

## IP Series: Full IP65 Multi Touch Panel PC

*360° protection against  
intrusion of dust, water,  
oil, or corrosive materials*



### **Features**

- IP65 compliant 6-sided stainless steel chassis
- IP65 waterproof stainless steel connectors
- IP65 rated external power adapter

*Specially suitable for dusty / humid / oily / corrosive industrial environments*



# IP Series Full IP65 Multi Touch Panel PC

## Challenges

For a PC-based automation system installed in some industrial environments such as food processing factories, car washing stations, petroleum plants or pharmaceutical facilities, moisture, grease and dust resistance is an important criterion to ensure high reliability against harsh conditions. IP65 rating is the most commonly used index when an industrialist purchases waterproof industrial PCs.



**Waterproof**



**Dustproof**



**Anti-oil**



**Corrosion-proof**

## Solutions

Kingdy's IP Series is the very full IP65 multi touch panel PC featuring the following protection designs and designed for sophisticated human-machine interaction in the most intuitive way.

- **Dustproof / Waterproof full IP65 chassis, connector and power adaptor** not only to prevent dust and water from invading the inner sensitive components but also to allow the device to be washed down
- **Corrosion-proof and anti-oil stainless steel chassis** not only to prevent corrosion generated by acid and alkali but also to facilitate cleaning and maintenance

## Collections

Model Number	CPU	Performance		Structure		Panel Size					
		CPU	Power Efficiency	Fan	External Heat Sink	4:3					16:9
						10.4"	12.1"	15"	17"	19"	21.5"
IP-0L Series	Intel N270	★	🍃🍃🍃	Fanless	N/A			V	V	V	
IP-2L Series	Intel D2550	★★	🍃🍃🍃	Fanless	N/A	V	V	V	V	V	V
IP-7L Series	Intel N2800	★★	🍃🍃🍃	Fanless	N/A	V	V	V	V	V	V
IP-8L Series	Intel N2600	★★	🍃🍃🍃	Fanless	N/A	V	V	V	V	V	V
IP-9L Series	AMD T40N	★★	🍃🍃🍃	Fanless	N/A	V	V	V	V	V	V
IP-AN Series	Intel Celeron/i5 + HM76	★★★	🍃🍃🍃	Fanless	Yes			V	V	V	V
IP-BL Series	AMD T56N	★★	🍃🍃🍃	Fanless	N/A			V	V	V	V



Foodstuff, Pharmaceuticals



Military



Petroleum, Chemistry, Petrochemistry



Industrial automation

## Applications

# IP-0L Series (Intel N270)



-  CPU Performance 
-  Energy Efficiency 
-  Touch Function 
-  Dissipation Design **Fanless, No external heat sink**
-  Waterproof Design **IP65 chassis, IP65 connectors, IP65 power adapter**
-  Housing Design **Stainless steel**

CPU	Intel Atom N270 1.6GHz
Chipset	Intel 945 GSE & ICH7M
Memory	1 x DDR II SODIMM up to 2 GB
Power Supply	Full IP65 DC in 12V ~ 24V external power adapter
I/O Ports (Default)	1 x RS232, 1 x RS232/422/485, 1 x GLAN, 3 x USB, 2 x SATA socket, 1 x IDE socket
I/O Ports (Optional)	Any combination of up to 1 x RS232, 1 x RS232/422/485, 1 x GLAN, 4 x USB but totally no more than 6
Expansion	1 x CF card socket, 1 x Mini PCI slot
Operation Temperature	0°C ~ 45°C
Storage Temperature	-10°C ~ 70°C
Relative Humidity	0% ~ 95% non-condensing
OS	Win 7 Pro, Embedded 7, Win XP Pro, Embedded XP, Linux, WinCE
Installation	VESA mount 100 x 100 mm
Optional Items	RFID sensor, Memory, Storage devices, WiFi, OS

Model Name		IP-0LR15DW (2pt PCT) IP-0LR15QW (4pt PCT) IP-0LR15RW (resistive)	IP-0LR17DW (2pt PCT) IP-0LR17QW (4pt PCT)	IP-0LR19DW (2pt PCT) IP-0LR19QW (4pt PCT)
Display	Size / Aspect Ratio	15" TFT (4:3)	17" TFT (4:3)	19" TFT (4:3)
	Resolution	1024 x 768	1280 x 1024	1280 x 1024
	Colors	16.2 M	16.7 M	16.7 M
	Luminance (cd/m2)	250	300	250
	Contrast Ratio	700:1	800:1	1000:1
	Viewing Angle (H/V°)	140/125	140/125	140/125
	MTBF (hrs)	50,000	50,000	50,000
	Touch Screen	2/4pt PCT / 5-wire resistive	2/4pt PCT	2/4pt PCT
Weight (kg)		11	15	16

IP65 compliant 6-sided sealed stainless steel chassis  
to prevent liquid / dust from getting into the housing and  
to resist acid- / alkali-based cleaning agents from corroding the device

Seamless flat-bezel design between chassis and panel  
to decrease water / dust accumulation and  
to facilitate cleaning / maintenance

IP65 waterproof stainless steel connectors  
to prevent liquid from getting into the housing via the cable entry points



# IP-2L Series (Intel D2550)



-  CPU Performance 
-  Energy Efficiency 
-  Touch Function 
-  Dissipation Design **Fanless, No external heat sink**
-  Waterproof Design **IP65 chassis, IP65 connectors, IP65 power adapter**
-  Housing Design **Stainless steel**


CPU	Intel Dual Core Atom D2550 1.86GHz	
Chipset	Intel NM10	
Memory	1 x DDR III SODIMM up to 4 GB	
Power Supply	Full IP65 DC in 12V external power adapter	Full IP65 DC in 9V ~ 36V external power adapter
I/O Ports (Default)	2 x RS232, 1 x GLAN (10.4" & 12.1") / 2 x GLAN (15" ~ 21.5"), 1 x USB (10.4" & 12.1") / 2 x USB (15" ~ 21.5"), 2 x SATA socket	2 x RS232, 1 x GLAN (10.4" & 12.1") / 2 x GLAN (15" ~ 21.5"), 1 x USB (10.4" & 12.1") / 2 x USB (15" ~ 21.5"), 1 x SATA socket
I/O Ports (Optional)	Any combination of up to 4 x RS232, 1 x RS232/422/485, 2 x GLAN, 4 x USB but totally no more than 4 (10.4" & 12.1") / 6 (15" ~ 21.5")	Any combination of up to 3 x RS232, 1 x RS232/422/485, 2 x GLAN, 4 x USB but totally no more than 4 (10.4" & 12.1") / 6 (15" ~ 21.5")
Expansion	1 x CF card socket, 1 x Mini PCIe slot	1 x CFAST CF card socket, 1 x Mini PCIe slot
Operation Temperature	0°C ~ 45°C	
Storage Temperature	-10°C ~ 70°C	
Relative Humidity	0% ~ 95% non-condensing	
OS	Win 7 Pro, Embedded 7	
Installation	VESA mount 75 x 75 mm (10.4" & 12.1") / 100 x 100 mm (15" ~ 21.5")	
Optional Items	RFID sensor, Memory, Storage devices, WiFi, OS	

Model Name		IP-2LR10DF (2pt PCT, 12V) IP-2LR10DW (2pt PCT, 9~36V)	IP-2LS10DF (2pt PCT, 12V) IP-2LS10DW (2pt PCT, 9~36V)	IP-2LR12DF (2pt PCT, 12V) IP-2LR12DW (2pt PCT, 9~36V)	IP-2LR12DF (2pt PCT, 12V) IP-2LR12DW (2pt PCT, 9~36V)
Display	Size / Aspect Ratio	10.4" TFT (4:3)	10.4" TFT (4:3)	12.1" TFT (4:3)	12.1" TFT (4:3)
	Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768
	Colors	16.2 M	16.2 M	16.2 M	16.2 M
	Luminance (cd/m2)	230	350	400	500
	Contrast Ratio	500:1	1200:1	600:1	700:1
	Viewing Angle (H/V°)	140/120	176/176	160/120	160/160
	MTBF (hrs)	50,000	50,000	50,000	50,000
Touch Screen	2pt PCT	2pt PCT	2pt PCT	2pt PCT	
Weight (kg)		5	5	8	8

Model Name		IP-2LR15DF (2pt PCT, 12V) IP-2LR15QF (4pt PCT, 12V) IP-2LR15RF (resistive, 12V) IP-2LR15DW (2pt PCT, 9~36V) IP-2LR15QW (4pt PCT, 9~36V) IP-2LR15RW (resistive, 9~36V)	IP-2LR17DF (2pt PCT, 12V) IP-2LR17QF (4pt PCT, 12V) IP-2LR17DW (2pt PCT, 9~36V) IP-2LR17QW (4pt PCT, 9~36V)	IP-2LR19DF (2pt PCT, 12V) IP-2LR19QF (4pt PCT, 12V) IP-2LR19DW (2pt PCT, 9~36V) IP-2LR19QW (4pt PCT, 9~36V)	IP-2LD21QF (4pt PCT, 12V) IP-2LD21ZF (10pt PCT, 12V) IP-2LD21QW (4pt PCT, 9~36V) IP-2LD21ZW (10pt PCT, 9~36V)
Display	Size / Aspect Ratio	15" TFT (4:3)	17" TFT (4:3)	19" TFT (4:3)	21.5" TFT (16:9)
	Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080
	Colors	16.2 M	16.7 M	16.7 M	16.7 M
	Luminance (cd/m2)	250	300	250	300
	Contrast Ratio	700:1	800:1	1000:1	5000:1
	Viewing Angle (H/V°)	140/125	140/125	140/125	178/178
	MTBF (hrs)	50,000	50,000	50,000	50,000
Touch Screen	2/4pt PCT / 5-W resistive	2/4pt PCT	2/4pt PCT	4/10pt PCT	
Weight (kg)		11	15	16	18

# IP-7L Series (Intel N2800)



-  CPU Performance 
-  Energy Efficiency 
-  Touch Function 
-  Dissipation Design **Fanless, No external heat sink**
-  Waterproof Design **IP65 chassis, IP65 connectors, IP65 power adapter**
-  Housing Design **Stainless steel**
-  OSD Controller **Rear side for 21.5"**


CPU	Intel Dual Core Atom N2800 1.86GHz
Chipset	Intel NM10
Memory	1 x DDR III SODIMM up to 4 GB
Power Supply	Full IP65 DC in 12V external power adapter
I/O Ports (Default)	2 x RS232, 1 x GLAN (10.4" & 12.1") / 2 x GLAN (15" ~ 21.5"), 1 x USB (10.4" & 12.1") / 2 x USB (15" ~ 21.5"), 2 x SATA socket
I/O Ports (Optional)	Any combination of up to 4 x RS232, 1 x RS232/422/485, 2 x GLAN, 4 x USB but totally no more than 4 (10.4" & 12.1") / 6 (15" ~ 21.5")
Expansion	1 x CF card socket, 1 x Mini PCIe slot
Operation Temperature	0°C ~ 45°C
Storage Temperature	-10°C ~ 70°C
Relative Humidity	0% ~ 95% non-condensing
OS	Win 7 Pro, Embedded 7
Installation	VESA mount 75 x 75 mm (10.4" & 12.1") / 100 x 100 mm (15" ~ 21.5")
Optional Items	RFID sensor, Memory, Storage devices, WiFi, OS

Model Name		IP-7LR10DF (2pt PCT)	IP-7LS10DF (2pt PCT)	IP-7LR12DF (2pt PCT)	IP-7LR12DF (2pt PCT)
Display	Size / Aspect Ratio	10.4" TFT (4:3)	10.4" TFT (4:3)	12.1" TFT (4:3)	12.1" TFT (4:3)
	Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768
	Colors	16.2 M	16.2 M	16.2 M	16.2 M
	Luminance (cd/m2)	230	350	400	500
	Contrast Ratio	500:1	1200:1	600:1	700:1
	Viewing Angle (H/V°)	140/120	176/176	160/120	160/160
	MTBF (hrs)	50,000	50,000	50,000	50,000
	Touch Screen	2pt PCT	2pt PCT	2pt PCT	2pt PCT
Weight (kg)	5	5	8	8	
OSD Controller	N/A	N/A	N/A	N/A	

Model Name		IP-7LR15DF (2pt PCT) IP-7LR15QF (4pt PCT) IP-7LR15RF (resistive)	IP-7LR17DF (2pt PCT) IP-7LR17QF (4pt PCT)	IP-7LR19DF (2pt PCT) IP-7LR19QF (4pt PCT)	IP-AND21QS (4pt PCT) IP-AND21ZS (10pt PCT)
Display	Size / Aspect Ratio	15" TFT (4:3)	17" TFT (4:3)	19" TFT (4:3)	21.5" TFT (16:9)
	Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080
	Colors	16.2 M	16.7 M	16.7 M	16.7 M
	Luminance (cd/m2)	250	300	250	300
	Contrast Ratio	700:1	800:1	1000:1	5000:1
	Viewing Angle (H/V°)	140/125	140/125	140/125	178/178
	MTBF (hrs)	50,000	50,000	50,000	50,000
	Touch Screen	2/4pt PCT / 5-W resistive	2/4pt PCT	2/4pt PCT	4/10pt PCT
Weight (kg)	11	15	16	18	
OSD Controller	N/A	N/A	N/A	Yes (Rear)	

# IP-8L Series (Intel N2600)



-  CPU Performance 
-  Energy Efficiency 
-  Touch Function 
-  Dissipation Design **Fanless, No external heat sink**
-  Waterproof Design **IP65 chassis, IP65 connectors, IP65 power adapter**
-  Housing Design **Stainless steel**
-  OSD Controller **Rear side for 21.5"**

CPU	Intel Dual Core Atom N2600 1.6GHz	
Chipset	Intel NM10	
Memory	1 x DDR III SODIMM up to 4 GB	1 x DDR III SODIMM up to 2 GB
Power Supply	Full IP65 DC in 12V external power adapter	Full IP65 DC in 9V ~ 36V external power adapter
I/O Ports (Default)	2 x RS232, 1 x GLAN (10.4" & 12.1") / 2 x GLAN (15" ~ 21.5"), 1 x USB (10.4" & 12.1") / 2 x USB (15" ~ 21.5"), 2 x SATA socket	2 x RS232, 1 x GLAN (10.4" & 12.1") / 2 x GLAN (15" ~ 21.5"), 1 x USB (10.4" & 12.1") / 2 x USB (15" ~ 21.5"), 1 x SATA socket
I/O Ports (Optional)	Any combination of up to 4 x RS232, 1 x RS232/422/485, 2 x GLAN, 4 x USB but totally no more than 4 (10.4" & 12.1") / 6 (15" ~ 21.5")	Any combination of up to 3 x RS232, 1 x RS232/422/485, 2 x GLAN, 4 x USB but totally no more than 4 (10.4" & 12.1") / 6 (15" ~ 21.5")
Expansion	1 x CF card socket, 1 x Mini PCIe slot	1 x CFAST CF card socket, 1 x Mini PCIe slot
Operation Temperature	0°C ~ 45°C	
Storage Temperature	-10°C ~ 70°C	
Relative Humidity	0% ~ 95% non-condensing	
OS	Win 7 Pro, Embedded 7	
Installation	VESA mount 75 x 75 mm (10.4" & 12.1") / 100 x 100 mm (15" ~ 21.5")	
Optional Items	RFID sensor, Memory, Storage devices, WiFi, OS	

Model Name		IP-8LR10DF <small>(2pt PCT, 12V)</small>	IP-8LS10DF <small>(2pt PCT, 12V)</small>	IP-8LR12DF <small>(2pt PCT, 12V)</small>	IP-8LR12DF <small>(2pt PCT, 12V)</small>
		IP-8LR10DW <small>(2pt PCT, 9~36V)</small>	IP-8LS10DW <small>(2pt PCT, 9~36V)</small>	IP-8LR12DW <small>(2pt PCT, 9~36V)</small>	IP-8LR12DW <small>(2pt PCT, 9~36V)</small>
Display	Size / Aspect Ratio	10.4" TFT (4:3)	10.4" TFT (4:3)	12.1" TFT (4:3)	12.1" TFT (4:3)
	Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768
	Colors	16.2 M	16.2 M	16.2 M	16.2 M
	Luminance (cd/m2)	230	350	400	500
	Contrast Ratio	500:1	1200:1	600:1	700:1
	Viewing Angle (H/V°)	140/120	176/176	160/120	160/160
	MTBF (hrs)	50,000	50,000	50,000	50,000
	Touch Screen	2pt PCT	2pt PCT	2pt PCT	2pt PCT
Weight (kg)		5	5	8	8
OSD Controller		N/A	N/A	N/A	N/A

Model Name		IP-8LR15DF <small>(2pt PCT, 12V)</small>	IP-8LR17DF <small>(2pt PCT, 12V)</small>	IP-8LR19DF <small>(2pt PCT, 12V)</small>	IP-8LD21QF <small>(4pt PCT, 12V)</small>
		IP-8LR15QF <small>(4pt PCT, 12V)</small>	IP-8LR17QF <small>(4pt PCT, 12V)</small>	IP-8LR19QF <small>(4pt PCT, 12V)</small>	IP-8LD21ZF <small>(10pt PCT, 12V)</small>
		IP-8LR15RF <small>(resistive, 12V)</small>	IP-8LR17QF <small>(4pt PCT, 12V)</small>	IP-8LR19QF <small>(4pt PCT, 12V)</small>	IP-8LD21ZF <small>(10pt PCT, 12V)</small>
		IP-8LR15DW <small>(2pt PCT, 9~36V)</small>	IP-8LR17DW <small>(2pt PCT, 9~36V)</small>	IP-8LR19DW <small>(2pt PCT, 9~36V)</small>	IP-8LD21QW <small>(4pt PCT, 9~36V)</small>
		IP-8LR15QW <small>(4pt PCT, 9~36V)</small>	IP-8LR17QW <small>(4pt PCT, 9~36V)</small>	IP-8LR19QW <small>(4pt PCT, 9~36V)</small>	IP-8LD21ZW <small>(10pt PCT, 9~36V)</small>
		IP-8LR15RW <small>(resistive, 9~36V)</small>			
Display	Size / Aspect Ratio	15" TFT (4:3)	17" TFT (4:3)	19" TFT (4:3)	21.5" TFT (16:9)
	Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080
	Colors	16.2 M	16.7 M	16.7 M	16.7 M
	Luminance (cd/m2)	250	300	250	300
	Contrast Ratio	700:1	800:1	1000:1	5000:1
	Viewing Angle (H/V°)	140/125	140/125	140/125	178/178
	MTBF (hrs)	50,000	50,000	50,000	50,000
	Touch Screen	2/4pt PCT / 5-W resistive	2/4pt PCT	2/4pt PCT	4/10pt PCT
Weight (kg)		11	15	16	18
OSD Controller		N/A	N/A	N/A	Yes (Rear)

# IP-9L Series (AMD T40N)



CPU Performance



Energy Efficiency



Touch Function



Dissipation Design

Fanless, No external heat sink



Waterproof Design

IP65 chassis, IP65 connectors, IP65 power adapter



Housing Design

Stainless steel

CPU AMD T40N 1.0GHz

Chipset AMD A50M

Memory 1 x DDR III SODIMM up to 8 GB

Power Supply Full IP65 DC in 12V external power adapter

I/O Ports (Default) 2 x RS232/422/485, 1 x GLAN (10.4" & 12.1") / 2 x GLAN (15" ~ 21.5"), 1 x USB (10.4" & 12.1") / 2 x USB (15" ~ 21.5"), 1 x SATA socket

I/O Ports (Optional) Any combination of up to 2 x RS232/422/485, 2 x GLAN, 4 x USB but totally no more than 4 (10.4" & 12.1") / 6 (15" ~ 21.5")

Expansion 1 x CF card socket, 1 x Mini PCIe slot

Operation Temperature 0°C ~ 45°C

Storage Temperature -10°C ~ 70°C

Relative Humidity 0% ~ 95% non-condensing

OS Win 7 Pro, Embedded 7, Win XP Pro, Embedded XP

Installation VESA mount 75 x 75 mm (10.4" & 12.1") / 100 x 100 mm (15" ~ 21.5")

Optional Items RFID sensor, Memory, Storage devices, WiFi, OS

Model Name		IP-9LR10DF (2pt PCT)	IP-9LS10DF (2pt PCT)	IP-9LR12DF (2pt PCT)	IP-9LR12DF (2pt PCT)
Display	Size / Aspect Ratio	10.4" TFT (4:3)	10.4" TFT (4:3)	12.1" TFT (4:3)	12.1" TFT (4:3)
	Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768
	Colors	16.2 M	16.2 M	16.2 M	16.2 M
	Luminance (cd/m2)	230	350	400	500
	Contrast Ratio	500:1	1200:1	600:1	700:1
	Viewing Angle (H/V°)	140/120	176/176	160/120	160/160
	MTBF (hrs)	50,000	50,000	50,000	50,000
	Touch Screen	2pt PCT	2pt PCT	2pt PCT	2pt PCT
Weight (kg)		5	5	8	8

Model Name		IP-9LR15DF (2pt PCT) IP-9LR15QF (4pt PCT) IP-9LR15RF (resistive)	IP-9LR17DF (2pt PCT) IP-9LR17QF (4pt PCT)	IP-9LR19DF (2pt PCT) IP-9LR19QF (4pt PCT)	IP-9LD21QF (4pt PCT) IP-9LD21ZF (10pt PCT)
Display	Size / Aspect Ratio	15" TFT (4:3)	17" TFT (4:3)	19" TFT (4:3)	21.5" TFT (16:9)
	Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080
	Colors	16.2 M	16.7 M	16.7 M	16.7 M
	Luminance (cd/m2)	250	300	250	300
	Contrast Ratio	700:1	800:1	1000:1	5000:1
	Viewing Angle (H/V°)	140/125	140/125	140/125	178/178
	MTBF (hrs)	50,000	50,000	50,000	50,000
	Touch Screen	2/4pt PCT / 5-W resistive	2/4pt PCT	2/4pt PCT	4/10pt PCT
Weight (kg)		11	15	16	18

# IP-AN Series (Intel Celeron/i5, HM76)



-  CPU Performance 
-  Energy Efficiency 
-  Touch Function 
-  Dissipation Design **Fanless, (No) external heat sink**
-  Waterproof Design **IP65 chassis, IP65 connectors, IP65 power adapter**
-  Housing Design **Stainless steel**
-  OSD Controller **Rear side for 21.5"**

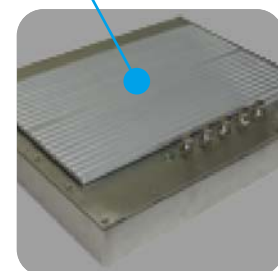
CPU	Intel Core i5 1.8GHz (17" ~ 21.5") / Core i5 Turbo up to 2.7GHz (15" ~ 21.5") / Celeron 827E (17" ~ 21.5")
Chipset	Intel HM76 Express
Memory	1 x DDR III SODIMM up to 8 GB
Power Supply	Full IP65 DC in 12V / 19V external power adapter
I/O Ports (Default)	2 x RS232, 2 x GLAN, 2 x USB, 2 x SATA socket
I/O Ports (Optional)	Any combination of up to 4 x RS232, 2 x RS232/422/485, 2 x GLAN, 6 x USB but totally no more than 6
Expansion	2 x Mini PCIe slot (1 with mSATA function), 1 x SIM socket
Operation Temperature	0°C ~ 40°C
Storage Temperature	-10°C ~ 70°C
Relative Humidity	0% ~ 95% non-condensing
OS	Win 7 Pro, Embedded 7, Win XP Pro, Embedded XP, Win 8 Pro, Embedded 8
Installation	VESA mount 100 x 100 mm
External Heat Sink	Yes for Core i5 Turbo up to 2.7GHz on the rear side; No for Core i5 1.8GHz & Celeron 827E
Optional Items	RFID sensor, Memory, Storage devices, WiFi, OS

Model Name		IP-ANR15DS <sup>(2pt PCT)</sup> IP-ANR15QS <sup>(4pt PCT)</sup> IP-ANR15RS <sup>(resistive)</sup>	IP-ANR17DS <sup>(2pt PCT)</sup> IP-ANR17QS <sup>(4pt PCT)</sup>	IP-ANR19DS <sup>(2pt PCT)</sup> IP-ANR19QS <sup>(4pt PCT)</sup>	IP-AND21QS <sup>(4pt PCT)</sup> IP-AND21ZS <sup>(10pt PCT)</sup>
Display	Size / Aspect Ratio	15" TFT (4:3)	17" TFT (4:3)	19" TFT (4:3)	21.5" TFT (16:9)
	Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080
	Colors	16.2 M	16.7 M	16.7 M	16.7 M
	Luminance (cd/m2)	250	300	250	300
	Contrast Ratio	700:1	800:1	1000:1	5000:1
	Viewing Angle (H/V°)	140/125	140/125	140/125	178/178
	MTBF (hrs)	50,000	50,000	50,000	50,000
Touch Screen	2/4pt PCT / 5-W resistive	2/4pt PCT	2/4pt PCT	4/10pt PCT	
Weight (kg)		11.5	15.5	16.5	18.5



External heat sink (on the rear for IP-AN Series with Core i5 Turbo up to 2.7GHz CPU only) *to faster dissipate the heat to keep excellent CPU performance*

No external heat sink (for IP-AN Series with Core i5 1.8GHz / Celeron CPU & IP-0L / -2L / -7L / -8L / -9L / -BL Series)





# IP-BL Series (AMD T56N)



-  CPU Performance 
-  Energy Efficiency 
-  Touch Function 
-  Dissipation Design **Fanless, No external heat sink**
-  Waterproof Design **IP65 chassis, IP65 connectors, IP65 power adapter**
-  Housing Design **Stainless steel**

CPU	AMD T56N 1.65GHz
Chipset	AMD A50M
Memory	1 x DDR III SODIMM up to 8 GB
Power Supply	Full IP65 DC in 12V external power adapter
I/O Ports (Default)	2 x RS232/422/485, 2 x GLAN, 2 x USB, 1 x SATA socket
I/O Ports (Optional)	Any combination of up to 2 x RS232/422/485, 2 x GLAN, 4 x USB but totally no more than 6
Expansion	1 x CF card socket, 1 x Mini PCIe slot
Operation Temperature	0°C ~ 45°C
Storage Temperature	-10°C ~ 70°C
Relative Humidity	0% ~ 95% non-condensing
OS	Win 7 Pro, Embedded 7, Win XP Pro, Embedded XP
Installation	VESA mount 100 x 100 mm
Optional Items	RFID sensor, Memory, Storage devices, WiFi, OS

Model Name		IP-BLR15DF <small>(2pt PCT)</small> IP-BLR15QF <small>(4pt PCT)</small> IP-BLR15RF <small>(resistive)</small>	IP-BLR17DF <small>(2pt PCT)</small> IP-BLR17QF <small>(4pt PCT)</small>	IP-BLR19DF <small>(2pt PCT)</small> IP-BLR19QF <small>(4pt PCT)</small>	IP-BLD21QF <small>(4pt PCT)</small> IP-BLD21ZF <small>(10pt PCT)</small>
Display	Size / Aspect Ratio	15" TFT (4:3)	17" TFT (4:3)	19" TFT (4:3)	21.5" TFT (16:9)
	Resolution	1024 x 768	1280 x 1024	1280 x 1024	1920 x 1080
	Colors	16.2 M	16.7 M	16.7 M	16.7 M
	Luminance (cd/m2)	250	300	250	300
	Contrast Ratio	700:1	800:1	1000:1	5000:1
	Viewing Angle (H/V°)	140/125	140/125	140/125	178/178
	MTBF (hrs)	50,000	50,000	50,000	50,000
	Touch Screen	2/4pt PCT / 5-W resistive	2/4pt PCT	2/4pt PCT	4/10pt PCT
Weight (kg)		11	15	16	18

IP65 rated external power adapter  
to prevent liquid from getting into the interior  
of the adapter from the junction of the shell





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