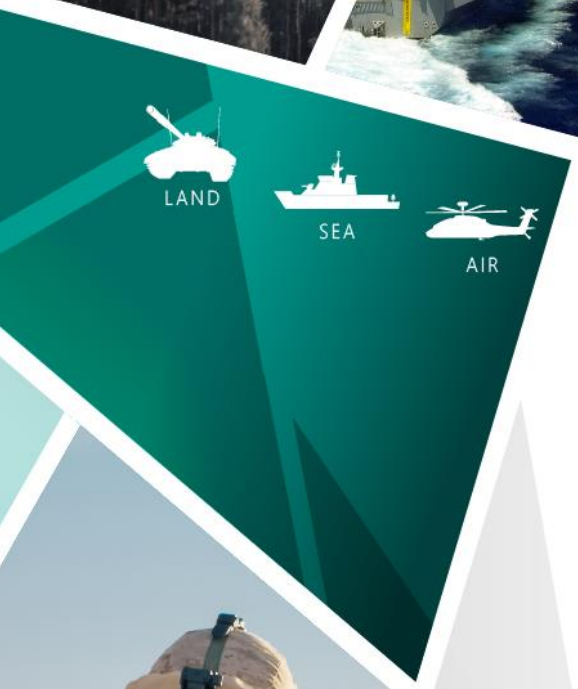


SKY15-P04

15“ Rugged Smart Display

- Up to 1000 Nits, Sunlight-readable
- 15” Glass-Film-Glass Panel
- Touch Screen Display (optional)
- Resolution 1920 x 1024; Aspect Ratio 16: 9
- Heavy-duty Fully IP65 Rugged Aluminum Chassis with MIL-DTL-38999 Connectors
- 1 x USB, 1 x HDMI/DP (optional)
- MIL-STD-461 EMI Filter (optional)

Introduction

The SKY15-P04 Rugged Smart Panel Display is engineered for mission-critical performance in the most demanding field environments. The 15-inch sunlight-readable touchscreen delivers up to 1000 nits of brightness with GFG-bonded protective glass for clear visibility. The EMI filtering, combined with anti-reflection/anti-glare (AR/AG) coatings, ensures signal integrity and screen clarity in high-interference zones.

The IP65-rated, all-aluminum chassis and MIL-DTL-38999 connectors provide robust protection against water, dust, and shock, enabling reliable operation in rugged or maritime environments. Supporting -20°C to 50°C operating temperatures and a wide 9V–36V DC input, the SKY15-P04 is an ideal command-and-control display for defense, surveillance, and shipboard systems including navigation, radar, and combat information centers.

Description of Key Features

(1) Sunlight Readable up to 1000 Nits

The SKY15-P04 ruggedized smart display features a sunlight-readable screen designed for high ambient light environments. It utilizes our advanced optical bonding technology, which eliminates the air gap between layers, allowing light to pass through more efficiently and reducing internal reflections. This process enhances visibility and contrast, making the display perfectly readable even under bright outdoor conditions.

[2] MIL-DTL 38999 Connectors

MIL-DTL-38999 connectors are high-performance cylindrical connectors engineered to withstand the extreme shock, vibration, and environmental exposure commonly encountered in defense and aerospace applications. Featuring removable crimp or fixed hermetic solder contacts, these connectors offer exceptional vibration resistance and reliable performance in harsh environments, including areas prone to severe wind, moisture and temperature fluctuations.

[3] G.F.G. Resistive Screen

GFG screens feature glass surfaces that make the glass-film-glass sensor highly durable and scratch-resistant.

[4] Soft Touch Buttons

The SKY15-P04 is equipped with up to three function keys, including two OSD keys and one power button, all constructed using rubber tooling for enhanced durability. Each key is large enough to

allow easy operation even when the user is wearing MOPP-level protective gloves.

[5] IP65 Certified

The SKY15-P04 offers complete resistance to dust and water, delivering a rugged and reliable solution for military, ground force, and defense applications.

[6] MIL-STD- 810 Standards

The SKY15-P04 complies with MIL-STD-810 standards for shock, vibration, and wide temperature ranges. It has been rigorously field-tested to meet or exceed MIL-STD-810 requirements for extreme temperatures, humidity, shock, and vibration, ensuring reliable performance in harsh environments.

[7] MIL-461 EMI Filter (optional)

The smart display is designed to meet MIL-STD-461, providing protection against vehicle and aircraft voltage surges, spikes, transients, and electromagnetic interference. This capability ensures compliance with the strictest military requirements while delivering reliable performance in harsh environments.

Optional Features

[1] Intelligent Heater

To ensure reliable boot-up in extreme cold environments, the SKY15-P04 can be optionally equipped with an intelligent heater that automatically regulates the internal temperature.

[2] EMI Shielding Cable Kits

Electromagnetic interference (EMI) is prevalent virtually everywhere. The primary purpose of effective EMC shielding is to prevent EMI or radio frequency interference (RFI) from affecting sensitive electronics. This is achieved using a metallic screen that absorbs electromagnetic signals transmitted through the air. The shielding effect is based on the principle of a Faraday cage: the metallic screen completely surrounds either the sensitive electronics or the transmitting source. The screen absorbs the transmitted signals, inducing a current within its body. This current is then safely dissipated through a ground connection or a virtual ground plane. By absorbing these signals before they reach sensitive circuitry, the shield keeps the protected electronics free from interference, maximizing shielding effectiveness.

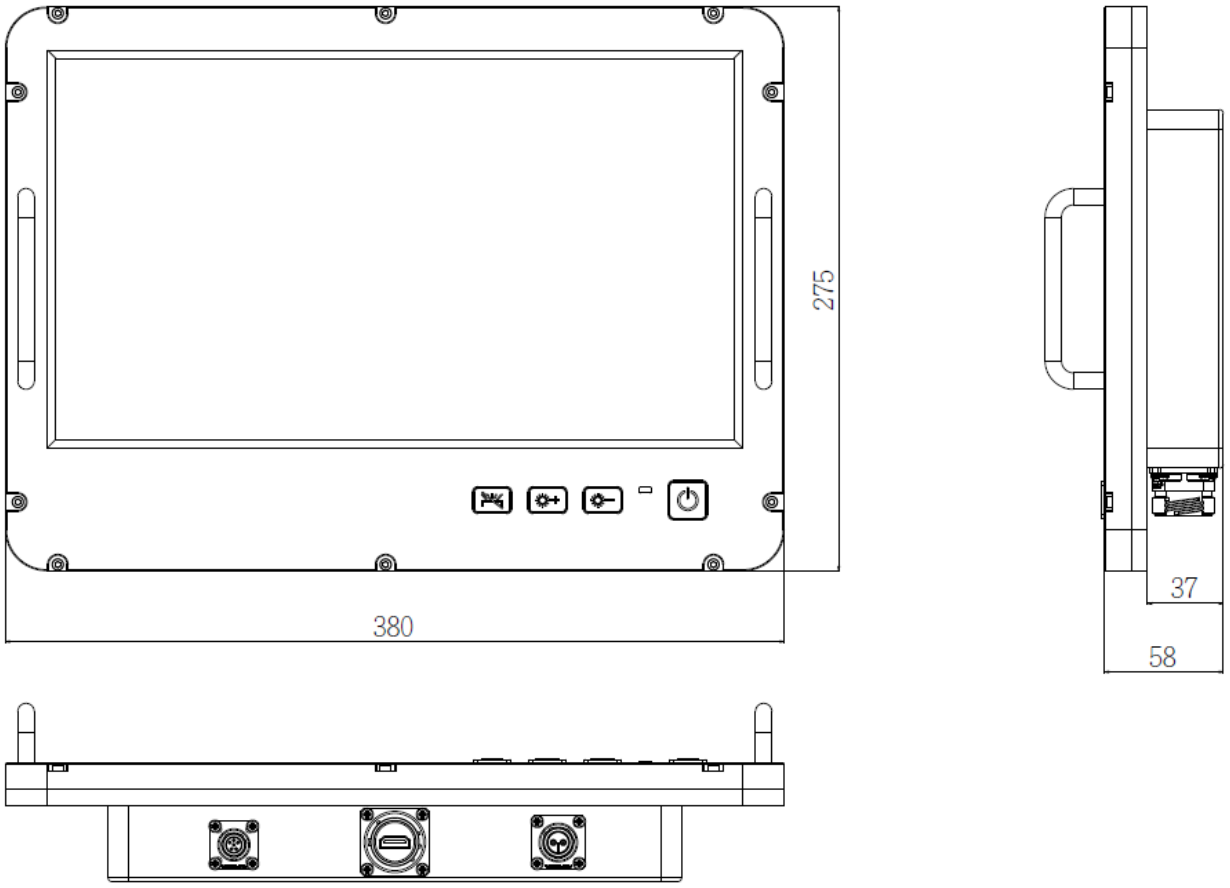
Specifications

DISPLAY	
Resolution	1920 x 1028
Brightness	Up to 1000 Nits
Aspect Ratio	16:9
Contrast Ratio	>2000:1
Touch Panel	15" Glass-Film-Glass Panel (Optional: Resistive Touch with EMI mesh)
Bonding	Optical Bonding (optional)
SYSTEM	
Function key	Power Button/ Brightness Up/ Brightness Down
DC-IN	9V ~ 36V DC-IN, 28Vdc Optional: 12V~40V DC-IN (150W max) MIL-STD-461 (optional)
CONNECTORS	
Rear I/O Port	1x GND screw [X1] 1 x DC-IN MIL-38999 [X2] 1 x HDMI/DP with MIL-38999 (optional) [X3] 1 x USB2.0 with MIL-38999 1 x Waterproof Valve (optional)
APPLICATIONS	
Applications	Marine, Naval, Ground and Airborne Environment.
PHYSICAL	
Dimensions	380 x 275 x 58 mm
Chassis	Aluminum Alloy, Corrosion Resistant.
Finish	Anodic Aluminum Oxide
Ingress Protection	IP65 Dust /Waterproof
MIL-STD-810 ENVIRONMENT TESTING STANDARDS	
Method 502.5 Procedure 2, Low Temp.	Exposure (24h x 3 cycle) at -10°C min.
Method 501.5 Procedure 2, High Temp.	60°C for 2 hrs after temperature stabilization.
Method 507.5 Procedure 2, Humidity	RH -95%. Test Cycles: ten 24-hrs , functional test after 5th and 10th cycles
Method 514.6 Category 20, Vibration	10 - 500Hz 1.04Grms Test Duration: 1 hr x 3 axis (total 3 hrs)
Method 516.6	10G, 11mSec, 3 per axis

Procedure 1, Shock	
MIL-STD-810 (Non-Operating Tests)	
Method 502.5, Low Temp.	Exposure (24h x 7 Cycle) at -20°C min.
Method 501.5 Procedure 1, High Temp.	71°C for 2 hrs after temperature stabilization.
Method 514.6 Category 24, Vibration	200 to 2000Hz Test Duration: 1hr per axis; rms = 2.24 gs
Method 516.6 Procedure 1, Shock	20G, 11mSec, 3 per axis
MIL-STD-461 Environment Testing Standards (optional)	
CE102	Basic Curve, 10kHz - 30 MHz
RE102-4	(1.5 MHz) -30 MHz - 5 GHz
RS103	1.5MHz -5GHz, 50V/m equal for all frequencies EN 61000-4-2: Air Discharge: 8 kV,
Environmental	
Operation Temp.	-20°C~+60°C -40°C ~+60 °C (with heater system inside; optional)
Storage Temp.	-40°C ~+80 °C
Green Product	RoHS, WEEE Compliance

APPEARANCE

Dimension



This datasheet is for marketing purposes only and does not constitute a warranty. All specifications, dimensions, and data are subject to change without notice. For the latest specifications and updates, please contact your 7STARLAKE representatives.