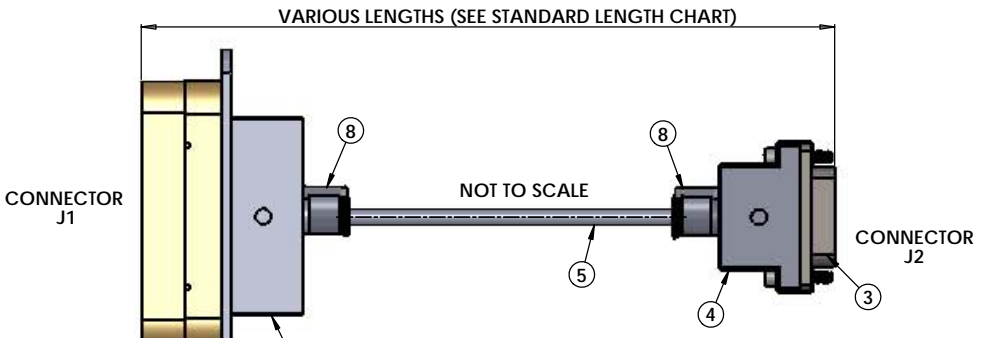


REV.	DATE	DCN #	DRAWING TREE #

- 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 ARTICLE AND PROCEED CONSECUTIVELY. USE 07 HIGH CHARACTERS. EXAMPLE: A  
DXXXXXX.VV.5N.001
  - APPROXIMATE WEIGHT - X.XXXX LB.
  - MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH. USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED. REFER TO LIGO-E0900364.
  - ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.
  - ALL HELIX COIL HOLES TO BE PREPARED ACCORDING TO EMHART HELIX COIL PROCEDURE (CNC-00000300).
  - ALL HELIX COIL 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 RECYCLED MATERIAL). NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE, AND IN WRITING, BY LIGO LABORATORY. REFER TO LIGO-E0900364.
  - SURFACE FINISH TO BE AS PROCESSED FROM MILL/SUPPLIER, FREE FROM SCRATCHES OR GOUGES.
  - ALL PARTS SHALL BE PORCELAIN COATED PER LIGO SPECIFICATION E0900364 AFTER FABRICATION. THE COATED SURFACE SHALL BE PROTECTED FROM PORCELAIN COATING BY APPROXIMATELY 2-3 MM HOLE DIAMETER ON BOTH SIDES OF THE HOLE.
  - 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 .12" OUTSIDE RADIUS OF BEND UNLESS OTHERWISE NOTED.
- NOTES 13 and 14 DO NOT APPLY TO THIS PART

STANDARD CABLE LENGTH CHART		
DESIGNATOR	INCHES	FEET and INCHES
V25G-90	90	7 ft. 2 in.
V25G-110	110	9 ft. 2 in.
V25G-121	121	10 ft. 1 in.
V25G-156	156	13 ft.
V25G-TBD	TBD * ADDITIONAL CUSTOM LENGTHS	LENGTH TO BE DETERMINED AT TIME OF ORDER

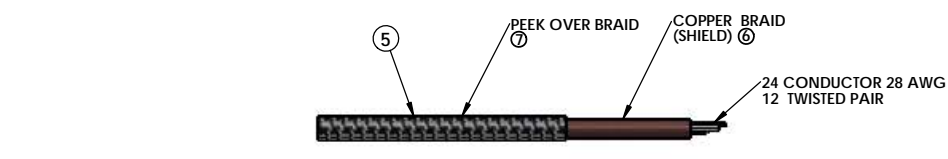
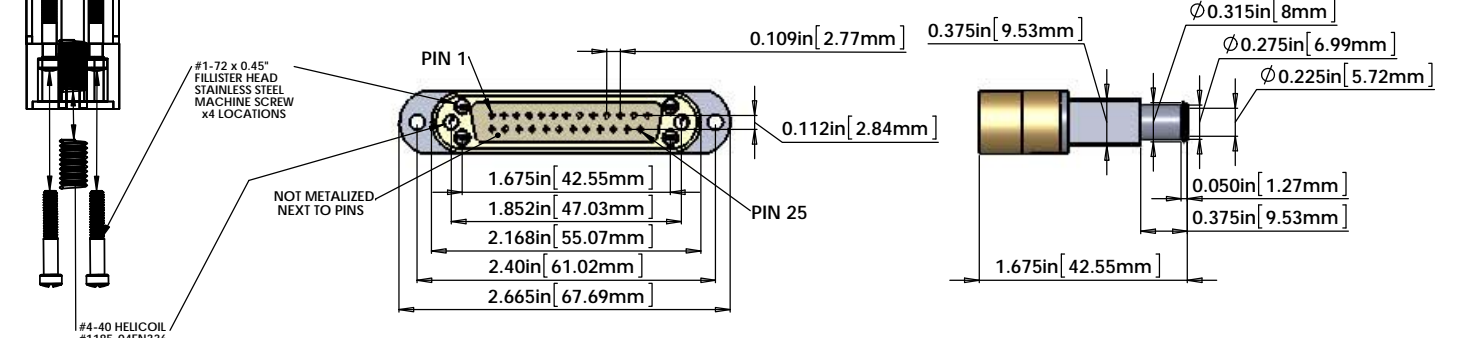
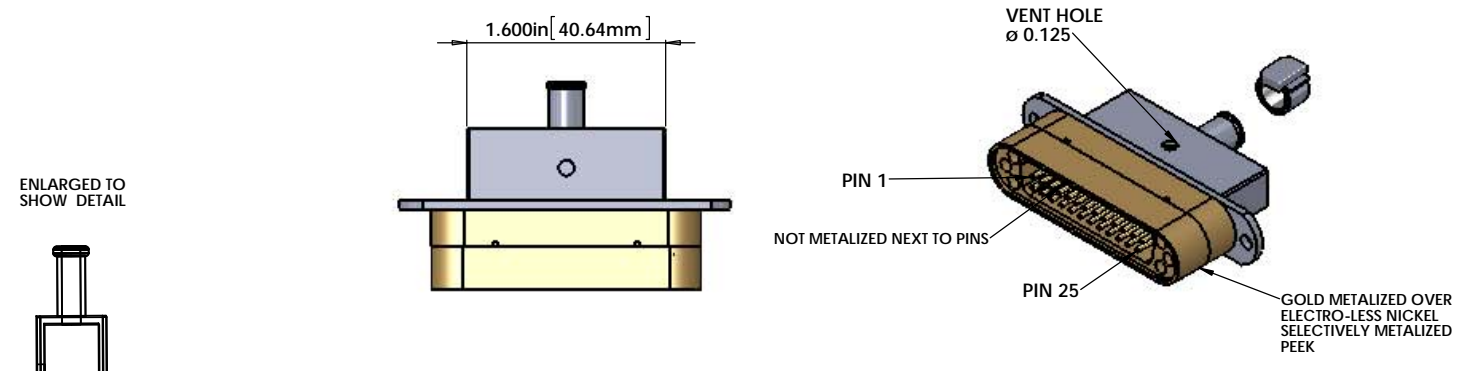


V25G-TBD CABLE ASSEMBLY CIRCUIT SUMMARY V-DB25 M/S1-TBD-μD25 F/S1					
CABLE NAME	COND. WIRE ID	TWISTED PAIR	LENGTH **	FROM	TO
V25G-TBD	25 COND. CABLE	(12 TOTAL)	TBD in. *	CONN. J1	CONN. J2
C1	SHIELD (COPPER BRAID)		TBD in. *	PIN 1, SHIELD & SHELL	PIN 1, SHIELD & SHELL
	W1	SINGLE WIRE	TBD in. *	PIN 1, SHIELD & SHELL	PIN 1, SHIELD & SHELL
	W2		TBD in. *	PIN 2	PIN 2
	W14	TP-1	TBD in. *	PIN 14	PIN 14
	W3		TBD in. *	PIN 3	PIN 3
	W15		TBD in. *	PIN 15	PIN 15
	W4		TBD in. *	PIN 4	PIN 4
	W16	TP-3	TBD in. *	PIN 16	PIN 16
	W5		TBD in. *	PIN 5	PIN 5
	W17	IP-4	TBD in. *	PIN 17	PIN 17
	W6		TBD in. *	PIN 6	PIN 6
	W18	TP-5	TBD in. *	PIN 18	PIN 18
W7		TBD in. *	PIN 7	PIN 7	
W19	TP-6	TBD in. *	PIN 19	PIN 19	
W8		TBD in. *	PIN 8	PIN 8	
W20	TP-7	TBD in. *	PIN 20	PIN 20	
W9		TBD in. *	PIN 9	PIN 9	
W21	TP-8	TBD in. *	PIN 21	PIN 21	
W10		TBD in. *	PIN 10	PIN 10	
W22	TP-9	TBD in. *	PIN 22	PIN 22	
W11		TBD in. *	PIN 11	PIN 11	
W23	TP-10	TBD in. *	PIN 23	PIN 23	
W12		TBD in. *	PIN 12	PIN 12	
W24	TP-11	TBD in. *	PIN 24	PIN 24	
W13		TBD in. *	PIN 13	PIN 13	
W25	TP-12	TBD in. *	PIN 25	PIN 25	

TBD in. \* = LENGTH TO BE DETERMINED AT TIME OF ORDER - see STANDARD CABLE LENGTH CHART

\*\* THE LENGTH SHOWN IN THIS LIST IS THE OVERALL LENGTH OF THE CABLE FROM THE CONNECTOR END TO THE OTHER CONNECTOR END. CHANGE LENGTH AS NECESSARY TO COMPENSATE FOR THE INTERNAL WIRING OF THE CONNECTOR AND STRIP LENGTH.

### CONNECTOR J1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	LENGTH *
1	TICOR PART # TS0149-25CG20BS1-225F OR EQUIVALENT **	CUSTOM DB25 MALE CONNECTOR (J1) FOR UHV (GOLD METALIZED PEEK)	1	
2	DB25 CONNECTOR BACKSHELL FOR UHV (STAINLESS STEEL) WITH ø0.225" I.D. PORT		1	
3	TICOR PART # TS-0143-1	MicroD25 FEMALE CONNECTOR (J2) FOR UHV (PEEK)	1	
4	BACKSHELL (included in PART # TS-0143-1) OR EQUIVALENT	MicroD25 CONNECTOR BACKSHELL FOR UHV (STAINLESS STEEL) WITH ø0.188" I.D. PORT	1	
5	C1	25 COND. (12 TW PAIR + 1 WIRE + SHIELD) CABLE WITH 6 COPPER BRAID (SHIELD) AND 6 PEEK OVERBRAID	1	TBD in. *
6	CONTINENTAL PART #24x4x40BC	COPPER BRAID - CONTINENTAL CORDAGE PART #24x4x40BC	1	
7	PART #6759	PEEK BRAID - PART #6759 MANUFACTURED WITH ZEUS 0.016" BLACK PEEK DRAWN MONOFILAMENT	1	
8	GLENAIR # 600-052 or BAND-II # A10086	GLENAIR # 600-052 STANDARD BRAID CLAMP or BAND-II PART # A10086 (0.240" WIDE) ("BAG OF 100" # A10089)	2	
9	HELICOIL #1185-04EN336	#4-40 Nitronic 60® HELICOIL 0.336" LENGTH	2	

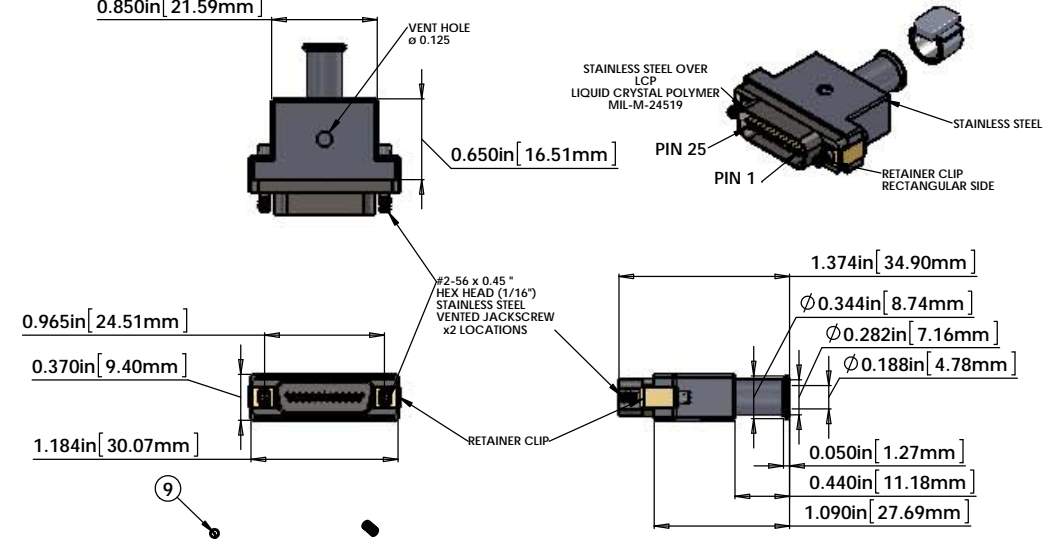
\* NOTE: THE OVERALL LENGTH IS MEASURED FROM PIN TIP (25 PIN D-SUB) TO PIN TIP (25 PIN μD) OF THE CABLE. USE WHATEVER LENGTH IS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH TO ACHIEVE THE CORRECT OVERALL LENGTH.

\*\* NOTE: SEE THE "TICOR CONNECTOR PART NUMBER BUILDER" DCC#D1000219 FOR DETAILS ON THIS PART NUMBER.

- ELECTRICAL NOTES: (UNLESS OTHERWISE SPECIFIED)**
- A. MATERIAL:
- CONNECTOR SHELL - PEEK OR GOLD OVER ELECTRO-LESS NICKEL SELECTIVELY METALIZED PEEK VICTREX 450GL30.
  - BACKSHELL - STAINLESS STEEL WITH VENT HOLE.
  - CONTACTS - BERYLLIUM COPPER ALLOY C17300.
  - 0.00050 MIN. GOLD OVER NICKEL.
  - HARDWARE: STAINLESS STEEL, PASSIVATED.
  - PEEK BRAID - PEEK VICTREX GRADE TDS-450CA30 CARBON LOADED.

- B. CABLE 25 COND. 28 AWG. (65 STRD 46 AWG) WITH PFA INSULATION COONER WIRE #CZ1105. 12 TWISTED PAIRS (4 TO 5 TWISTS PER INCH) + 1 WIRE. OVERALL 40AWG COPPER BRAID 90% COVERAGE. OVERALL PEEK BRAID MIN. 50% COVERAGE. OVERALL CABLE O.D. WILL BE ~ 0.240 IN.
- C. CONNECTORS WILL BE SUPPLIED WITH HARDWARE. SCREWS SHOULD BE THE PROPER LENGTH FOR MATING.

### CONNECTOR J2



V-DB25 M/S1-TBD-μD25 F/S1			
STANDARD USE FOR THIS CABLE			
SUBSYSTEM	AIR/VAC	STANDARD USE	
SUS	IN-VAC	QUAD SUSPENSION UIM	

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

- INTERPRET DRAWING PER ASME Y14.5-1994.
- REMOVE ALL SHARP EDGES. 0.05-015 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:  $\frac{1}{16}$  INCH

TOLERANCES:  
XXX ±  
XXXX ±

ANGULAR: ±

MATERIAL:  $\mu$ INCH

FINISH:  $\mu$ INCH

NEXT ASSY:

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PART NAME: CUSTOM CABLE SPECIFICATION V25G-TBD

DESIGNER: J. HEEFNER	DATE: APR 11/2012	SHEET: 1 OF 1	REV: v6
DRAWER: E. BROWN	DATE: JUL 02/2012	SCALE: 1:1	PROJECTION: 1ST ANGLE
CHECKER:			
APPROVAL:			