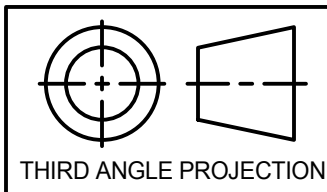


- Notes:
1. THIS DRAWING IS NOT TO BE USED FOR MANUFACTURE OR INSPECTION
  2. DRAWINGS NOT SHOWN TO SCALE

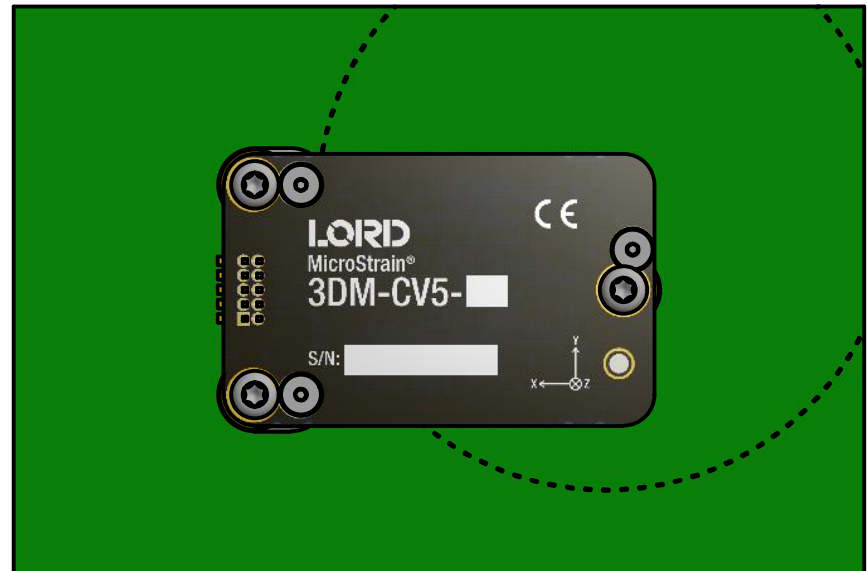


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SURFACE AREA (SQ. IN.)	CALC. WT. (LB.)	3065-0242-ICD	VOL (CU. IN.)

<b>LORD CORPORATION</b> Williston, VT 05495		DWG TYPE EC	
DR. BY KYLE WERNER	INTERFACE CONTROL DRAWING 3DM-CV5 (-10, -15, -25)		
CKD. BY	CAGE	SIZE	DRAWING NO.
ENGR. APPR.	OXYZ9	B	3065-0254-ICD
MFG. APPR.	SH 1 OF 4		REV -
Q.E. APPR.			

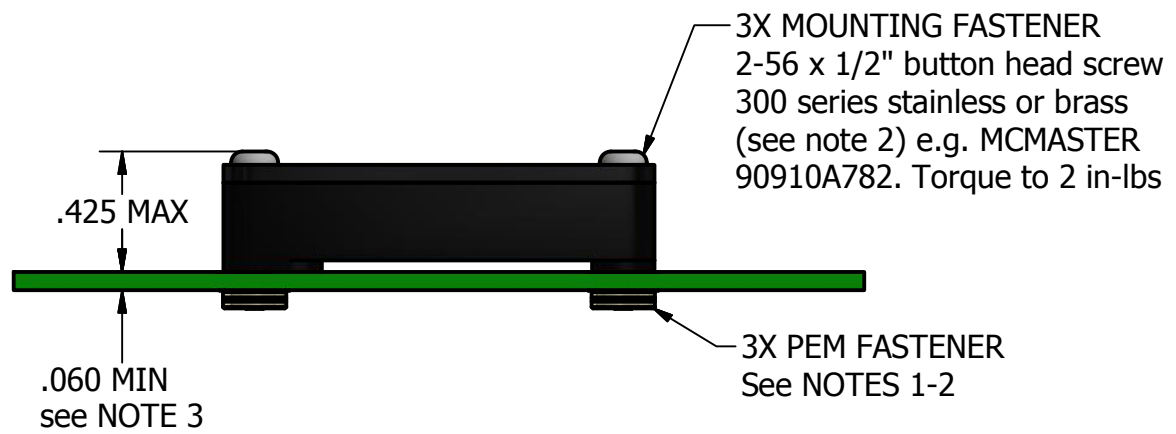
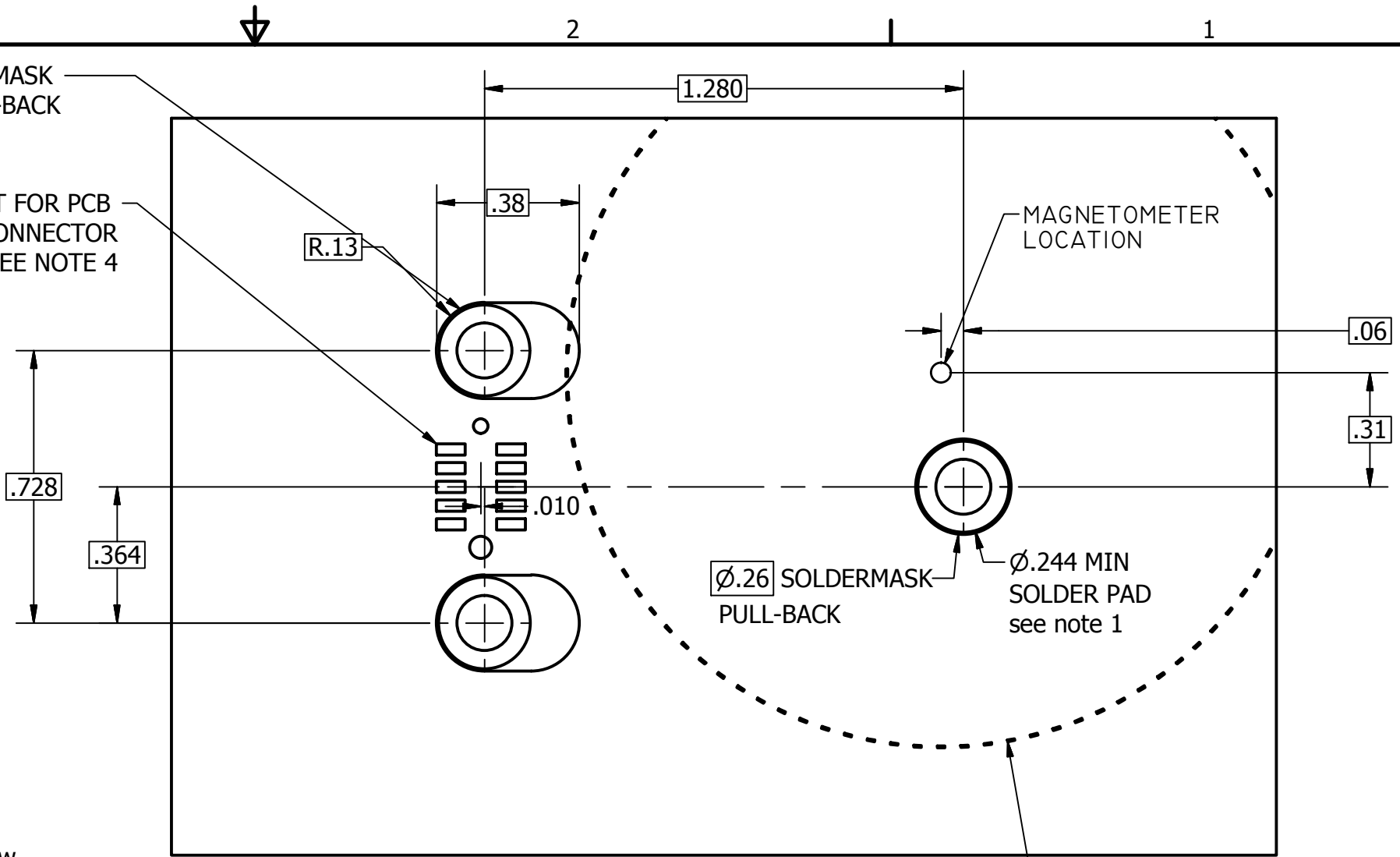
SHEET 1/4 MECHANICAL OVERVIEW

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2x SOLDERMASK PULL-BACK

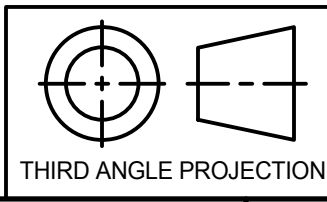
PAD LAYOUT FOR PCB MOUNT CONNECTOR SEE NOTE 4



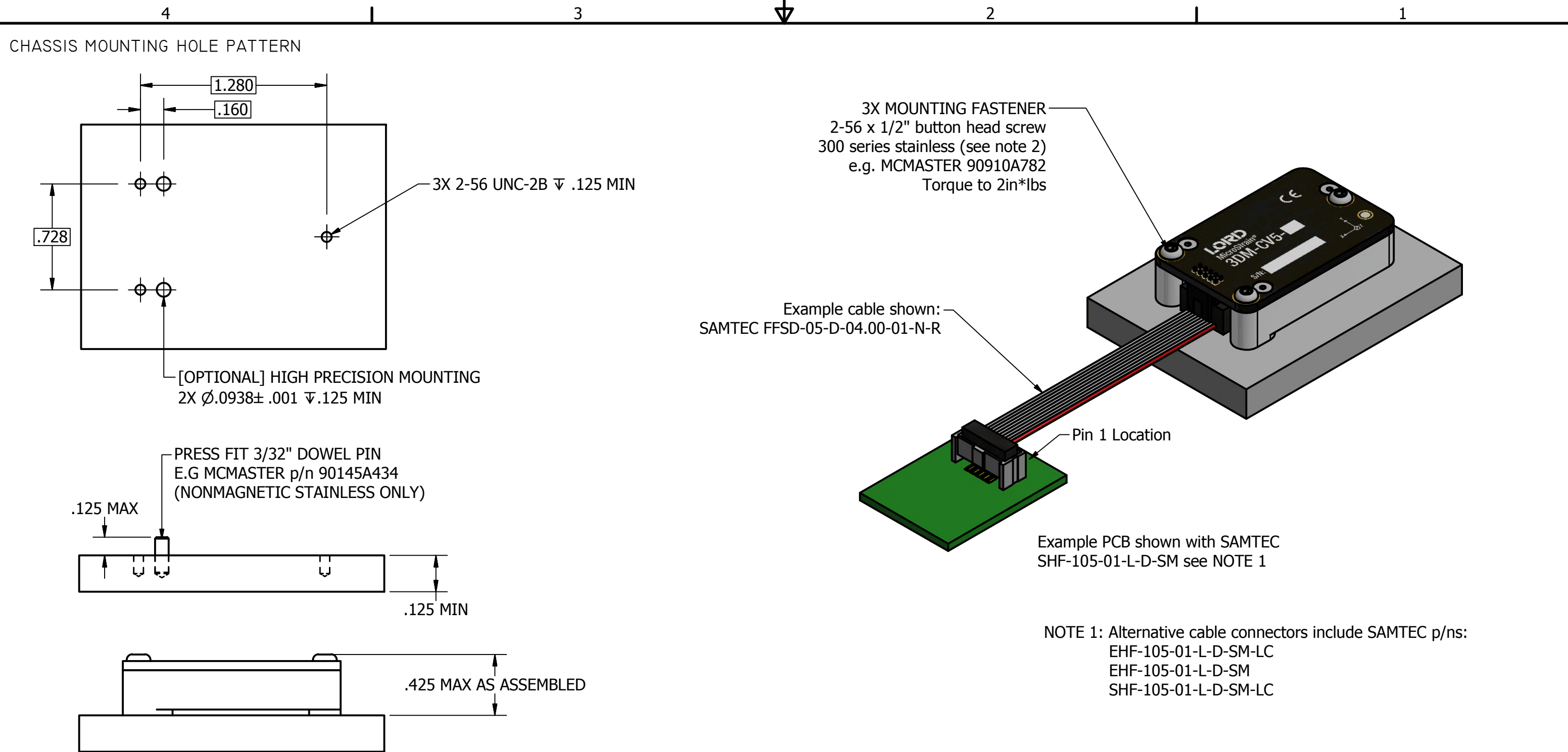
- NOTE 1: For solderable fastener: PEM p/n SMTSOB-256-2ET see product datasheet for details. Alternate: 0.067 thru (with or without copper pad) for conventional nut mounting (see note 2).
- NOTE 2: Avoid ferromagnetic materials and significant DC currents within magnetic keep-out area to preserve magnetometer 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

SHEET 2/4 PCB MOUNTING OPTION A



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SURFACE AREA (SQ. IN.)		CALC. WT. (LB.)	3065-0242-ICD	DR. BY KYLE WERNER		INTERFACE CONTROL DRAWING 3DM-CV5 (-10, -15, -25)	
		VOL (CU. IN.)		CKD. BY	DRAWING NO. 3065-0254-ICD		
				ENGR. APPR.			CAGE SIZE OXYZ9 B
				MFG. APPR.			
				Q.E. APPR.	SH 2 OF 4		



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

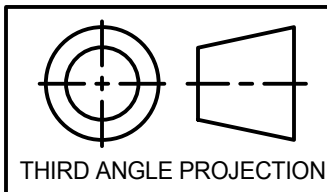
Example cable shown:  
 SAMTEC FFSD-05-D-04.00-01-N-R

Pin 1 Location

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

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

SHEET 3/4 CHASSIS MOUNTING OPTION



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SURFACE AREA (SQ. IN.)		CALC. WT. (LB.)	3065-0242-ICD	<table border="1"> <tr> <td colspan="2">DR. BY</td> <td colspan="2" rowspan="4"> <b>INTERFACE CONTROL DRAWING</b>            3DM-CV5 (-10, -15, -25)         </td> <td rowspan="4">REV</td> </tr> <tr> <td colspan="2">BY</td> </tr> <tr> <td colspan="2">ENGR. APPR.</td> </tr> <tr> <td colspan="2">MFG. APPR.</td> </tr> <tr> <td colspan="2">Q.E. APPR.</td> <td>CAGE</td> <td>SIZE</td> <td>DRAWING NO.</td> <td rowspan="2">REV</td> </tr> <tr> <td colspan="2"></td> <td>OXYZ9</td> <td>B</td> <td>3065-0254-ICD</td> <td>-</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">VOL (CU. IN.)</td> <td colspan="2">SH 3 OF 4</td> </tr> </table>		DR. BY		<b>INTERFACE CONTROL DRAWING</b> 3DM-CV5 (-10, -15, -25)		REV	BY		ENGR. APPR.		MFG. APPR.		Q.E. APPR.		CAGE	SIZE	DRAWING NO.	REV			OXYZ9	B	3065-0254-ICD	-			VOL (CU. IN.)		SH 3 OF 4	
DR. BY		<b>INTERFACE CONTROL DRAWING</b> 3DM-CV5 (-10, -15, -25)		REV																														
BY																																		
ENGR. APPR.																																		
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		OXYZ9	B	3065-0254-ICD		-																												
		VOL (CU. IN.)		SH 3 OF 4																														

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4

3

2

1

PIN FUNCTIONS			
PIN #	NET NAME	FUNCTION	NOTES
1	USBDM	USB DATA-	NOTE 1,5
2	USBDP	USB DATA +	NOTE 1,5
3	Vin	POWER SUPPLY +	
4	RxD	UART receive (host to CV5)	NOTE 1
5	TxD	UART transmit (CV5 to host)	NOTE 1
6	GPIO3	LOGIC LEVEL GPIO	NOTE 4
7	GPIO1	LOGIC LEVEL GPIO (and pps input)	NOTE 3
8	GND	SIGNAL GROUND & POWER SUPPLY RETURN	
9	GPIO2	LOGIC LEVEL GPIO	NOTE 4
10	DISABLE	LOGIC LEVEL DISABLE (OPEN OR LOW = ENABLE)	
MOUNTING HOLES	CHASSIS	CHASSIS GROUND	NOTE 2

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.

## ABSOLUTE MAXIMUM RATINGS

Parameter	Limit	Notes
Vin to GND	±12V	NOTES 1,2
Logic I/O to GND	-0.3V to Vin+0.3V AND not to exceed +5.4V	NOTES 2,3
GPIO1 to GND	±12V	NOTE 2
DISABLE to GND	±12V	NOTE 2
GND to CHASSIS	±12V	NOTE 2
Operating Temperature	-40°C to +85°C	
Mechanical Shock	500g	

NOTE 1: Power supply is PROTECTED against ±12V, but will not OPERATE over that full range. See INTERFACE OPERATING SPECIFICATIONS table for operational limits.

NOTE 2: Also protected against ESD and other high-voltage / low-energy transients.

NOTE 3: applied to pins: RxD, TxD, USBDM, USBDP, GPIO2, GPIO3

## INTERFACE OPERATING SPECIFICATIONS

Parameter	MIN	TYP	MAX	NOTES
Power Supply Voltage (Vin)	+3.2V		+5.2V	Note 1
Power Consumption		200mW		
DC Input Logic Low (Vil)			0.9V	NOTES 1,2,3
DC Input Logic High (Vih)	2.1V			NOTES 1,2,3
DC Output Logic Low (Vol)			0.4V	NOTES 1,2,4
DC Output Logic High	2.6V			NOTES 1,2,4
Disable Input Threshold	0.4V		1.6V	NOTES 1,5

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.

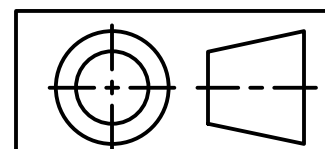
Nominal input impedance at USBDP pin is 1Kohm to +3V.

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.

## SHEET 4/4 ELECTRICAL OVERVIEW



THIRD ANGLE PROJECTION

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				CAGE OXYZ9	SIZE B	DRAWING NO. 3065-0254-ICD
						REV -
						SH 4 OF 4

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