



# KSM-AL Series

Atom



## Features

- Support Adaptive Display Platform
- Multiple Panel Sizes with Resistive/P-Capacitive Touch Screen
- Front OSD & Auto Dimming
- Supports 24V / 9~48V Power Board Module
- Accessible 2.5" SATA Drive Bay
- IP65 Front Panel Protection
- 12V/24V/48V Ignition Power Control
- Wide Operating Temperature

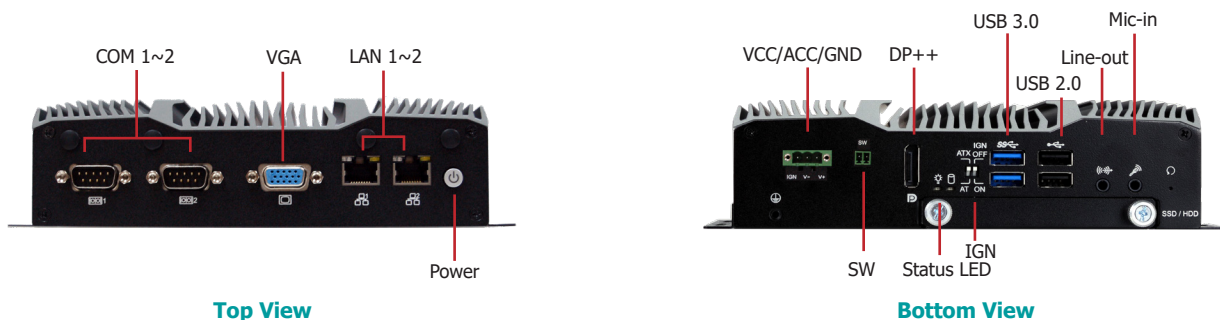


## Overview

The KSM-AL series is DFI's lineup of fanless panel PCs based on Intel Atom® processors for Industrial automation, infotainment, self-service, smart transportation and IoT applications. This series supports 7- to 21.5- inch LED backlight LCD panel with features such as PCAP or resistive touch, gloved finger touchscreen, auto-dimming and aluminum alloy front bezel plus IP65 rating for protection against dust and water ingress. The KSM-AL series offers the option of built-in power ignition management and two internal Mini PCIe slots suitable for in-vehicle applications and automatic guided vehicle market. With the extended power input from 9 to 48V DC and OVP/OCP/ESD surge protection, the system can power on and operate safely.

The KSM-AL series also supports DFI's Adaptive Display Platform (ADP) Technology. It is an innovative panel PC solution that offers the flexibility of modularized integration of panel PC components for expedited product development and shortened time to market.

## System



## Standard Ratio Specifications

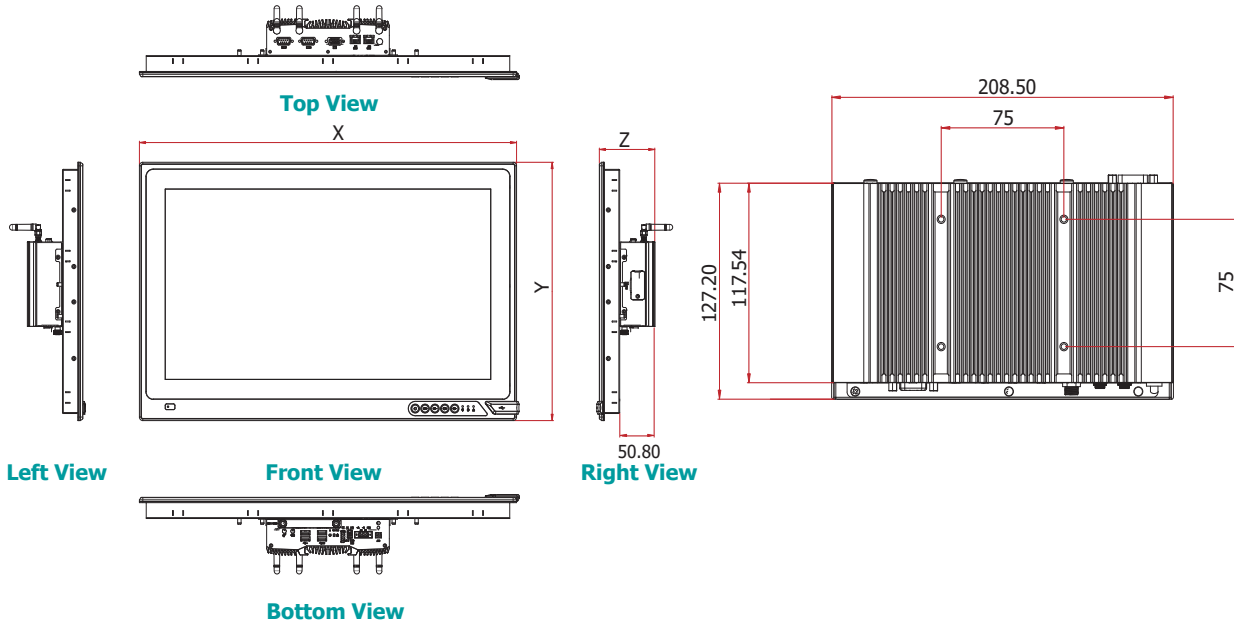
Model Name	KSM121-AL	KSM150-AL	KSM170-AL	KSM190-AL		
<b>Display &amp; Touch Screen</b>	<b>Display Type</b>	12.1" TFT LCD Panel	15" TFT LCD Panel	17" TFT LCD Panel	19" TFT LCD Panel	
	<b>Aspect Ratio</b>	4 : 3	4 : 3	5 : 4	5 : 4	
	<b>Max. Resolution</b>	1024 x 768	1024 x 768	1280 x 1024	1280 x 1024	
	<b>Brightness (cd/m<sup>2</sup>)</b>	500	300	350	350	
	<b>Touch Type</b>	Projected Capacitive / 5-wire Resistive				
	<b>Backlight Lifetime (hours)</b>	30,000	70,000	30,000	70,000	
<b>Front I/O</b>	<b>USB (Opt.)</b>	1 x USB 2.0				
	<b>OSD Keypad (Opt.)</b>	Backlight On/Off / Brightness Up / Brightness Down / Audio Up / Audio Down				
	<b>LED Indicators (Opt.)</b>	Power LED / HDD LED / Alarm LED				
<b>Audio</b>	<b>Speaker (Opt.)</b>	2 x 1.5W Speaker				
<b>Others</b>	<b>Auto Dimming (Opt.)</b>	Light Sensor				
<b>Environment</b>	<b>Operating Temperature</b>	-20 to 70°C	-20 to 70°C	0 to 50°C	-20 to 70°C	
	<b>Storage Temperature</b>	-40 to 80°C	-30 to 70°C	-20 to 60°C	-30 to 85°C	
	<b>Relative Humidity</b>	5 to 90% RH (non-condensing)				
<b>SYSTEM</b>	<b>Processor</b>	Intel Atom® x5-E3940 Processor, Quad Core, 2M Cache, 1.6GHz (1.8GHz), 9.5W Intel® Celeron® Processor N3350, Dual Core, 2M Cache, 1.1GHz (2.4GHz), 6W				
	<b>Memory</b>	One 204-pin SODIMM up to 8GB Single Channel DDR3L 1866MHz				
	<b>BIOS</b>	Insyde SPI 128Mbit (supports UEFI boot only)				
<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Graphics				
	<b>Feature</b>	OpenGL 4.2, Direct X 11.1, OpenCL 1.2, OGL ES 3.0 HW Decode: H.264, MPEG2, VC1, VP8, H.265, MPEG4 HW Encode: H.264, MPEG2, MPEG4				
	<b>Display</b>	1 x DP++ 1 x VGA or DVI-D (DVI-D available upon request)		DP++: resolution up to 4096x2160 @ 60Hz VGA: resolution up to 2560x1600 @ 60Hz DVI-D: resolution up to 1920x1200 @ 60Hz		
	<b>Triple Displays</b>	Panel Module, DP++, VGA or DVI-D				
<b>STORAGE EXPANSION</b>	<b>External</b>	1 x 2.5" SATA 3.0 Drive Bay (accessible)		1 x mSATA (shared by Half-size Mini-PCIe Socket)		
	<b>Interface</b>	1 x Full-size Mini PCIe (USB/PCIe) 1 x Half-size Mini PCIe (USB/PCIe/mSATA) 1 x SIM Slot				
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC262				
<b>ETHERNET</b>	<b>Controller</b>	2 x Intel® I210IT PCIe (10/100/1000Mbps)				
<b>LED</b>	<b>Indicators</b>	1 x Power LED		1 x HDD LED		
<b>I/O</b>	<b>Serial</b>	2 x RS-232/422/485 (DB9) Support 5V/12V Power		2 x RS-232/422/485 (available upon request)		
	<b>Ethernet</b>	2 x GbE (RJ-45) (10/100/1000Mbps) 802.3 af PoE (PSE), Individual Port 15.4W (available upon request)		Support Jumbo Frame, IEEE1588v2, WOL, PXE		
	<b>DIO</b>	4 x DI / 4 x DO (10-pin terminal block) (available upon request)				
	<b>Buttons</b>	1 x Power Button		1 x Reset Switch		
	<b>Wi-Fi Antennas</b>	4 x Wi-Fi Module Antenna Hole				
	<b>USB</b>	2 x USB 3.0 (type A) 2 x USB 2.0 (available upon request)		2 x USB 2.0 (type A)		
	<b>Display</b>	1 x DP++		1 x VGA or DVI-D (DVI-D available upon request)		
	<b>Audio</b>	1 x Line-out		1 x Mic-in		
	<b>Switch</b>	1 x AT/ATX Switch		1 x Ignition Power On/Off Switch		
	<b>Remote Power On/Off</b>	1 x 2-pin Terminal Block				
	<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds			
	<b>OTHER FUNCTIONS</b>	<b>Ignition Power On/Off</b>	Auto Detect Boot-up & Shut-down Voltage for Low Power Protection Support 12V/24V/48V DC Input 7-level Delay Time On/Off Configuration I/O Switch Selectable Ignition Power On/Off			
		<b>Watchdog Timer</b>	System Reset, Programmable via Software from 1 to 255 Seconds			
		<b>Antenna</b>	4 x Antenna Hole			
<b>POWER</b>	<b>Type</b>	24 VDC Input (available upon request)		9~48 VDC Input (available upon request)		
	<b>Connector</b>	3-pin Terminal Block				
<b>OS SUPPORT</b>		Windows 10 IoT Enterprise 64-bit		Linux		
<b>MECHANISM</b>	<b>Construction</b>	Aluminum Front Bezel				
	<b>IP Rating</b>	IP65 Front Panel Protection				
	<b>Mounting</b>	Panel/VESA Mount				
	<b>Dimensions (W x H x D)</b>	308 x 265.3 x 77.9	387 x 320 x 80.5	404 x 363.8 x 80.9	467 x 400 x 80.5	
	<b>Weight</b>	3.2 kg	5.3 kg	5.4 kg	7.6 kg	
<b>STANDARDS AND CERTIFICATIONS</b>	<b>Shock</b>	Non-op : 200G, 2ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	Non-op : 50G, 11ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	Non-op : 50G, 20ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	Non-op : 50G, 20ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	
	<b>Vibration</b>	Non-op: 1.5G, 10 ~ 300 Hz sine wave, 10 min/cycle, 3 cycles each X, Y, Z direction	Non-op: 1.5G, 10 ~ 300 Hz sine wave, 10 min/cycle, 3 cycles each X, Y, Z direction	Non-op : 1.5G, 10~200 Hz random, x, y, z each axis/30 min	Non-op : 1.5G, 10~200 Hz random, x, y, z each axis/30 min	
	<b>Certifications</b>	CE / FCC Class A / RoHS / UKCA KSM170-AL support KC certification				
<b>Patent No. (Taiwan)</b>		I670589 I711917				



## Widescreen Ratio Specifications

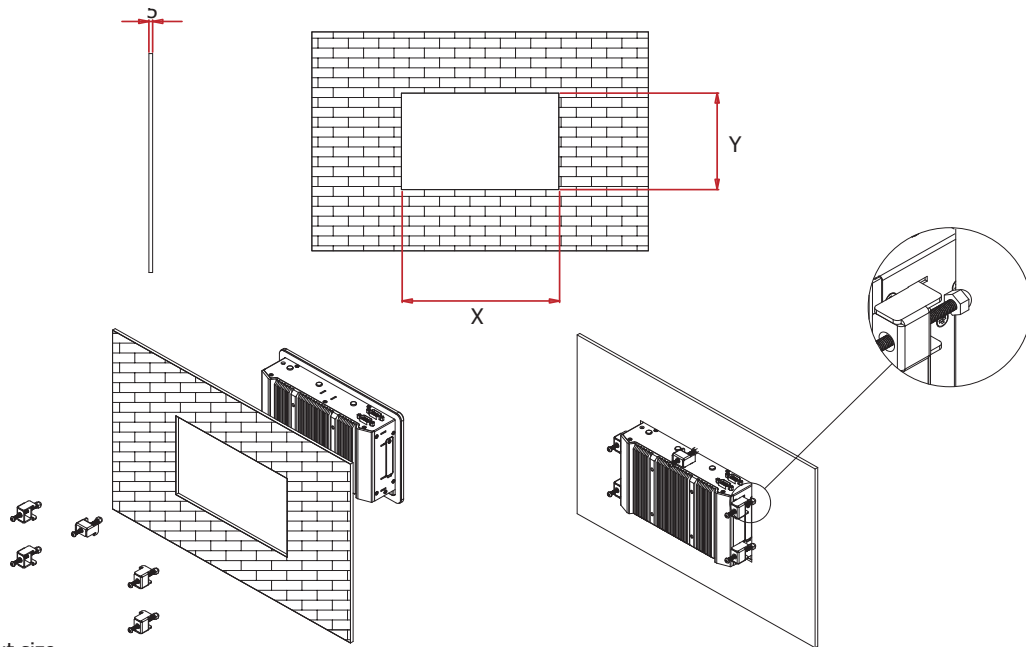
Model Name		KSM070-AL	KSM101-AL	KSM156-AL	KSM185-AL	KSM215-AL
<b>Display &amp; Touch Screen</b>	<b>Display Type</b>	7" TFT LCD Panel	10.1" TFT LCD Panel	15.6" TFT LCD Panel	18.5" TFT LCD Panel	21.5" TFT LCD Panel
	<b>Aspect Ratio</b>	16 : 9	16 : 10	16 : 9	16 : 9	16 : 9
	<b>Max. Resolution</b>	800 x 480	1280 x 800	1366 x 768	1366 x 768	1920 x 1080
	<b>Brightness (cd/m<sup>2</sup>)</b>	500	350	400	450	300
	<b>Touch Type</b>	Projected Capacitive / 4-wire Resistive / Projected Capacitive / 5-wire Resistive				
<b>Front I/O</b>	<b>USB (Opt.)</b>	1 x USB 2.0				
	<b>OSD Keypad (Opt.)</b>	Backlight On-Off / Brightness Up / Brightness Down / Audio Up / Audio Down				
	<b>LED Indicators (Opt.)</b>	Power LED / HDD LED / Alarm LED				
<b>Audio</b>	<b>Speaker (Opt.)</b>	2 x 1.5W Speaker				
<b>Others</b>	<b>Auto Dimming (Opt.)</b>	Light Sensor				
<b>Environment</b>	<b>Operating Temperature</b>	-20 to 70°C	-20 to 70°C	0 to 60°C	0 to 60°C	0 to 60°C
	<b>Storage Temperature</b>	-30 to 80°C	-30 to 80°C	-20 to 60°C	-20 to 60°C	-20 to 60°C
	<b>Relative Humidity</b>	5 to 90% RH (non-condensing)				
<b>SYSTEM</b>	<b>Processor</b>	Intel Atom® x5-E3940 Processor, Quad Core, 2M Cache, 1.6GHz (1.8GHz), 9.5W Intel® Celeron® Processor N3350, Dual Core, 2M Cache, 1.1GHz (2.4GHz), 6W				
	<b>Memory</b>	One 204-pin SODIMM up to 8GB Single Channel DDR3L 1866MHz				
	<b>BIOS</b>	Insyde SPI 128Mbit (supports UEFI boot only)				
<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Graphics				
	<b>Feature</b>	OpenGL 4.2, Direct X 11.1, OpenCL 1.2, OGL ES 3.0 HW Decode: H.264, MPEG2, VC1, VP8, H.265, MPEG4 HW Encode: H.264, MPEG2, MPEG4				
	<b>Display</b>	1 x DP++ 1 x VGA or DVI-D (DVI-D available upon request)			DP++: resolution up to 4096x2160 @ 60Hz VGA: resolution up to 2560x1600 @ 60Hz DVI-D: resolution up to 1920x1200 @ 60Hz	
	<b>Triple Displays</b>	Panel Module, DP++, VGA or DVI-D				
<b>STORAGE</b>	<b>External</b>	1 x 2.5" SATA 3.0 Drive Bay (accessible)		1 x mSATA (shared by Half-size Mini-PCIe Socket)		
<b>EXPANSION</b>	<b>Interface</b>	1 x Full-size Mini PCIe (USB/PCIe) 1 x Half-size Mini PCIe (USB/PCIe/mSATA) 1 x SIM Slot				
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC262				
<b>ETHERNET</b>	<b>Controller</b>	2 x Intel® I210IT PCIe (10/100/1000Mbps)				
<b>LED</b>	<b>Indicators</b>	1 x Power LED			1 x HDD LED	
<b>I/O</b>	<b>Serial</b>	2 x RS-232/422/485 (DB9) Support 5V/12V Power		2 x RS-232/422/485 (available upon request)		
	<b>Ethernet</b>	2 x GbE (RJ-45) (10/100/1000Mbps) 802.3 af PoE (PSE), Individual Port 15.4W (available upon request)			Support Jumbo Frame, IEEE1588v2, WOL, PXE	
	<b>DIO</b>	4 x DI / 4 x DO (10-pin terminal block) (available upon request)				
	<b>Buttons</b>	1 x Power Button, 1 x Reset Switch				
	<b>Wi-Fi Antennas</b>	4 x Wi-Fi Module Antenna Hole				
	<b>USB</b>	2 x USB 3.0 (type A) 2 x USB 2.0 (available upon request)		2 x USB 2.0 (type A)		
	<b>Display</b>	1 x DP++			1 x VGA or DVI-D (DVI-D available upon request)	
	<b>Audio</b>	1 x Line-out			1 x Mic-in	
	<b>Switch</b>	1 x AT/ATX Switch			1 x Ignition Power On/Off Switch	
	<b>Remote Power On/Off</b>	1 x 2-pin Terminal Block				
	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds				
	<b>WATCHDOG TIMER</b>	<b>Ignition Power On/Off</b>	Auto Detect Boot-up & Shut-down Voltage for Low Power Protection Support 12V/24V/48V DC Input 7-level Delay Time On/Off Configuration I/O Switch Selectable Ignition Power On/Off			
<b>Watchdog Timer</b>		System Reset, Programmable via Software from 1 to 255 Seconds				
<b>Antenna</b>		4 x Antenna Hole				
<b>POWER</b>	<b>Type</b>	24 VDC Input (available upon request)		9~48 VDC Input (available upon request)		
	<b>Connector</b>	3-pin Terminal Block				
<b>OS SUPPORT</b>		Windows 10 IoT Enterprise 64-bit		Linux		
<b>MECHANISM</b>	<b>Construction</b>	Aluminum Front Bezel				
	<b>IP Rating</b>	IP65 Front Panel Protection				
	<b>Mounting</b>	Panel/VESA Mount				
	<b>Dimensions (W x H x D)</b>	224 x 163.55 x 72.9	275 x 212.3 x 72.9	407.3 x 277.3 x 6.1	472.1 x 314.1 x 80.9	544.2 x 360.6 x 80.9
<b>STANDARDS AND CERTIFICATIONS</b>	<b>Weight</b>	2.2 kg	2.4 kg	4.2 kg	5.7 kg	7 kg
	<b>Shock</b>	Non-op : 240G, 2ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	Non-op : 240G, 2ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	Non-op : 50G, 20ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	Non-op : 50G, 20ms, half sine wave, 1 time for ± X, ± Y, ± Z direction	Non-op : 50G, 20ms, half sine wave, 1 time for ± X, ± Y, ± Z direction
	<b>Vibration</b>	Non-op: 1.5G, 10 ~ 300 Hz sine wave, 10 min/cycle, 3 cycles each X,Y, Z direction	Non-op: 1.5G, 10 ~ 300 Hz sine wave, 10 min/cycle, 3 cycles each X,Y, Z direction	Non-op : 1.5G, 10~200 Hz random, x, y, z each axis/30 min	Non-op : 1.5G, 10~200 Hz random, x, y, z each axis/30 min	Non-op : 1.5G, 10~200 Hz random, x, y, z each axis/30 min
	<b>Certifications</b>	CE / FCC Class A / RoHS / UKCA				
<b>Patent No. (Taiwan)</b>		I670589				
		I711917				

► Dimensions



Display Type	System Dimensions (mm)		
	X1	Y1	Z1
7" LCD	224	163.55	72.9
10.1" LCD	275	212.3	72.9
12.1" LCD	308	265.3	77.9
15" LCD	387	320	80.5
15.6" LCD	407.3	277.3	76.1
17" LCD	404	363.8	80.9
18.5" LCD	472.1	314.1	80.9
19" LCD	467	400	80.5
21.5" LCD	544.2	360.63	80.9

▶ Panel Mounting



Suggested cut out size



Display Type	System Dimensions (mm)	
	X1	Y1
<b>PMKS070</b>	206	145.6
<b>PMKS101</b>	257	194.3
<b>PMKS121</b>	290	247.5
<b>PMKS150</b>	367	300
<b>PMKS156</b>	389.3	259.3
<b>PMKS170</b>	386	346
<b>PMKS185</b>	454	296.1
<b>PMKS190</b>	447	380
<b>PMKS215</b>	526.2	342.6

► Ordering Information

Model Name	Part Number	Description
<b>KSM215R-ALW48-N50</b>	available upon request	KSM215R-ALW48-N50: 21.5\ TFT FHD Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM215R-ALW48-E40</b>	available upon request	KSM215R-ALW48-E40: 21.5\ TFT FHD Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM215R-ALD24-N50</b>	available upon request	KSM215R-ALD24-N50: 21.5\ TFT FHD Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM215R-ALD24-E40</b>	available upon request	KSM215R-ALD24-E40: 21.5\ TFT FHD Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM215P-ALW48-N50</b>	available upon request	KSM215P-ALW48-N50: 21.5\ TFT FHD Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM215P-ALW48-E40</b>	available upon request	KSM215P-ALW48-E40: 21.5\ TFT FHD Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM215P-ALD24-N50</b>	available upon request	KSM215P-ALD24-N50: 21.5\ TFT FHD Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM215P-ALD24-E40</b>	available upon request	KSM215P-ALD24-E40: 21.5\ TFT FHD Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALW48-N50</b>	available upon request	KSM190P-ALW48-N50: 19\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALW48-N50</b>	available upon request	KSM190P-ALW48-N50: 19\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALW48-E40</b>	available upon request	KSM190P-ALW48-E40: 19\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALW48-E40</b>	available upon request	KSM190P-ALD24-E40: 19\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALD24-N50</b>	available upon request	KSM190P-ALD24-N50: 19\ TFT SXGA HD Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALD24-N50</b>	available upon request	KSM190P-ALD24-N50: 19\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALD24-E40</b>	available upon request	KSM190P-ALD24-E40: 19\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM190P-ALD24-E40</b>	available upon request	KSM190P-ALD24-E40: 19\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM185R-ALW48-N50</b>	available upon request	KSM185R-ALW48-N50: 18.5\ TFT WXGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM185R-ALW48-E40</b>	available upon request	KSM185R-ALW48-E40: 18.5\ TFT WXGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM185R-ALD24-N50</b>	available upon request	KSM185R-ALD24-N50: 18.5\ TFT WXGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM185R-ALD24-E40</b>	available upon request	KSM185R-ALD24-E40: 18.5\ TFT WXGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM185P-ALW48-N50</b>	available upon request	KSM185P-ALW48-N50: 18.5\ TFT WXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM121R-ALW48-E40</b>	750-KS1210-200G	KSM121R-ALW48-E40: 12.1\ TFT XGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM121R-ALD24-N50</b>	available upon request	KSM121R-ALD24-N50: 12.1\ TFT XGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM121R-ALD24-E40</b>	750-KS1210-400G	KSM121R-ALD24-E40: 12.1\ TFT XGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS
<b>KSM121P-ALW48-N50</b>	available upon request	KSM121P-ALW48-N50: 12.1\ TFT XGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS
<b>KSM121P-ALD24-N50</b>	available upon request	KSM121P-ALD24-N50: 12.1\ TFT XGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS

**Ordering Information**

Model Name	Part Number	Description
<b>KSM121P-ALD24-E40</b>	750-KS1210-100G	KSM121P-ALD24-E40: 12.1\ TFT XGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM121P-ALW48-E40</b>	750-KS1210-300G	KSM121P-ALW48-E40: 12.1" TFT XGA Panel PC, Projective Touch, Intel® Atom E3940, VGA, DP, IGN, DC Input 9~48V Terminal, F/G SYSTEM RoHS, , , , , .
<b>KSM101R-ALW48-E40</b>	available upon request	KSM101R-ALW48-E40: 10.1\ TFT WXGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM101R-ALW48-N50</b>	750-KS1011-000G	KSM101R-ALW48-N50: 10.1" TFT WXGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DC Input 9~48V Terminal, F/G SYSTEM RoHS, , , , , .
<b>KSM101R-ALD24-N50</b>	available upon request	KSM101R-ALD24-N50: 10.1\ TFT WXGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM101R-ALD24-E40</b>	available upon request	KSM101R-ALD24-E40: 10.1\ TFT WXGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM101P-ALW48-E40</b>	750-KS1011-100G	KSM101P-ALW48-E40: 10.1" TFT WXGA Panel PC with Capacitive Touch, Intel® Celeron® E3940, VGA, DC Input 9~48V Terminal, F/G SYSTEM RoHS, , , , , .
<b>KSM101P-ALW48-N50</b>	available upon request	KSM101P-ALW48-N50: 10.1\ TFT WXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM101P-ALD24-N50</b>	available upon request	KSM101P-ALD24-N50: 10.1\ TFT WXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM101P-ALD24-E40</b>	available upon request	KSM101P-ALD24-E40: 10.1\ TFT WXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM070R-ALW48-E40</b>	available upon request	KSM070R-ALW48-E40: 7\ TFT WVGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM070R-ALW48-N50</b>	750-KS07R0-200G	KSM070R-ALW48-N50: 7" TFT WVGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal, F/G SYSTEM RoHS, , , , , .
<b>KSM070R-ALD24-N50</b>	available upon request	KSM070R-ALD24-N50: 7\ TFT WVGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM070R-ALD24-E40</b>	available upon request	KSM070R-ALD24-E40: 7\ TFT WVGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM070P-ALW48-N50</b>	750-KS07P0-200G	KSM070P-ALW48-N50: 7\ TFT WVGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM070P-ALW48-E40</b>	available upon request	KSM070P-ALW48-E40: 7\ TFT WVGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM070P-ALD24-N50</b>	750-KS07P0-000G	KSM070P-ALD24-N50: 7\ TFT WVGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM070P-ALD24-E40</b>	available upon request	KSM070P-ALD24-E40: 7\ TFT WVGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM121R-ALW48-N50</b>	available upon request	KSM121R-ALW48-N50: 12.1\ TFT XGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM150P-ALD24-E40</b>	available upon request	KSM150P-ALD24-E40: 15\ TFT XGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM150P-ALD24-N50</b>	available upon request	KSM150P-ALD24-N50: 15\ TFT XGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM150P-ALW48-E40</b>	available upon request	KSM150P-ALW48-E40: 15\ TFT XGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM185P-ALW48-E40</b>	available upon request	KSM185P-ALW48-E40: 18.5\ TFT WXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM185P-ALD24-N50</b>	available upon request	KSM185P-ALD24-N50: 18.5\ TFT WXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"

► **Ordering Information**

Model Name	Part Number	Description
<b>KSM185P-ALD24-E40</b>	available upon request	KSM185P-ALD24-E40: 18.5\ TFT WXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM170R-ALW48-N50</b>	available upon request	KSM170R-ALW48-N50: 17\ TFT SXGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM170R-ALW48-E40</b>	available upon request	KSM170R-ALW48-E40: 17\ TFT SXGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM170R-ALD24-N50</b>	available upon request	KSM170R-ALD24-N50: 17\ TFT SXGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM170R-ALD24-E40</b>	available upon request	KSM170R-ALD24-E40: 17\ TFT SXGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM170P-ALW48-N50</b>	available upon request	KSM170P-ALW48-N50: 17\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM170P-ALW48-E40</b>	available upon request	KSM170P-ALW48-E40: 17\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM170P-ALD24-N50</b>	available upon request	KSM170P-ALD24-N50: 17\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM170P-ALD24-E40</b>	available upon request	KSM170P-ALD24-E40: 17\ TFT SXGA Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM156R-ALD24-N50</b>	available upon request	KSM156R-ALD24-N50: 15.6\ TFT HD Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM156R-ALD24-E40</b>	available upon request	KSM156R-ALD24-E40: 15.6\ TFT HD Panel PC with Resistive Touch, Intel® Atom®x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM156P-ALW48-N50</b>	available upon request	KSM156P-ALW48-N50: 15.6\ TFT HD Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM156P-ALW48-E40</b>	available upon request	KSM156P-ALW48-E40: 15.6\ TFT HD Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS"
<b>KSM156P-ALD24-N50</b>	available upon request	KSM156P-ALD24-N50: 15.6\ TFT HD Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM156P-ALD24-E40</b>	available upon request	KSM156P-ALD24-E40: 15.6\ TFT HD Panel PC with Projected Capacitive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS"
<b>KSM156R-ALW48-N50</b>	750-K15603-000G	KSM156R-ALW48-N50: 15.6" TFT WXGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal, F/G SYSTEM RoHS, , , , , .
<b>KSM150R-ALW48-N50</b>	available upon request	KSM150R-ALW48-N50: 15\ TFT XGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM150R-ALW48-E40</b>	available upon request	KSM150R-ALW48-E40: 15\ TFT XGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM150R-ALD24-N50</b>	available upon request	KSM150R-ALD24-N50: 15\ TFT XGA Panel PC with Resistive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM150R-ALD24-E40</b>	available upon request	KSM150R-ALD24-E40: 15\ TFT XGA Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 24V Terminal. F/G SYSTEM RoHS "
<b>KSM150P-ALW48-N50</b>	available upon request	KSM150P-ALW48-N50: 15\ TFT XGA Panel PC with Projected Capacitive Touch, Intel® Celeron® N3350, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "
<b>KSM156R-ALW48-E40</b>	available upon request	KSM156R-ALW48-E40: 15.6\ TFT HD Panel PC with Resistive Touch, Intel® Atom® x5-E3940, VGA, DP, IGN, DC Input 9~48V Terminal. F/G SYSTEM RoHS "



**Optional Items**

Optional Items	Part Number	Description
<b>HDD</b>	785-H25500G	2.5" SATA HDD, 500GB, RoHS
	785-H25320G	2.5" SATA HDD, 320GB, RoHS
	785-S25512G	2.5" SATA SSD, 512GB MLC, RoHS
	785-S25256G	2.5" SATA SSD, 256GB MLC, RoHS
	785-S25128G	2.5" SATA SSD, 128GB MLC, RoHS
	785-S25064G	2.5" SATA SSD, 64GB MLC, RoHS
	785-S25032G	2.5" SATA SSD, 32GB MLC, RoHS
<b>mSATA</b>	785-MS128GMF	mSATA mini, 128GB MLC, RoHS
	785-MS64GMF	mSATA mini, 64GB MLC, RoHS
	785-MS32GMF	mSATA mini, 32GB MLC, RoHS
	785-MS16GMF	mSATA mini, 16GB MLC, RoHS
<b>Wi-Fi</b>	761-110091-000G	Wi-Fi Kit, RoHS
<b>Power Cord</b>	785-PWRD	Power Cord, Standards (USA/EUR/CH), 1.8m, RoHS
<b>Power Adapter</b>	671-106013-000G	60W: 12VDC/5A, DC Cord 5.5*2.5mm, Pitch 5mm, LV6, RoHS
	671-112005-100G	120W: 24VDC/5A, DC Cord 5.5*2.5mm, Pitch 5mm, LV6, RoHS
<b>Panel Mount Kit</b>	761-KS0701-000G	KSM070-AL / KSM101-AL / KSM121-AL Panel Mount Kit RoHS
	761-P15002-000G	Panel Mount Kit for PMKS150 RoHS
	761-P19003-000G	KSM170-AL / KSM190-AL Panel Mount Kit RoHS
	available upon request	KSM185 Panel Mount Kit RoHS
	761-KS2150-000G	KSM215-AL Panel Mount Kit RoHS

785-XXX is a group number instead of a unique part number. Please contact your regional sales representative if you need more information.

**Matrix List**

		Panel Module								
		PMKS070	PMKS101	PMKS121	PMKS150	PMKS156	PMKS170	PMKS185	PMKS190	PMKS215
<b>Box Module</b>	BMAL	V	V	V	V	V	V	V	V	V
	BMSD				V	V	V	V	V	V
	BMKH				V	V	V	V	V	V

**Packing List**

- 1 Single box
- 1 3 pin Terminal Block Connector
- 1 2 pin Terminal Block Connector
- 2 Mini PCIe screw
- 4 SATA screw