

REV.	DATE	DCN #	DRAWING TREE #

- NOTES CONTINUED:**
- SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER AND REVISION ON NOTED SURFACE FOLLOWED ON THE NEXT LINE BY A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ANGLE AND PROCEED CONSECUTIVELY. USE 07 HIGH CHARACTERS. EXAMPLE: A VIBRATORY TOOL MAY BE USED.
  - APPROXIMATE WEIGHT - X.XXX LB.
  - MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH. USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED. REFER TO LIGO 6090004.
  - ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION 6090004.
  - ALL HELL-COL HOLES TO BE PREPARED ACCORDING TO EMHART HELICOIL PRODUCT CATALOG, HC0000, REV 4.
  - ALL HELL-COL INSERTS TO BE INSTALLED BY LIGO PERSONNEL AFTER DELIVERY OF FINISHED PARTS. USE NITRONIC 60 THREADED INSERTS.
  - ALL MATERIAL IS TO BE VIRGIN MATERIAL (i.e. NO WELD REPAIRS, PLUGS OR REPAIR MATERIAL). NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE, AND IN WRITING, BY LIGO LABORATORY. REFER TO LIGO 6090004.
  - SURFACE FINISH TO BE AS PROCESSED FROM MILL/SUPPLIER. FREE FROM SCRATCHES OR GOUGES.
  - PART WILL BE PORCELAIN COATED PER LIGO SPECIFICATION 6100003 AFTER FABRICATION. THE INDICATED HOLES WILL BE MARKED PRIOR TO PORCELAIN COATING TO APPROXIMATELY 2.5X HOLE DIAMETER CENTERED ON BOTH SIDES OF THE HOLE.
  - DIMENSIONS APPLY BEFORE PORCELAIN COATING UNLESS SPECIFIED.
  - BEND RADIUS: UNLESS OTHERWISE NOTED, THE BEND RADIUS SHOULD BE THE MINIMUM REQUIRED TO FORM WITHOUT CRACKING OR REQUIRING ADDITIONAL WORK WHEN FORMING. IN PARTICULAR, SHEET METAL IS TO BE PORCELAIN COATED. THE BEND RADIUS SHALL BE A MINIMUM OF 17X OUTSIDE RADIUS OF BEND UNLESS OTHERWISE NOTED.
- NOTES 9, 10, 13 and 14 DO NOT APPLY TO THIS PART

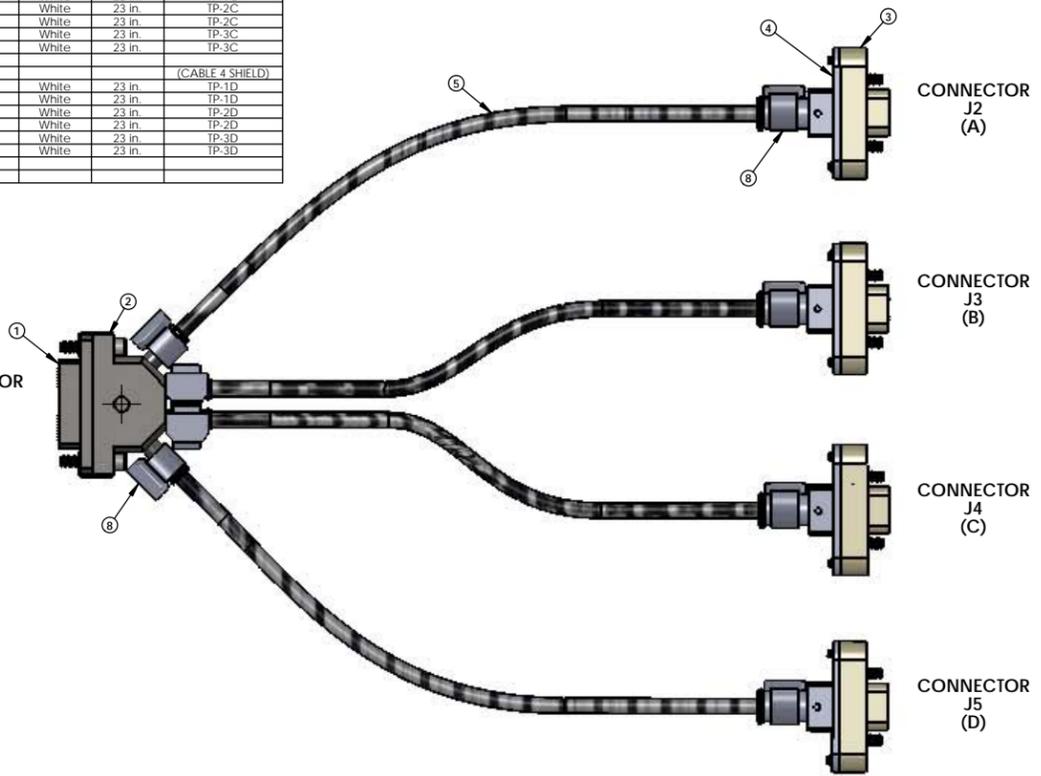
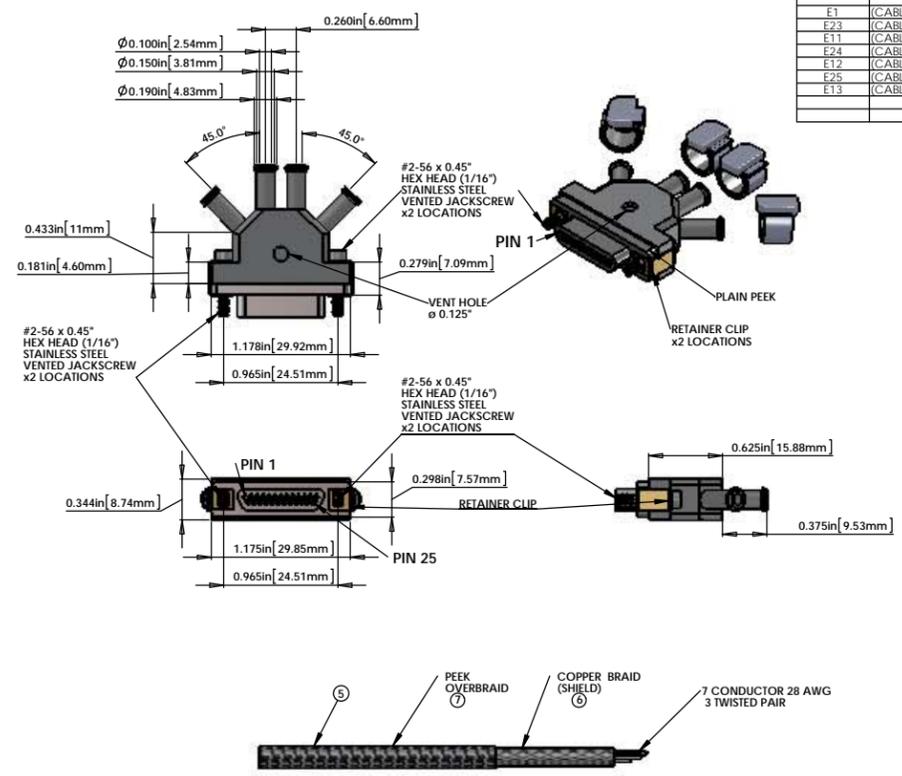
### V25AM-23-A CABLE ASSEMBLY CIRCUIT SUMMARY

VμD25 M/1S-23-4\_μD9 F/5S:A

FROM			
CONNECTOR J1 - 25 PIN MALE MICRO_D CONNECTOR			
PIN	WIRE NAME	COLOR	LENGTH * TWISTED PAIR
E1	(CONNECTOR SHELL)		
E1	(CABLE 1) WIRE 1	White	23 in TP-1A
E14	(CABLE 1) WIRE 14	White	23 in TP-1A
E2	(CABLE 1) WIRE 2	White	23 in TP-1A
E15	(CABLE 1) WIRE 15	White	23 in TP-2A
E3	(CABLE 1) WIRE 3	White	23 in TP-2A
E16	(CABLE 1) WIRE 16	White	23 in TP-3A
E4	(CABLE 1) WIRE 4	White	23 in TP-3A
(CABLE 2 SHIELD)			
E17	(CABLE 2) WIRE 17	White	23 in TP-1B
E5	(CABLE 2) WIRE 5	White	23 in TP-1B
E18	(CABLE 2) WIRE 18	White	23 in TP-2B
E6	(CABLE 2) WIRE 6	White	23 in TP-2B
E19	(CABLE 2) WIRE 19	White	23 in TP-3B
E7	(CABLE 2) WIRE 7	White	23 in TP-3B
(CABLE 3 SHIELD)			
E1	(CABLE 3) WIRE 20	White	23 in TP-1C
E8	(CABLE 3) WIRE 8	White	23 in TP-1C
E21	(CABLE 3) WIRE 21	White	23 in TP-2C
E9	(CABLE 3) WIRE 9	White	23 in TP-2C
E22	(CABLE 3) WIRE 22	White	23 in TP-3C
E10	(CABLE 3) WIRE 10	White	23 in TP-3C
(CABLE 4 SHIELD)			
E1	(CABLE 4) WIRE 23	White	23 in TP-1D
E23	(CABLE 4) WIRE 23	White	23 in TP-1D
E11	(CABLE 4) WIRE 11	White	23 in TP-2D
E24	(CABLE 4) WIRE 24	White	23 in TP-2D
E12	(CABLE 4) WIRE 12	White	23 in TP-2D
E25	(CABLE 4) WIRE 25	White	23 in TP-3D
E13	(CABLE 4) WIRE 13	White	23 in TP-3D

TEST LIST		TEST LIST		TEST LIST		TEST LIST	
FROM	TO	FROM	TO	FROM	TO	FROM	TO
J1	J2	J1	J3	J1	J4	J1	J5
PIN							
J1 - 1, SHELL	J2 - 5, SHELL	J1 - 1, SHELL	J3 - 5, SHELL	J1 - 1, SHELL	J4 - 5, SHELL	J1 - 1, SHELL	J5 - 5, SHELL
J1 - 14	J2 - 1	J1 - 17	J3 - 1	J1 - 20	J4 - 1	J1 - 23	J5 - 1
J1 - 2	J2 - 6	J1 - 5	J3 - 6	J1 - 8	J4 - 6	J1 - 11	J5 - 6
J1 - 15	J2 - 2	J1 - 18	J3 - 2	J1 - 21	J4 - 2	J1 - 24	J5 - 2
J1 - 3	J2 - 7	J1 - 6	J3 - 7	J1 - 9	J4 - 7	J1 - 12	J5 - 7
J1 - 16	J2 - 4	J1 - 19	J3 - 4	J1 - 22	J4 - 4	J1 - 25	J5 - 4
J1 - 4	J2 - 9	J1 - 7	J3 - 9	J1 - 10	J4 - 9	J1 - 13	J5 - 9

CONNECTOR J1 (E)



### V25AM-23-A CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J2 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
A5	(CONNECTOR SHELL)	SHIELD
A5	(CABLE 1) SHIELD	SHIELD
A5	(CABLE 1) WIRE 1	SHIELD
A1	(CABLE 1) WIRE 14	PD1-K
A6	(CABLE 1) WIRE 2	PD1-A
A2	(CABLE 1) WIRE 15	LED1-A
A7	(CABLE 1) WIRE 3	LED1-K
A4	(CABLE 1) WIRE 16	COIL1-FN
A9	(CABLE 1) WIRE 4	COIL1-ST

### V25AM-23-A CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J3 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
B5	(CONNECTOR SHELL)	SHIELD
B5	(CABLE 2) SHIELD	SHIELD
B5	(CABLE 2) WIRE 1	SHIELD
B1	(CABLE 2) WIRE 17	PD2-K
B6	(CABLE 2) WIRE 5	PD2-A
B2	(CABLE 2) WIRE 18	LED2-A
B7	(CABLE 2) WIRE 6	LED2-K
B4	(CABLE 2) WIRE 19	COIL2-FN
B9	(CABLE 2) WIRE 7	COIL2-ST

### V25AM-23-A CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J4 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
C5	(CONNECTOR SHELL)	SHIELD
C5	(CABLE 3) SHIELD	SHIELD
C5	(CABLE 3) WIRE 1	SHIELD
C1	(CABLE 3) WIRE 20	PD3-K
C6	(CABLE 3) WIRE 8	PD3-A
C2	(CABLE 3) WIRE 21	LED3-A
C7	(CABLE 3) WIRE 9	LED3-K
C4	(CABLE 3) WIRE 22	COIL3-FN
C9	(CABLE 3) WIRE 10	COIL3-ST

### V25AM-23-A CABLE ASSEMBLY CIRCUIT SUMMARY

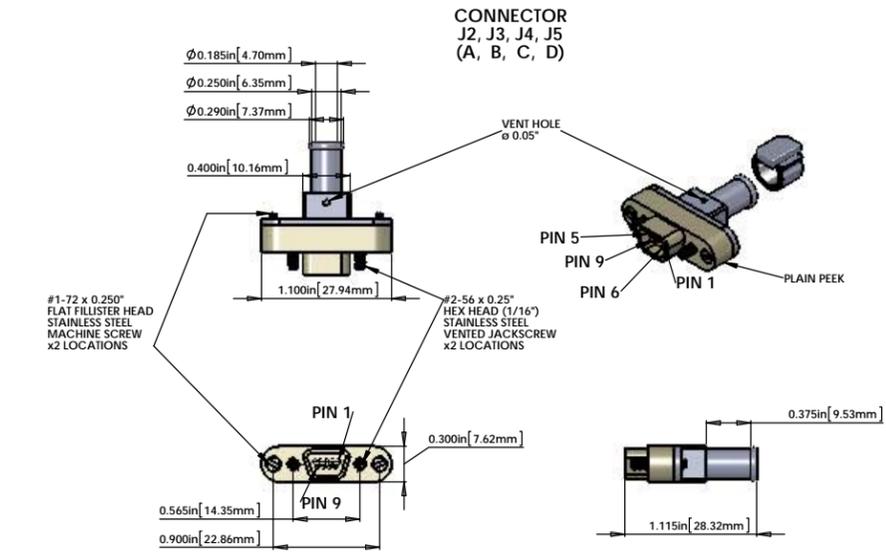
TO

CONNECTOR J5 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)		
PIN	WIRE NAME	SIGNAL
D5	(CONNECTOR SHELL)	SHIELD
D5	(CABLE 4) SHIELD	SHIELD
D5	(CABLE 4) WIRE 1	SHIELD
D1	(CABLE 4) WIRE 23	PD4-K
D6	(CABLE 4) WIRE 11	PD4-A
D2	(CABLE 4) WIRE 24	LED4-A
D7	(CABLE 4) WIRE 12	LED2-K
D4	(CABLE 4) WIRE 25	COIL4-FN
D9	(CABLE 4) WIRE 13	COIL4-ST

### BILL OF MATERIALS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	LENGTH
1	GLENAIR #DCDM25P-S-MC225-240	MicroD25 MALE CONNECTOR (J1) FOR UHV	1	
2	TICOR # 040-1243-0025	MicroD25 CONNECTOR BACKSHELL FOR UHV (STAINLESS)	1	
3	TICOR # TS0094 WITH 60in. FLYING LEADS WITH BACKSHELL	MicroD9 FEMALE CONNECTOR (J2,J3,J4,J5) FOR UHV (PEEK)	4	
4		MicroD9 CONNECTOR BACKSHELL FOR UHV (STAINLESS)	4	
5	C1	7 COND. (3 TWISTED PAIR) CABLE + ⑥ COPPER BRAID (SHIELD) AND ⑦ PEEK OVERBRAID.	4	23in.*
6	CONTINENTAL PART #24x3x40BC	COPPER BRAID - CONTINENTAL CORDAGE PART #24x3x40BC	4	
7	PART #6759	PART #6759 PEEK BRAID MANUFACTURED WITH ZEUS 0.016" BLACK PEEK DRAWN MONOFILAMENT	4	
8	GLENAIR 600-052	GLENAIR 600-052 STANDARD BRAID CLAMP	8	

\* NOTE: THE OVERALL LENGTH IS MEASURED FROM PIN TIP (25 PIN) TO PIN TIP (9 PIN) OF THE CABLE. USE WHATEVER LENGTH IS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH TO ACHIEVE THE CORRECT OVERALL LENGTH.



### VμD25 M/1S-23-4\_μD9 F/5S:A

STANDARD USE FOR THIS CABLE

SUBSYSTEM	STANDARD USE
SUS	QUAD SUSPENSIONS UIM

- NOTES: (UNLESS OTHERWISE SPECIFIED)
- MATERIAL: a. CONNECTOR SHELL - PEEK - VICTREX 450GL30.  
b. BACKSHELL - STAINLESS STEEL WITH VENT HOLE.  
c. CONTACTS - BERYLLIUM COPPER ALLOY C17300.  
d. HARDWARE - STAINLESS STEEL, PASSIVATED.  
e. PEEK BRAID - PEEK VICTREX GRADE: IDS-450CA30 CARBON LOADED - SUPPLIED BY LIGO.
  - CABLE 7 COND. 28 AWG. (40 STRD 44 AWG) WITH 2 LAYERS OF KAPTON TAPE (SUPPLIED BY LIGO).  
3 TWISTED PAIRS (4 TO 5 TWISTS PER INCH) + 1 WIRE.  
OVERALL 40AWG COPPER BRAID 50% COVERAGE (SUPPLIED BY LIGO).  
OVERALL PEEK BRAID MIN. 50% COVERAGE (SUPPLIED BY LIGO).  
OVERALL CABLE O.D. WILL BE APPROX. 0.240 IN.
  - CONNECTORS WILL BE SUPPLIED WITH HARDWARE. SCREWS SHOULD BE THE PROPER LENGTH FOR MATING.

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

- INTERPRET DRAWING PER ASME Y14.5-1994.
- REMOVE ALL SHARP EDGES: 0.05-0.15 FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATELY R.02 FOR SHEET METAL PARTS.
- DO NOT SCALE FROM DRAWING.
- ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

DIMENSIONS ARE IN: XXX ±, XXXX ±, ANGULAR ±

MATERIAL: FINISH: μinch

SCALE: 2:1

PROJECTOR: SHEET 1 OF 1

DESIGNER: J. HEFFNER  
DRAFTER: E. BROWN  
CHECKER:  
APPROVAL:

SYSTEM: SUS  
SUB-SYSTEM: SUS

CALIFORNIA INSTITUTE OF TECHNOLOGY  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PART NAME: CUSTOM CABLE SPECIFICATIONS V25AM-23-A

DATE: 06/10/2012  
SITE: 06/10/2012

DWG. NO: D1000562  
REV: v4