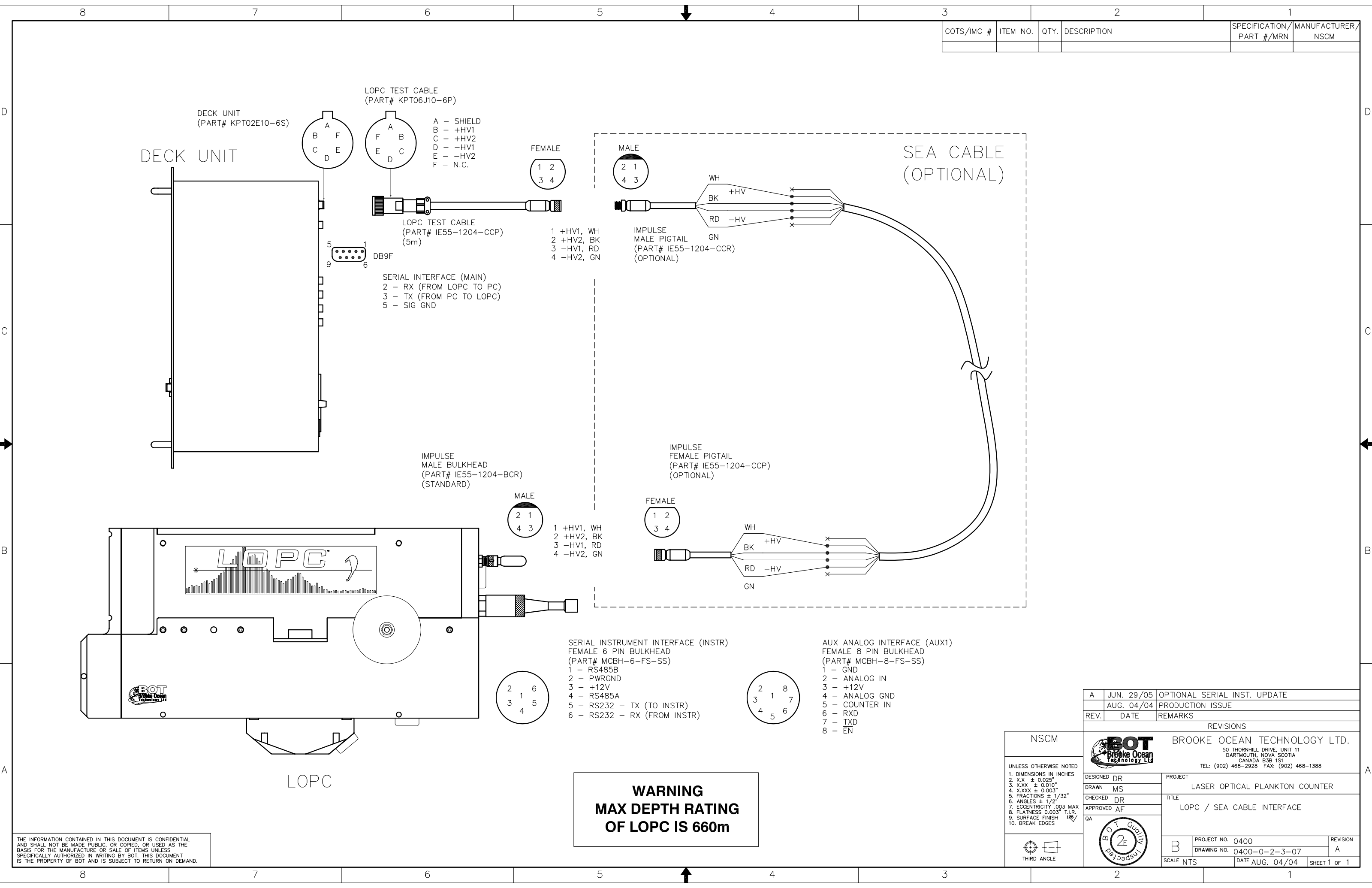


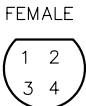


COTS/IMC #	ITEM NO.	QTY.	DESCRIPTION	SPECIFICATION/ PART #/MRN	MANUFACTURER/ NSCM

DECK UNIT
(PART# KPT02E10-6S)

LOPC TEST CABLE
(PART# KPT06J10-6P)

- A - SHIELD
B - +HV1
C - +HV2
D - -HV1
E - -HV2
F - N.C.



SEA CABLE
(OPTIONAL)

LOPC TEST CABLE
(PART# IE55-1204-CCP)
(5m)

- 1 +HV1, WH
2 +HV2, BK
3 -HV1, RD
4 -HV2, GN

IMPULSE
MALE PIGTAIL
(PART# IE55-1204-CCR)
(OPTIONAL)

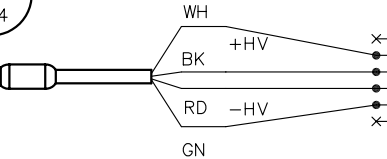
SERIAL INTERFACE (MAIN)
2 - RX (FROM LOPC TO PC)
3 - TX (FROM PC TO LOPC)
5 - SIG GND

IMPULSE
MALE BULKHEAD
(PART# IE55-1204-BCR)
(STANDARD)

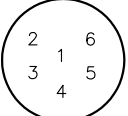


- 1 +HV1, WH
2 +HV2, BK
3 -HV1, RD
4 -HV2, GN

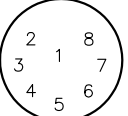
FEMALE



SERIAL INSTRUMENT INTERFACE (INSTR)
FEMALE 6 PIN BULKHEAD
(PART# MCBH-6-FS-SS)
1 - RS485B
2 - PWRGND
3 - +12V
4 - RS485A
5 - RS232 - TX (TO INSTR)
6 - RS232 - RX (FROM INSTR)



AUX ANALOG INTERFACE (AUX1)
FEMALE 8 PIN BULKHEAD
(PART# MCBH-8-FS-SS)
1 - GND
2 - ANALOG IN
3 - +12V
4 - ANALOG GND
5 - COUNTER IN
6 - RXD
7 - TXD
8 - EN



LOPC

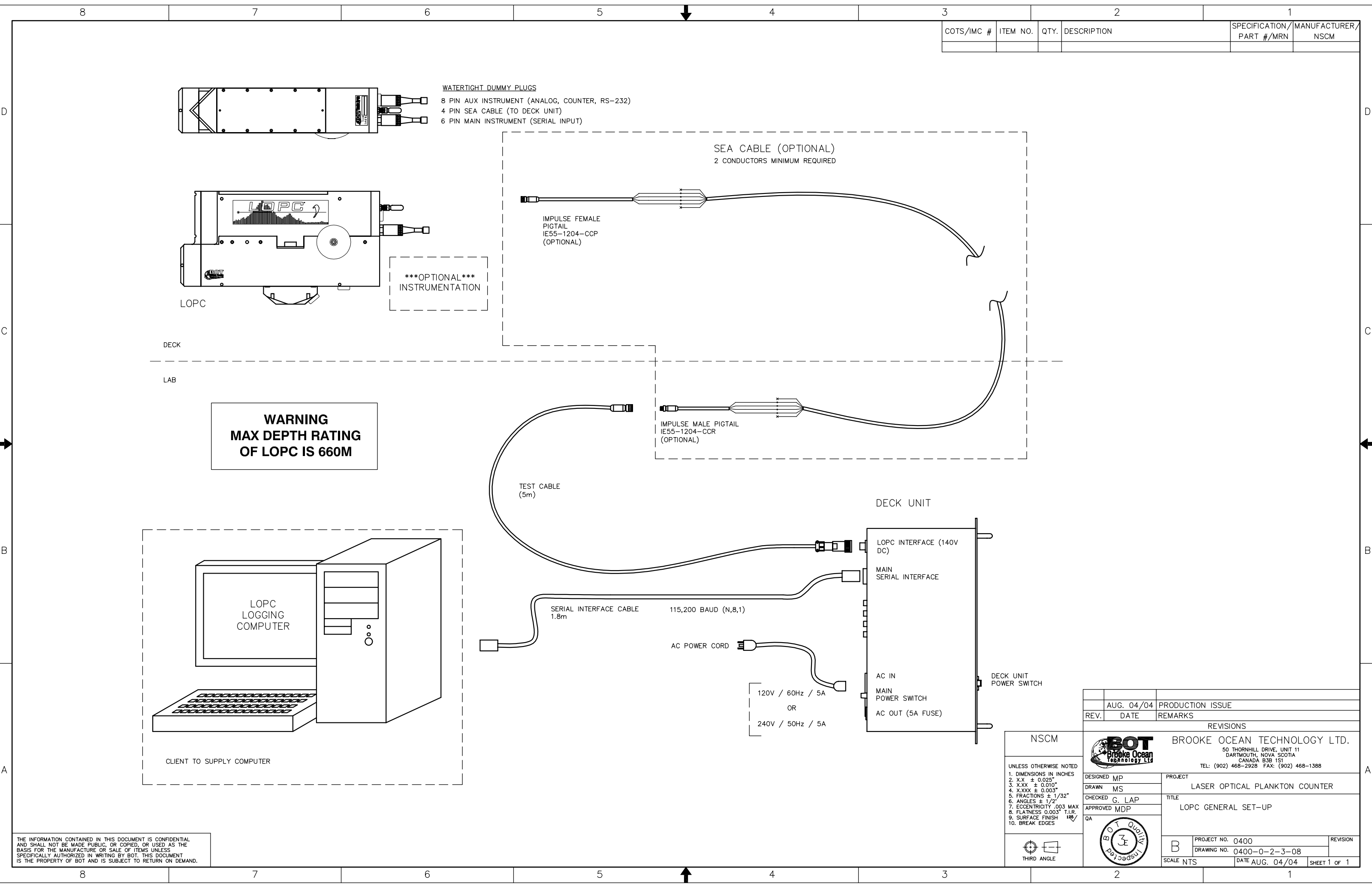
WARNING
MAX DEPTH RATING
OF LOPC IS 660m

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A	JUN. 29/05	OPTIONAL SERIAL INST. UPDATE
	AUG. 04/04	PRODUCTION ISSUE
REV.	DATE	REMARKS
REVISIONS		
BROOKE OCEAN TECHNOLOGY LTD. 50 THORNHILL DRIVE, UNIT 11 DARTMOUTH, NOVA SCOTIA CANADA B3B 1S1 TEL: (902) 468-2928 FAX: (902) 468-1388		
DESIGNED	DR	PROJECT
DRAWN	MS	LASER OPTICAL PLANKTON COUNTER
CHECKED	DR	TITLE
APPROVED	AF	LOPC / SEA CABLE INTERFACE
QA		
PROJECT NO. 0400		REVISION
DRAWING NO. 0400-0-2-3-07		A
SCALE NTS	DATE AUG. 04/04	SHEET 1 OF 1

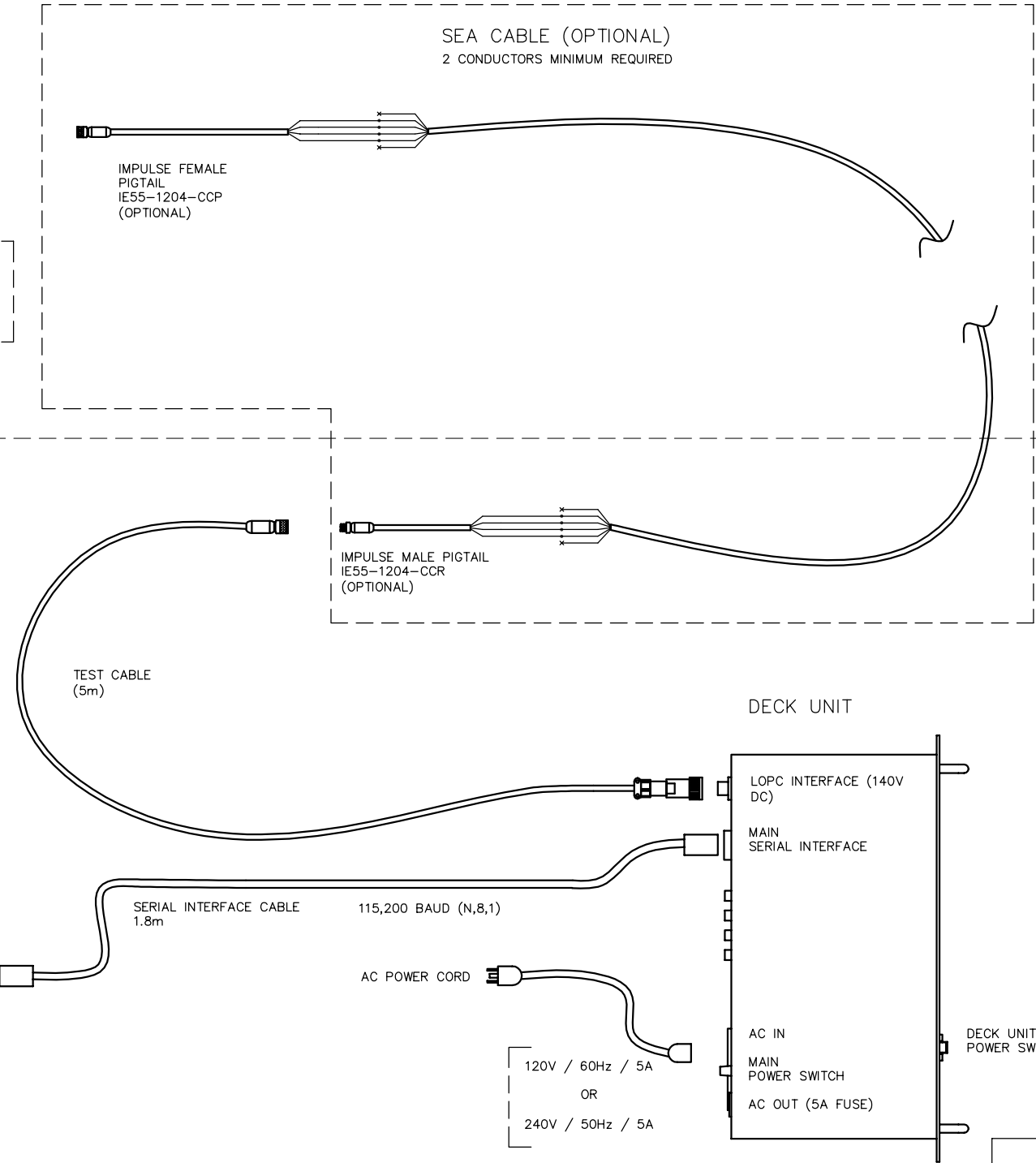
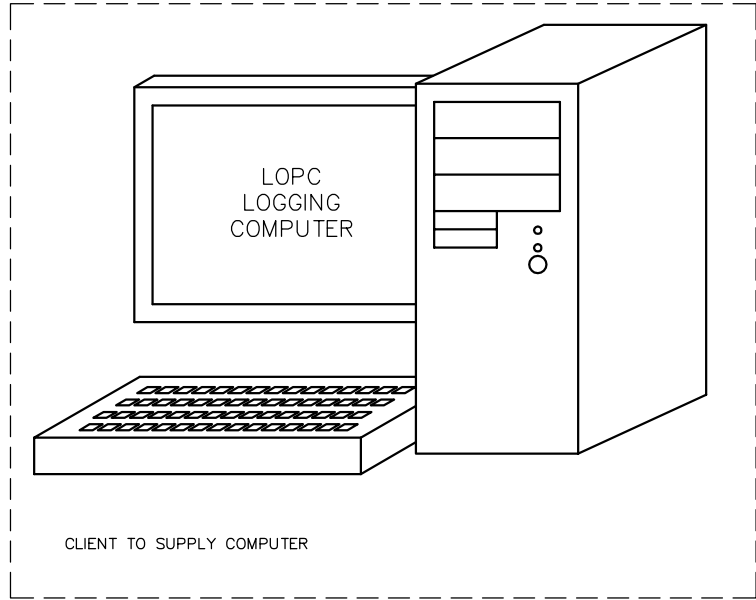
NSCM
UNLESS OTHERWISE NOTED 1. DIMENSIONS IN INCHES 2. X.X ± 0.025" 3. X.XX ± 0.010" 4. X.XXX ± 0.003" 5. FRACTIONS ± 1/32" 6. ANGLES ± 1/2° 7. ECCENTRICITY .003 MAX 8. FLATNESS 0.003" T.I.R. 9. SURFACE FINISH 100/ 10. BREAK EDGES
THIRD ANGLE





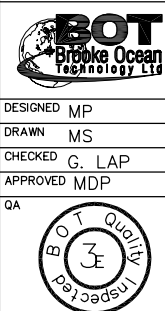
COTS/IMC #	ITEM NO.	QTY.	DESCRIPTION	SPECIFICATION/ PART #/MRN	MANUFACTURER/ NSCM

WARNING
MAX DEPTH RATING
OF LOPC IS 660M

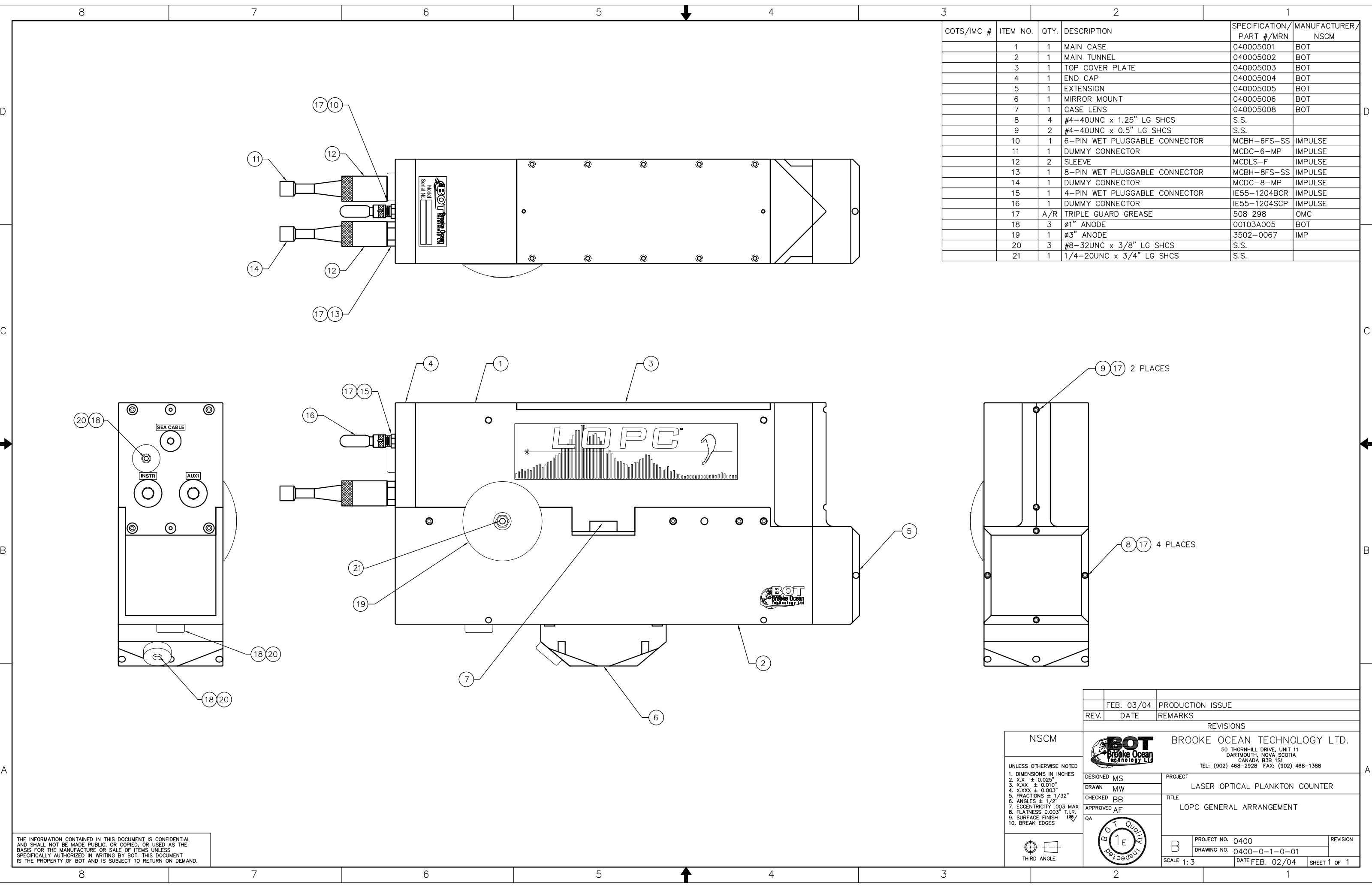


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UNLESS OTHERWISE NOTED	
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2. X.X ± 0.025"	
3. X.XX ± 0.010"	
4. X.XXX ± 0.003"	
5. FRACTIONS ± 1/32"	
6. ANGLES ± 1/2°	
7. ECCENTRICITY .003 MAX	
8. FLATNESS 0.003" T.I.R.	
9. SURFACE FINISH 125/	
10. BREAK EDGES	



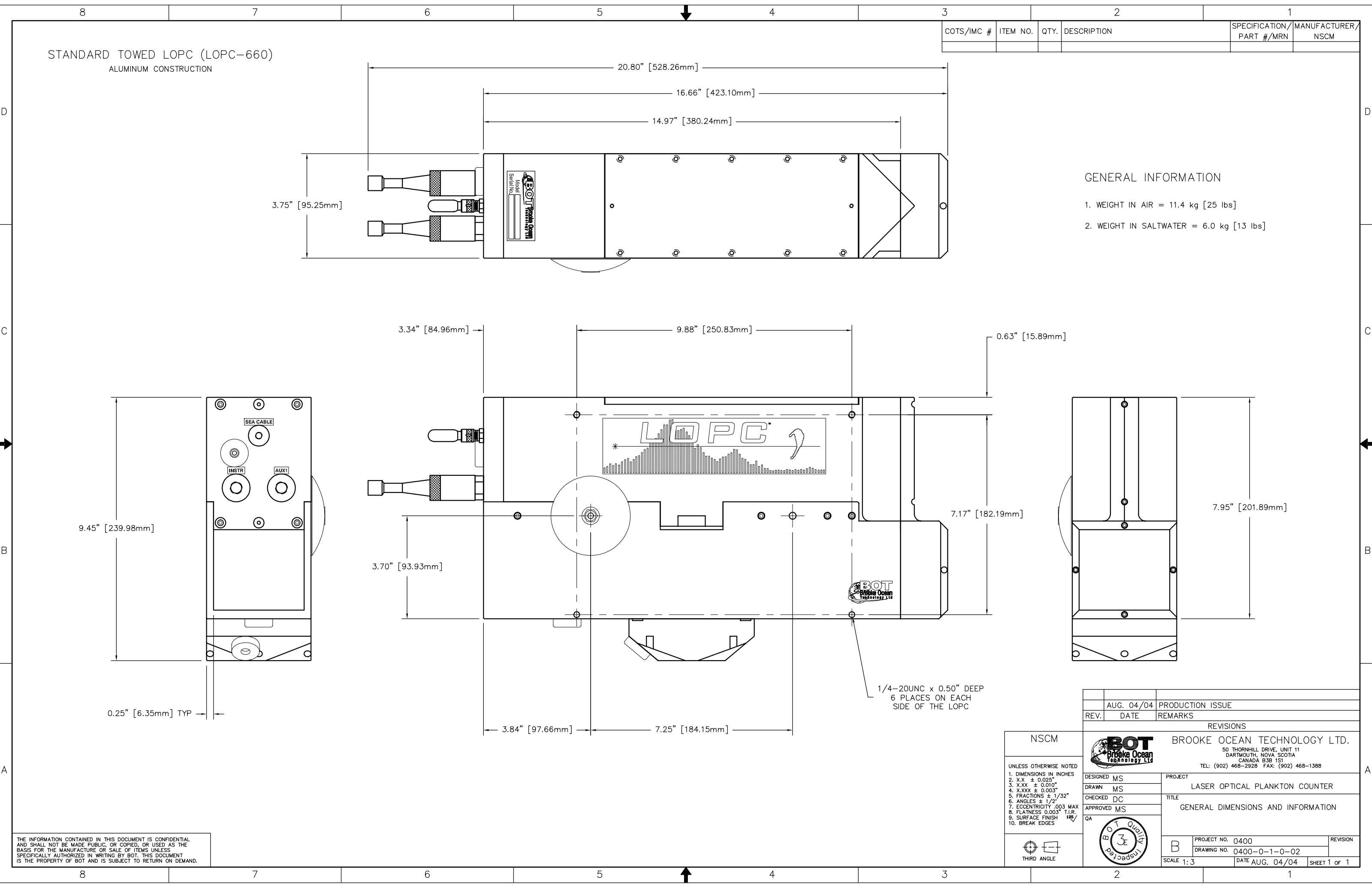
DESIGNED MP		PROJECT	
DRAWN MS		LASER OPTICAL PLANKTON COUNTER	
CHECKED G. LAP		TITLE	
APPROVED MDP		LOPC GENERAL SET-UP	
QA			
B		PROJECT NO. 0400	REVISION
SCALE NTS		DRAWING NO. 0400-0-2-3-08	
		DATE AUG. 04/04	SHEET 1 OF 1

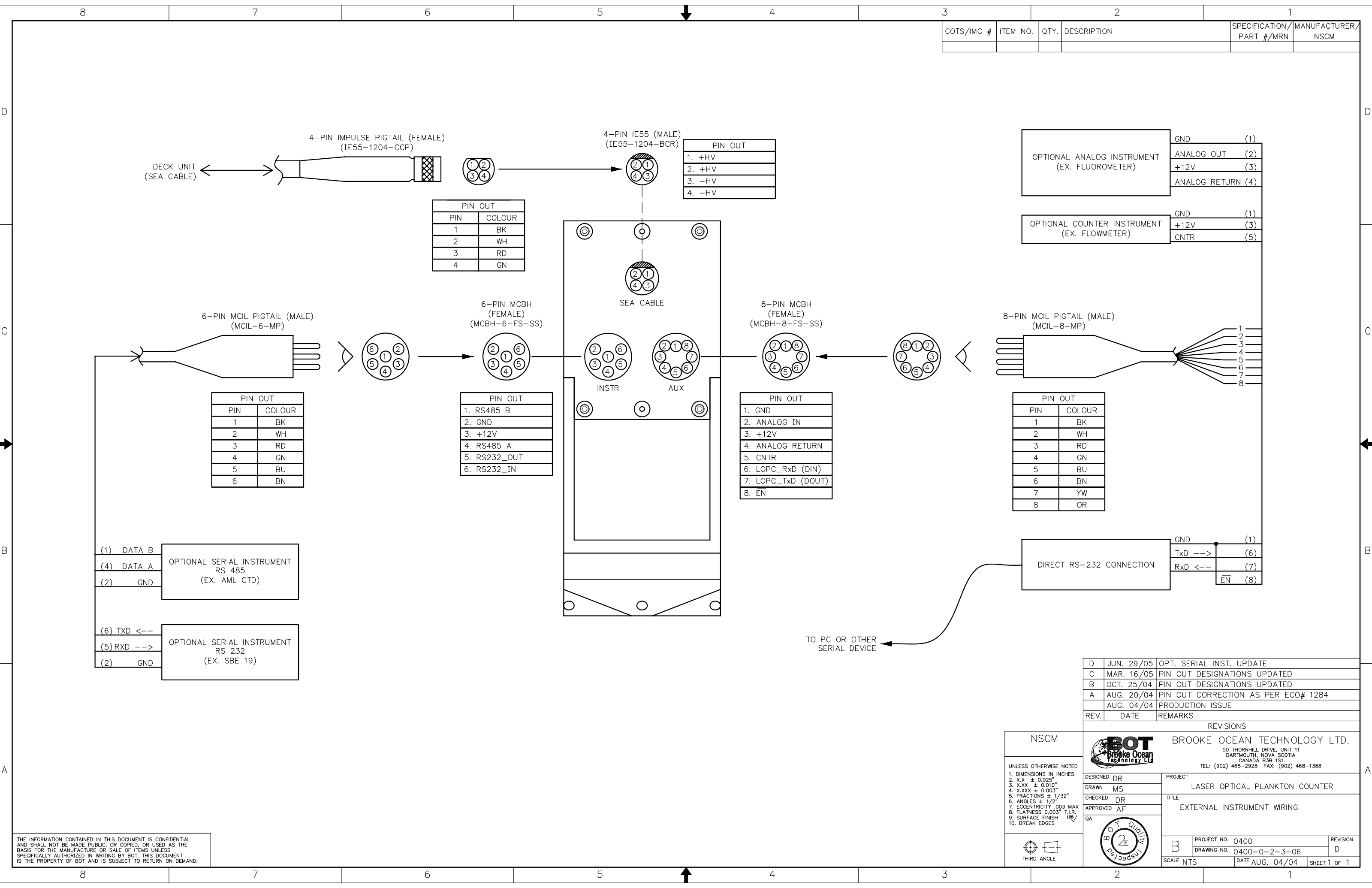


COTS/IMC #	ITEM NO.	QTY.	DESCRIPTION	SPECIFICATION/ PART #/MRN	MANUFACTURER/ NSCM
	1	1	MAIN CASE	040005001	BOT
	2	1	MAIN TUNNEL	040005002	BOT
	3	1	TOP COVER PLATE	040005003	BOT
	4	1	END CAP	040005004	BOT
	5	1	EXTENSION	040005005	BOT
	6	1	MIRROR MOUNT	040005006	BOT
	7	1	CASE LENS	040005008	BOT
	8	4	#4-40UNC x 1.25" LG SHCS	S.S.	
	9	2	#4-40UNC x 0.5" LG SHCS	S.S.	
	10	1	6-PIN WET PLUGGABLE CONNECTOR	MCBH-6FS-SS	IMPULSE
	11	1	DUMMY CONNECTOR	MCDC-6-MP	IMPULSE
	12	2	SLEEVE	MCDLS-F	IMPULSE
	13	1	8-PIN WET PLUGGABLE CONNECTOR	MCBH-8FS-SS	IMPULSE
	14	1	DUMMY CONNECTOR	MCDC-8-MP	IMPULSE
	15	1	4-PIN WET PLUGGABLE CONNECTOR	IE55-1204BCR	IMPULSE
	16	1	DUMMY CONNECTOR	IE55-1204SCP	IMPULSE
	17	A/R	TRIPLE GUARD GREASE	508 298	OMC
	18	3	Ø1" ANODE	00103A005	BOT
	19	1	Ø3" ANODE	3502-0067	IMP
	20	3	#8-32UNC x 3/8" LG SHCS	S.S.	
	21	1	1/4-20UNC x 3/4" LG SHCS	S.S.	

	FEB. 03/04	PRODUCTION ISSUE		
REV.	DATE	REMARKS		
REVISIONS				
 BROOKE OCEAN TECHNOLOGY LTD. 50 THORNHILL DRIVE, UNIT 11 DARTMOUTH, NOVA SCOTIA CANADA B3B 1S1 TEL: (902) 468-2928 FAX: (902) 468-1388				
DESIGNED MS	PROJECT			
DRAWN MW	LASER OPTICAL PLANKTON COUNTER			
CHECKED BB	TITLE			
APPROVED AF	LOPC GENERAL ARRANGEMENT			
QA				
				
THIRD ANGLE				
PROJECT NO. 0400		REVISION		
DRAWING NO. 0400-0-1-0-01				
SCALE 1:3	DATE FEB. 02/04	SHEET 1 of 1		

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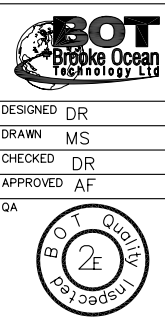
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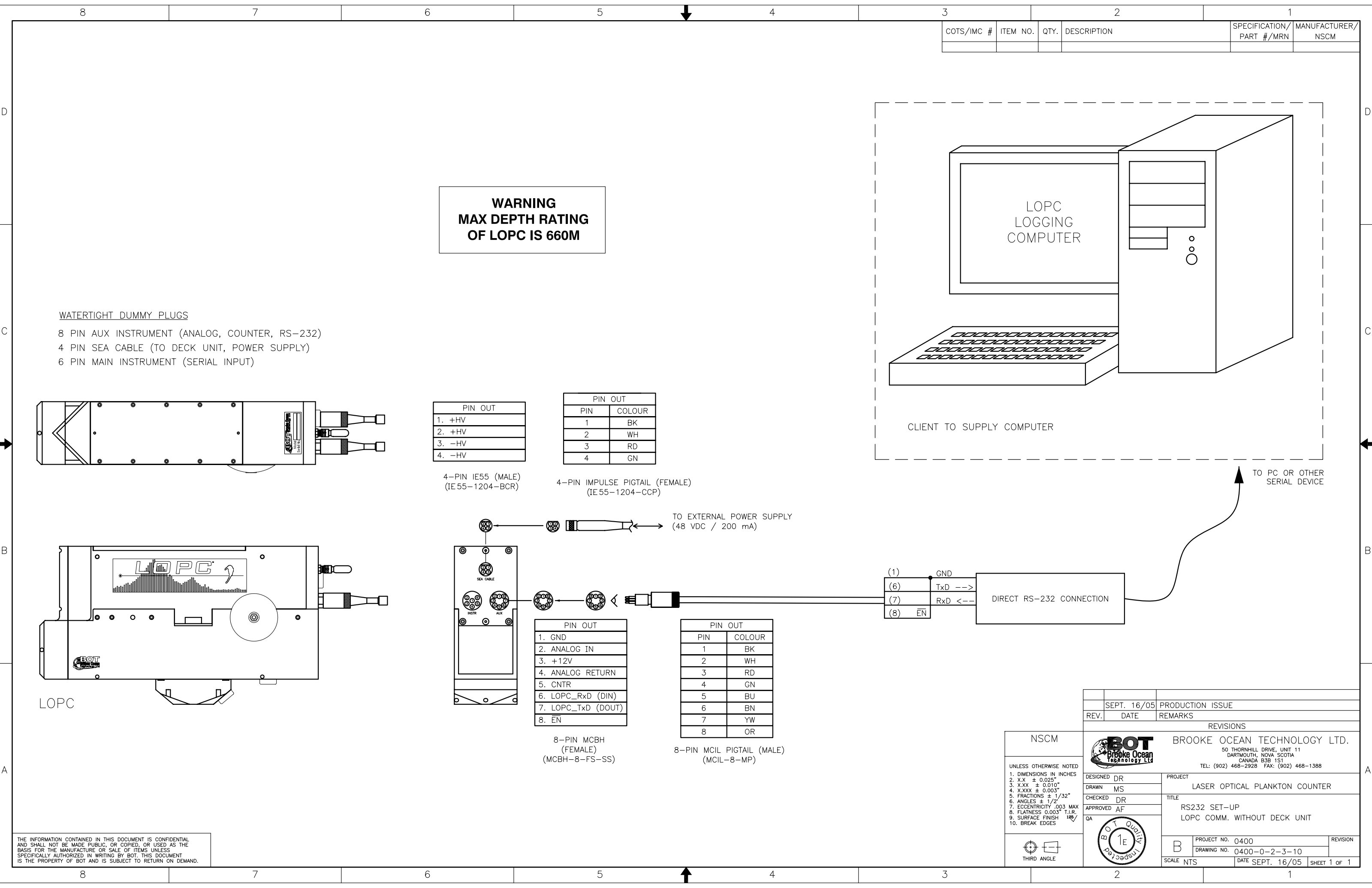
D	JUN. 29/05	OPT. SERIAL INST. UPDATE
C	MAR. 16/05	PIN OUT DESIGNATIONS UPDATED
B	OCT. 25/04	PIN OUT DESIGNATIONS UPDATED
A	AUG. 20/04	PIN OUT CORRECTION AS PER ECO# 1284
	AUG. 04/04	PRODUCTION ISSUE
REV.	DATE	REMARKS
REVISIONS		
BROOKE OCEAN TECHNOLOGY LTD.		
50 THORNHILL DRIVE, UNIT 11 DARTMOUTH, NOVA SCOTIA CANADA B3B 1S1 TEL: (902) 468-2928 FAX: (902) 468-1388		
DESIGNED	DR	PROJECT
DRAWN	MS	LASER OPTICAL PLANKTON COUNTER
CHECKED	DR	TITLE
APPROVED	AF	EXTERNAL INSTRUMENT WIRING
QA		
PROJECT NO. 0400		REVISION
DRAWING NO. 0400-0-2-3-06		D
SCALE NTS	DATE AUG. 04/04	SHEET 1 OF 1

NSCM

UNLESS OTHERWISE NOTED
1. DIMENSIONS IN INCHES
2. X.X ± 0.025"
3. X.XX ± 0.010"
4. X.XXX ± 0.003"
5. FRACTIONS ± 1/32"
6. ANGLES ± 1/2°
7. ECCENTRICITY .003 MAX
8. FLATNESS 0.003" T.I.R.
9. SURFACE FINISH 125/
10. BREAK EDGES

THIRD ANGLE





COTS/IMC #	ITEM NO.	QTY.	DESCRIPTION	SPECIFICATION/ PART #/MRN	MANUFACTURER/ NSCM

PIN	OUT
1.	+HV
2.	+HV
3.	-HV
4.	-HV

4-PIN IE55 (MALE)
(IE 55-1204-BCR)

PIN	OUT
PIN	COLOUR
1	BK
2	WH
3	RD
4	GN

4-PIN IMPULSE PIGTAIL (FEMALE)
(IE 55-1204-CCP)

PIN	OUT
1.	GND
2.	ANALOG IN
3.	+12V
4.	ANALOG RETURN
5.	CNTR
6.	LOPC_RxD (DIN)
7.	LOPC_TxD (DOUT)
8.	EN

8-PIN MCBH
(FEMALE)
(MCBH-8-FS-SS)

PIN	OUT
PIN	COLOUR
1	BK
2	WH
3	RD
4	GN
5	BU
6	BN
7	YW
8	OR

8-PIN MCIL PIGTAIL (MALE)
(MCIL-8-MP)

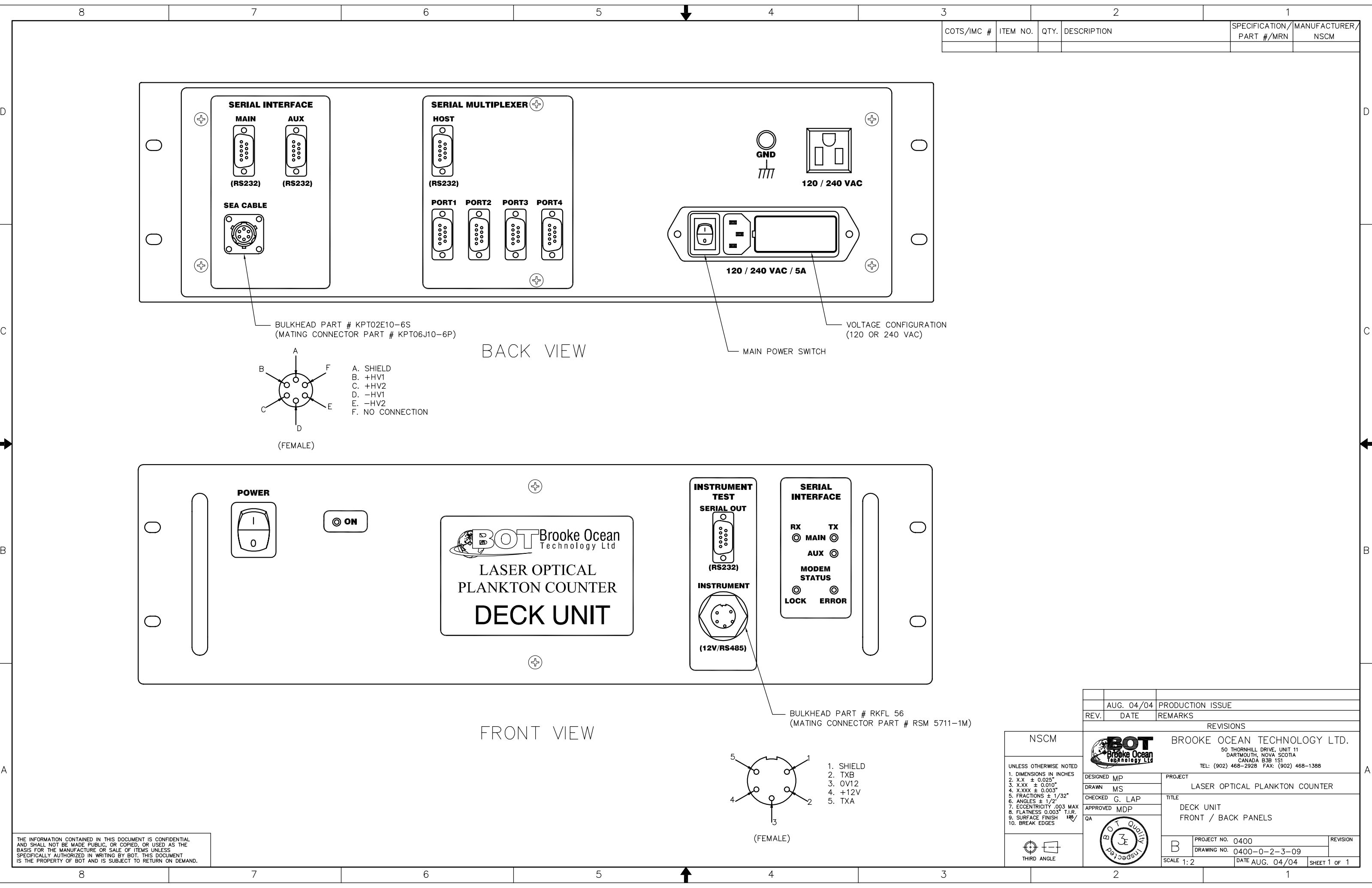
(1)	GND
(6)	TxD -->
(7)	RxD <--
(8)	EN

DIRECT RS-232 CONNECTION

	SEPT. 16/05	PRODUCTION ISSUE
REV.	DATE	REMARKS
REVISIONS		
BROOKE OCEAN TECHNOLOGY LTD.		
50 THORNHILL DRIVE, UNIT 11 DARTMOUTH, NOVA SCOTIA CANADA B3B 1S1 TEL: (902) 468-2928 FAX: (902) 468-1388		
DESIGNED DR	PROJECT	
DRAWN MS	LASER OPTICAL PLANKTON COUNTER	
CHECKED DR	TITLE	
APPROVED AF	RS232 SET-UP LOPC COMM. WITHOUT DECK UNIT	
QA		
PROJECT NO. 0400		REVISION
DRAWING NO. 0400-0-2-3-10		
SCALE NTS	DATE SEPT. 16/05	SHEET 1 OF 1

NSCM
UNLESS OTHERWISE NOTED 1. DIMENSIONS IN INCHES 2. X.X ± 0.025" 3. X.XX ± 0.010" 4. X.XXX ± 0.003" 5. FRACTIONS ± 1/32" 6. ANGLES ± 1/2° 7. ECCENTRICITY .003 MAX 8. FLATNESS 0.003" T.I.R. 9. SURFACE FINISH 125/ 10. BREAK EDGES
THIRD ANGLE

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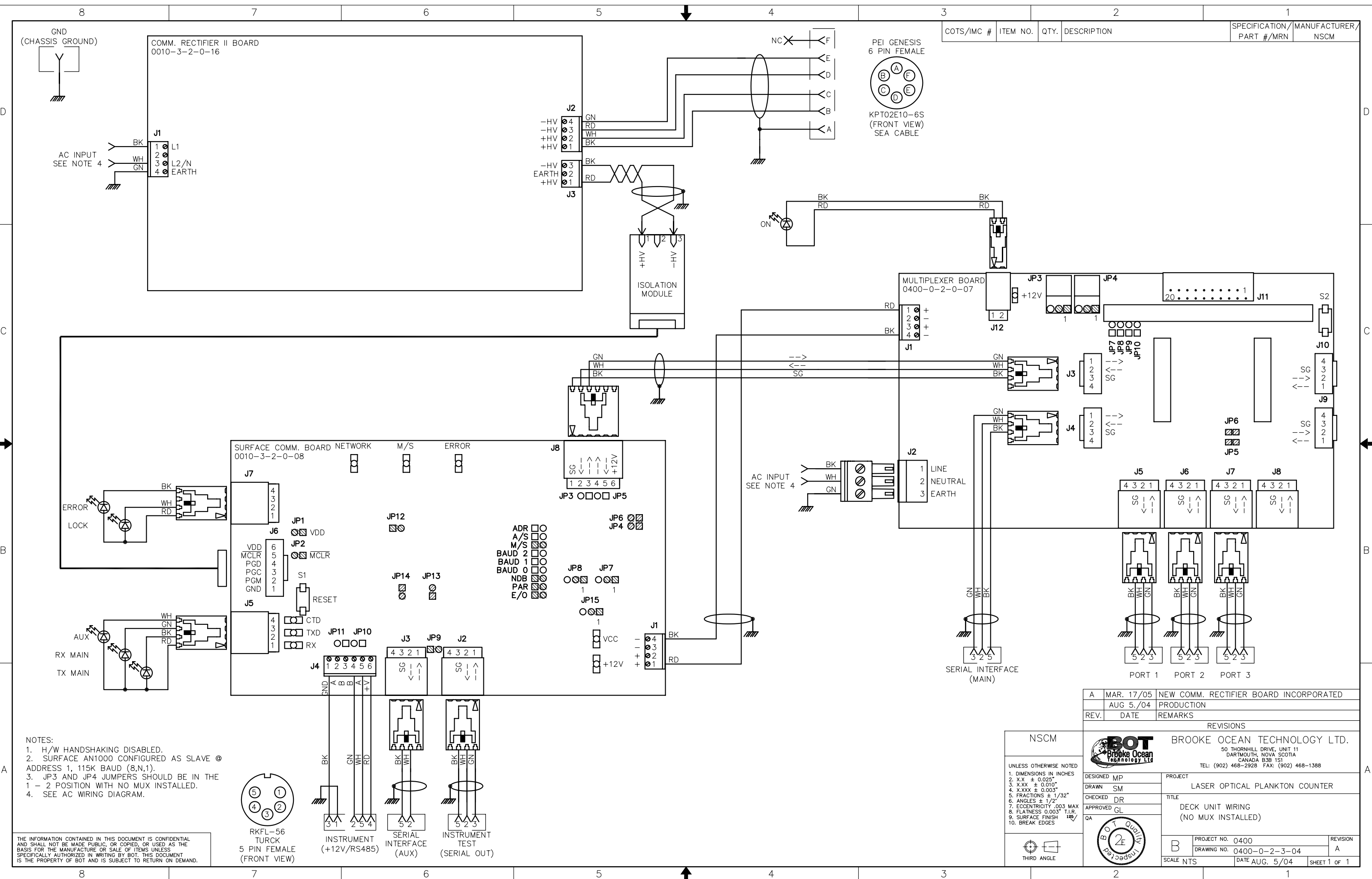
COTS/IMC #	ITEM NO.	QTY.	DESCRIPTION	SPECIFICATION/ PART #/MRN	MANUFACTURER/ NSCM

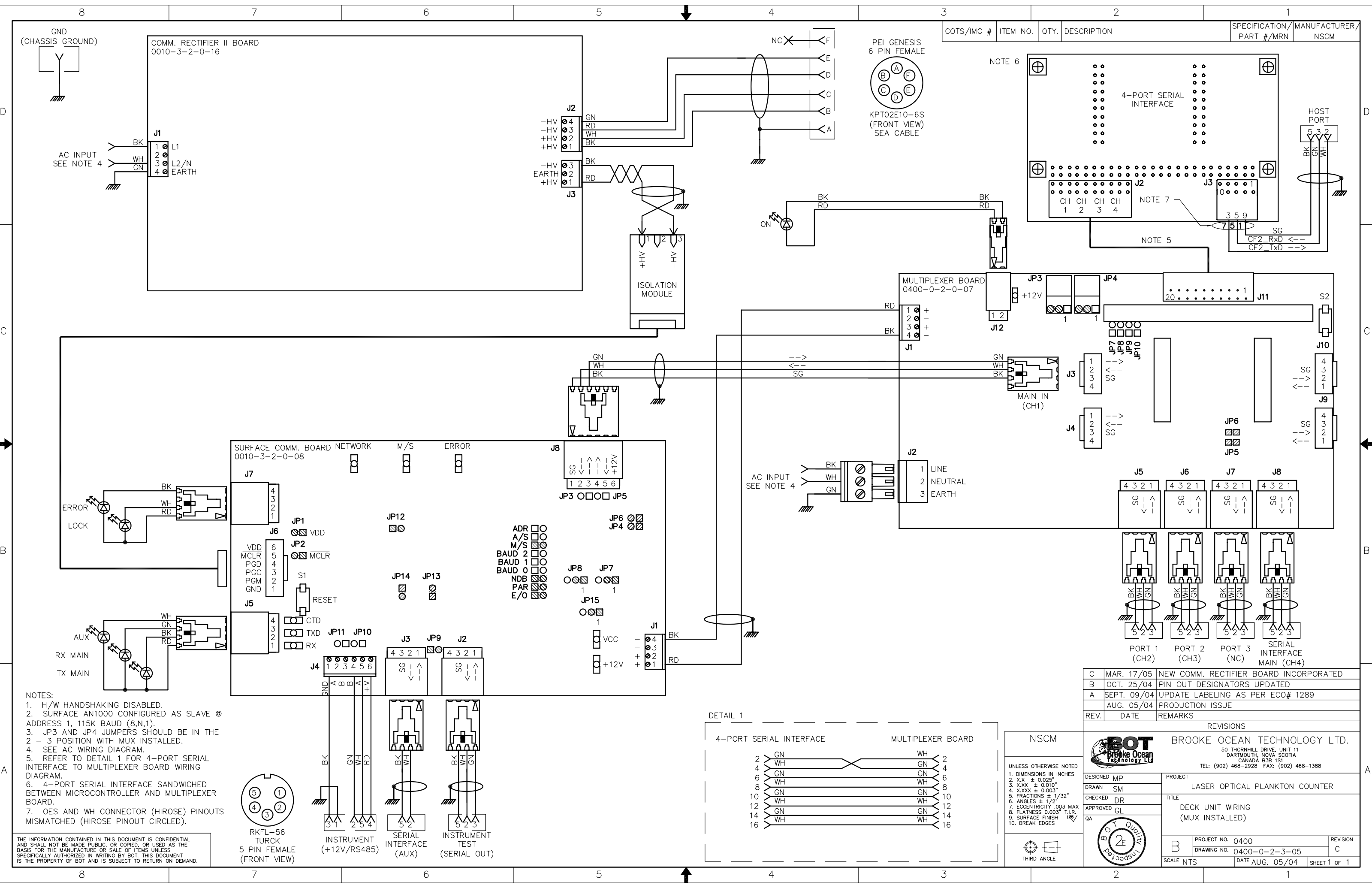
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4. X.XXX ± 0.003"
5. FRACTIONS ± 1/32"
6. ANGLES ± 1/2°
7. ECCENTRICITY .003 MAX
8. FLATNESS 0.003" T.I.R.
9. SURFACE FINISH 125/10
10. BREAK EDGES

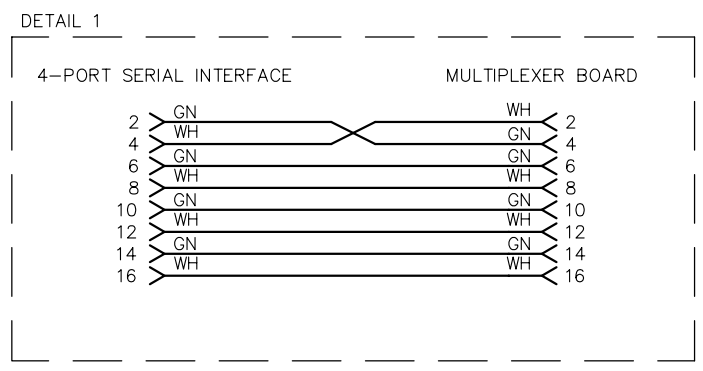
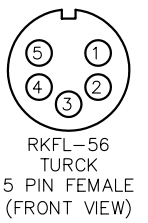


PROJECT NO. 0400	REVISION
DRAWING NO. 0400-0-2-3-09	
SCALE 1:2	DATE AUG. 04/04
SHEET 1 OF 1	



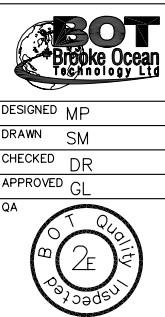


- NOTES:
- 1. H/W HANDSHAKING DISABLED.
 - 2. SURFACE AN1000 CONFIGURED AS SLAVE @ ADDRESS 1, 115K BAUD (8,N,1).
 - 3. JP3 AND JP4 JUMPERS SHOULD BE IN THE 2 - 3 POSITION WITH MUX INSTALLED.
 - 4. SEE AC WIRING DIAGRAM.
 - 5. REFER TO DETAIL 1 FOR 4-PORT SERIAL INTERFACE DIAGRAM.
 - 6. 4-PORT SERIAL INTERFACE SANDWICHED BETWEEN MICROCONTROLLER AND MULTIPLEXER BOARD.
 - 7. OES AND WH CONNECTOR (HIROSE) PINOUTS MISMATCHED (HIROSE PINOUT CIRCLED).



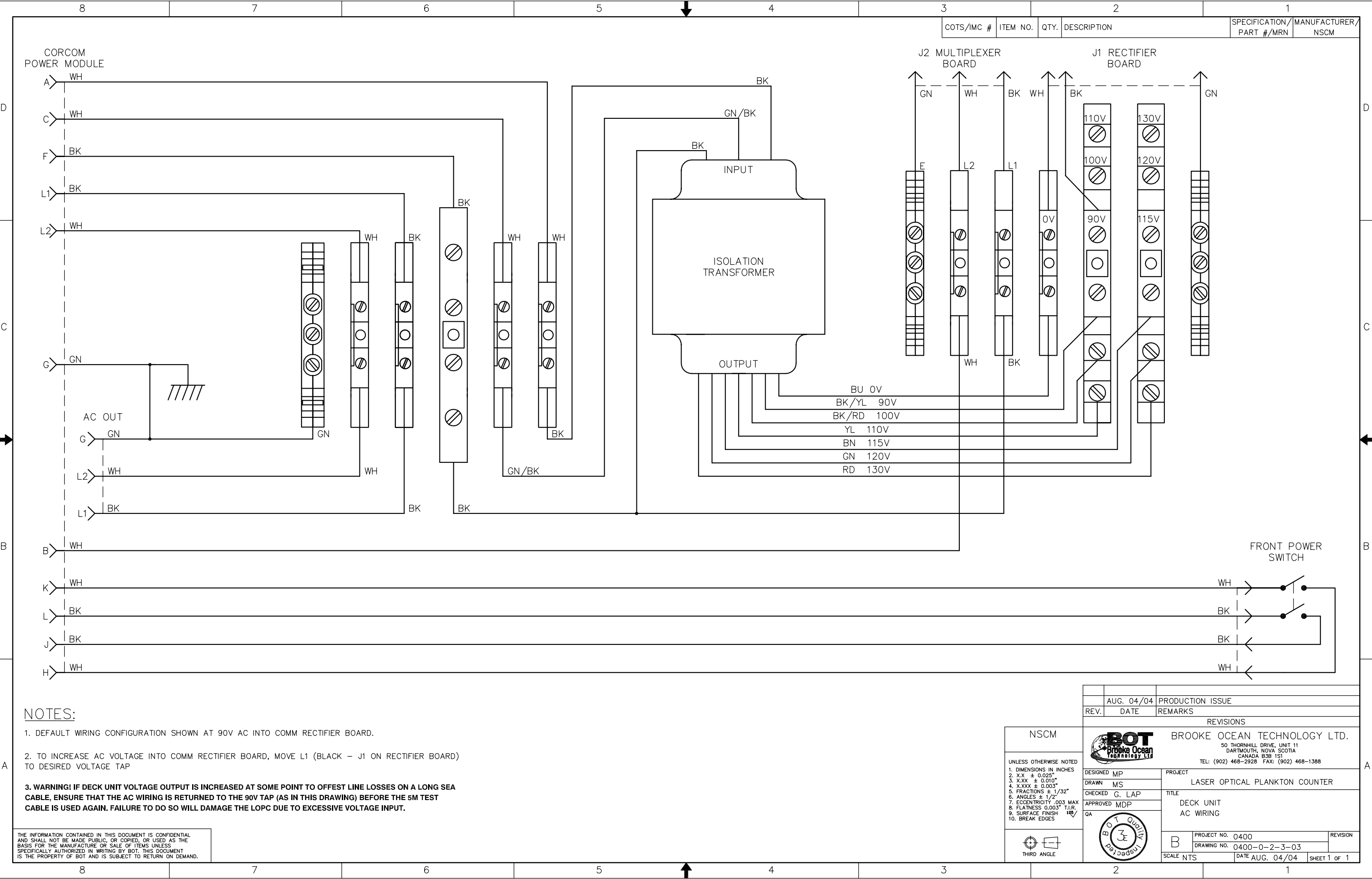
UNLESS OTHERWISE NOTED

- 1. DIMENSIONS IN INCHES
- 2. X.X ± 0.025"
- 3. X.XX ± 0.010"
- 4. X.XXX ± 0.003"
- 5. FRACTIONS ± 1/32"
- 6. ANGLES ± 1/2°
- 7. ECCENTRICITY .003 MAX
- 8. FLATNESS 0.003" T.I.R.
- 9. SURFACE FINISH 125
- 10. BREAK EDGES



REVISIONS		
C	MAR. 17/05	NEW COMM. RECTIFIER BOARD INCORPORATED
B	OCT. 25/04	PIN OUT DESIGNATORS UPDATED
A	SEPT. 09/04	UPDATE LABELING AS PER ECO# 1289
	AUG. 05/04	PRODUCTION ISSUE
REV.	DATE	REMARKS
DESIGNED MP		
DRAWN SM		
CHECKED DR		
APPROVED GL		
QA		
PROJECT		
LASER OPTICAL PLANKTON COUNTER		
TITLE		
DECK UNIT WIRING (MUX INSTALLED)		
PROJECT NO. 0400		
DRAWING NO. 0400-0-2-3-05		
REVISION C		
SCALE NTS		
DATE AUG. 05/04		
SHEET 1 OF 1		

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NOTES:

1. DEFAULT WIRING CONFIGURATION SHOWN AT 90V AC INTO COMM RECTIFIER BOARD.
2. TO INCREASE AC VOLTAGE INTO COMM RECTIFIER BOARD, MOVE L1 (BLACK - J1 ON RECTIFIER BOARD) TO DESIRED VOLTAGE TAP
3. WARNING! IF DECK UNIT VOLTAGE OUTPUT IS INCREASED AT SOME POINT TO OFFEST LINE LOSSES ON A LONG SEA CABLE, ENSURE THAT THE AC WIRING IS RETURNED TO THE 90V TAP (AS IN THIS DRAWING) BEFORE THE 5M TEST CABLE IS USED AGAIN. FAILURE TO DO SO WILL DAMAGE THE LOPC DUE TO EXCESSIVE VOLTAGE INPUT.

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		AUG. 04/04		PRODUCTION ISSUE	
REV.		DATE		REMARKS	
REVISIONS					
BROOKE OCEAN TECHNOLOGY LTD.					
50 THORNHILL DRIVE, UNIT 11					
DARTMOUTH, NOVA SCOTIA					
CANADA B3B 1S1					
TEL: (902) 468-2928 FAX: (902) 468-1388					
DESIGNED MP			PROJECT		
DRAWN MS			LASER OPTICAL PLANKTON COUNTER		
CHECKED G. LAP			TITLE		
APPROVED MDP			DECK UNIT		
QA			AC WIRING		
B		PROJECT NO. 0400		REVISION	
		DRAWING NO. 0400-0-2-3-03			
SCALE NTS		DATE AUG. 04/04		SHEET 1 OF 1	

NSCM	
UNLESS OTHERWISE NOTED	
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3. X.XXX ± 0.010"	
4. X.XXX ± 0.003"	
5. FRACTIONS ± 1/32"	
6. ANGLES ± 1/2°	
7. ECCENTRICITY .003 MAX	
8. FLATNESS 0.003" T.I.R.	
9. SURFACE FINISH 125/	
10. BREAK EDGES	
THIRD ANGLE	

COTS/IMC #	ITEM NO.	QTY.	DESCRIPTION	SPECIFICATION/ PART #/MRN	MANUFACTURER/ NSCM
------------	----------	------	-------------	------------------------------	-----------------------

- NOTES:
- U/W MODEM CONFIGURED AS MASTER @ ADDRESS 0, 115k BAUD (N,8,1)
 - HARDWARE HANDSHAKING ENABLED
 - TB6-TB1 WIRED THRU 1 TO 1. TB7-TB2 WIRED THRU 1 TO 1
 - DSP BUS CONFIGURED FOR MOTOROLLA BUS

D

D

C

C

B

B

A

A

