

Trotter Controls, Inc. FORT WORTH, TEXAS	PRODUCT DATASHEET	NUMBER DS-0015	REVISION
		MODEL 1010-XXXX	
TITLE DATASHEET – IP67 Remote LCD Display	BY JBF	CHK'D VT	SERIAL 0001 and SUBS
	DATE 11/03/2008	PAGE 1	OF 8

REVISIONS:

None

ELIGIBLE SERIAL NUMBERS:

1010-XXXX S/N:0001 and subsequent serial numbers.

PURPOSE:

This specification details the general specifications for the sealed LCD display assembly.

SUMMARY:

This display is compatible with the second generation Fire Retardant Dispersal System (FRDS GENII) and various product that support buffered SPI communication.

A typical application of this display is used to remotely indicate the quantity of fluid present in the aircrafts liquid hopper .

The specifications listed here are compiled from various component datasheets used in the manufacturing of the device.

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GENERAL :

Table 1 ~ General specifications.

Rated Voltage Input	Min: 6.05 VDC Nominal: 7.3 VDC Max: 12 VDC ~ Max input voltage is power dissipation limited, Busy jumper for downstream slave display connected to input voltage.
Internal Regulation	+4.75 ~ +5.25 VDC, Linear, 26V maximum input continuous, 60V peak
Rated Input Current	Min: 10 mA DC ~ All display bits off, LED backlite Off Nominal: 43mA DC ~ operational current with LED backlite on Max: 53mA DC ~ LED backlite on
Power Consumption:	0.31W Nominal @ 7.3 VDC Input
Dimensions:	See Fig.1 ~ 4 for overall dimensions
Fuse:	1.0 A (internal)
Environmental:	Storage Temperature: -40C - +85C Operating Temperature: -20C ~ +65C IP Class IP67

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FEATURES :

- Sealed to IP67
- Antireflective glass minimized glare
- Wide Temperature range: -20C ~ 65C
- LCD text/graphics display
 - 144 X 32 bit graphic display
 - Number of Dots: 4608
 - Display area: 57.45mm X 13.93mm (X x Y)
 - Dot Size:
 - Dot Pitch:
 - Display Type: Positive Transflective
 - Viewing Environment: Sunlight readable, Back lit
 - Backlite Color: Light Blue, Yellow/Green (optional)
- Generates ASCII text or bitmap graphics
- Siliconix ST7920 software command set
- SPI interface @ RS232 voltage levels
 - Parallel interface available (optional connector required)
- Daisy chain communication and power output for downstream display
- Viewable in direct sunlight

SPECIAL CONFIGURATIONS ALSO AVAILABLE:

The following configurations for the display are available. Minimum order quantities may apply.

- TTL SPI (PC compatible) versions
- Parallel versions
- RS-422/485
- Analog input 0-10V, +/- 5V, 4-20 mV
- I2C interface
- Custom configurations

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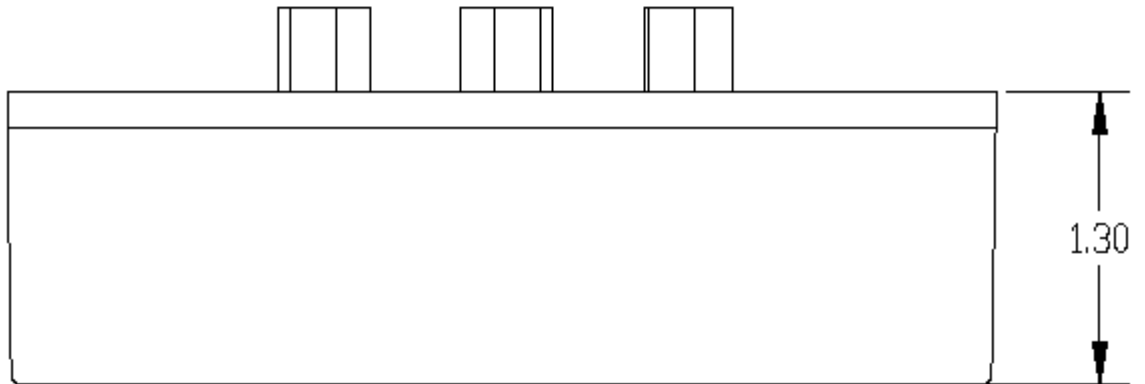


Figure 1 ~ Bottom View

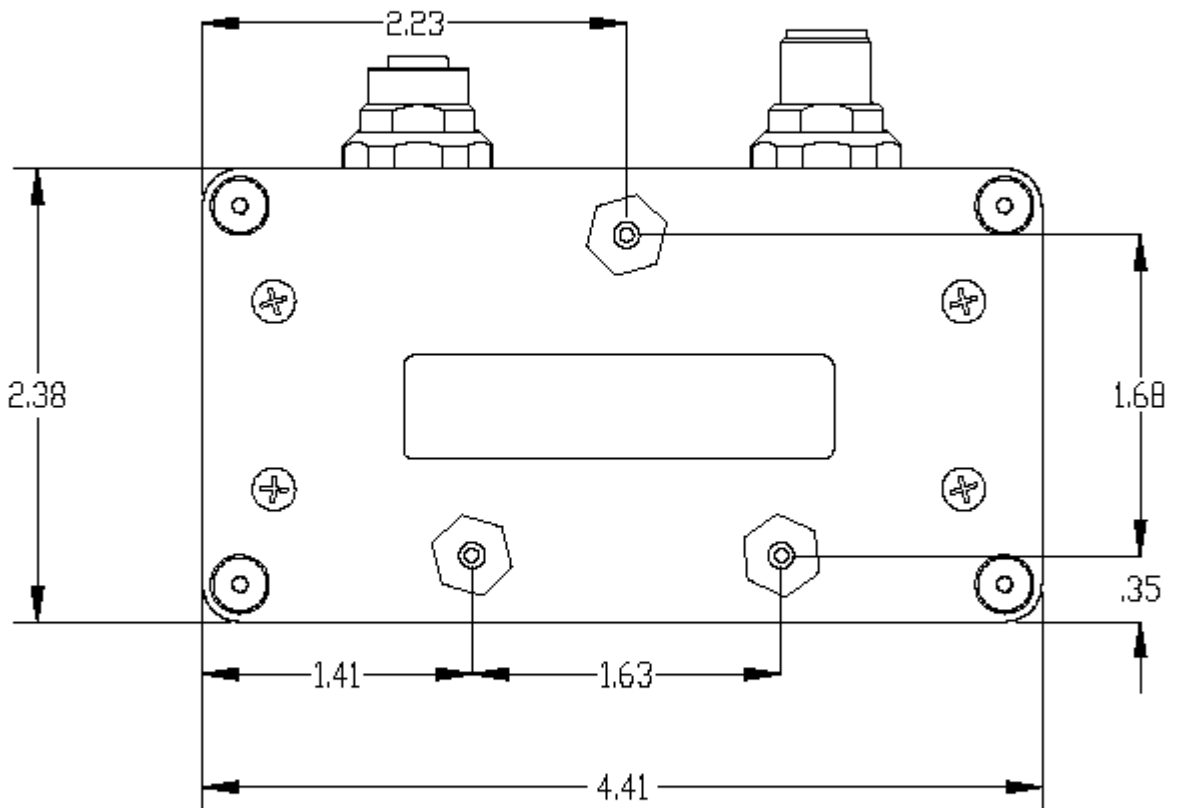


Figure 2 ~ Front View

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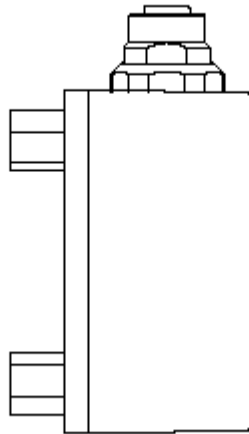


Figure 3 ~ Side View

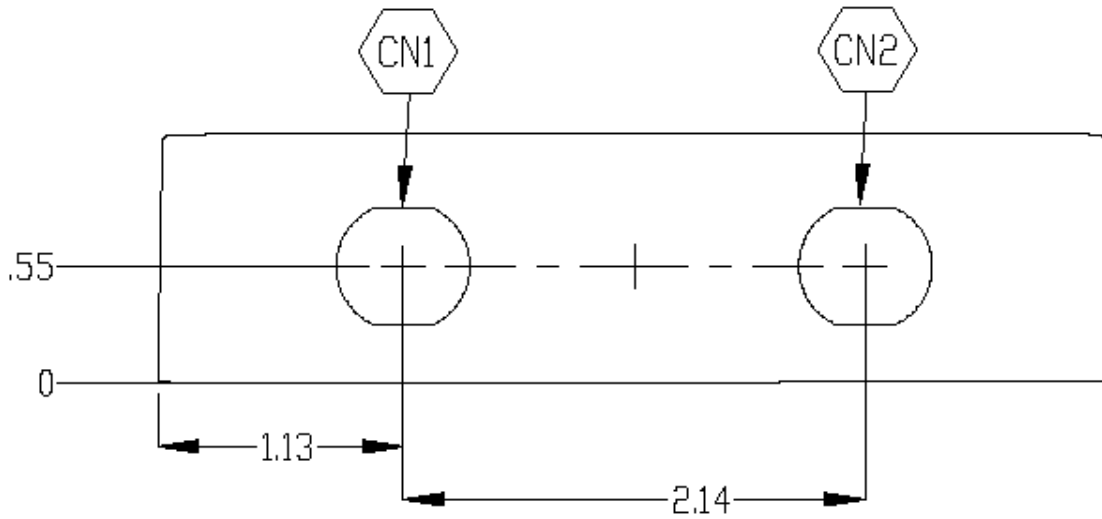


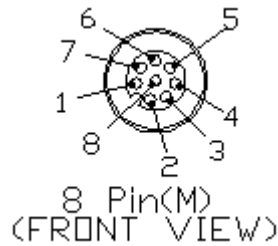
Figure 4 ~ Top View - CN1 male pins & CN2 female sockets
(Standoffs and connectors removed for clarity)

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APPENDIX:

Table 2 ~ CN1 – Hopper Display Output to Remote Slave.

PI - HOPPER DISPLAY		
CN1 PIN#	J3 PIN# {4}	DESCRIPTION
		5825-0053-01-00
1	1	BUSY IN FROM REMOTE SLAVE
2	3	RESET OUT TO REMOTE SLAVE
3	4	CLOCK OUT TO REMOTE SLAVE
4	7	DATA OUT TO REMOTE SLAVE
5	-	N/C
6	-	N/C
7	10	+V OUT TO REMOTE SLAVE
8	5	GND OUT TO REMOTE SLAVE



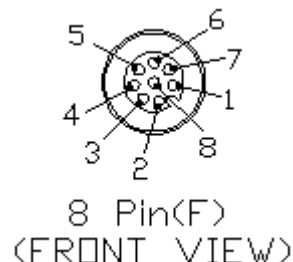
Notes: {x}

1. The last remote display must have pins 1 and 7 jumped together.
2. Trotter Control p/n: 5100-0013 jumper/cap assembly should be installed on CN1 of the last display in the chain to short pins 1 and 7 together while maintaining the IP67 rating for the jumper assembly.
3. BUSY = HIGH indicates that the downstream slave is ready.
4. J3 is an internal connector on the internal 5990-0011 printed circuit board used inside the display. This pin information is for reference only.

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Table 3 ~ CN2 - Hopper Display Input From Master.

PI - HOPPER DISPLAY		
CN2 PIN#	J2 PIN# {6}	DESCRIPTION
		5825-0053-01-00
1	1	BUSY OUT TO MASTER
2	3	RESET INPUT FROM MASTER
3	4	CLOCK INPUT FROM MASTER
4	7	DATA INPUT FROM MASTER
5	-	N/C
6	-	N/C
7	10	+V INPUT
8	5	GND INPUT



Notes: {x}

1. The display master (controls this display) can be the system controller or an upstream connected remote display.
2. An upstream connected display, will repeat commands received on CN2 on connector CN1 and has logic so that the BUSY signal from the downstream display is ANDED with the BUSY signal from the internal VFD controller.
3. The BUSY output from connector CN2 will not go HIGH unless both the BUSY from the internal VFD and the slave VFD connected to connector CN1 are inactive (i.e. both displays are READY, BUSY = HIGH)).
4. Busy = HIGH indicates that the display AND any connected remote slave displays are ready.
5. If no remote slave display is connected via CN1, p/n: 5100-0013 jumper/cap assembly should be installed on connector CN1. This jumps pins 1 & 7 together on CN1.
6. J2 is an internal connector on the internal 5990-0011 printed circuit board used inside the display. This pin information is for reference only.

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Table 4 ~ Fuse Schedule

FUUSE SCHEDULE		
FUSE No.	FUSE (A) RATING	CIRCUIT PROTECTED
F1	0.8	VFD PCB
F1	1.0	PWB: 5990-0011

Notes: {x}

1. Fuses are internal to the enclosure.