LAND
SEA
AIR

SKY12-P06

Dual vision mode military display with programmable function keys

- **Sunlight Readable 1000 (up to 1300) Nits**
- **NVIS Support, Dimmable Backlight < 1%**
- **Anti-Scratch 7H (G.F.G.) Resistive Touch**
- **Soft Touch Button /w programmable function keys**
- **IP65 Certified**
- **MIL-STD 461/1275 18V~36V DC Input**

Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your local distributor.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter any technical problems with the product, contact your local distributor.

Statement

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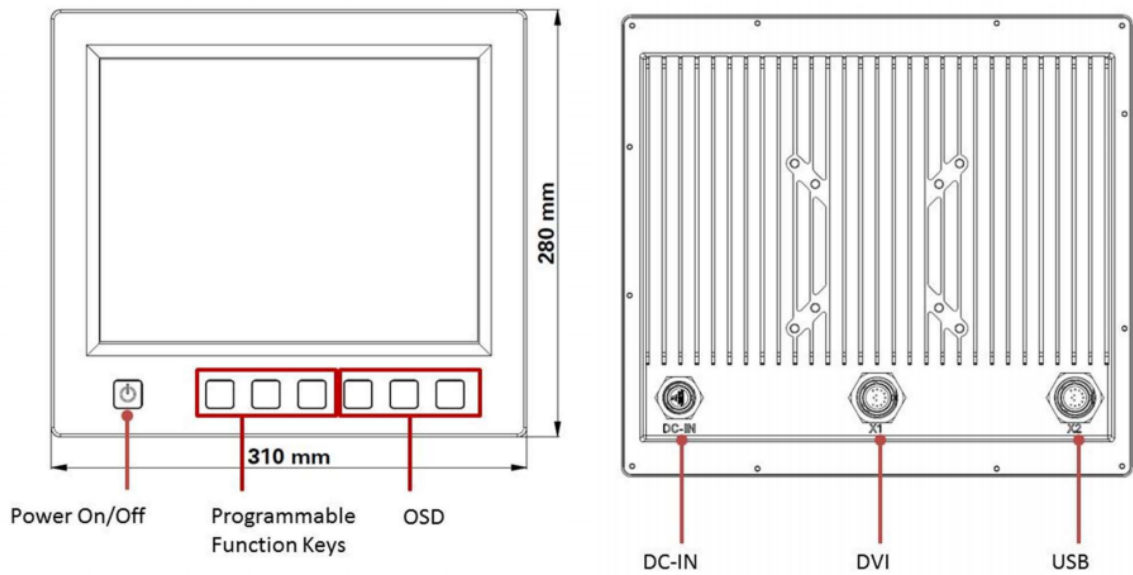
Chapter 1: Product Introduction

1.1 Product Outlook

1.2 ME dimension

Chapter 2: Components

2.1 Location

A clean and moisture free environment is preferred. Make room for air circulation. Avoid areas with:

- Sudden or extreme changes in temperature.
- Extreme heat.
- Strong electromagnetic fields.
- Dust or high humidity.

If it is necessary to work in a hostile environment, please regularly maintain your display by cleaning dust, water, etc. to keep it in optimal condition.

2.2 Ruggedness

The display is designed with rugged features such as vibration, shock, dust and rain/water protection. However, it is still necessary to provide appropriate protection while operating in harsh environments. NEVER immerse the unit in water. Doing so may cause permanent damage. All connectors will corrode if exposed to water or moisture. Corrosion is accelerated if the system's power is ON. Please take proper water-resistant measures for cable connections.

The DC jack and cables are sealed and may be operated with water splashing while attached. All port covers should be in place when no cable is attached.

2.3 Power supply

The display can be powered via DC-IN (9~36V)

Optional:12~40V DC-IN (150W max) MIL-STD-461, MIL-STD-1275

2.4 Display Panel

The panel of the SKY series is a 4:3,1024 x 768 XGA panel with typical up to 1300 cd/m2 brightness, a contrast of 900:1 and a LED backlight.

2.5 Brightness

The brightness of the display can be changed by simple pressing the brightness up/down keys in normal operational mode.

2.6 Video signal inputs

The SKY12 series is equipped with the following video signal interfaces:

-DVI (single link DVI signal) (primary)

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Chapter 3: Specification

12.1" TFT LCD Display & Resistor Touch screen

Resolution	1024x768 XGA	Brightness	1000 Nits (Optional:1300 Nits)
Aspect Ratio	4:3	Contrast Ratio	900
Touch Panel	Glass-Film-Glass 5-Wire resistor touch panel (Optional)		

System SPEC

Dual Mode	Day Mode: Ultra-Brightness 1300 nits; Night Mode: NVIS (Dimmable under 1% Nits)

Function key	7 Soft Touch Buttons, including :
	   3 for OSD (Brightness +, Brightness-, Blackout);
	   3 for Programmable;
	   1 for power button (On/Off)

DC-IN	18V ~ 36 V, 28Vdc

Connectors

DC-IN	Amphenol TV07RW-11-54P
IO Ports	X1:DVI (Amphenol TV07RW-13-35S);
	X2:2xUSB (Amphenol TV07RW-13-98S)

Applications

Applications	Marine, Naval, Ground and Airborne environment.

Physical

Dimension	310 x 280 x 90 mm (W x D x H)		
Weight	TBD	Finish	Anodic aluminum oxide
Chassis	Aluminum Alloy, Corrosion Resistant.	Ingress Protection	IP65 Dust /water Proof

MIL Compliance

MIL-STD-810G (Operation Test)

Low Temp.	Method 502.5 Procedure 2	Exposure(24h x 3 cycle) at -10℃ min.
High Temp.	Method 501.5 Procedure 2	60ºC for 2 hrs after temperature stabilization.
Humidity	Method 507.5 Procedure 2	RH -95%. Test cycles: ten 24-hrs , functional test after 5th and 10th cycles
Vibration	Method 514.6 Category 20	10-500Hz 1.04Grms Test duration: 1 hr x 3 axis (total 3 hrs)
Shock	Method 516.6 Procedure 1	20G, 11mSec, 3 per axis

MIL-STD-810G (Non-Operating Tests)

Low Temp.	Method 502.5	Exposure(24h x 7 cycle) at -20℃ min.
High Temp.	Method 501.5 Procedure 1	71ºC for 2 hrs after temperature stabilization.
Vibration	Method 514.6 Category 24	200 to 2000Hz Test duration: 1hr per axis; rms = 7.7 gs
Shock	Method 516.6 Procedure 1	20G, 11mSec, 3 per axis

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MIL-STD-461E	
CE102	Basic curve, 10kHz - 30 MHz
RE102-4, (1.5 MHz)	(1.5 MHz) -30 MHz - 5 GHz
RS103	1.5 MHz - 5 GHz, 50 V/m equal for all frequencies EN 61000-4-2: Air discharge: 8 kV,

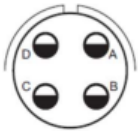## Environmental Qualifications

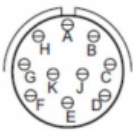| Regulatory	CE ,FCC Compliance
Operation Temp.	-10~+70 °C (Optional: -40~+70°C, with smart heater solution)
Storage Temp.	-15~+85 °C
Green Product	RoHS, WEEE compliance

3.2 Interface
3.2.1 DC-In

Pin	Function
A	VDC(+)
B	VDC(+)
C	VDC(-) or Ground
D	VDC(-)or Ground

3.2.2 USB

Pin	Function
PA	P1(USB V+)
PB	P2(USB DATA-)
PC	P3(USB DATA+)
PD	P4(USB V-)
PE	P5(G)

3.2.3 DVI

Pin	Function
P01	G
P02	G
P03	C5
P04	P1
P05	P2
P06	P3
P07	P6
P08	P7
P09	P8
P10	P9
P11	P10
P12	P11

P13	P14
P14	P15
P15	P16
P16	P17
P17	P18
P18	P19
P19	P20
P20	P21
P21	P22
P22	P23

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Chapter 4: Operation Introduction

Item	Function	Description
1	Programming Function Keys	Programming function keys could be customized depend on customer's requirement.
2	Power Button	Turn the display ON by pressing the power button. Turn the display Off by pressing the power button again. PS: When ambient temperature is under -20 °C, heater will be enabled automatically to increase ambient temperature until over than -20°C, system power boot up automatically.
3	OSD Key	Brightness +, Brightness-, Blackout

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Chapter 5: Maintenance

This chapter includes regular cleaning and maintenance procedures. Follow all the recommendations in this chapter in order to ensure long product lifecycle. This equipment is extremely rugged and does not require a lot of maintenance. Remember that electrical equipment should be handled with care and used accordingly to its specifications.

5.1 Cleaning the Display Screen

- Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles. Do not useacetone, ethyl alcohol, toluene, ethyl acid or methyl chloride to clear the panel. It may permanently damage the display screen.
- You can apply a small amount of non-ammonia; non-alcohol based glass cleaner onto a clean, soft, lint-free cloth and wipe the screen.
- Never spray or pour any liquid directly on the screen or case.
- Do not use water or oil directly on the display screen. If droplets are allowed to drop on the screen, permanent staining or discoloration may occur.

5.2 Cleaning the Casing

Use the following procedure to clean the equipment.

Caution/ Attention
Always turn off the device and disconnect other peripherals before cleaning and maintenance procedures.

Before Cleaning:
• Make sure the device is turned off.
• Disconnect the power cable from any AC outlet.

When Cleaning:
• Wipe dust off the outside casing with a cloth slightly moistened with water or mild ammoniabased cleaning solution. Do not use this cloth on a display screen!
• Do not use an abrasive cleaner or high-pressure washer on the screen.
• Do not rub the unit with a dry cloth. This action can result in a static charge being built up and cause a spark. Always use damp cloth while cleaning the unit.

Warning!/ Avertissement!
POTENTIAL ELECTROSTATIC CHARGE HAZARD

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