



# AIRBORNE



RUGGED LCD MONITORS

D50 SERIES

## 24" RUGGED LCD MONITOR DS/DH 5224HD



### Key Features

- > D0160 specs compliant
- > Waterproof mount
- > High brightness capability

### Options

- > Cold start at -20° C
- > Resistive or capacitive touchscreen
- > Touch input device
- > Optical Bonding of the LCD panel

The **D50 Series Monitor Range** is the result of the best cutting-edge display technology combined with every functional, implementation and use constraints applied to the most demanding sectors of Defense and Industry.

Take the advantage of what the best of technology can bring to your Airborne embedded IT systems requirements. Because you have a variety of use and operational needs, the IRTS D50 Series offers a comprehensive range of Monitors with several levels of protection, reinforcement and a wide choice of options (Power supply, connectors, touch input device, optical and electronic treatments...).

Our competitive prices ensure that you make the right investment whenever you buy a product at **IRTS**.

## PRODUCT RANGE

**DS** and **DH 5224HD** 24" LCD monitors are part of the **D50 series**, a comprehensive range of displays described in the table below :



IRTS Monitors D50 Series								
DO 160 Compliant D50 LCD Monitors Series								
Diagonal Sizes	17"	19"	20"1	21"3	24"	17"3	21"5	24"
Screen Ratios	5/4		4/3		16/10	16/9		16/9
Resolutions	1280x1024 SXGA		1600x1200 UXGA		1920x1200 WUXGA	1920x1080 FHD		1920x1080 FHD
DS 50 series - Standard Brightness								
Brightness (cd/m <sup>2</sup> )	300	300	250	400	300	330	250	250
Waterproof Panel Mount	DS 5117SX	DS 5019SX	DS 5020UX	DS 5221UX	DS 5224WU	DS 5117HD	DS 5221HD	DS 5224HD
19" Rack Mount	DS 5517SX	DS 5519SX	DS 5520UX					
DH 50 series - High Brightness								
Brightness (cd/m <sup>2</sup> )	800	800	550			800	800	800
Waterproof Panel Mount	DH 5117SX	DH 5019SX	DH 5020UX			DH 5117HD	DH 5221HD	DH 5224HD
19" Rack Mount	DH 5517SX	DH 5519SX	DH 5520UX					

See also the other series of display panels in the 50 monitors' range specifically designed for Maritime & Industry (E50) and Navy (M50) applications.

## PRODUCT CONFIGURATION

IRTS offers several configuration solutions according to environmental conditions and customer's needs.

Commercial reference		Standard Brightness D50 series DS 5224HD	.....	.....	.....	.....	.....
		High Brightness D50 series DH 5224HD	.....	.....	.....	.....	.....
Power Supply	0	12 VDC on HE308					
	3	90/264 VAC 50-400 Hz - 126/363 VDC on HE308					
	5	18/36 VDC AIR 2021E on HE 308					
Front Glass	ME	Antireflective Glass					
	MR	Resistive RS232 Touch Screen (with standard luminance loss of 20%)					
	MU	Resistive USB Touch Screen (with standard luminance loss of 20%)					
Input Video Connectors	2	Video: 2 x DVI-I					
	B	Video: DVI-D, RGB H/V, PIP : CVBS					
	S	Video: DVI-I, VGA HD15, PIP : CVBS & S-VHS					
Temperature Range	S	Standard Operating Range : 0° C to 50° C					
	E	Extended Operating Range : -20° C to 50° C					
Options	B	Bonding LCD Panel					
	V	Electronic Part Coating					



IRTS

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**PRODUCT SPECIFICATIONS**

Display Module 24" FHD (1920 x 1080)		
	DS5224HD	DH5224HD
Brightness (user)	250 cd/m <sup>2</sup> +/-10%	800 cd/m <sup>2</sup> +/-10%
Active display area	531.36 mm x 298.89 mm	531.36 mm x 298.89 mm
Dot pitch	0.270 (H) x 0.270 (V) mm	0.270 (H) x 0.270 (V) mm
Viewing angles (LCD panel)	89°-89° (H) / 89°-89° (V)	89°-89° (H) / 89°-89° (V)
Response Time	25 ms (Tr+Tf)	25 ms (Tr+Tf)
Contrast Ratio (LCD Panel)	3000 : 1	3000 : 1
Display Color	16.7 M 8 bits	16.7 M 8 bits
Backlight	LED	LED
Dimming ratio	0 to 100%	0 to 100%
Controls		
"On Screen Display" (OSD)	Front waterproof 5-key keyboard	
Backlight brightness	Direct access by front waterproof 2-key keyboard	
Remote control	USB	
Physical Features		
Dimensions	9U: 635 x 399.25 x 81,5mm (without removable handles)	
Weight	12 Kg +/- 10 %	
Packaging / color	Aluminum / Matt Black C3603 UB5-10 liquid paint	
Environmental conditions		
Operating temperature	0°C to +50°C (Cold Start -20°C Option) RTCA DO 160E, Section 4.5.1/4.5.3, Category A1	
Storage temperature	-32°C to +70°C	
Humidity	T= +40°C, HR = 5 to 95%, RTCA DO 160E, Section 6, Category A	
Altitude	50,000ft , RTCA DO 160E, Section 4.6.1, Category D1	
Decompression	8,000ft to 50,000ft, in 15 seconds, RTCA DO 160E, Section 4.6.2	
Shocks / Operating	6g - 11ms DSPF	
Shocks / Crash	20g - 11ms - 6/axis sawtooth	
Random Vibrations	up to 2.2g RMS, DO 160E : Section 8 Category R - Zone 2 - Curve B4	
Sinus Vibrations	up to 1.5g, DO 160E : Section 8 Category R - Zone 2 - Curve M	
Emission	Conducted: RTCA DO 160E: Category L - Section 21.3 Radiated : RTCA DO 160E: Category L - Section 21.4	
Susceptibility	Conducted : RTCA DO 160E : Cat B section 16- DC Power Interruption, Cat Z Section 18, Cat ZN section 19, CS Cat W Section 20 Radiated : RTCA DO 160E : RS Cat W Section 20	
Safety	CE Marking / EN 60950	
Ingress protection	IP65 (front)	
Warranty		
Two-year limited warranty (parts and labor), factory return under RMA procedure.		
Additional 2 years coverage and customized service plans available on request.		



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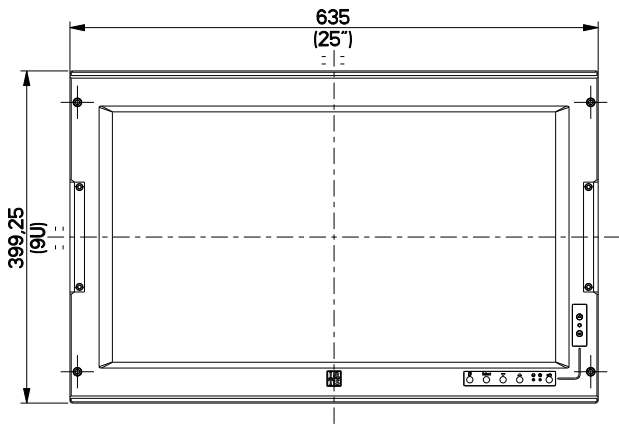
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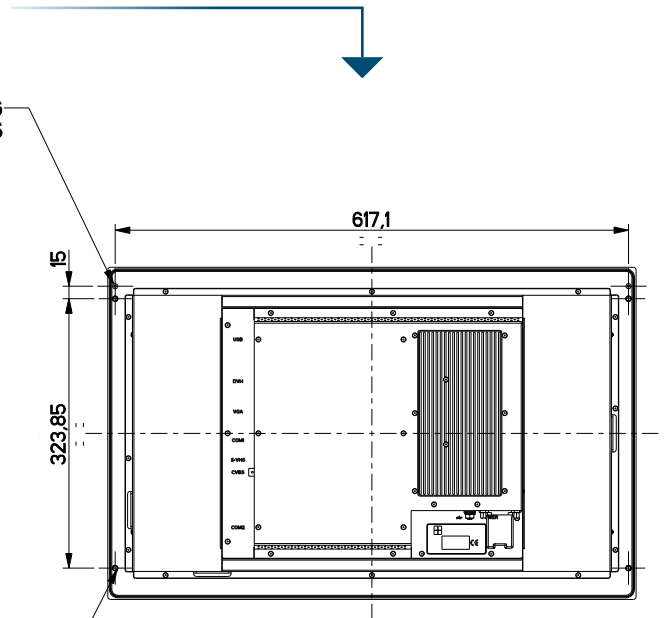
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# TECHNICAL LAYOUT

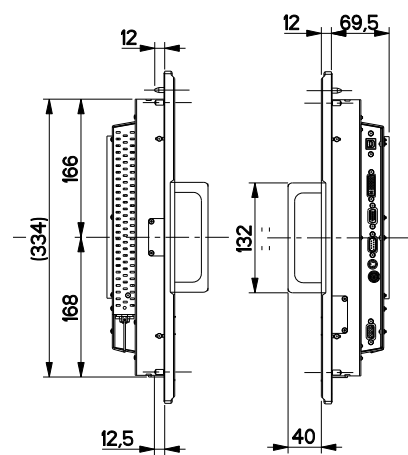
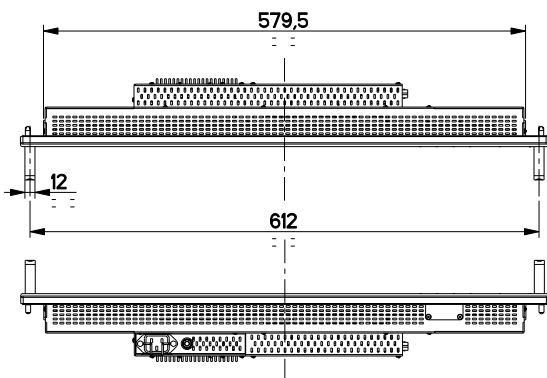
Dimensions are in millimeters (mm).



2x∅6  
CENTERING AXLES



4xM6  
CAPTIVE SCREWS



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