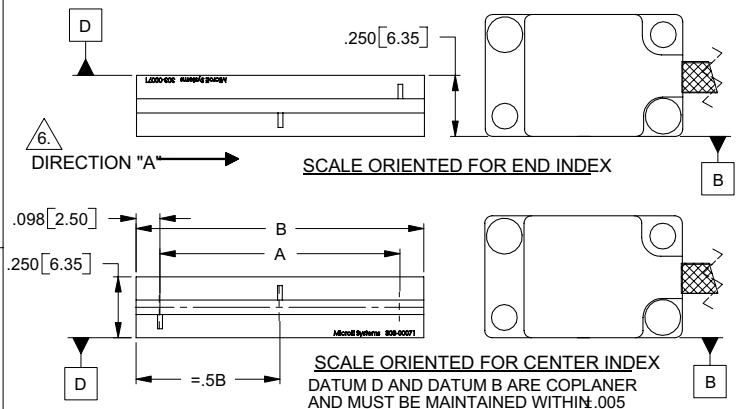
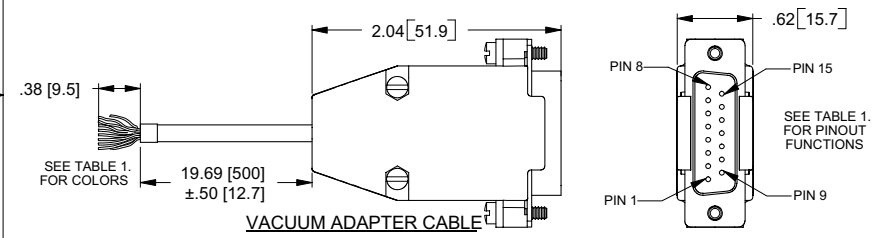


Mercury 1000V Encoder System Interface Drawing: Short Linear Scales

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SCALES SHOWN IN THESE VIEWS TRANSLATED IN X AXIS OUT OF OPERATING RANGE FOR CLARITY



- NOTES:**
1. RECOMMENDED MOUNTING HARDWARE:
2-56 OR M2 SCREWS w/ 4 FLAT WASHERS (2 ON EACH SCREW)
(OD OF WASHER NOT TO EXCEED .150 [3.81])
 2. IF BENCHING PINS ARE TO BE USED, PINS MUST BE PLACED ALONG DATUM EDGES OF BOTH THE SENSOR AND THE SCALE FOR PROPER ALIGNMENT. (REFERENCE DATUMS B1, B2 AND C1 FOR SENSOR BENCHING PINS).
 3. HEIGHT OF SENSOR BENCHING PINS MUST BE A MINIMUM OF .170 [4.32] IN HEIGHT FROM DATUM A.
 4. HEIGHT OF SCALE BENCHING PINS NOT TO EXCEED THE THICKNESS OF THE SCALE.
 5. RECOMMENDED SENSOR MOUNTING PLATE THICKNESS:
MINIMUM- 4 SCREW THREADS
MAXIMUM- ALLOW CLEARANCE FOR SCALE AND SCALE MOUNTING HARDWARE (BENCHING SURFACES, CLAMPS, HUBS, ETC.)

6. WHEN SCALE MOVES IN DIRECTION "A" WITH RESPECT TO A STATIONARY READHEAD, OUTPUT SIGNAL COS+ (BROWN [PIN 7]) LEADS OUTPUT SIGNAL SIN+ (YELLOW [PIN 8]).
7. DO NOT CONNECT TO "RESERVED" PINS. SEE TABLE 1 FOR RESERVED PINS

SCALE IDENTIFICATION AND SIZE.

Scale	Dim A.	Dim B.
Identification #	Measured Length	Scale Length
LXX	XXmm-5mm	XXmm
L30	30mm-5mm = 25mm	30mm
(max) L130	130mm-5mm = 125mm	130mm

THESE ARE EXAMPLES

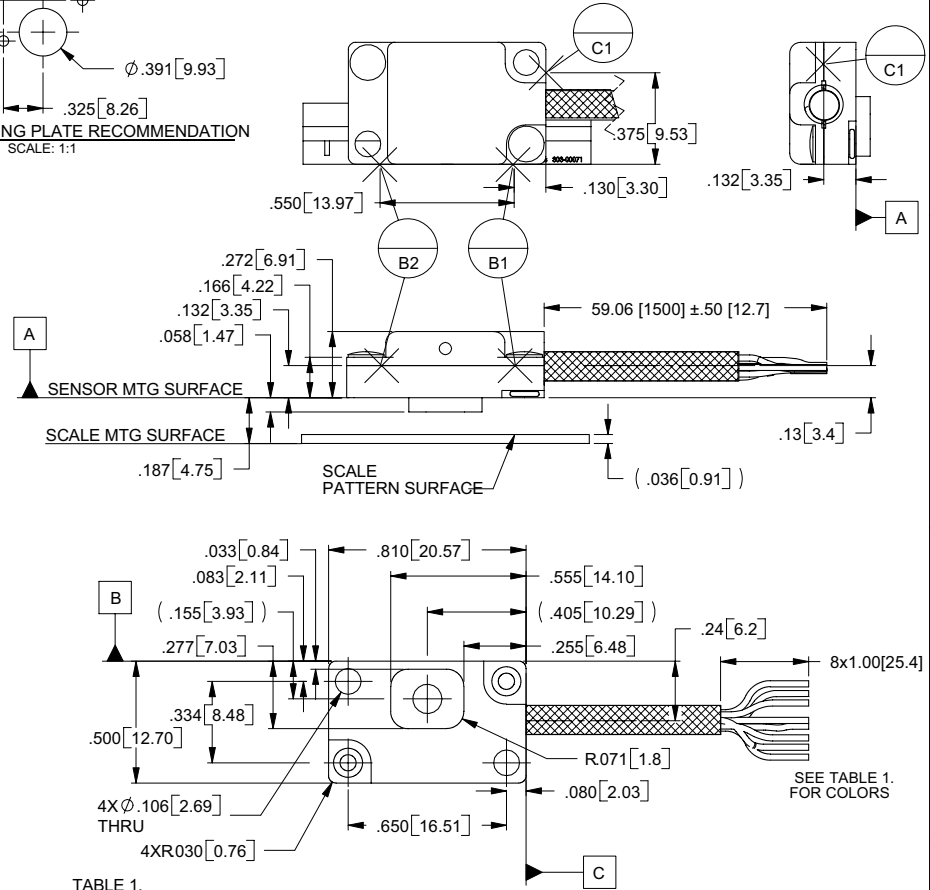
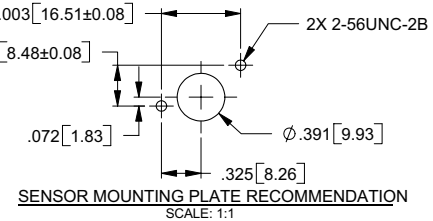


TABLE 1.

Wire Color	Function	Pin
Blue	INDEX WINDOW -	1
Violet	INDEX WINDOW +	2
	RESERVED	3
	RESERVED	4
	RESERVED	5
	RESERVED	6
Brown	COS+	7
Yellow	SIN+	8
Gray	N/C	9
White	N/C	10
	N/C	11
Red	+5V	12
Black	GND	13
Orange	COS-	14
Green	SIN-	15

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES (millimeters)
DIM. APPLY AFTER PROCESSING
INTERPRET ALL GEOMETRIC TOLS.
PER ANSI Y14.5M-1994

TOLERANCES ARE:
DECIMALS: .XX [X1.01 [25]
.XXX [XX.005 [13]
ANGULAR: ±30 MIN.

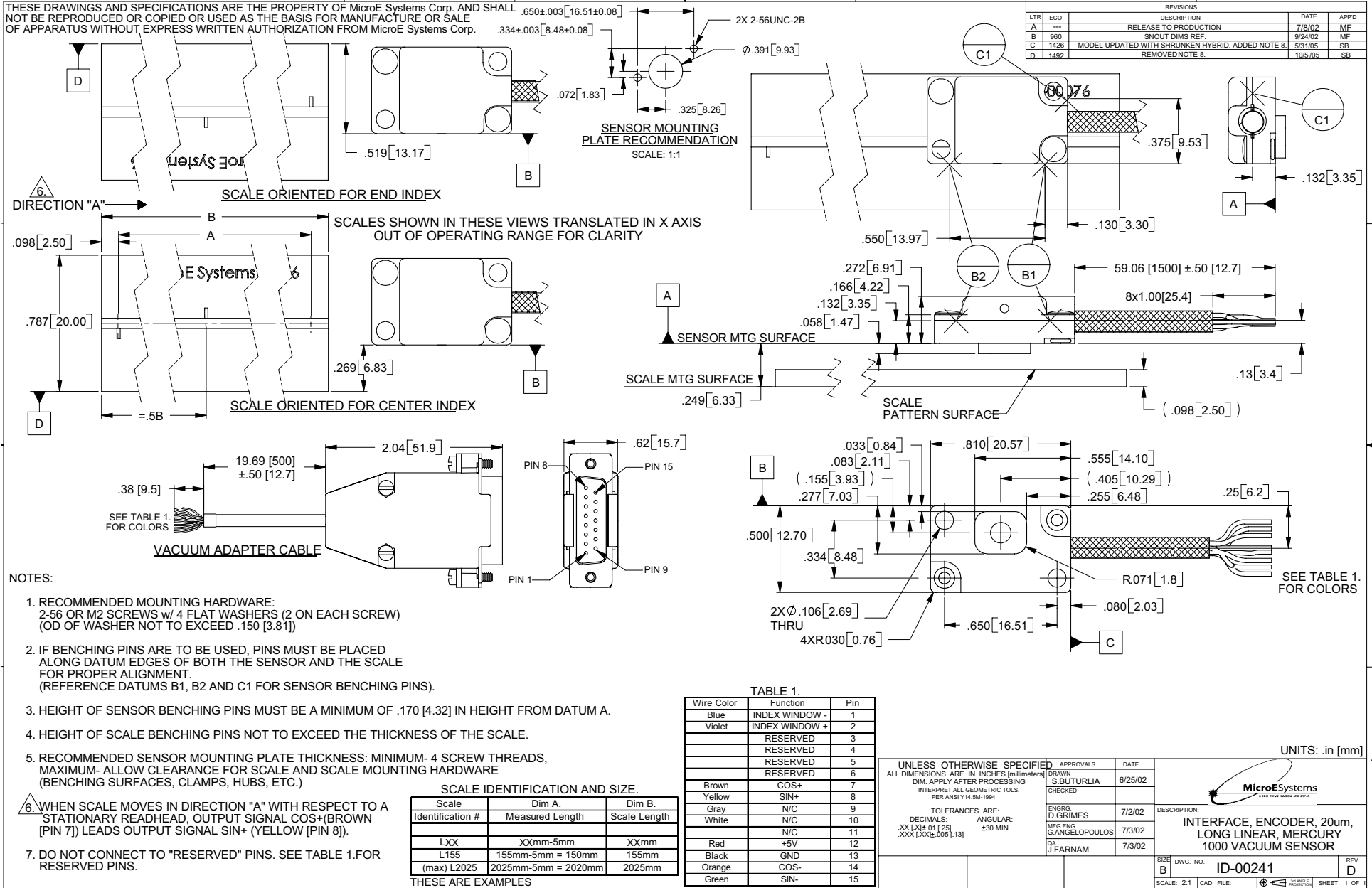
LTR	ECO	REVISIONS DESCRIPTION	DATE	APPO
A		RELEASE TO PRODUCTION	7/8/02	MF
B	960	SNOUT DIMS REF. SCALE THK WAS .037 REF.	9/24/02	MF
C	1428	UPDATED MODEL WITH SHRUNKEN HYBRID, ADDED NOTE 8.	5/25/05	SB
D	1492	REMOVED NOTE 8.	10/5/05	SB

UNITS: .in [mm]

APPROVALS	DATE	
DRAWN S.BUTURLIA	6/25/02	
CHECKED		
ENGRG D.GRIMES	7/2/02	
MFG ENG C.ANGELOPOULOS	7/3/02	DESCRIPTION: INTERFACE, ENCODER, 20um, SHORT LINEAR, MERCURY 1000 VACUUM SENSOR
QA J.FARNAM	7/3/02	
SIZE B	DWG. NO. ID-00240	REV. D
SCALE: 2:1 CAD FILE:		SHEET 1 OF 1

Mercury 1000V Encoder System Interface Drawing: Long Linear Scales

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NOTES:

1. RECOMMENDED MOUNTING HARDWARE:
2-56 OR M2 SCREWS w/ 4 FLAT WASHERS (2 ON EACH SCREW)
(OD OF WASHER NOT TO EXCEED .150 [3.81])
2. IF BENCHING PINS ARE TO BE USED, PINS MUST BE PLACED
ALONG DATUM EDGES OF BOTH THE SENSOR AND THE SCALE
FOR PROPER ALIGNMENT.
(REFERENCE DATUMS B1, B2 AND C1 FOR SENSOR BENCHING PINS).
3. HEIGHT OF SENSOR BENCHING PINS MUST BE A MINIMUM OF .170 [4.32] IN HEIGHT FROM DATUM A.
4. HEIGHT OF SCALE BENCHING PINS NOT TO EXCEED THE THICKNESS OF THE SCALE.
5. RECOMMENDED SENSOR MOUNTING PLATE THICKNESS: MINIMUM- 4 SCREW THREADS,
MAXIMUM- ALLOW CLEARANCE FOR SCALE AND SCALE MOUNTING HARDWARE
(BENCHING SURFACES, CLAMPS, HUBS, ETC.)

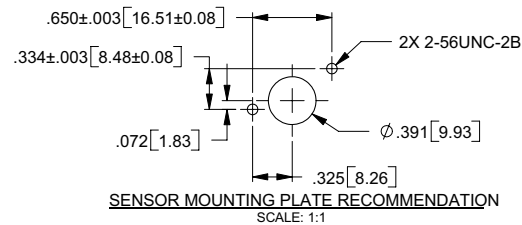
6. WHEN SCALE MOVES IN DIRECTION "A" WITH RESPECT TO A
STATIONARY READHEAD, OUTPUT SIGNAL COS+(BROWN
[PIN 7]) LEADS OUTPUT SIGNAL SIN+(YELLOW [PIN 8]).
7. DO NOT CONNECT TO "RESERVED" PINS. SEE TABLE 1.FOR
RESERVED PINS.

Mercury 1000V Encoder System Interface Drawing: Rotary Scale with Hub

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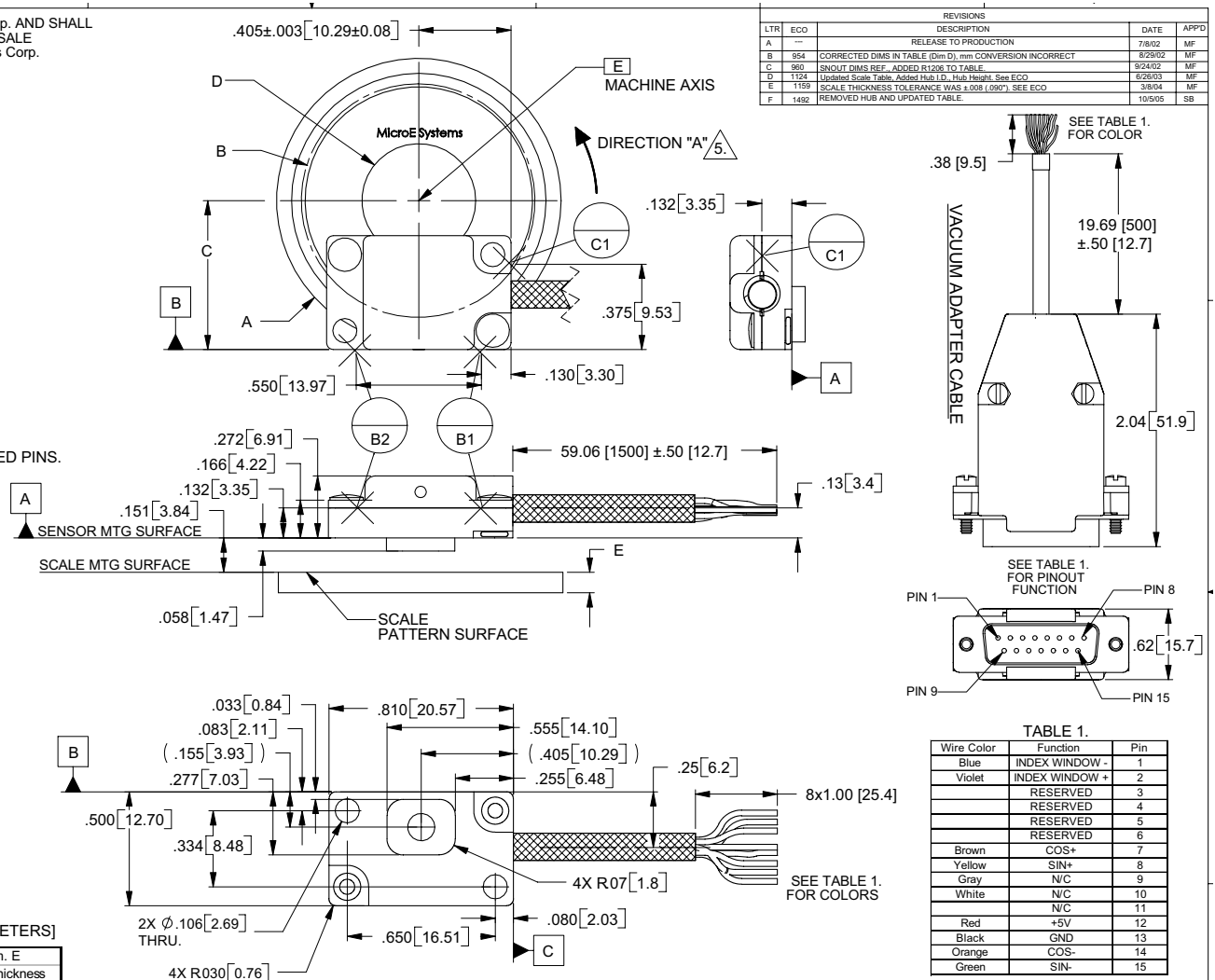
NOTES:

- RECOMMENDED MOUNTING HARDWARE:
2-56 OR M2 SCREWS w/ 4 FLAT WASHERS (2 ON EACH SCREW)
(OD OF WASHER NOT TO EXCEED .150 [3.81])
 - IF BENCHING PINS ARE TO BE USED, PINS MUST BE PLACED ALONG DATUM EDGES OF SENSOR FOR PROPER ALIGNMENT. (REFERENCE DATUMS B1, B2 AND C1).
 - HEIGHT OF SENSOR BENCHING PINS MUST BE A MINIMUM OF .170 [4.32] IN HEIGHT FROM DATUM A.
 - RECOMMENDED SENSOR MOUNTING PLATE THICKNESS:
MINIMUM- 4 SCREW THREADS
MAXIMUM- ALLOW CLEARANCE FOR SCALE AND SCALE MOUNTING HARDWARE (BENCHING SURFACES, CLAMPS, HUBS, ETC.)
5. WHEN SCALE MOVES IN DIRECTION "A" WITH RESPECT TO A STATIONARY READHEAD, OUTPUT SIGNAL COS+ (BROWN [PIN 7]) LEADS OUTPUT SIGNAL SIN+ (YELLOW [PIN 8]).
6. DO NOT CONNECT TO "RESERVED" PINS. SEE TABLE 1. FOR RESERVED PINS.



SCALE SIZE AND MOUNTING OPTIONS. DIMENSIONS IN INCHES [MILLIMETERS]

Scale	Counts/Rev	Dim. A	Dim. D	Dim. B	Dim. C	Dim. E
Identification	Rev	Scale O.D.	Scale I.D.	Optical Dia.	Mounting Dim.	Scale Thickness
R1206	1,650	0.472 [12.00]	.250+/- .005 [6.35+/- .13]	0.413 [10.50]	0.348+/- .002 [8.84+/- .05]	.036+/- .002 [.91+/- .05]
R1910	2,500	0.750 [19.05]	.375+/- .005 [9.53+/- 0.13]	0.627 [15.92]	0.454+/- .002 [11.53+/- .05]	.090+/- .004 [2.29+/- .10]
R3213	4,096	1.250 [31.75]	.500+/- .005 [12.70+/- 0.13]	1.027 [26.08]	0.654+/- .002 [16.62+/- .05]	.090+/- .004 [2.29+/- .10]
R5725	8,192	2.250 [57.15]	1.000+/- .005 [25.40+/- 0.13]	2.053 [52.15]	1.168+/- .002 [29.66+/- .05]	.090+/- .004 [2.29+/- .10]
R10851	16,384	4.250 [107.95]	2.000+/- .005 [50.80+/- 0.13]	4.106 [104.30]	2.194+/- .002 [55.73+/- .05]	.090+/- .004 [2.29+/- .10]



REVISIONS				
LTR	ECO	DESCRIPTION	DATE	APPD
A	---	RELEASE TO PRODUCTION	7/8/02	MF
B	954	CORRECTED DIMS IN TABLE (Dim D), mm CONVERSION INCORRECT	8/29/02	MF
C	960	SNOUT DIMS REF. ADDED R1206 TO TABLE	9/24/02	MF
D	1126	Updated Scale Table, Added Hub I.D., Hub Height, See ECO	8/26/03	MF
E	1199	SCALE THICKNESS TOLERANCE WAS +.008 (.000). SEE ECO	3/9/04	MF
F	1492	REMOVED HUB AND UPDATED TABLE	10/5/05	SB

UNLESS OTHERWISE SPECIFIED, PROVALS DATE

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
DIM. APPLY AFTER PROCESSING
INTERPRET ALL GEOMETRIC TOLS. PER ANSI Y 14.5M-1994

TOLERANCES ARE:
DECIMALS: XX [X±.01 [25] ±30 MIN.
XXX [XX±.005 [13]

DRAWN: S.BUTURLIA
CHECKED: []
ENGR: D.GRIMES
MFG ENG: G.ANGELOPOULOS
QA: J.FARNAM

DATE: 6/25/02
7/2/02
7/3/02
7/3/02

MicroE Systems
A MICROE SYSTEMS COMPANY

DESCRIPTION:
INTERFACE, ENCODER, 20um,
ROTARY w/HUB, MERCURY
1000 VACUUM SENSOR

SIZE: B
DWG. NO.: ID-00242
SCALE: 2:1
CAD FILE: []
SHEET 1 OF 1