NOTE 1: For solderable fastener: PEM p/n SMTS08-256-2ET see product datasheet for details. Alternate: 0.067 thru (with or without copper pad) for conventional nut mounting (see note 2).

NOTE 2: Avoid ferromagnetic materials and significant DC currents within magnetic keep-out area to preserve magnetometer accuracy. Large currents and ferromagnetic materials require greater keep-out distance.

NOTE 3: If using PEM fastener in NOTE 1, minimum PCB thickness is 0.060”. Confirm board tolerances will not fall below this minimum value.

NOTE 4: Recommended PCB connectors: HARWIN M50-3100545 or keyed connector HARWIN M50-3110542.

MINIMUM 1” KEEP-OUT SPHERE FOR DC CURRENTS, FERRO-MAGNETIC COMPONENTS, FERROUS MATERIAL. SEE NOTE 2.

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CHASSIS MOUNTING HOLE PATTERN

3X MOUNTING FASTENER
2-56 x 1/2" button head screw
300 series stainless (see note 2)
e.g. McMaster 90910A782
Torque to 2in*lbs

Pin 1 Location

Example cable shown:
SAMTEC FFSD-05-D-04.00-01-N-R

Example PCB shown with SAMTEC
SHF-105-01-L-D-SM see NOTE 1

NOTE 1: Alternative cable connectors include SAMTEC p/n:
EHF-105-01-L-D-SM-LC
EHF-105-01-L-D-SM
SHF-105-01-L-D-SM-LC

CHASSIS MOUNTING OPTION

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UNLESS OTHERWISE SPECIFIED
F.M.P. = FOR MANUFACTURING PURPOSES
ALL DIMENSIONS ARE TO POINTS OF INTERSECTION DIMENSIONING/TOLERANCING PER ASME Y14.5 - 2009
ABBREVIATIONS, ACRONYMS, TERMINOLOGY PER TS-027
MACHINED SURFACES = .125μin (3.2μm) MAX
BREAK ALL SHARP EDGES = .005in (.125mm) MAX
AVERAGING OF DIAMETERS NOT PERMISSIBLE
ALL DIMENSIONS ARE IN INCHES
DIMENSIONS IN [ ] ARE IN MILLIMETERS

SURFACE AREA (SQ. IN.)
CALC. WT. (LBS.)
3065-0254-ICD

3065-0254-ICD
VOL (CU. IN.)

INTERFACE CONTROL DRAWING
3DM-CV5 (-10, -15, -25)

CAGE
OXYZ
B

SIZE
3065-0254-ICD

DRAWING NO.
3065-0254-ICD

REV
-
### Pin Functions

<table>
<thead>
<tr>
<th>PIN #</th>
<th>NET NAME</th>
<th>FUNCTION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USBDM</td>
<td>USB DATA-</td>
<td>NOTE 1,5</td>
</tr>
<tr>
<td>2</td>
<td>USBDP</td>
<td>USB DATA +</td>
<td>NOTE 1,5</td>
</tr>
<tr>
<td>3</td>
<td>Vin</td>
<td>POWER SUPPLY +</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>RxD</td>
<td>UART receive (host to CV5)</td>
<td>NOTE 1</td>
</tr>
<tr>
<td>5</td>
<td>TxD</td>
<td>UART transmit (CV5 to host)</td>
<td>NOTE 1</td>
</tr>
<tr>
<td>6</td>
<td>GPIO3</td>
<td>LOGIC LEVEL GPIO</td>
<td>NOTE 4</td>
</tr>
<tr>
<td>7</td>
<td>GPIO1</td>
<td>LOGIC LEVEL GPIO (and pps input)</td>
<td>NOTE 3</td>
</tr>
<tr>
<td>8</td>
<td>GND</td>
<td>SIGNAL GROUND &amp; POWER SUPPLY RETURN</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>GPIO2</td>
<td>LOGIC LEVEL GPIO</td>
<td>NOTE 4</td>
</tr>
<tr>
<td>10</td>
<td>DISABLE</td>
<td>LOGIC LEVEL DISABLE (OPEN OR LOW = ENABLE)</td>
<td>NOTE 2</td>
</tr>
</tbody>
</table>

- **NOTE 1:** primary interface communications is via either uart or usb. unused interface pins may be left unconnected
- **NOTE 2:** for best EMC performance, tie CHASSIS (i.e., the three mounting holes) to a local ground (e.g., pcb groundplane, airframe ground, etc.) CHASSIS and GND can be the same or different grounds, see ABSOLUTE MAXIMUM RATINGS table for limits
- **NOTE 3:** currently implemented as input only for Pulse Per Second (PPS) timing input. leave unconnected or wire to GND if not used
- **NOTE 4:** future functionality; not currently implemented. these pins can be left unconnected, or wired to GND, or wired to a TTL/CMOS compatible device for possible future usage
- **NOTE 5:** CV5-10 does not make use of USB connections (pins 1/2) these pins may be left unconnected if USB is unused

### Electrical Overview

**Sheet 4/4**

- **UNLESS OTHERWISE SPECIFIED**
  - P.M.P. = FOR MANUFACTURING PURPOSES
  - ALL DIMENSIONS ARE TO POINTS OF INTERSECTION
  - DIMENSIONING/TOLERANCING PER ASME Y14.5 - 2009
  - ABBREVIATIONS, ACRONYMS, TERMINOLOGY PER TS-027
  - MACHINED SURFACES = 12.5μin (0.32μm) MAX
  - BREAK ALL SHARP EDGES .005in - .025in (0.1mm - 0.6mm)
  - AVERAGING OF DIAMETERS NOT PERMISSIBLE
  - ALL DIMENSIONS IN INCHES; MILLIMETERS IN [ ] ARE IN MILLIMETERS

### Interface Control Drawing

**3DM-CV5 (-10, -15, -25)**

- **CAGE SIZE:** OXYZ9
- **DRAWING NO.:** 3065-0254-ICD
- **REV:** -

### LORD Corporation

Williston, VT 05495

**KYLE WERNER**

- **DR.
  - ENGR.**
- **MPG.**
- **Q.E.**

**INTERFACE OPERATING SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Voltage (Vin)</td>
<td>+3.2V</td>
<td>+5.2V</td>
<td>Note 1</td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>200mW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Input Logic Low (VIH)</td>
<td>0.9V</td>
<td>NOTES 1,2,3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Input Logic High (VIH)</td>
<td>2.1V</td>
<td>NOTES 1,2,3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Output Logic Low (Vol)</td>
<td>0.4V</td>
<td>NOTES 1,2,4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Output Logic High</td>
<td>2.6V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disable Input Threshold</td>
<td>0.4V - 1.6V</td>
<td>NOTES 1,5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **NOTE 1:** All voltages are referenced to the GND pin (pin 8)
- **NOTE 2:** Applies to pins: RxD, TxD, USBDM, USBDP, GPIO1, GPIO2, GPIO3
- **NOTE 3:** Nominal input impedance at RxD pin is 10kohm to +3V.
  - Nominal input impedance at GPIO1/2/3 pins is 40kohm to GND.
  - Nominal input impedance at USBDP pin is 1kohm to +3V.
  - Nominal input impedance at USBDM pin is 40kohm to +3V.
- **NOTE 4:** Applies when sourcing/sinking up to 6mA
- **NOTE 5:** Nominal input impedance at DISABLE pin is 1Mohm to GND when DISABLE voltage is between 0V and +5.6V. The DISABLE pin can be tied to GND or left unconnected when unused.