

# FULL HIGH DEFINITION RUGGED MONITORS



15.6" Rugged Display, HDMI Input, DVI Input, HD-SDI Input, Composite Video Inputs (3), HD-SDI Output, Composite Video Output, LED Backlight, 15 User Programmable Buttons, FHD Resolution (1920 x 1080), IP67 Sealed, MIL-STD Design, 12-36Vdc Power Input

**Model: DHFW1560**

Built with a Full HD 1920x1080 LCD, the DHFW Display Series deliver a MIL-Spec design with low-power consumption, high brightness backlight, and an ultra-thin form factor for critical operations requiring 1080p detail. The rugged DHFW monitor ensures complete optical performance and full reliability while providing a small footprint for constrained spaces. User Programmable Bezel Keys allow full control of external systems or a custom interface of internal display features (video processing, picture layout, user interface preferences, and navigation shortcuts). Multiple mounting options allow for seamless integration within any rugged system.

## STANDARD FEATURES

- HDMI Input
- DVI Input
- HD-SDI Input
- Composite Video Inputs (3)
- HD-SDI Output
- Composite Video Output
- Auto Sensing NTSC, PAL Formats
- Up to 1080p30 High Definition Video
- User Programmable Bezel Keys (15), RS232
- MIL-C Power\*
- LED Backlight (1000:1 Dimming Ratio1)
- Anti-Reflective and Anti-Glare Treatments
- Enhanced Sunlight Readability
- IP67/NEMA 6 Enclosure (Sealed Connectors\*)
- 15.6" TFT AMLCD
- MIL-STD-461, 704, 810, 1275



\* Cables not included

## OPTIONAL FEATURES

- Resistive Touch Screen (USB or RS232 Interface)
- Night Vision Compatible – Monochrome Red/Green
- NVIS MIL-STD-3009 Class B White Compliant

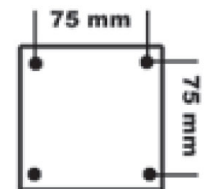
## MOUNT OPTIONS *(Quoted individually)*



PANEL



RAM



VESA

## SPECIFICATIONS

LCD SIZE	Resolution	Luminance	Viewing Angle	Contrast Ratio	Maximum Power Consumption
15.6" TFT AMLCD	1920x1080	400 nits	178° (H) x 178° (V)	1000:1	35 Watts
<b>TECHNICAL SPECIFICATIONS</b>					
Display	8-bit color, 16,777,216 colors. TFT AMLCD (Thin-Film Transistor Active-Matrix Liquid-Crystal Display)				
Dimming Ratio	1000:1				
Video Inputs/Outputs	HDMI Input, DVI Input, HD-SDI Input, Composite Video Inputs (3), HD-SDI Output, Composite Video Output				
Housing	Milled Aluminum, Black Hard Anodized				
Mount Options	Panel, RAM, VESA (75mm); Quoted individually.				
Wide Range DC Power Input	12-36 VDC (12, 24, 28 VDC nominal)				
Power Conditioning	Protected against Internal Short Circuit, Load Dump, Over Voltage and Reverse Polarity				
<b>ENVIRONMENTAL SPECIFICATIONS</b>					
IP Rating	IP67 (NEMA 6 Submersible)				
Operating Temperature	-46°C to 71°C (-51°F to 160°F); -20°C (-4°F) with Touch Option				
Storage Temperature	-54°C to 71°C (-65°F to 160°F)				
Humidity and Altitude	0-100%; 45,000 ft.				

<b>MILITARY SPECIFICATIONS</b>			
<b>MIL-STD-461</b>	EMI	<b>MIL-STD-810</b>	Method 512; Immersion
<b>MIL-STD-704</b>	Aircraft Power Requirements	<b>MIL-STD-810</b>	Method 513; Acceleration
<b>MIL-STD-810</b>	Method 500; Altitude	<b>MIL-STD-810</b>	Method 514; Procedure I, II, V, VI; General Vibration
<b>MIL-STD-810</b>	Method 501; I & II; High Temperature	<b>MIL-STD-810</b>	Method 516; Procedure I, Functional Shock
<b>MIL-STD-810</b>	Method 502; I & II; Low Temperature	<b>MIL-STD-810</b>	Method 520; Temp, Humidity, Vibe and Altitude
<b>MIL-STD-810</b>	Method 503; Temperature Shock	<b>MIL-STD-1275</b>	Vehicle Power Requirements
<b>MIL-STD-810</b>	Method 505; Solar Radiation	<b>MIL-STD-1472</b>	Thermal Contact Hazard
<b>MIL-STD-810</b>	Method 506; Rain	<b>MIL-STD-3009</b>	NVIS Compatible (Optional)
<b>MIL-STD-810</b>	Method 507; Humidity	<b>MIL-PRF-22885</b>	Sunlight Readability for Push Buttons
<b>MIL-STD-810</b>	Method 508; Fungus	<b>MIL-A-8625</b>	Standard Finish, Type III, Class 1 & 2
<b>MIL-STD-810</b>	Method 509; Salt/Fog	<b>MIL-PRF-22750</b>	Painted Finish, Optional, Minimum Quantity Required
<b>MIL-STD-810</b>	Method 510; Blowing Sand and Dust	<b>MIL-DTL-26482</b>	Connector, Qualified
<b>MIL-STD-810</b>	Method 511; Explosive Atmosphere	<b>MIL-DTL-38999</b>	Connector, Qualified

*\*Specifications subject to change without notice, not responsible for typographical errors.*

\*- Cables not included

†-Power range specified covers momentary environmental fluctuations generally found in a mobile environment while display is operating. For power initialization and continual operation, nominal voltages are required

1 - Dimming Ratio is LCD-specific.

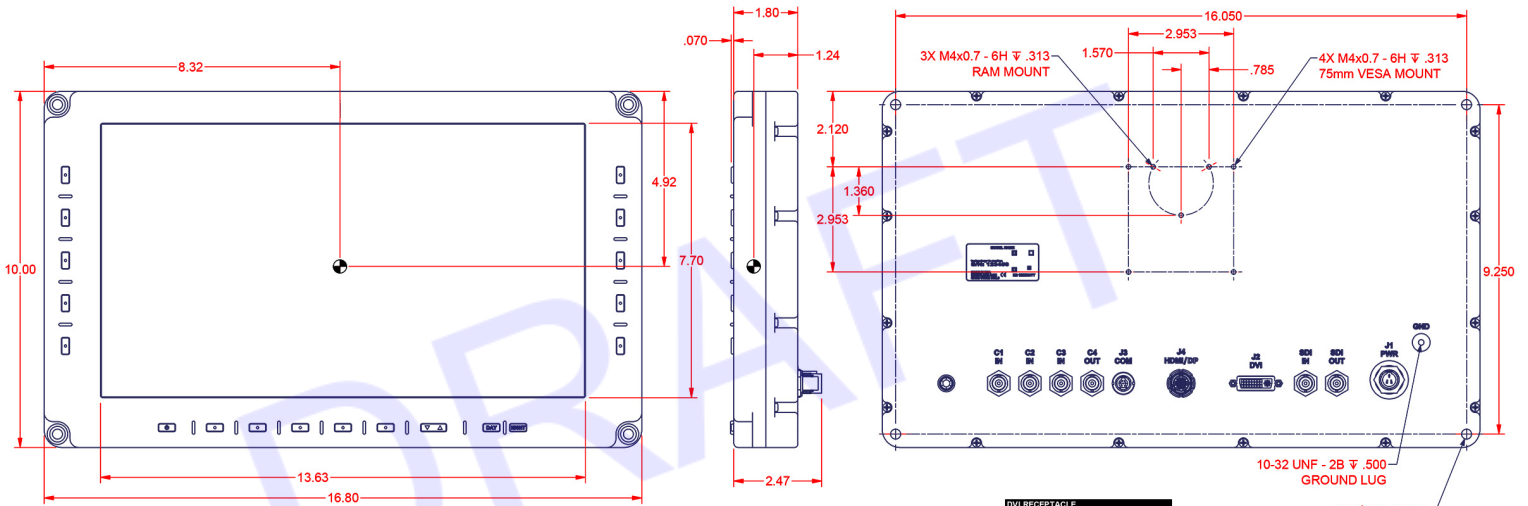
2 - Configuration-Specific; Contact iTech for details.

PHOTOS:



# MECHANICAL DRAWINGS:

This is subject to change without Notice. Final Drawings Will be Provided for Approval after Order.



7 PIN RECEPTACLE	
J3 COM	SIGNAL
1	USB or RS-232 TXD (TOUCH SCREEN)
2	RS232 RXD (BUTTONS)
3	RS232 RXD (BUTTONS)
4	GND
5	GND
6	USB or RS-232 RXD (TOUCH SCREEN)
7	N/C
Vendor P/N#	803-014-07926-7PIN
Matn #	803-001-68298-7PIN
Strain #	
Cable Assy#	900297

3 PIN RECEPTACLE	
J1 POWER	SIGNAL
A	28 VOLT DC
B	28 VOLT RVN
C	N/C
Vendor P/N#	71-53371-33P (3-pin power)
Matn #	141227
Strain #	PT06833SR (141247)
Cable Assy#	900222

SDI OUT VIA BNC	
SDI OUT	SIGNAL
CENTER	COAX CORE
SHELL	SHIELED BRAD

SDI IN VIA BNC	
SDI IN	SIGNAL
CENTER	COAX CORE
SHELL	SHIELED BRAD

VIDEO OUT VIA BNC	
C4 OUT	SIGNAL
CENTER	COAX CORE
SHELL	SHIELED BRAD

VIDEO IN (V3) VIA BNC	
C1 IN, C2 IN, C3 IN	SIGNAL
CENTER	COAX CORE
SHELL	SHIELED BRAD

DVI RECEPTACLE	
J2 DVI	SIGNAL
1	TMDS DATA 2-
2	TMDS DATA 2+
3	TMDS DATA 2 SHIELD
4	N/C
5	N/C
6	DDC CLOCK
7	DDC DATA
8	ANALOG VSYNC
9	TMDS DATA 1-
10	TMDS DATA 1+
11	TMDS DATA 1 SHIELD
12	N/C
13	N/C
14	+5V
15	GND
16	HOT PLUG DETECT
17	TMDS DATA 0-
18	TMDS DATA 0+
19	TMDS DATA 0 SHIELD
20	N/C
21	N/C
22	TMDS CLOCK SHIELD
23	TMDS CLOCK+
24	TMDS CLOCK-
C1	ANALOG RED
C2	ANALOG GREEN
C3	ANALOG BLUE
C4	ANALOG HSYNC
C5	ANALOG GND
AMPHENOL #	LW101D-29PPFF-SL8001
Matn #	LW101D-29MMMSL7A00
Strain #	
Cable Assy#	

HDMI PINOUT	
J4 HDMI/DP	SIGNAL
1	ROC IN
2	ROG IN
3	GND
4	GND
5	GND
6	GND
7	GND
8	ROD IN
9	GND
10	DDC SDA
11	DDC SCL
12	RO1 IN
13	RO1 IN
14	RO2 IN
15	HOT PLUG DETECT
16	DDC +5V
17	ROC IN
18	ROD IN
19	ROD IN
Pincher #	URS1W11_F018P-BK1-E1AA
Matn #	URS1W11_F018P-BK1-E1AA
Strain #	URS1A13C
Cable Assy#	900302

DISPLAY PORT PINOUT	
J4 HDMI/DP	SIGNAL
1	ML LANE 0-
2	ML LANE 0+
3	GND
4	GND
5	GND
6	GND
7	GND
8	ML LANE 2-
9	GND
10	AUX CH
11	AUX CH
12	ML LANE 1+
13	ML LANE 1-
14	GND
15	HOT PLUG
16	DP PWR
17	ML LANE 3-
18	ML LANE 3+
19	ML LANE 2+
Pincher #	URS1W11_F018P-BK1-E1AA
Matn #	URS1W11_F018P-BK1-E1AA
Strain #	URS1A13C
Cable Assy#	900302



Drawing No.: DHFW1560-11162022-V1

