

## Interface Control Document

# AVDU-1010-xx-ICD

## 4" Video LCD Display (Dzus Mounted)



### General Description

This specification applies to the 101mm (4") Colour TFT-LCD Display AVDU-1010-xx and its variants. The display supports a PAL composite Video input (480(H) x 234(V)) screen format at high response speeds optimised for high-speed motion video typical in airborne surveillance applications. The display is fitted with four Dzus mountings on its front face to allow the fitting to a Dzus mounted panel.

This Display contains:

- Power input filter and Power supply module
- Video display driver Panel Electronic Circuit (PEC )

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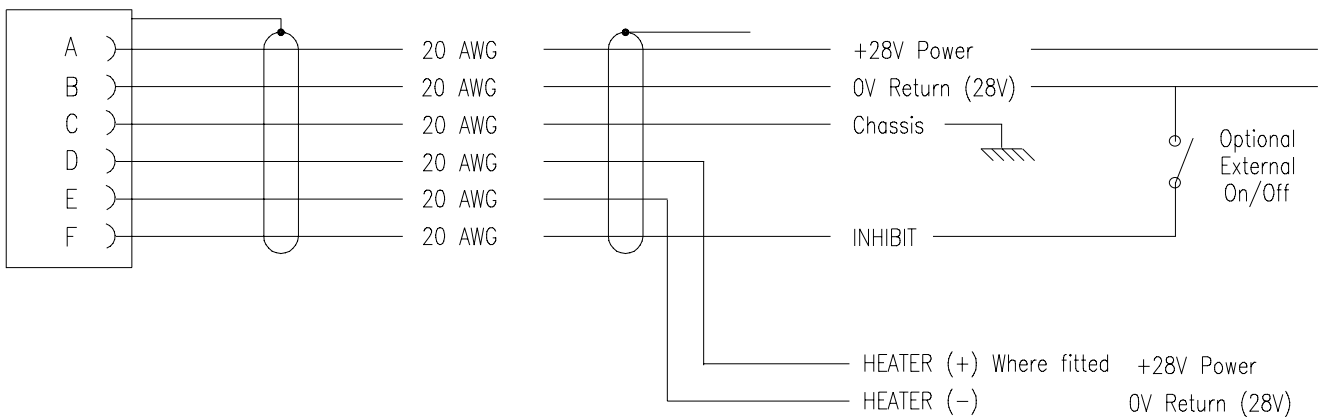
### Electrical

#### Pin assignment

<b>Power connector</b>													
<p>Size 20 contacts Wire Size 24,22,20 Gauge 3, 5, 7.5A max</p>	<b>Unit connector</b> D38999/20WB 98PN    FLANGE MT RECEP 6 WAY PIN <b>Mating half (cable connector)</b> D38999/26WB 98SN    PLUG 6 WAY SKT G8801-11M                SIZE 11 Backshell												
	<b>Power Connector</b> <table border="1"> <tr><td>A</td><td>+28V DC Power</td></tr> <tr><td>B</td><td>28V DC Power Return</td></tr> <tr><td>C</td><td>Chassis</td></tr> <tr><td>D</td><td>+ Heater</td></tr> <tr><td>E</td><td>- Heater</td></tr> <tr><td>F</td><td>Enable (Ground to pin B for Disable)</td></tr> </table>	A	+28V DC Power	B	28V DC Power Return	C	Chassis	D	+ Heater	E	- Heater	F	Enable (Ground to pin B for Disable)
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<b>Video IN/OUT connectors</b>													
	<b>Unit connector</b> Isolated BNC												

#### Typical Power connector wiring

Monitor Power





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### EMI/EMC

The tests carried against D0-160D have shown that a shield on the external power cable will reduce (by a few dB) the conducted and radiated emissions in and installed system

Tests also carried out have shown that the fitting a small ferrite ring close to the power and signal connector also reduces the emissions. (by a few more dB.) The ferrite ring around the signal cable has been particularly effective against transmissions from rogue computer VGA signals during installation tests.

We recommend that a shielded power cable will help the installation's overall EMC performance.

We also recommend the fitting of one overall screen to the signal cables to improve overall installed performance.

We recommend the fitting of a ferrite ring close to the display's Power and signal cables to further reduce the system emissions.

The screen/shields must be RF bonded to the connector shell or as a minimum to pin C of the power connector.

### Heater operation (where fitted)

The pre heater can be configured in two modes.

A. Heater is independent of the display (Use pins D and E)

B. Heater will not let the display power up until the temperature is above a preset limit. (Pins A and B)

Pre heat starts as soon as power is available on Pins A and B Power will be applied to the display when the low set temperature is reached at which point the heater is switched off and the display on.

(Mutually Exclusive)

The heater power is supplied in two ways on separate pins (D and E) of the power connector and through the normal power connections on pin A and B. The heater is a mat type with an integral temperature control that will pre heat the relevant parts of the monitor when power is applied and the temperature is below the low set limit (adjustable at manufacture - normally set to -25C to -30C).

e.g the monitor can be supplied from a separate heater bus that could be switched on before flight or left on overnight to keep the monitor warm by using pins D and E or will start to pre heat when power is applied to Pins A and B if the temperature is below the low set limit.

Applying power to pins D and E and not A and B will only power the heater and not power the monitor.

The power required, is determined by the pre heat time required and has been set at <15min for typical conditions. The faster the time the more power is required. We have limited this to 7A @28V (200W) maximum at the connector (Pins D and E). The Display system cct breaker should be set at 7.5A to allow future faster heating upgrades or to a minimum of 5A.



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### Handling Precautions

Handling of the Display should be in compliance with Real-Time Vision's handling principles.

- 1) Since front window is an optical assembly and is easily damaged, observe precautions in order not to scratch it.
- 2) Be sure to turn off power supply when inserting or disconnecting the input connectors.
- 3) Wipe off water or fluid droplets immediately. Long contact with water or other fluids may cause discoloration or spots.
- 4) When the front window surface is soiled, wipe it with absorbent cotton or other soft cloth.
- 5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
- 6) Since CMOS LSI is used in this module, take adequate static electricity precautions and ensure correct human earth bonding when handling.
- 7) Do not open nor modify the Assembly.
- 8) Do not press the front window sheet a in any direction.
- 9) At the insertion or removal of the Power and Signal Interface Connector, ensure that the sockets are free from debris and be sure not to damage the Interface pins
- 10) After installation of the Display into a mounted position, do not twist nor bend the Display even momentary. When designing a suitable mounting, it should be taken into consideration that no bending/twisting forces are applied to the Display from outside. Otherwise the TFT -LCD module or backlight may be damaged.

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