# **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 IO ports. For communcation 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 it's 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**

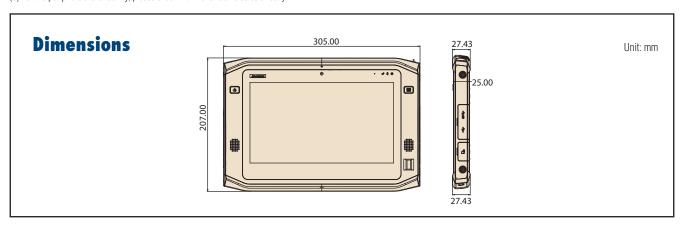
Motherboard	CPU & Chipset	Intel® Core™ i3 Processor 1.7 GHz 4010U  CPU & Chipset Intel® Core™ i5 Processor 1.9 GHz 4300U with Turbo Boost to 2.9GHz Intel® Core™ i7 Processor 1.7 GHz 4650U with Turbo Boost to 3.3 GHz						
	Memory	SO-DIMM DDR3L 1600 MHz up to 8 GB <sup>(*2)</sup>						
	Storage	Support mSATA SATAIII SSD 64 GB ~ 256 GB(*2)						
	Display	Display 10.1" HD (1366x768) Low reflection LED Backlight LCD (400 nits default; 950 nits by project)						
Display & Touchscreen	Touch Panel	Capacitive multi touch Sunlight readable feature Display with Corning® Gorilla® Glass Gen3						
	Sensor	Ambient light, Accelerometer (G-Sensor), E-compass, Gyroscope Ser - Screen Rotation: 0°, 90°, 270°	nsor					
	WLAN+Bluetooth	IEEE 802.11 a/b/g/n/ac+ Bluebooth V4.0(class2)+EDR						
	WWAN	Integrated 4G (LTE,HSPA+,GSM/GPRS/EDGE) MC7305 for EU B1/B3/B7/B8/B20 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 Rear Camera: 5M pixel CMOS sensor; with LED flash light and auto focus control						
	Data Collection	Optional built-in 1D barcode scanner (Honeywell N4313) Optional built-in 2D barcode scanner (Honeywell N5600) Optional built-in NFC RFID reader (13.56MHz, supports ISO14443A/B, ISO15693, MIFARE, Felica)						
	Security	Optional fingerprint scanner     TPM 1.2     Kensington cable lock slot						
	Audio	Integrated speakers (2W) Integrated microphone						
System	Input	Capacitive multi touch Programable button x2	Capacitive pen On-screen QWERTY keyboard					
	LED	Power LED Battery LED RFID LED						
	1/0	USB 3.0 x2; USB 2.0 x1 HDMI 1.4 x1 SD card slot x1 (SDXC/UHS1/UHS2) Audio combo jack (Line-in/Line-oul) 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 <sup>(*1)</sup>						
	Power Input	19V ± 5%						
	0S	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)						

<sup>(1)</sup> 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.**

	Temperatue & Humidity	Operating Temperature -20° C $\sim$ 50° C (Charge: 0° C $\sim$ +40° C for the battery protection) Storage Temperature -20 $\sim$ 60° C Operating Humidity 5% $\sim$ 95% @ 40° C		
Environment	IP Rating	IP65		
	Vibration	MIL-STD-810G		
	Drop	4 feet		
Certifications	EMC/RF	CE/FCC/CCC/PTCRB/SAR		
Certifications	Safety	UL/CE/CB/CCC		
Peripheral	Peripheral <sup>(*3)</sup>	<ul> <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> <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.



#### I/O Connectors



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

- 5M AF Camera with Flash Light
- FAN
- 8. NFC RFID Reader (Optional)9. Capacitive Pen
- 10. Latch (For External Battery)



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



- 7. Screw Hole for Extension Module 8. USB Connector (USB3.0) 9. USB Connector (USB2.0)

- 10. SD Card Slot (SDXC)
  11. Screw Hole for Extension Module

## **Ordering Information**

	Configuration												
Part Number	CPU	LCD	Memory	Storage	Front/Rear CAM	WiFi	ВТ	GNSS	4G	os	Barcode RFID	NFC	Fingerprint
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:  $-20^{\circ}$  C  $\sim 50^{\circ}$  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
	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)
IO connectors	Ethernet	1 x 100/1000 LAN port (M12)
10 001111001013	SMA for GPS	1 for external GPS Antenna
	DC in	1 x Power Jack (M12) 19V ± 5% (pair with a.car adapter: PWS-770- CAD1200E, PWS-770-CAD2400E, PWS- 770-CADAP00E. b. DC-in(M12) to adapter cable: 1700021797-01)
	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
Environment	Vibration/Shock	MIL-STD-810G, Method 514.5; SAE J1455
	EMC	CE, FCC
	Safety	UL, CB
	Vehicle-related	E-Mark (E13) (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-VMOUNTO0E	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) 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; D0x2; 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 AMPS hole pattern
PWS-870-VD0CK-CBE	Vehicle docking starter cable kit (power cable, HDC cable & GPS antenna)

- 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
- 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)

