SP-KL Series

Intel® Core™ Processor-based Fanless 7"/10.1"/12.1"/15.6"/18.5"/21.5" Panel Computer

Features

- Intel® Core™ i7-7600U/i5-7300U/i3-7100U processor
- 5 points capacitive or 1 point 5-wire resistive touch screen
- External I/O:
  - 1x DisplayPort, 1x USB 2.0, 1x USB 3.0, 2x GbE ports
  - 2x COM port(RS-232/422/485)
- Internal I/O:
  - 1x mPCIe slot, 1x USIM slot, 1x USB 2.0, 2x I²C, 1x 8 GPIO
  - 1x DisplayPort
  - 1x keypad port to support 32 physical key
  - 1x port for volume and display backlight adjustment
- Expansion I/O:
  - Customized specifically by FM board
- Storage options: 1x eMMC, 1x SATA, 1x Micro SD, 1x M.2
- Built-in ADLINK SEMA management solution
- 2x 2W speaker, 1x Mic in/Line out, 1x buzzer
- Front side IP65 protection
- 1x eSIM (optional)

Introduction

The ADLINK Smart Panel is an embedded open frame panel computer able to integrate into a wide variety of form factors and configurations. The Smart Panel provides an exceptional range of available display sizes, touch types, DC inputs, and I/O, able to fulfill a diversity of vertical requirements. Function modules can expand I/O irrespective of type or quantity.

Software Support

- **Windows® 10, Linux**

Application

- **Healthcare**
- **Machine Automation**
- **Factory Automation**
- **Testing Instrumentation**
- **Transportation**
- **Gaming and Retail**

Starter Kit

- **15.6" Smart Panel, 2GB DDR3L, 32GB SSD, function module board, internal cable set, and holders**

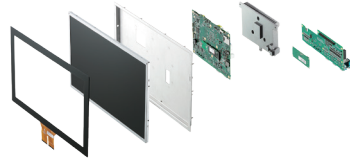## Ordering Information

- **SP-07WP-KL Series**
  7" smart panel computer
- **SP-10WP(R)-KL Series**
  10.1" smart panel computer
- **SP-12WP(R)-KL Series**
  12.1" smart panel computer
- **SP-15WP(R)-KL Series**
  15.6" smart panel computer
- **SP-18WP(R)-KL Series**
  18.5" smart panel computer
- **SP-21WP-KL Series**
  21.5" smart panel computer

Optional Accessories

- **Memory**
  Upgrade to 2/4/8/16 GB DDR3L memory
- **Storage**
  2.5" HDD/SSD, M.2 SSD, Micro SD
- **Adapter**
  12V 60W, 12V 84W, 24V 160W power adapter
- **I/O Cables**
  Keypad, power reset, audio, and USB cables
- **Wireless Communication Kit**
  Wi-Fi/BT/4G LTE wireless kit

Specifications

Model Name	Smart Panel - KL Series					
	SP-07WP-KL Series	SP-10WP(R)-KL Series	SP-12WP(R)-KL Series	SP-15WP(R)-KL Series	SP-18WP(R)-KL Series	SP-21WP-KL Series

System

Processor	Intel® Core™ i3-7100U 2.4 GHz/ Intel® Core™ i5-7300U 2.6/3.5 GHz/ Intel® Core™ i7-7600U 2.8/3.9 GHz (Turbo) 15W
Memory	1x SODIMM non-ECC 1867/1600 MHz DDR3L memory up to 16 GB
Storage	1x SATA 6 Gbps port/ 1x M.2 SATA 6 Gbps port, M key 2280/ 1x Micro SD card eMMC 5.0, Up to 64GB (Optional)

External I/O

Ethernet	2x GbE (Standard: Intel® I211-AT, Option:Intel® I210IT), RJ-45, WOL
Serial Port	2x RS-232/422/485 programmable, support 9 bit mode and auto flow
USB 2.0	1x USB 2.0, Type A, OCP, 1000mA
USB 3.0	1x USB 3.0, Type A, OCP, 1600mA
DP	1x DP, DP++, supports resolutions up to 4096 x 2160

Internal I/O

Mini PCIe	1x full size mPCIe, integrated PCIe and USB interface
PCIe	1x PCIex4 edge connector on PCB
DisplayPort	1x DP, DP++, supports resolutions up to 4096 x 2160
SIM	1x SIM slot or 1x eSIM (optional) for 3G/4G communication
USB 2.0	1x wafer for USB 2.0 clients
I²C	1x wafer, supports IoT sensors (not including algorithm), 1x wafer for I²C clients
Audio	1x wafer for 2x 2W stereo speaker, built-in amplifier 1x wafer for Mic-in and Line-out 1x wafer for buzzer
Keys	1 box header for 32 physical keys (Optional) 1 wafer, supports LCD backlight up/down, volume up/down (Optional)
GPIO	1 x wafer, supports 8-pin GPI/O

Power

Connector	1x 4-pin power connector
DC Input	AT/ATX 12V ± 5% / 9-36V, both with OVP/UVP protection
Power/Fail Reset	1x wafer, support system reset & power button and power LED
Backup Battery	1x wafer for UPS kit to backup data when AC shuts down (Optional)

Notification

Thermal Sensors	1x CPU Tj, 2x PCBA top & bottom-mounted thermal sensors (Optional)
TPM	TPM 2.0 (Optional)
LED Indicator	1x wafer for 10 LED indicators (4x COM port Tx/Rx, 1x Watch Dog Timer, 3x user defined)
Debug Port	1x 40-pin multipurpose flat cable connector for use in combination with DB-40 debug port

Mechanical Bracket

IP Grade	IP65 for front
Material	SGCC

Display Component Specification

	7"	10.1"	12.1"	15.6"	18.5"	21.5"
Display Ratio	16:9	16:10		16:9		
Display Resolution	1024 x 600	1280 x 800		1366 x 768		1920 x 1080
Display View Angle	85/85/85/85		89/89/89/89	85/85/80/80		60/60/70/70
Luminance (Nits)	600 cd/m²	500 nits (typ)	400 nits (typ)		450 nits (typ)	700 nits (typ)
Touch Screen	5 points capacitive touch screen or 1 point 5-wire resistive touch screen, full-flat					

Environmental

Operating Temperature	-20 to 60°C		-20 to 70°C	0 to 50°C		0 to 40°C
Storage Temperature	-20 to 70°C			-20 to 60°C		
Operating Humidity	10-90% RH operating, non-condensing, 5-95% RH storage					
Vibration	OP 5 Grms, 5-500Hz (with SDD), EN61373 Class 1B (Railway Reliability), ISO 7637-2					
ESD	Air: ±15kV, Contact: ±8kV					

Software

SEMA	SEMA 3.5
WDT	Watch Dog Timer supported
Operating System	Windows® 10 IOT Enterprise x64 bit, Linux Ubuntu 16.04 LTS, QT compatible, 64 bit