


# SKY12-H06

## Dual vision mode military display with programmable function keys

### Rugged Smart Display

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

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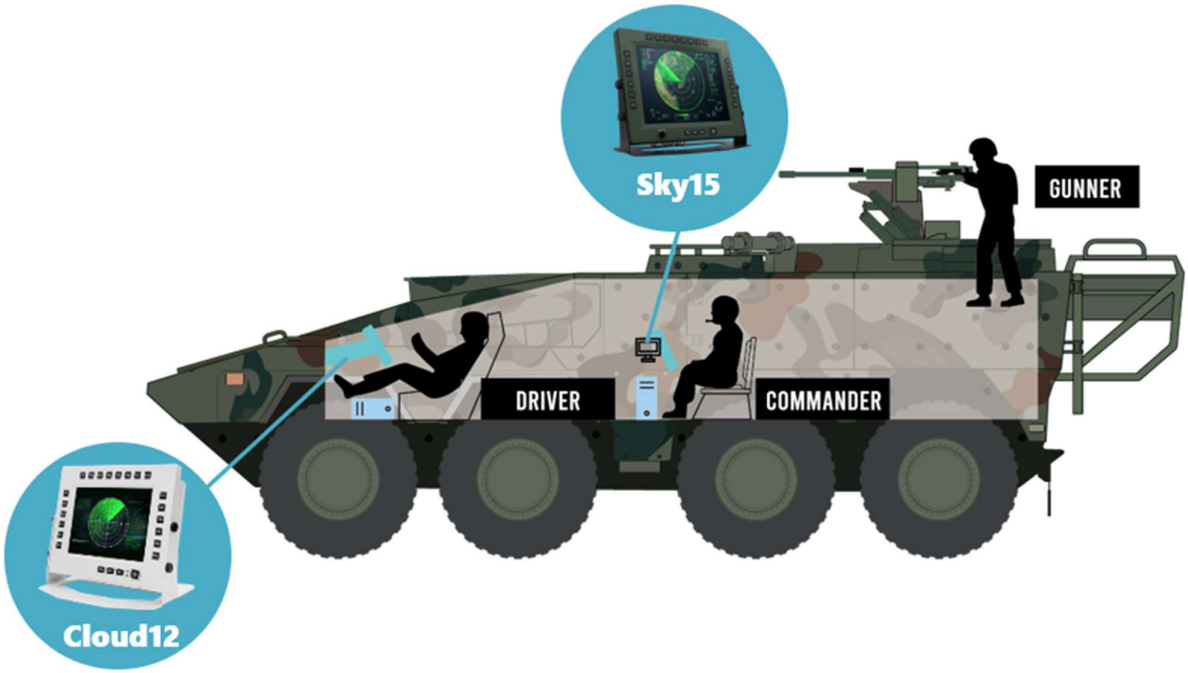


# 1. Introduction & Key Features

**SKYP-H06** rugged smart display which are featuring brightness up to 1300 nits and night vision image system (NVIS) under 1% nits, **SKYP-H06** also provide optional feature such as bonding of protective glass (GFG), touch screens, EMI filtering / EMI mesh shielding, anti-reflection/anti-glare (AR/AG) coatings depend on customized requirement. 7 soft touch button /w programmable function keys, the rugged display also designed with IP-65 waterproof and dust proof all-aluminum housings, support extended operating temperature range from -40°C to 70°C(Optional) and flexibly support MIL-STD 461/1275 power input range from 18V to 36V.

## ● Description of Key Features

### (1) Sunlight Readable Up to 1300 nits


**SKYP-H06** ruggedized smart display can support sunlight-readable to meet high ambient light conditions such as direct sunlight, it also adopt our excellent optic bonding technical process, when bonded together the light passes through the bonded layers and is absorbed somewhat into the screen. Optical bonding is therefore important in making screens sunlight readable.

### (2) Night Vision Mode Support

When system at night mode, the operator can adjust brightness by hard key to turn it to darker, the display brightness down to under 1% nits or other customized night vision mode immediately, and the display gets ready at low brightness right away once its trigger and protect the usage of night vision devices at once.

## (3) MIL-DTL 38999

MMIL-DTL-38999 is a high-performance cylindrical connector family designed to withstand the extreme shock, exposure and vibration that are commonplace in Defense and aerospace applications. Made with removable crimp or fixed hermetic solder contacts, these connectors provide high-vibration characteristics and are suitable for severe wind and moisture problem areas

## (4) Soft Touch Buttons

**SKY-H06** equipped up to 3 ruggedized function keys, 3 OSD keys and 1 power button by rubber-tooling made, each key pad dimension at 16 x 16 mm even the operator access function keys with wearing MOPP levels gloves.

## (5) IP65 Certified


**SKY-H06** has complete resistance to dust and water; which is ruggedized and reliable for constrained military, ground army and defense.

## (6) MIL-STD 810G Compliance


**SKY-H06** compliances of MIL-STD-810 for shocks, vibration etc; **SKY-H06** is rigorously field-tested to meet or exceed MIL-STD810G a for extremely high & low temp. humidity, shock, and vibration.

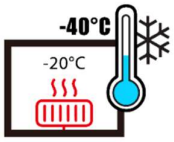
## (7) MIL-461/1275 EMI Filter


**SKY-H06** is designed with MIL-STD-1275/704, protecting against vehicle/aircrafts voltage surges, spikes and transients, and even electromagnetic interference. This characteristic is well suited for the strictest military requirement and deliver optimal performance in harsh conditions.

# 2.Optional Features

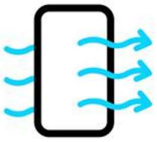
## (1) Intelligent Heater

Due to consider boot up in extreme cold environment, **SKY15-P20** is designed /w intelligent heater to control temperature automatically.




## (2) Waterproof Valve

**SKY15-P20** has completely waterproof to balance atmospheric pressure to meet different altitude environment.



## (3) EMI Shielding Cable Kits

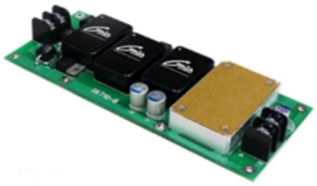
Electromagnetic Interference (EMI) is prevalent throughout the anywhere. The main purpose of effective EMC Shielding is to prevent electromagnetic interference (EMI) or radio frequency interference (RFI) from impacting sensitive electronics. This is achieved by using a metallic screen to absorb the electromagnetic interference that is being transmitted through the air. The shield effect is based on a principle used in a Faraday cage – the metallic screen completely surrounds either the sensitive electronics or the transmitting electronics. The screen absorbs the transmitted signals, and causes a current within the body of the screen. This current is absorbed by a ground connection, or a virtual ground plane. By absorbing these transmitted signals before they reach the sensitive circuitry, the protected signal is kept clean of electromagnetic interference, maximising shielding effectiveness.


Figure : EMI Shielding Cable Kit

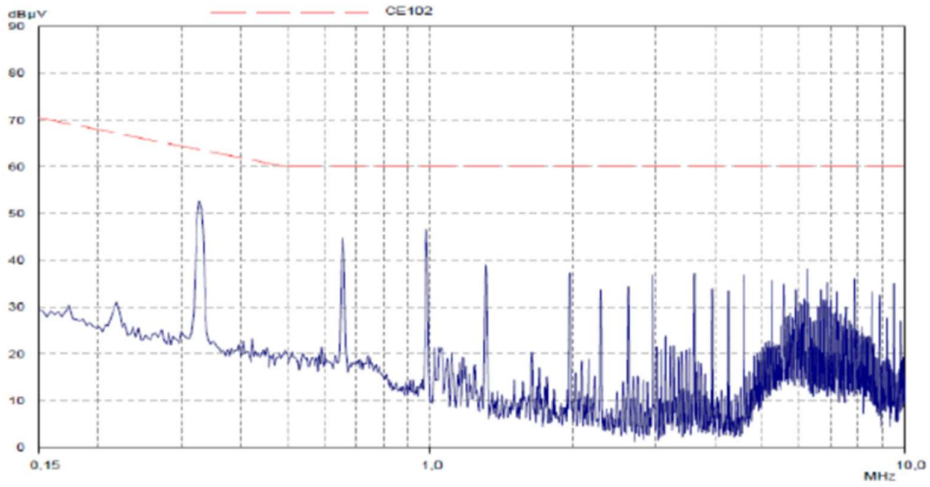
# 3.MIL-STD-1275/461

- **MIL-STD-1275/704 Power supply with Voltage transient protections**

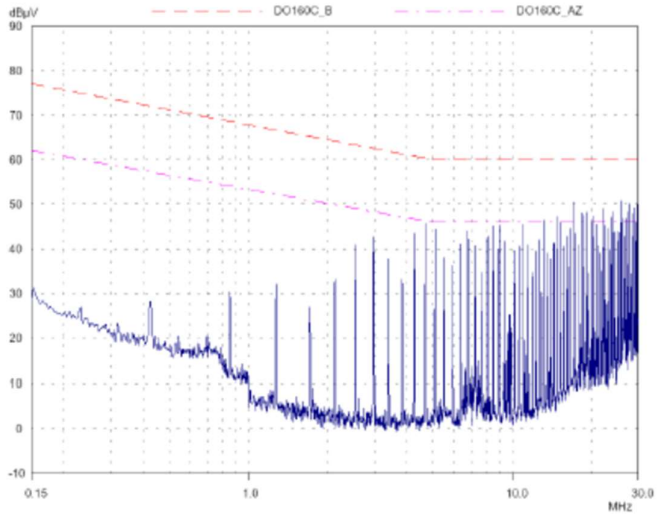
To enhance reliability, HORUS200 is designed for rugged extremes. durable metal casing with an isolated MIL-STD-1275, MIL-STD 704 and DO-160 power supply in an IP50 (dustproof) ultra durable metal /aluminum chassis that protects against vehicle/aircraft voltage surges, spikes and transients is well suited for the strictest military requirement and deliver optimal performance in harsh conditions.
The GAIA Hi-Rel DC/DC CONVERTER it also provides Undervoltage Lockout (UVLO), Output Over Current Protection (OCP), Output Overvoltage Protection (OVP) and Over Temperature Protection (OTP) to made stability and safty.



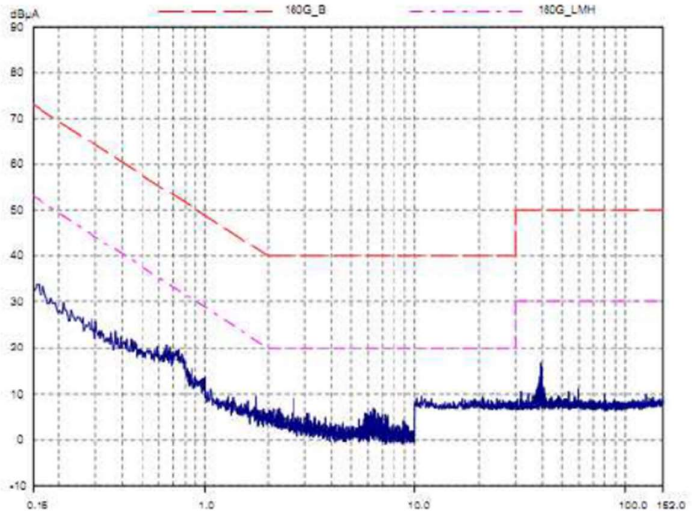

Module Compliance with MIL-STD-461C/D/E Standards




MIL-STD-461E : MGDS-15x-H-J with FGDS-10A-50V




DO-160G : MGDS-15x-H-J with FGDS-10A-50V



# 4.Specifications

## 12.1" TFT LCD Display & Resistor Touch screen

| | | | |
|---|---|---|---|
| **Resolution** | 1024x768 XGA | **Brightness** | 1300 Nits |
| **Aspect Ratio** | 4:3 | **Contrast Ratio** | 900 |

## System SPEC

| | |
|---|---|
| **Dual Mode** | Day Mode, including:<br>Ultra-Brightness 1300 nits;<br>Night Mode: NVIS (Dimmable under 1% Nits) |
| **Function key** | 7 Soft Touch Buttons, including:<br>3 for OSD (Brightness +, Brightness-, Blackout);<br>3 for Programmable;<br>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

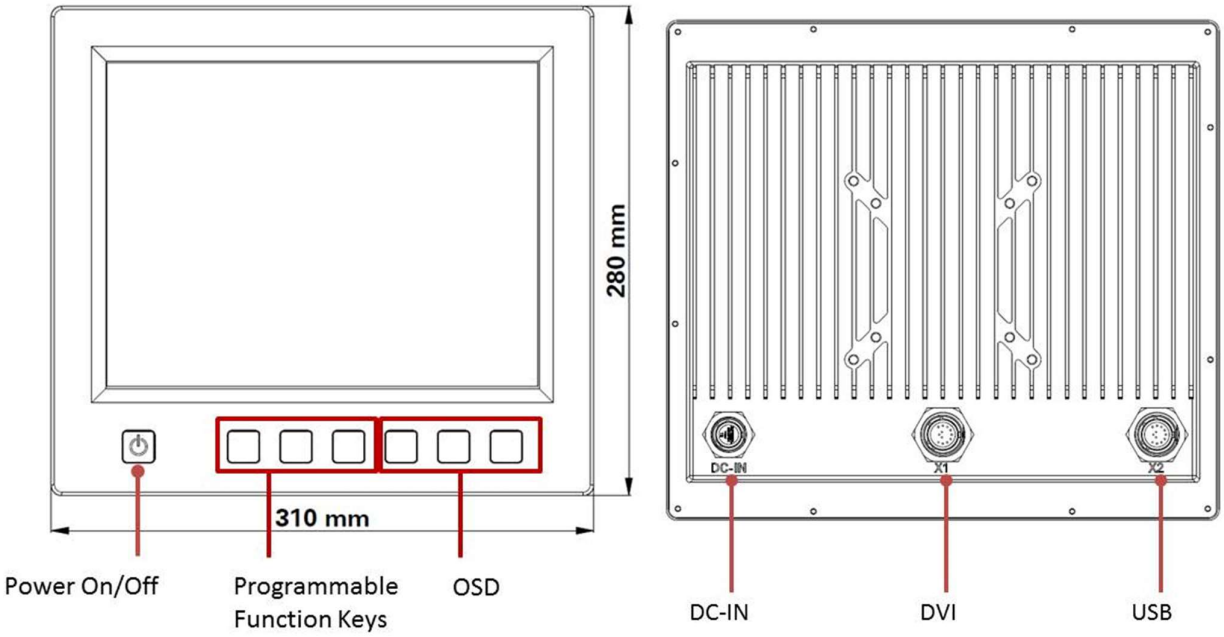
| MIL-STD-810G (Operation Test) | | |
|---|---|---|
| **Low Temp.** | Method 502.5 Procedure 2 | Exposure(24H x 3 cycle) at -10℃ min. |
| **High Temp.** | Method 501.5 Procedure 2 | 60ºC for 2 Hrs after temperature stabilization. |
| **Humidity** | Method 507.5 Procedure 2 | RH -95%. Test cycles: ten 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 |

| 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 |

## ME Dimension



# 5.Ordering Information

**SKY12-H06**

12" Dual Vision Mode Military Display /w programmable function keys, 3 x MIL-DTL-38999 connectors.

| Model | Description |
|---|---|
| **SKY12-H06** | 12" Rugged Smart Display with 3 x MIL-DTL-38999 connectors, 7 Soft button /w programmable function keys, Night Vision Mode & Super High Brightness 1300 Nits Support, Operation Temperature -10~+70°C (Extended Temperature -40~+70°C, for optional) |

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