Installation and Operation Manual

FD215CV-C-Q-VGA

21.5" LCD Quad-Screen Display

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TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com

General Information

The FD215CV-C-Q-VGA is a special mission monitor which has features that allow installation in a standard rack mount configuration. It is capable of displaying three (3) separate VGA sources, and one (1) HD-SDI source on a quad-screen or a single display.

Front View

Additional Information

The FD215CV-C-Q-VGA utilizes a state of the art digital video decoding chipset for three (3) analog video inputs and one (1) HD-SDI input. The LCD is protected with a .060" non-glare Lexan lens to prevent scratching of the LCD and to meet stringent FAA abrasive load criteria.

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Specifications

Display Type	21.5″ TFT Color LCD
Display Color	16.7 Million Colors
Screen Resolution	1920 X 1080
Brightness	300 cd/m²
Dimensions	20.0″(W) x 14.7″(H) x 1.62″(D)
Display Size	18.82″(W) x 10.61″(H)
Weight	13 lbs
Power	28V DC @ 3 Amps
PC & Video Input	Analog RGB (4)
Video Type Supported	VGA, NTSC
Screen Control	On Screen Display Menu
Viewing Angle	170° Horizontally 160° Vertically
Operation Temperature	5 - 45° C
Materials	Aluminum
Aspect Ratio	16:9
Certifications	In Progress

Installation Instructions

All cabin equipment, such as the FD215CV-C-Q-VGA, should be installed on a non-essential bus and have a dedicated circuit breaker. It is a requirement that a switch be installed in the cockpit so that the pilot can de-energize the system should it become necessary.

The FD215CV-C-Q-VGA is designed to mount into a standard electronics rack using (4) 10-32 Machine screws. See installation drawing on page 10 for measurement details.

Power

This is a **28VDC** monitor that requires 3.0 Amps of power to operate. The unit turns on automatically upon power application.

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Power and Ground Wiring

20 AWG wire is recommended for Power and Ground applications.

The rated current of the equipment and associated voltage drop should be taken into consideration when selecting wire gauge. The following example is based on an install with a 28VDC power system and a total of 50 feet of wire between the circuit breaker, monitor and ground.

Example: 22 AWG wire has 16.2 Ohms per 1000 feet, this equates to .81 Ohms for 50 feet. 3 Amps of current on .81 Ohms will drop 2.43 Volts.
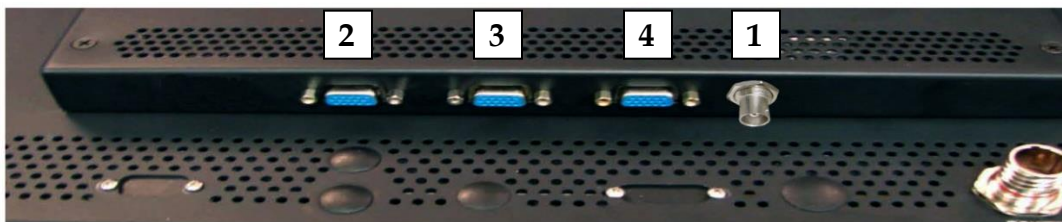
Resistance of Wire Type M22759/16-** (** = Gauge)	
Gauge (AWG)	**OHMS/1000′**
24	26.20
22	16.20
20	9.88
16	4.81
12	2.02
10	1.26
8	.70

Also, use short heavy gauge wire and a clean tight connection for ground.

It is the installer's responsibility to understand the product's requirements to install the product in compliance with industry standards and safety.

VGA Wiring

The FD215CV-C-Q-VGA uses standard VGA cables for input.

Rear View with Connectors (refer to page 9)
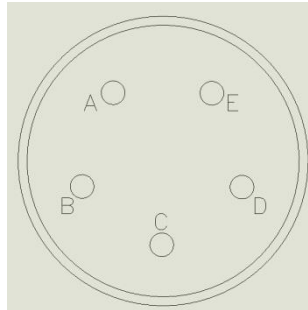
Power

Pin out for 28V PWR – D38999 connector (supplied)

    Mating Connector   P/N: D38999/26FB5SA or Equivalent

    Crimp Contacts   P/N: M39029/56-351 or Equivalent

MATING FACE

Pin Number	Description
A	28VDC Power
B	28VDC Power
C	28VDC Ground
D	28VDC Ground
E	N/C

Pin out for HD-SDI Input

(Standard BNC – 75 OHM) – 31-242

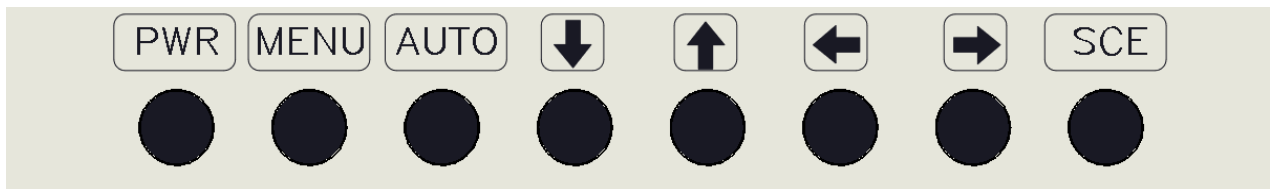| Pin	Description
Center	Video Signal
Shell	Video Return

Operation Instructions

The FD215CV-C-Q-VGA is continuously on but can be de-energized by removing power from the video system. No pilot or aircrew action is necessary during flight or ground operation.

The operator will be able to change the video output from the FD215CV-C-Q-VGA using the video source select button on the display.
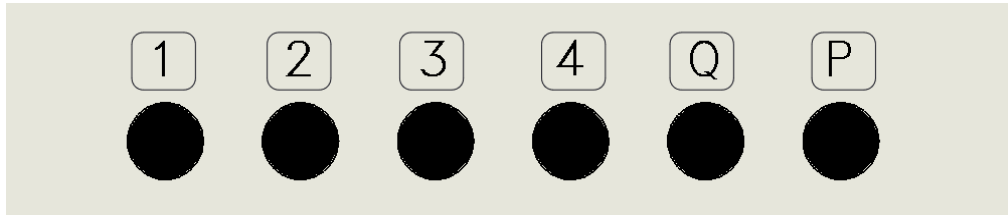
When applying 28VDC power, the display will turn on and look for a valid input on the last known source. If no input is found, the display will go to standby mode. Pressing the Select button will rotate through available video inputs.

Button Controls

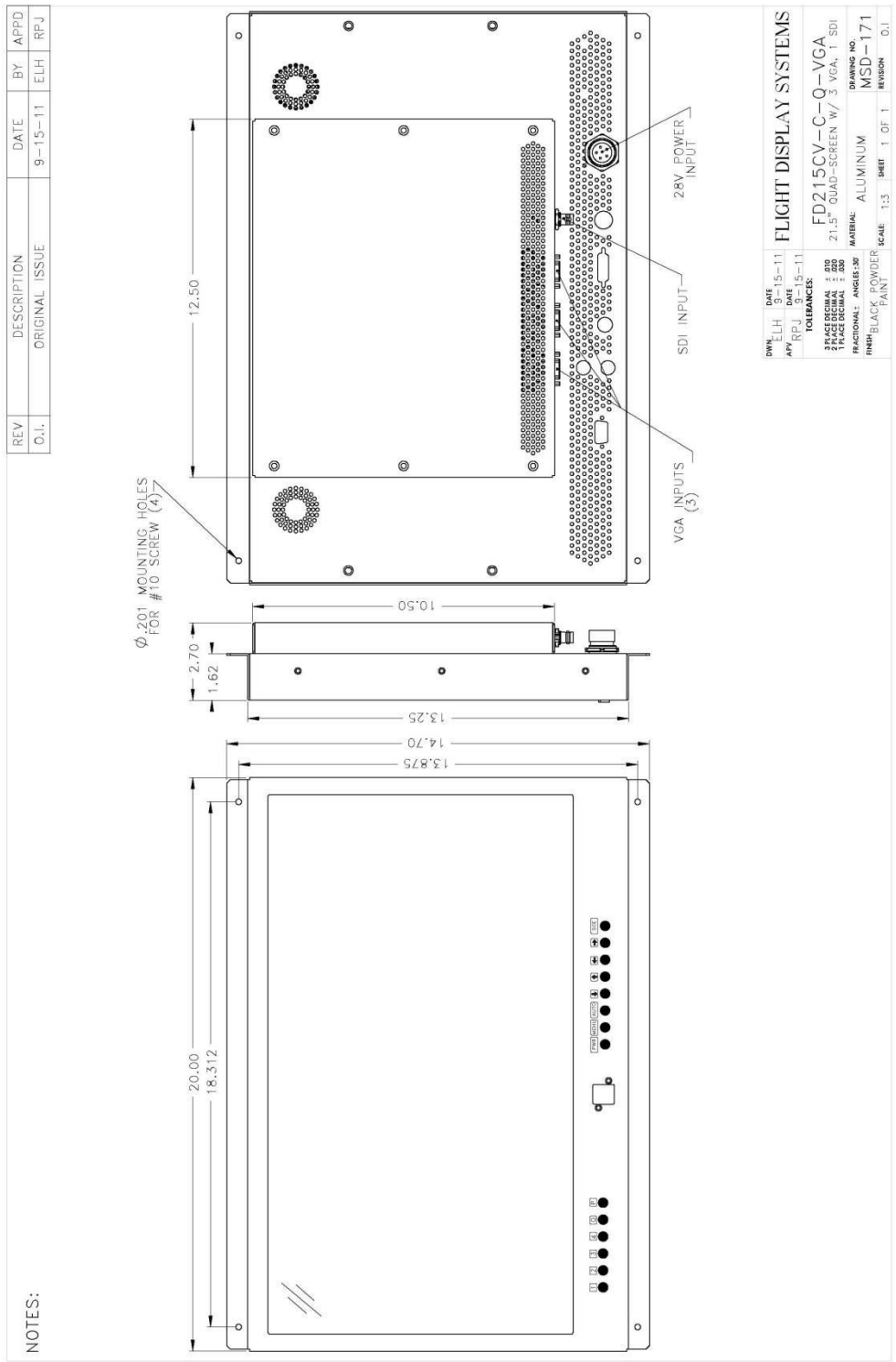Located on the front of the FD215CV-C-Q-VGA are 14 buttons, in two sections.

BUTTON	DESCRIPTION
PWR	Turns ON/OFF the system.
MENU	Activates the OSD menu for the monitor settings or goes to previous menu.
AUTO	Auto-adjustment in RGB.
⬇	Moves the highlight icon up through menu options.
⬆	Moves the highlight icon down through menu options.
⬅	Decreases the adjustment of the selected function.
➡	Increases the adjustment of the selected function.
SCE	Cycles through available input sources. (VGA is the only source available on this unit.)

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BUTTON	DESCRIPTION
1	Displays input 1 on full-screen
2	Displays input 2 on full-screen
3	Displays input 3 on full-screen
4	Displays input 4 on full-screen
Q	Switches to quad-screen mode. Displays all 4 video inputs simultaneously.
P	Switches to Picture-in-Picture mode. In PIP mode, active source is displayed on left side of monitor with three other sources stacked on right side of monitor.
Q+P	Pressing Q and P simultaneously opens the quad screen OSD menu. This menu allows the user to modify the quad screen display settings.
1+2	Press 1 and 2 simultaneously for at least 1 second to select an appropriate video resolution. (VGA, SVGA, XGA, UXGA.)
3+4	Press 3 and 4 simultaneously for at least 4 seconds to reset the unit.

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Technical Drawing

Technical Support

Should you have any questions concerning this product or other FDS Avionics Corp. products, please contact our Product Support representatives at (470) 239-7421.

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Alpharetta, GA 30005
Phone: 470-239-7400
Fax: 470-239-7439
Email: sales@FDSAvionics.com

For further product information, technical data and sample wiring diagrams, please click on the **Dealers** section of our web site at www.FDSAvionics.com

Instructions for Continued Airworthiness

The FD215CV-C-Q-VGA is designed not to require regular general maintenance.

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Warranty Information

All FDS Avionics Corp. products are warranted to be free from material or manufacturing defects for a period of 24 months from the date of shipment for General Aviation customers or 12 months from the date of shipment for Government/Special Mission customers. Any material or repair workmanship for in warranty repair service will be specifically warranted for 90 days or the remainder of the original warranty period, whichever is longer. If the original warranty period has expired, the 90 day repair warranty is limited to the material and workmanship specific to the repair activity completed.

The following conditions are exclusions to warranty coverage:

1. Labor costs associated with installation, removal or reinstallation of any product.
2. Damage to or malfunction caused by any unauthorized alteration made to the product.
3. Resolving signal quality issues caused by externally generated noise introduced by aircraft electrical systems or other components connected to any FDS product.
4. Any malfunction caused by improper installation or connection to aircraft wiring, industry standard cabin management/inflight entertainment systems, or third party commercial equipment not specifically identified as compatible with FDS products.
5. Any malfunction caused by installation that does not conform to precautions associated with operating environments listed in the operating manual or consistent with industry best practices such as high temperature, adequate ventilation, high humidity, high dust, or power surges.
6. Cosmetic damage or damage to internal components caused by installation or removal, failure to follow installation or operating instructions, or any neglect or misuse of the product.
7. Any product that is returned for service with a broken tamper evident seal, indicating tampering or improper handling of the product by an unauthorized person. Violation of product tamper evident seals or modification of factory installed serial and PMA labels voids any warranty, either expressed or implied.

The FDS Technical Support team is available to provide distance troubleshooting support during business hours (8:00am to 5:00pm EST) Monday through Friday at (470) 239-7421.

Many repair requests can be resolved through distance support and may not require return of merchandise to the factory. If a product must be returned to the factory for repair, an RMA number will be issued as directed by the Technical Support team and communicated by the Repair Coordinator.

Upon request by the customer, FDS may send a Service Technician onsite to repair any non-PMA products. The travel expenses incurred to include transportation, lodging and meals along with the technician's hourly rate shall be payable by the customer in accordance with FDS' applicable rates and procedures.

FDS Avionics Corp. will, upon receipt of returned merchandise, remanufacture or replace the unit at our discretion and return the product by Ground Return Shipping. Express return shipment will be the responsibility of the sender.

This warranty is not transferable.

Any implied warranties expire at the express limited warranty expiration date. FDS shall not be held liable for any indirect, special, punitive, incidental or consequential damages.

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Some states do not allow limitation on the length of an implied warranty. In such states, the exclusions or limitations of this limited warranty may not apply.

Log of Revisions

Rev	Date	Page	Description
A	02/09/2012		Initial Release
B	05/04/2017	All	Corporate name change, warranty, phones numbers