</td>
<td>NFC</td>
<td>FingerPrint</td>
</tr>
</tbody>
</table>

### Packing List

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>96PSA-A50W1BV1-1</td>
<td>65W Adapter * 1 pcs</td>
</tr>
<tr>
<td>9680015843</td>
<td>Stylus Pen * 1 pcs</td>
</tr>
</tbody>
</table>
## 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

### 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

### 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, SLE4446, SLE5536, SLE6536, 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 ~ 60° C
- Storage temperature: -20° C ~ 60° C
- Dimension: 192.2 x 40.2 x 25 mm
- Weight: 120g

### 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

### 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

### 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

### 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

### Universal Cover Package

**Features**
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- 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

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**Universal Cover Package**

- 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

**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
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

<table>
<thead>
<tr>
<th>Function</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IO connectors</td>
<td>HDC</td>
<td>1 x HDC connector</td>
</tr>
<tr>
<td>HDC IO ports</td>
<td>1 RS-232, 1x CAN 2.0 A/B (support J1939); OBDII (support ISO 15765) protocol, 1 x Line-In &amp; Line-Out, 2 x DI &amp; 2 x DO</td>
<td></td>
</tr>
<tr>
<td>USB</td>
<td>2 x USB 3.0 (locking type)</td>
<td></td>
</tr>
<tr>
<td>SMA for GPS</td>
<td>1 x Power Jack (M12) 19V ± 5% (with a car adapter: PWS-770-CAD1200E, PWS-770-CAD2400E, PWS-770-CAD000E, b. DC in (M12) to adapter cable: 1700021797-01)</td>
<td></td>
</tr>
<tr>
<td>DC in</td>
<td>1 x Power Jack (M12) 19V ± 5% (with a car adapter: PWS-770-CAD1200E, PWS-770-CAD2400E, PWS-770-CAD000E, b. DC in (M12) to adapter cable: 1700021797-01)</td>
<td></td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP54 (with tablet docked and all cables connected)</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>-20°C ~ 50°C (Charge: 0°C ~ 40°C) with tablet</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C ~ 85°C</td>
<td></td>
</tr>
<tr>
<td>EMC</td>
<td>CE, FCC</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>UL, CB</td>
<td></td>
</tr>
<tr>
<td>Vehicle-related</td>
<td>E-Mark (E13) (with PWS-770-CAD1200E, PWS-770-CAD2400E)</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>VESA (75 x 75 mm)</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>950g</td>
<td></td>
</tr>
<tr>
<td>Dimension</td>
<td>240.5 x 280.9 x 95.4 mm</td>
<td></td>
</tr>
</tbody>
</table>

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/24V vehicle power

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWS-870-VCRADLE00E</td>
<td>PWS-870 Vehicle docking station, with LAN Cable M12/M cable &amp; RJ45(F) (5cm)</td>
</tr>
<tr>
<td>PWS-870-VCRADLE01E</td>
<td>PWS-870 Charge only Vehicle docking station</td>
</tr>
<tr>
<td>PWS-870-VMOUNT00E</td>
<td>PWS-870 Vehicle docking station without IO ports</td>
</tr>
<tr>
<td>PWS-770-CADAP00E*</td>
<td>PWS-770/PWS-870 Car Adapter DC to DC 10-32V 90W (120cm) to Cigar Lighter; M12 Plug</td>
</tr>
<tr>
<td>PWS-770-CAD1200E*</td>
<td>PWS-770/PWS-870 Car Adapter DC to DC 10-32V 90W with 12V Relay (120cm); M12 Plug</td>
</tr>
<tr>
<td>PWS-770-CAD2400E*</td>
<td>PWS-770/PWS-870 Car Adapter DC to DC 10-32V 90W with 24V Relay (120cm); M12 Plug</td>
</tr>
<tr>
<td>1700021797-01</td>
<td>M12 plug to DC-in cable (10cm)</td>
</tr>
<tr>
<td>PWS-870-CHDC00E</td>
<td>PWS-870 Vehicle docking HIC Cable RS232 x1, CAN 2.0 x1, DIO x1, DO x1, Line-in x1, Line-out x1 (300cm)</td>
</tr>
<tr>
<td>PWS-770-GPSANT00E</td>
<td>GPS antenna 5.5V 22mA (500cm)</td>
</tr>
<tr>
<td>RAM-MOUNT-06E</td>
<td>5.625” double socket arm for 1.5” ball base, 3.625” VESA base at both sockets</td>
</tr>
<tr>
<td>RAM-MOUNT-07E</td>
<td>5.625” double socket arm for 1.5” ball base, One side is 3.625” VESA base, on the other side, the socket with half 2.5” diameter APS hole pattern</td>
</tr>
</tbody>
</table>

Bottom view IO ports

1. 1 x LAN 100/1000 (M12)  
2. 1 x HDMI  
3. 2 x USB 3.0 (locking type)  
4. 1 x HDC: RS232 x1; CAN 2.0 x1; DI x2; DO x2; Line-in x1; Line-out x1  
5. 1 x DC-in (M12)  

Dimensions

Unit: mm
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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWS-870-CRADLE00E</td>
<td>PWS-870 Desk Docking Station</td>
</tr>
</tbody>
</table>

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

Dimensions

Unit: mm