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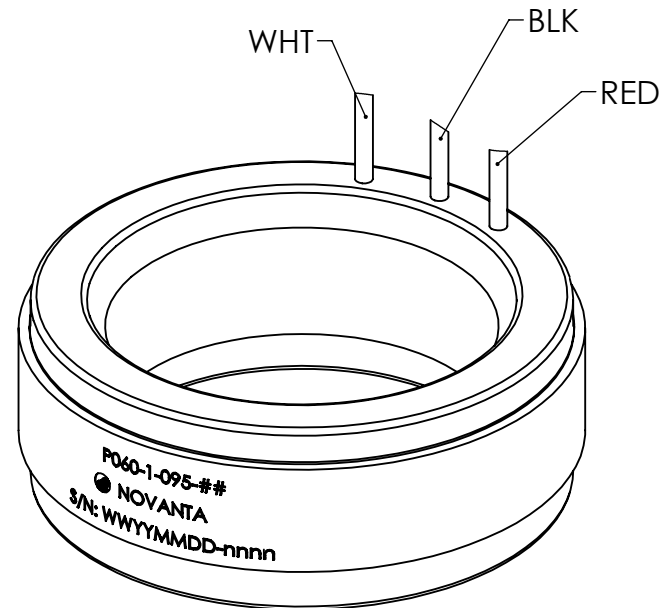
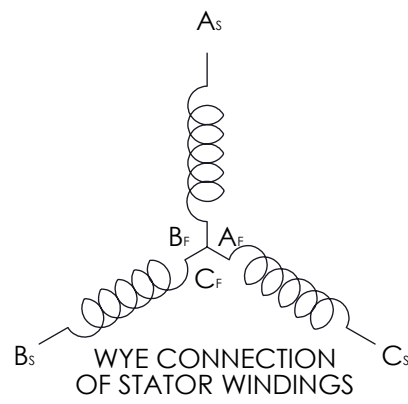
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THIS SHEET APPLIES TO MODELS WITHOUT HALLS

LEAD COLOR CODE

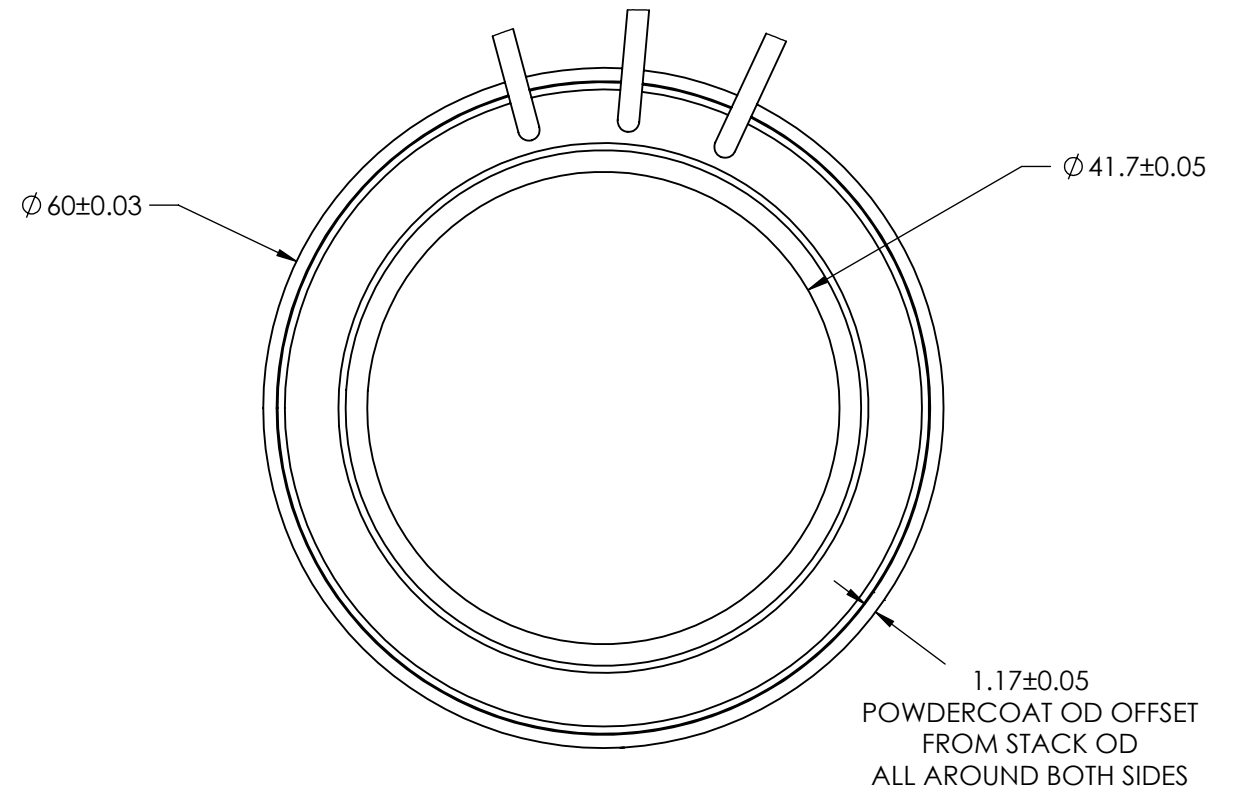
POWER LEADS

16 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH, FLYING LEADS
 BLK - PHASE A
 RED - PHASE B
 WHT - PHASE C



NOTES:

1. STATOR MOUNTING REQUIREMENTS, REFER TO P060-1-051-01 DOCUMENT.
2. STATOR PERFORMANCE REFER TO P060-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATIONS

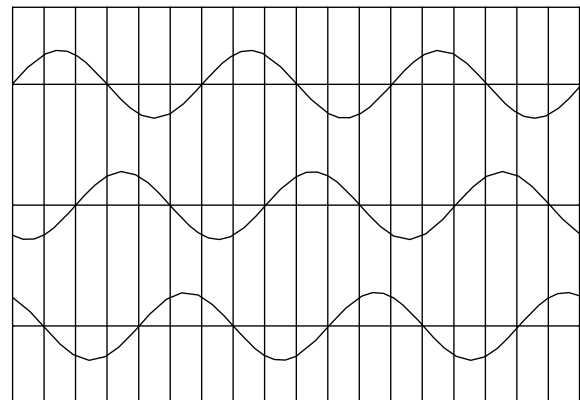


PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END

V_{bemf} PHASES A+/B-

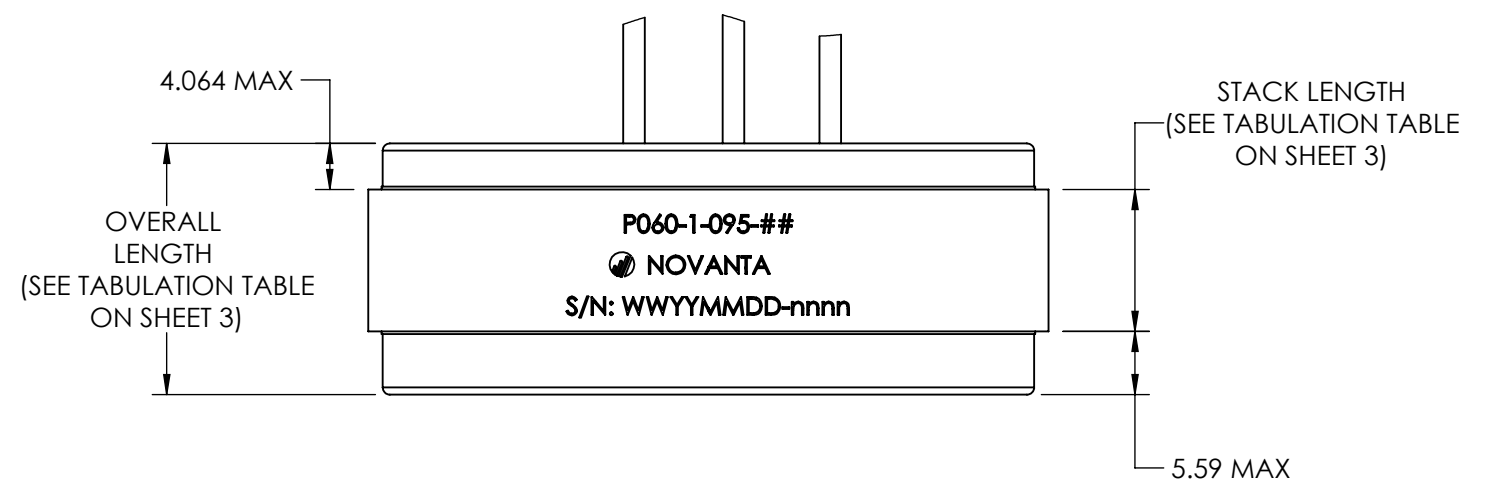
V_{bemf} PHASES B+/C-

V_{bemf} PHASES C+/A-



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	
2	+		-
3		+	-
4	-	+	
5	-		+
6		-	+



REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
E	007805	SEE DCN	2021-DEC-20	RMH
D	007730	ADDED PART NUMBERS TO TAB BLOCK, MOVED TO SHEET 3, ROHS AND ESD TO NOTES, LEADS STRAIGHT	2021-AUG-30	AFT
C	007626	ADDED OPH-060013-C000 TO TABULATION BLOCK	2021-MAY-12	SMP

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Celera A Novanta Company
 MATERIAL: NA
 TREATMENT: NA
 SURFACE FINISH: NA

DRAWN IAW ASME Y14.5-2009 X.X ± 1.25 X.XX ± 0.125 X.XX ± 0.25 X.XXX ± 0.0125 ANGULAR: X ± 1°
 TITLE: **STATOR INTERFACE DRAWING**
 DRWN: A LARKEY 2/5/2021
 CHKD: S DAWSON 2/5/2021
 APPVD: S DAWSON 2/5/2021
 DRAWING NUMBER: **P060-1-095-XX**
 SCALE: 1:1
 SIZE: B SHEET 1 of 3

THIS SHEET APPLIES TO MODELS WITH HALLS/COMMUTATION

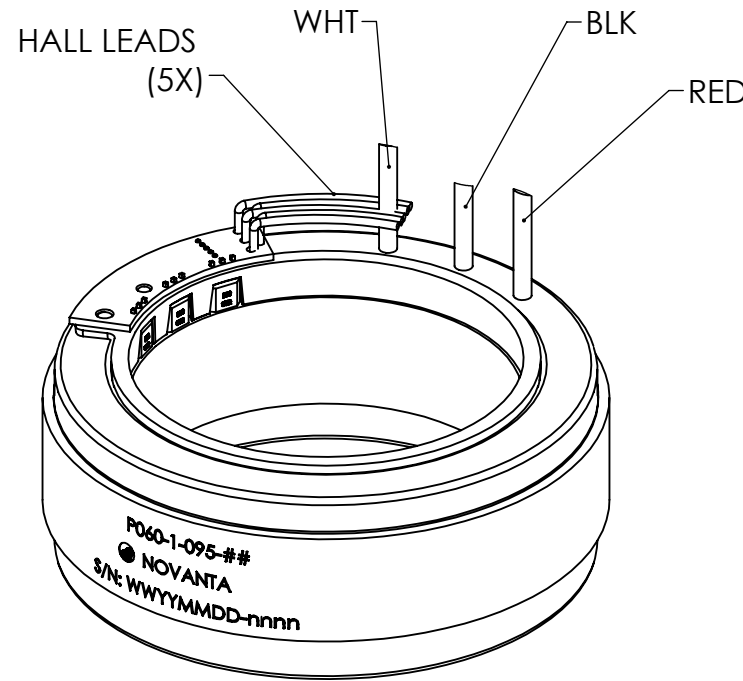
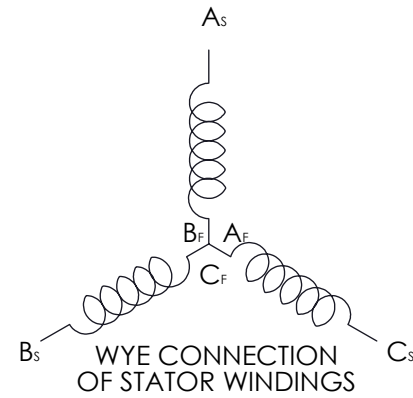
LEAD COLOR CODE

POWER LEADS

16 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
BLK - PHASE A
RED - PHASE B
WHT - PHASE C

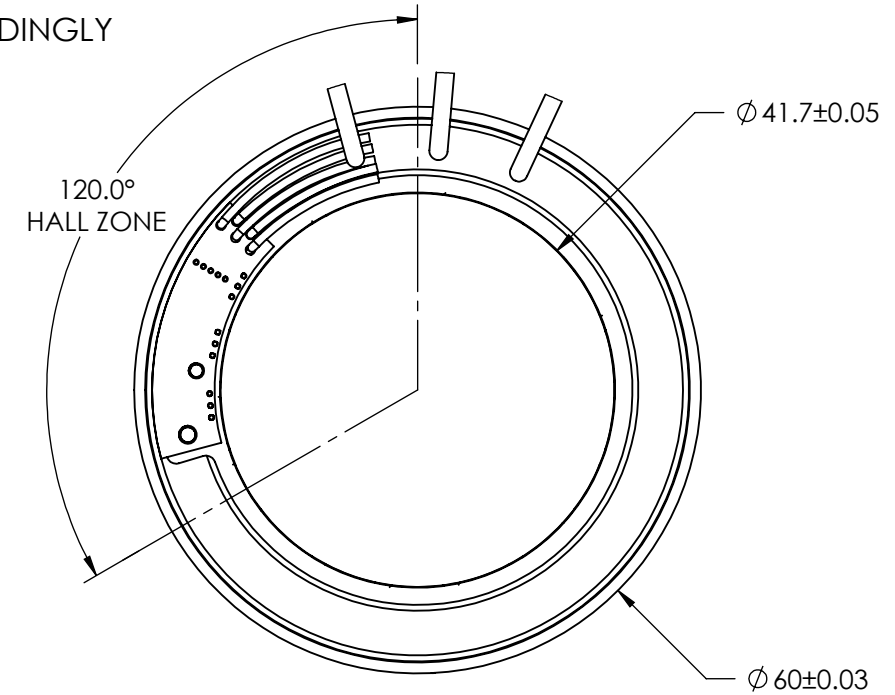
HALL LEADS

28 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
NOTE: HALL DEVICES ARE OPEN COLLECTOR
AND REQUIRE PULL-UP RESISTORS TO OPERATE.
BLK - RETURN
RED - POWER (3.5 TO 27 VDC)
BRN - HALL 1
ORG - HALL 2
YEL - HALL 3



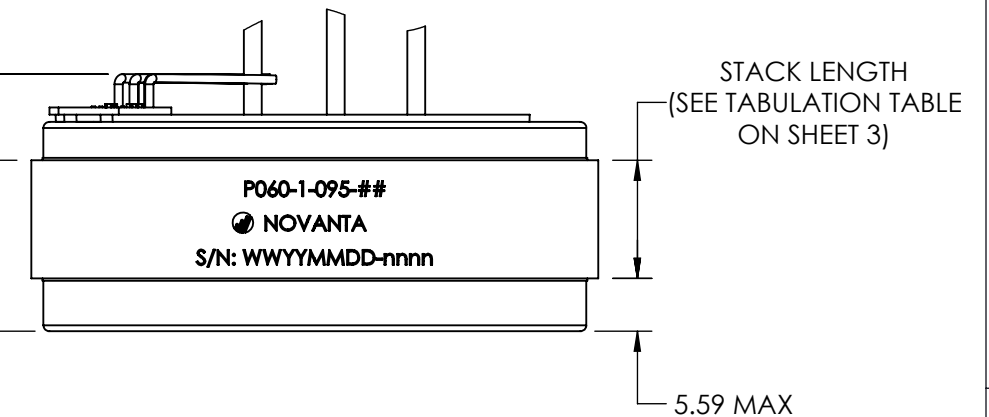
NOTES:

1. STATOR MOUNTING REQUIREMENTS, REFER TO P060-1-051-01 DOCUMENT.
2. STATOR PERFORMANCE REFER TO P060-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATIONS.
4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY

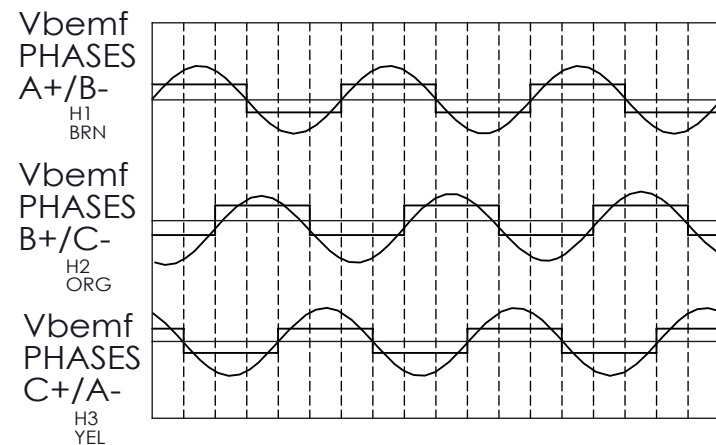


9.12 MAX ABOVE LEADS FROM BARE STEEL IN HALL ZONE

OVERALL LENGTH (SEE TABULATION TABLE ON SHEET 3)



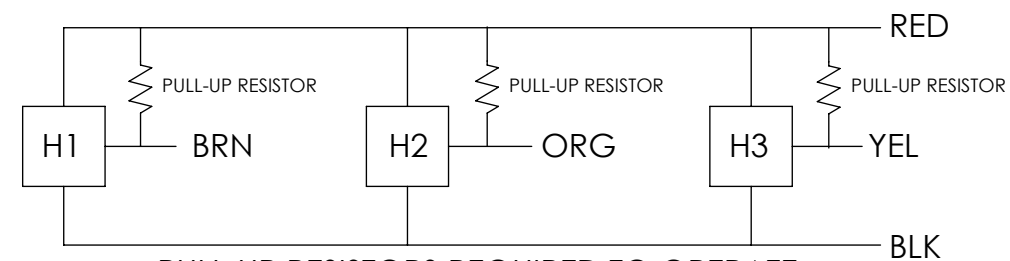
PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	-
2	+	-	-
3	-	+	-
4	-	+	+
5	-	-	+
6	-	-	+

HALL DEVICE CIRCUIT DIAGRAM



PULL-UP RESISTORS REQUIRED TO OPERATE (APPROX 1.5KΩ CUSTOMER SUPPLIED)

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Celera A Novanta Company
MOTION

DRAWING NUMBER: **P060-1-095-XX** REV **E**
SCALE: 1:1 SIZE: B SHEET 2 of 3

TABULATION BLOCK

MODEL NUMBER	STATOR DRAWING NUMBER	ASSOCIATED ROTOR DRAWING NUMBER	STACK LENGTH	OVERALL LENGTH
OPN-060013-A000	P060-1-095-01	P060-1-096-01	12.5 ±.13	22.3 MAX
OPN-060013-B000	P060-1-095-03			
OPN-060013-C000	P060-1-095-05			
OPN-060013-D000	P060-1-095-07			
OPN-060025-A000	P060-1-095-09	P060-1-096-02	25.0 ±.13	34.8 MAX
OPN-060025-B000	P060-1-095-11			
OPN-060025-C000	P060-1-095-13			
OPN-060050-A000	P060-1-095-15	P060-1-096-03	50.0 ±.13	59.8 MAX
OPN-060050-B000	P060-1-095-17			
OPN-060050-C000	P060-1-095-19			
OPH-060013-A000	P060-1-095-21	P060-1-096-01	12.5 ±.13	27.4 MAX
OPH-060013-B000	P060-1-095-23			
OPH-060013-C000	P060-1-095-25			
OPH-060013-D000	P060-1-095-27			
OPH-060025-A000	P060-1-095-29	P060-1-096-02	25.0 ±.13	39.9 MAX
OPH-060025-B000	P060-1-095-31			
OPH-060025-C000	P060-1-095-33			
OPH-060050-A000	P060-1-095-35	P060-1-096-03	50.0 ±.13	64.9 MAX
OPH-060050-B000	P060-1-095-37			
OPH-060050-C000	P060-1-095-39			

D

C

B

A


D

C

B

A

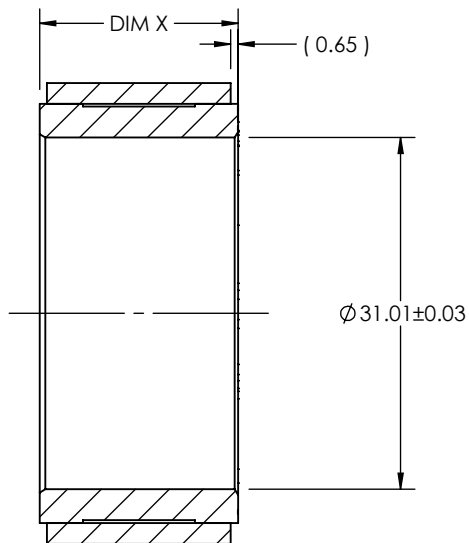
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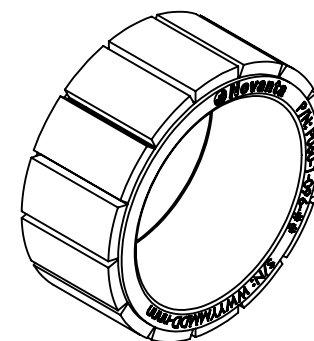
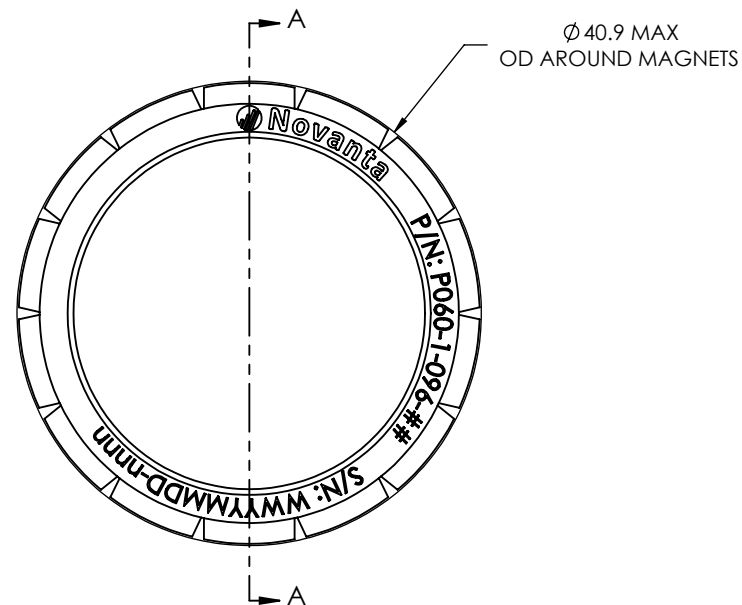
Celera A Novanta Company
 MOTION

DRAWING NUMBER:	REV
P060-1-095-XX	E
SCALE: 1:1 <small>DO NOT SCALE DRAWING</small>	SIZE: B SHEET 3 of 3

TABULATION BLOCK	
PART NUMBER	DIM X
P060-1-096-01	17.5 ± .05
P060-1-096-02	30.0 ± .05
P060-1-096-03	55.0 ± .05



SECTION A-A



NOTES: (UNLESS OTHERWISE SPECIFIED):

1. ROTOR MOUNTING REQUIREMENTS, REFER TO P060-1-051-01 DOCUMENT
2. ESTIMATED MASS AND OTHER SPECIFICATIONS REFER TO P060-1-052-01 DOCUMENT.
3. HIGHLY MAGNETIZED ASSEMBLY, HANDLE WITH CARE TO AVOID DAMAGE OR INJURY.
4. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION
5. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT

B	007805	SEE DCN	2021-DEC-20	RMH
A	007609	CHANGE BACKIRON TO MAGNET DIMENSION TO A REFERENCE DIMENSION	2021-APR-20	AFT
1	007587	INITIAL RELEASE	2021-FEB-05	ARL
REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN

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DRAWN IAW ASME Y14.5-2009

X. ± 1.25 X.XX ± 0.125
X.X ± 0.25 X.XXX ± 0.0125
ANGULAR: X ± 1°

UNITS
MM

TITLE: **ROTOR INTERFACE DRAWING**

MATERIAL: **N/A**

DRWN: **A. LARKEY** 2/5/2021

DRAWING NUMBER:

REV

TREATMENT: **N/A**

CHKD: **S. DAWSON** 2/5/2021

P060-1-096-XX

B

SURFACE FINISH: **N/A**

APPVD: **S. DAWSON** 2/5/2021

SCALE: **1:1**
(DO NOT SCALE DRAWING)

SIZE: **A** SHEET **1** of **1**

MODEL: (THIS DRAWING APPLIES FOR THE FOLLOWING MODEL NUMBERS)

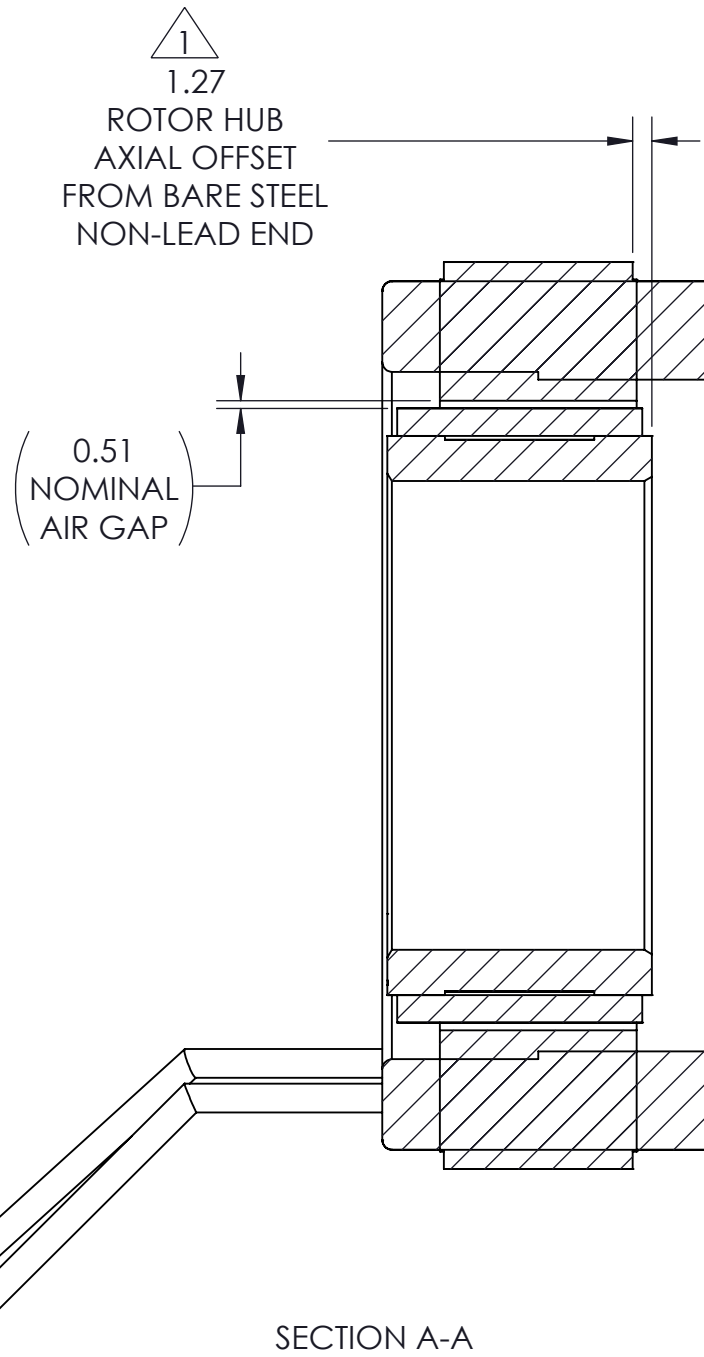
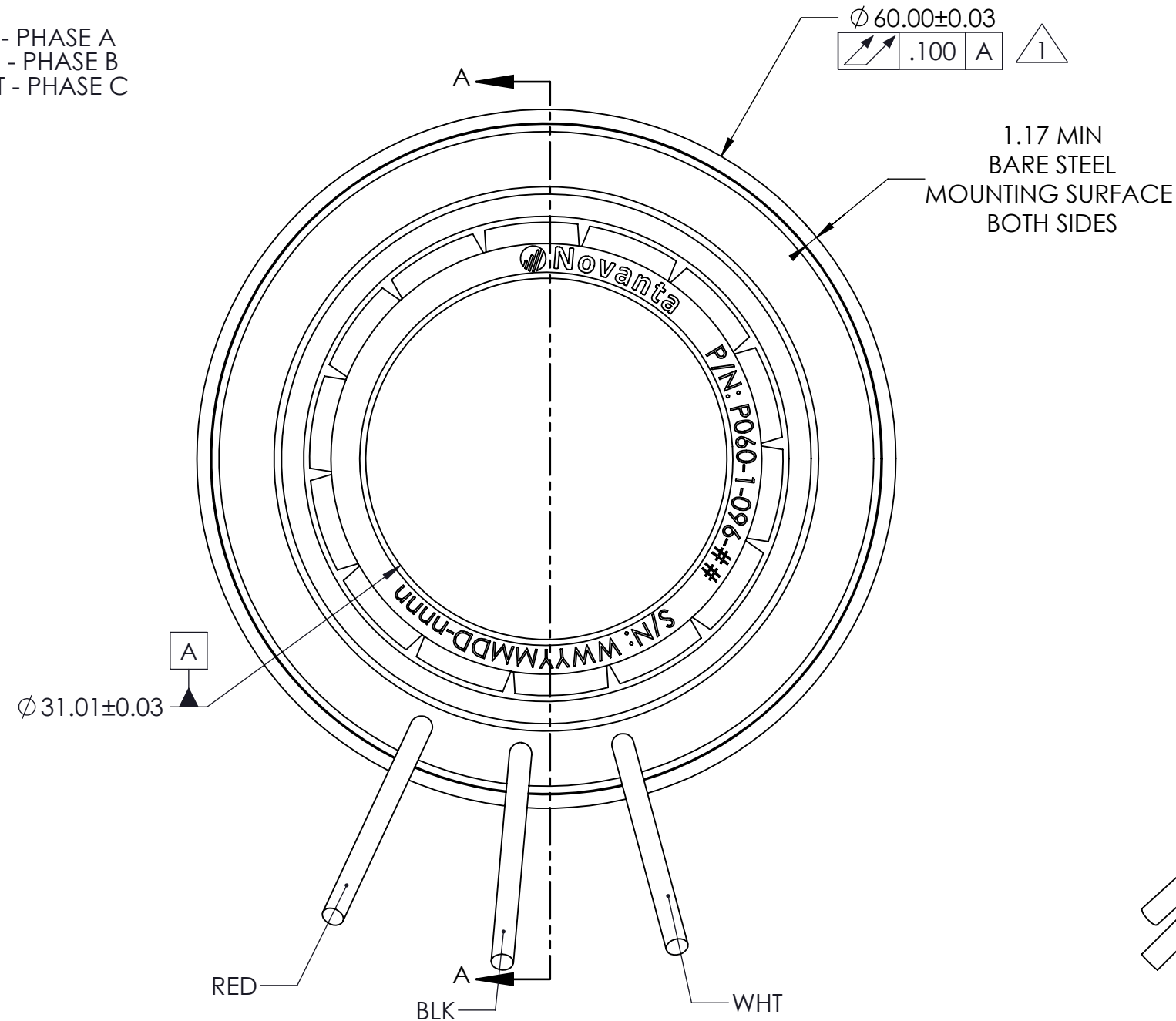
OPN-060XXX-X000 (SHEET 1)

OPH-060XXX-X000 (SHEET 2)

POWER LEADS:

16 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH

BLK - PHASE A
RED - PHASE B
WHT - PHASE C



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SPECIFIED DIMENSIONS ARE REQUIRED TO ACHIEVE MOTOR PERFORMANCE ILLUSTRATED IN P060-1-052-01.
2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.

REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
C	007805	SEE DCN	2021-DEC-20	RMH
B	007630	CHANGE LEAD LENGTH FROM IN TO MM AND REMOVE END TURN HEIGHT	2021-JUN-21	AFT
A	007609	INITIAL RELEASE	2021-APR-20	RMH

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Celera A Novanta Company
MOTION Company

DRWN: RM HORN	4/2/2021	DRAWING NUMBER:	REV
CHKD: S DAWSON	4/2/2021	P060-1-051-01	C
APPVD: S DAWSON	4/2/2021	SCALE: 2:1	SIZE: B SHEET 1 of 2

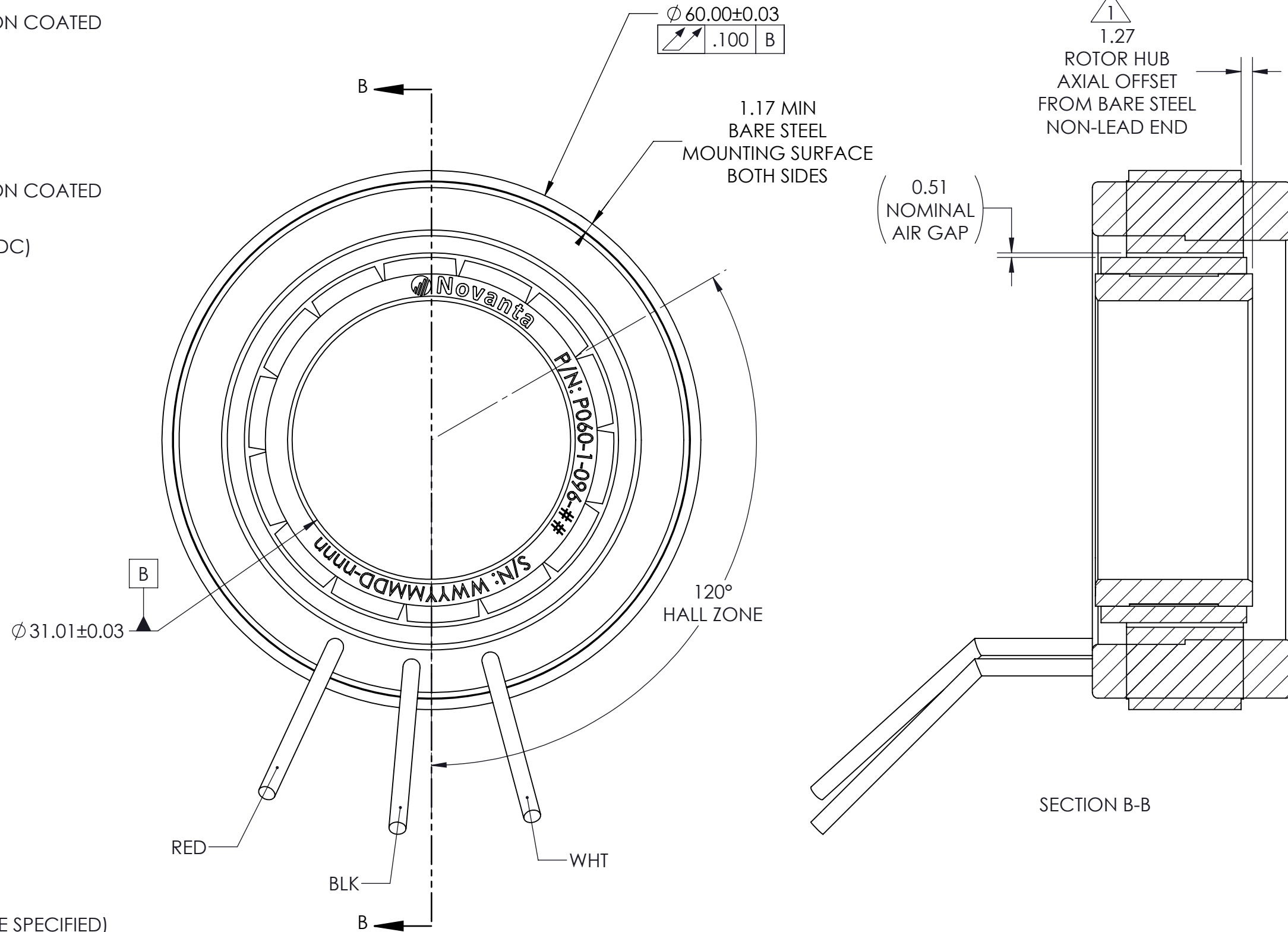
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

POWER LEADS:
 16 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH

BLK - PHASE A
 RED - PHASE B
 WHT - PHASE C

HALL LEADS:
 28 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH

RED - POWER (3-27 VDC)
 BLK - GROUND
 BRN - HALL 1
 ORG - HALL 2
 YEL - HALL 3



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SPECIFIED DIMENSIONS ARE REQUIRED TO ACHIEVE MOTOR PERFORMANCE ILLUSTRATED IN P060-1-052-01.
2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.
4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY

<p>CONFIDENTIAL THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CELERA MOTION AND MAY NOT BE IN WHOLE OR IN PART, DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART. DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CELERA MOTION.</p>			A Novanta Company
	DRAWING NUMBER:		REV
	P060-1-051-01		C
	SCALE: 2:1 <small>DO NOT SCALE DRAWING</small>	SIZE: B	SHEET 2 of 2

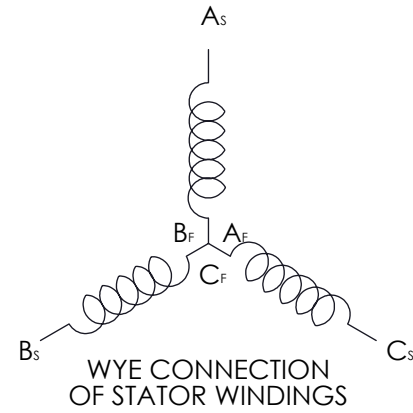
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

THIS SHEET APPLIES TO MODELS WITHOUT HALLS

LEAD COLOR CODE

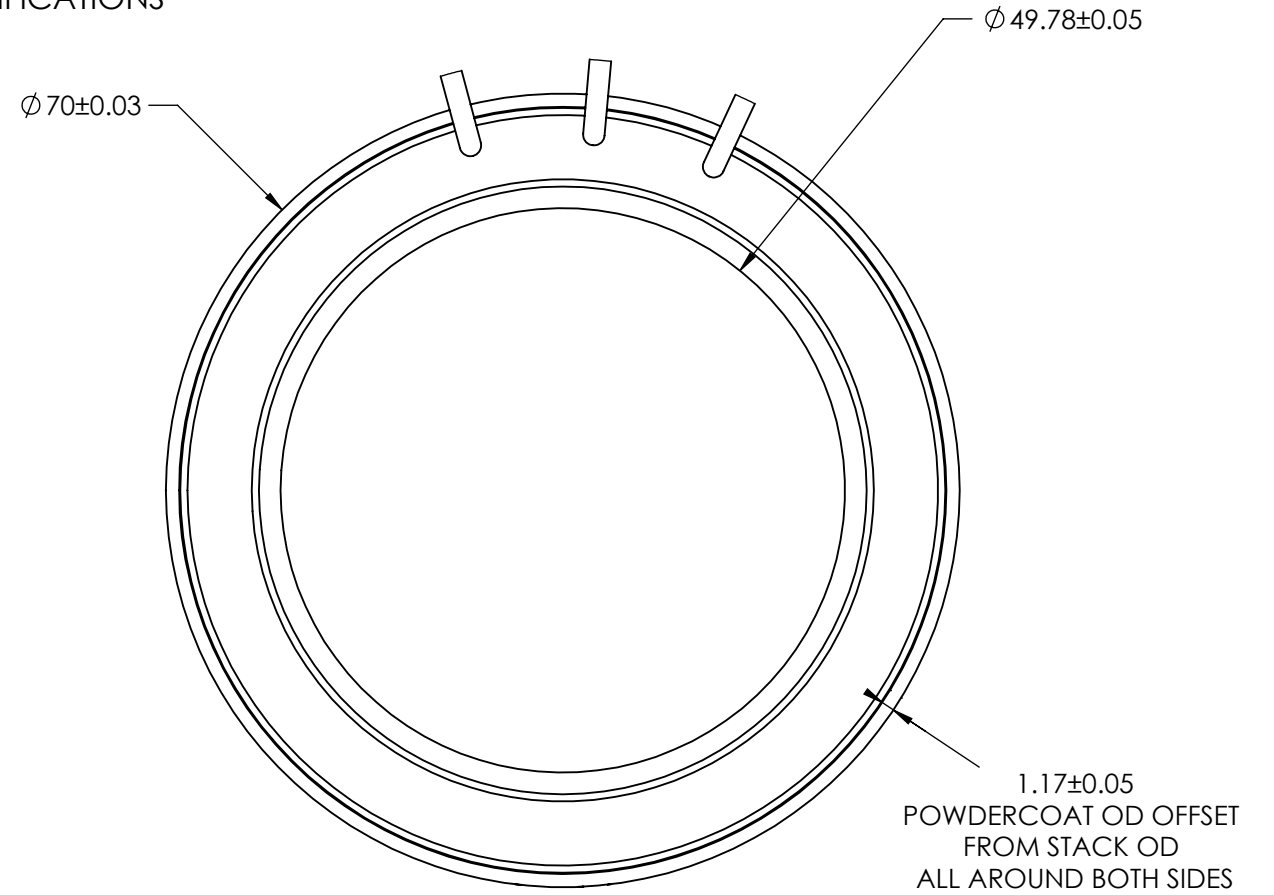
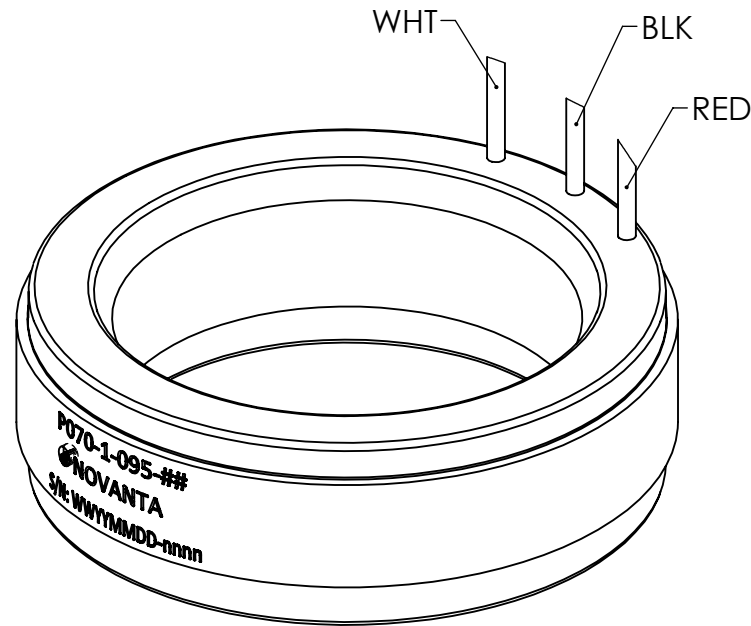
POWER LEADS

16 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH, FLYING LEADS
 BLK - PHASE A
 RED - PHASE B
 WHT - PHASE C



NOTES:

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2. STATOR PERFORMANCE REFER TO P070-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3.
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATIONS

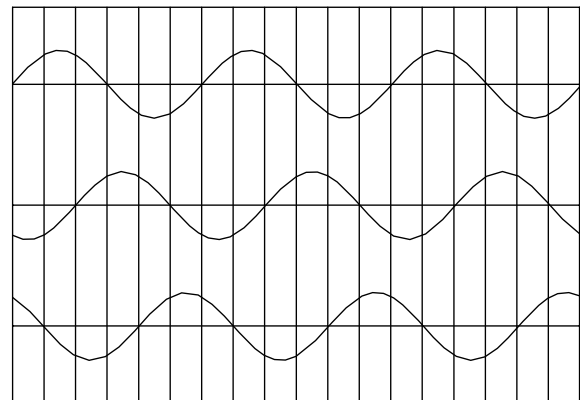


PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END

Vbemf PHASES A+/B-

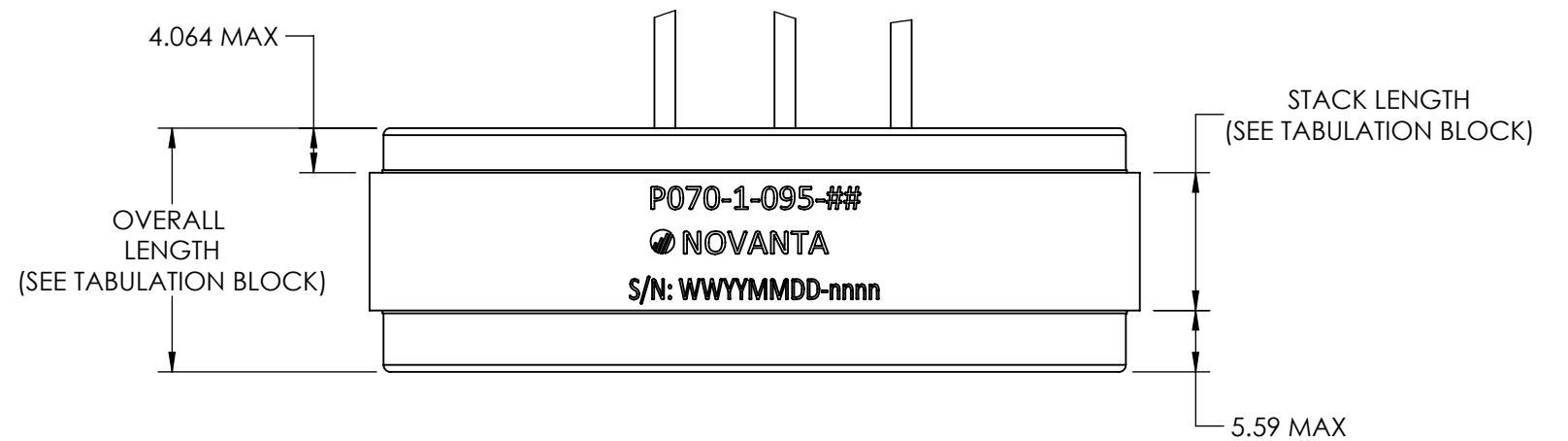
Vbemf PHASES B+/C-

Vbemf PHASES C+/A-



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	-
2	+	-	-
3	-	+	-
4	-	+	-
5	-	-	+
6	-	-	+



REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
C	007805	SEE DCN	2021-DEC-20	RMH
B	007731	UPDATE NON LEAD END WINDING HEIGHT DIM	2021-SEPT-7	AFT
A	007626	ADDED OPN-070013-C000 TO TABULATION BLOCK AND UPDATED DIMENSIONS	2021-MAY-12	SMP

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Celera A Novanta Company
 MATERIAL: NA
 TREATMENT: NA
 SURFACE FINISH: NA

DRAWN IAW ASME Y14.5-2009 X. ± 1.25 X.XX ± 0.125 X.X ± 0.25 X.XXX ± 0.0125 ANGULAR: X ± 1°
 TITLE: **STATOR INTERFACE DRAWING**
 DRWN: A LARKEY 2/12/2021
 CHKD: S DAWSON 2/12/2021
 APPVD: S DAWSON 2/12/2021
 DRAWING NUMBER: **P070-1-095-XX**
 SCALE: 1:1
 SIZE: B SHEET 1 of 3

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NOTES:

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2. STATOR PERFORMANCE REFER TO P070-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3.
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATION
4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY

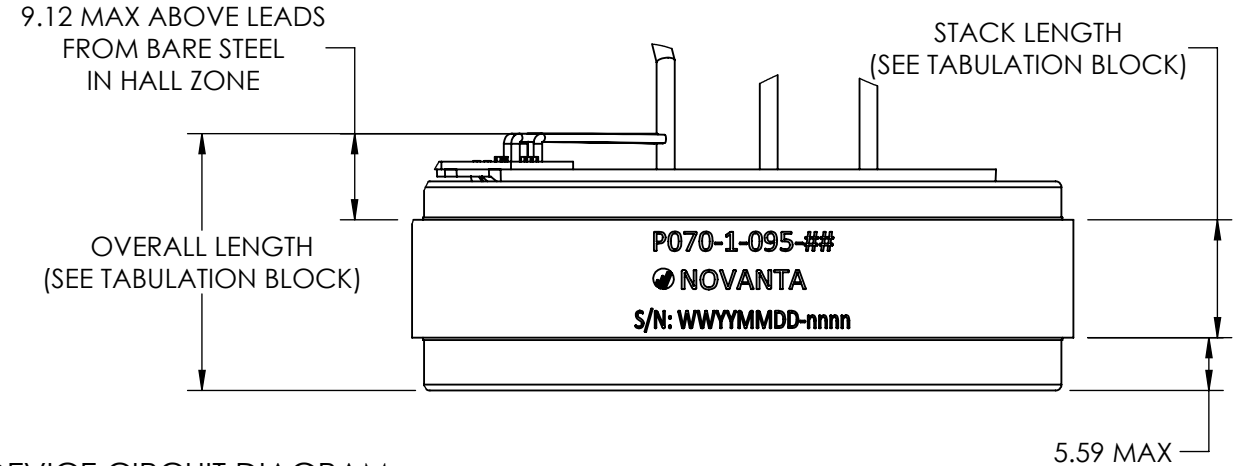
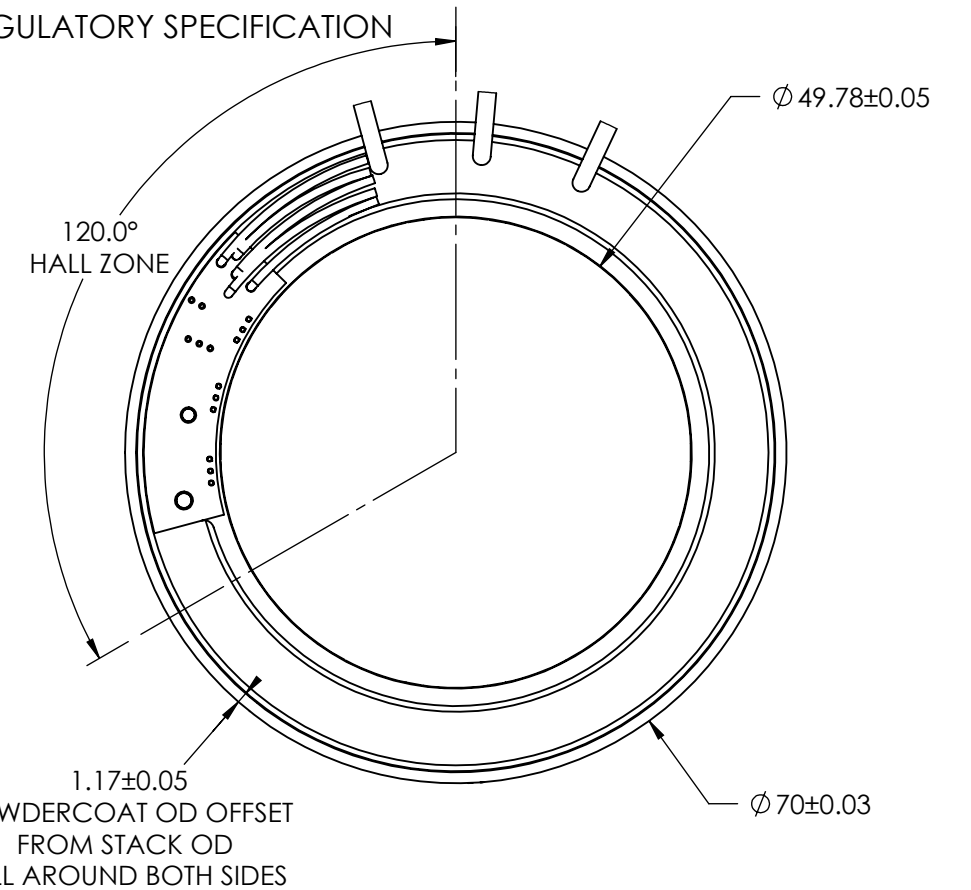
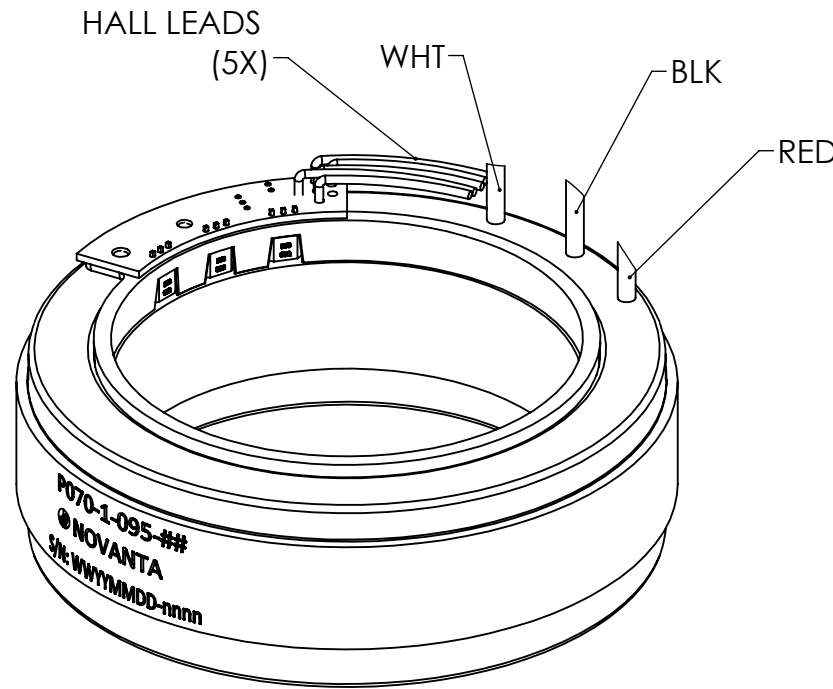
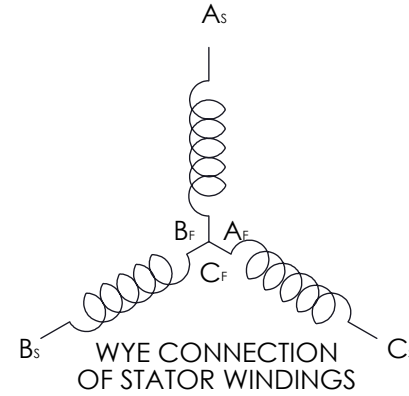
LEAD COLOR CODE

POWER LEADS

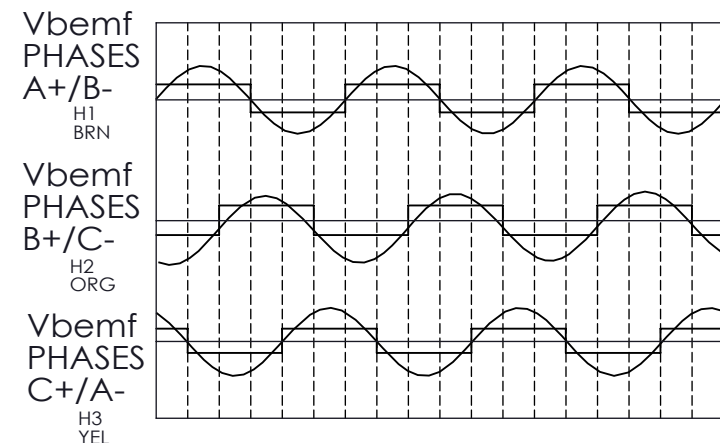
16 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
BLK - PHASE A
RED - PHASE B
WHT - PHASE C

HALL LEADS

28 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
NOTE: HALL DEVICES ARE OPEN COLLECTOR AND REQUIRE PULL-UP RESISTORS TO OPERATE.
BLK - RETURN
RED - POWER (3.5 TO 27 VDC)
BRN - HALL 1
ORG - HALL 2
YEL - HALL 3



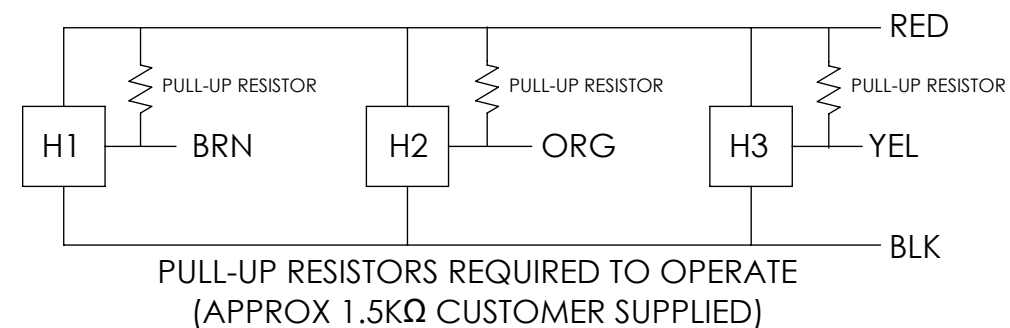
PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	-
2	+	-	-
3	-	+	-
4	-	+	-
5	-	-	+
6	-	-	+

HALL DEVICE CIRCUIT DIAGRAM



PULL-UP RESISTORS REQUIRED TO OPERATE (APPROX 1.5KΩ CUSTOMER SUPPLIED)

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Celera A Novanta Company
MOTION

DRAWING NUMBER: **P070-1-095-XX** REV **C**
SCALE: 1:1 SIZE: B SHEET 2 of 3

TABULATION BLOCK

MODEL NUMBER	STATOR DRAWING NUMBER	ASSOCIATED ROTOR DRAWING NUMBER	STACK LENGTH	OVERALL LENGTH
OPN-070013-A000	P070-1-095-01	P070-1-096-01	12.5 ±.13	22.3 MAX
OPN-070013-B000	P070-1-095-03			
OPN-070013-C000	P070-1-095-05			
OPN-070013-D000	P070-1-095-07	P070-1-096-02	25.0 ±.13	34.8 MAX
OPN-070025-A000	P070-1-095-09			
OPN-070025-B000	P070-1-095-11			
OPN-070025-C000	P070-1-095-13	P070-1-096-03	50.0 ±.13	59.8 MAX
OPN-070050-A000	P070-1-095-15			
OPN-070050-B000	P070-1-095-17			
OPN-070050-C000	P070-1-095-19	P070-1-096-01	12.5 ±.13	27.4 MAX
OPH-070013-A000	P070-1-095-21			
OPH-070013-B000	P070-1-095-23			
OPH-070013-C000	P070-1-095-25	P070-1-096-02	25.0 ±.13	39.9 MAX
OPH-070013-D000	P070-1-095-27			
OPH-070025-A000	P070-1-095-29			
OPH-070025-B000	P070-1-095-31	P070-1-096-03	50.0 ±.13	64.9 MAX
OPH-070025-C000	P070-1-095-33			
OPH-070050-A000	P070-1-095-35			
OPH-070050-B000	P070-1-095-37	P070-1-095-39	50.0 ±.13	64.9 MAX
OPH-070050-C000	P070-1-095-39			

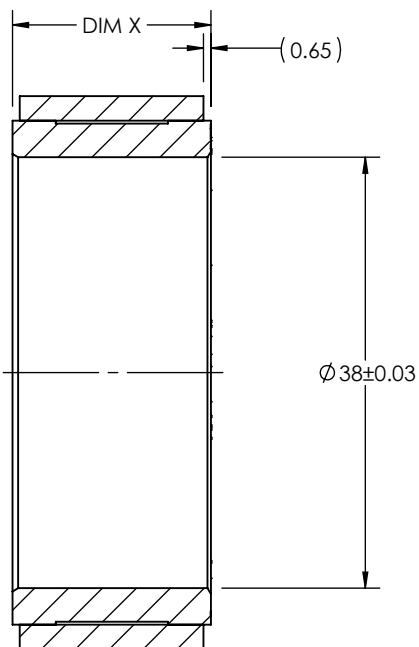
CONFIDENTIAL
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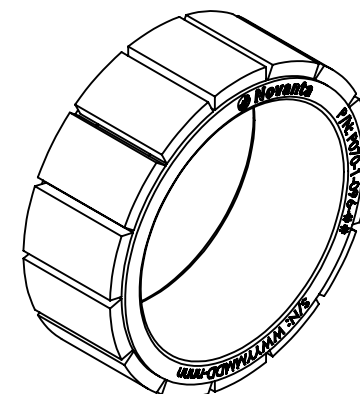
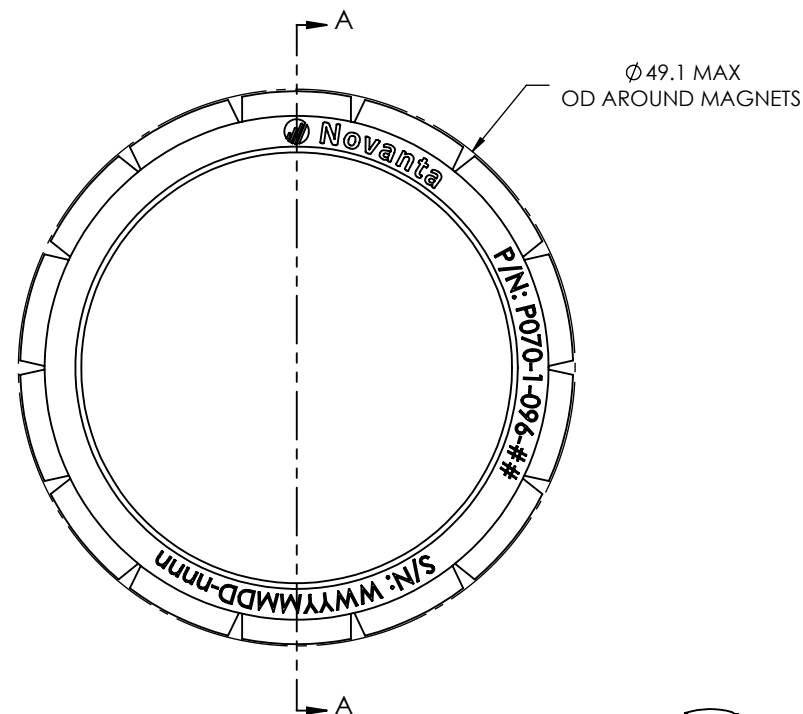
A Novanta Company

DRAWING NUMBER:	REV
P070-1-095-XX	C
SCALE: 1:1 <small>DO NOT SCALE DRAWING</small>	SIZE: B SHEET 3 of 3

TABULATION BLOCK	
PART NUMBER	DIM X
P070-1-096-01	17.5 ± .05
P070-1-096-02	30.0 ± .05
P070-1-096-03	55.0 ± .05



SECTION A-A



NOTES: (UNLESS OTHERWISE SPECIFIED):

1. ROTOR MOUNTING REQUIREMENTS, REFER TO P070-1-051-01 DOCUMENT
2. ESTIMATED MASS AND OTHER SPECIFICATIONS REFER TO P070-1-052-01 DOCUMENT.
3. HIGHLY MAGNETIZED ASSEMBLY, HANDLE WITH CARE TO AVOID DAMAGE OR INJURY.
4. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
5. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.

B	007805	SEE DCN	2021-DEC-20	RMH
A	007630	TRANSFER TO PRODUCTION. CHANGE WORDING FOR 49.1 DIAMETER DIMENSION AND MAKE 0.65 A REF DIM	2021-JUN-21	AFT
1	007589	INITIAL RELEASE	2021-FEB-17	ARL
REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN

CONFIDENTIAL

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DRAWN IAW ASME Y14.5-2009

X. ± 1.25 X.XX ± 0.125
X.X ± 0.25 X.XXX ± 0.0125
ANGULAR: X ± 1°

UNITS
MM

TITLE: ROTOR INTERFACE DRAWING

MATERIAL: N/A
TREATMENT: N/A
SURFACE FINISH: N/A

DRWN: A. LARKEY 2/12/2021
CHKD: S. DAWSON 2/12/2021
APPVD: S. DAWSON 2/12/2021

DRAWING NUMBER:
P070-1-096-XX
SCALE: 1:1
SIZE: A SHEET 1 of 1

REV
B

MODEL: (THIS DRAWING APPLIES FOR THE FOLLOWING MODEL NUMBERS)

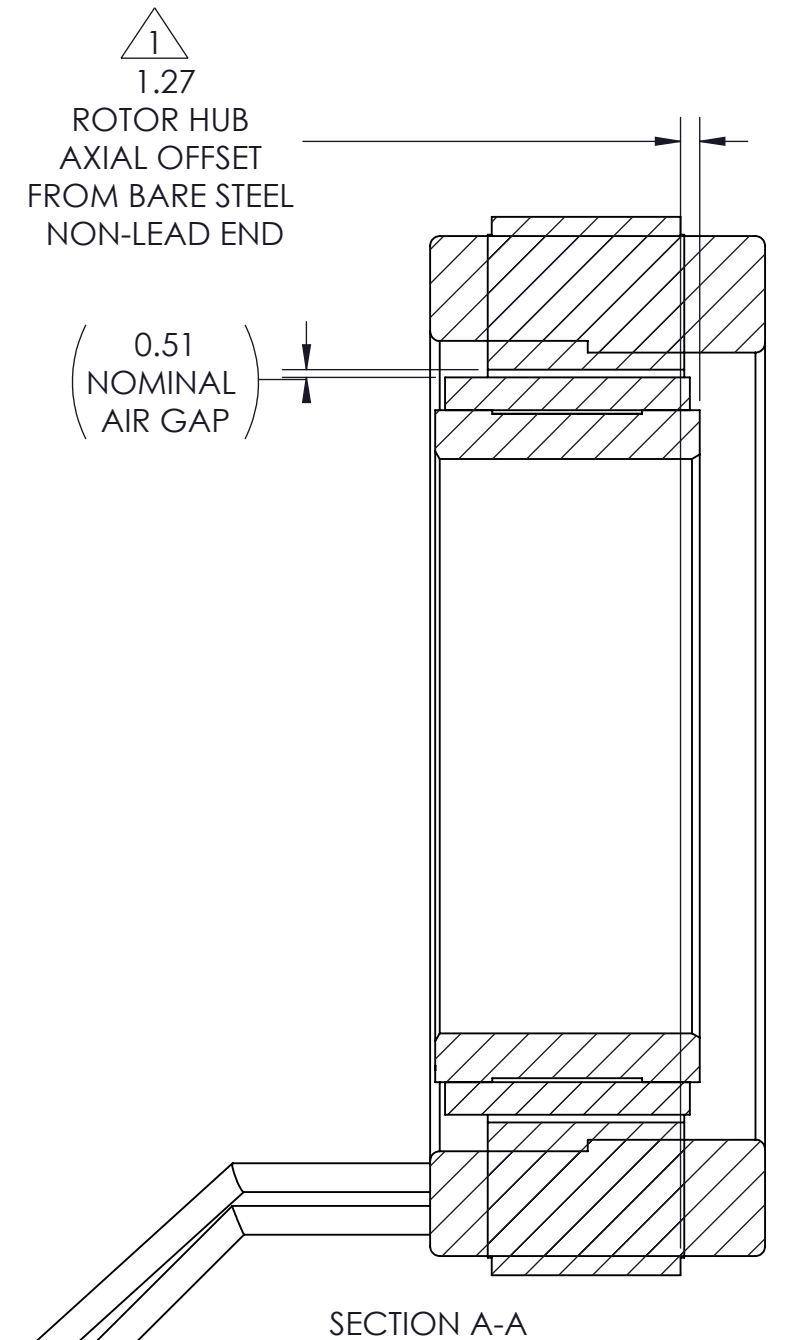
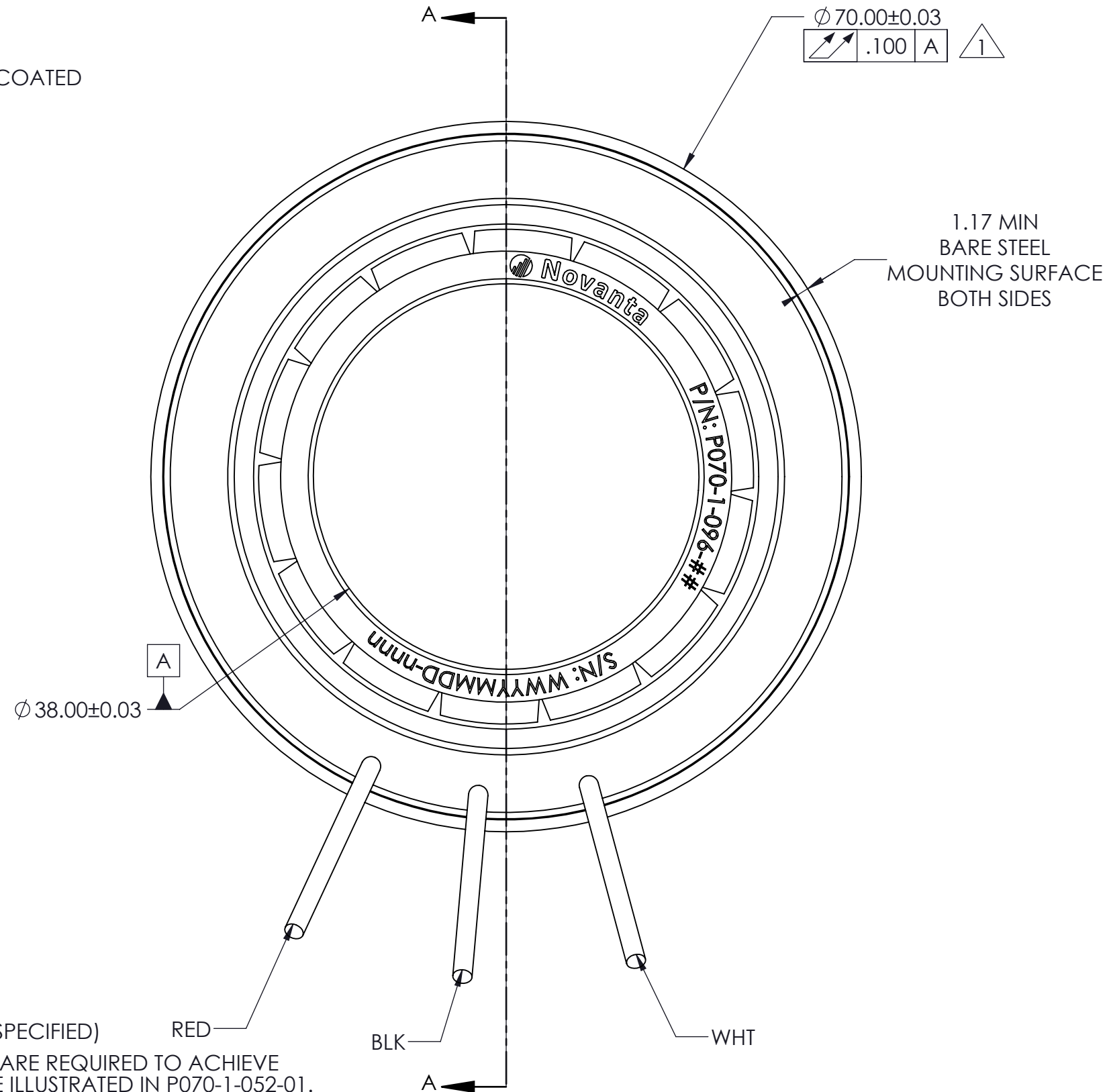
OPN-070XXX-X000 (SHEET 1)

OPH-070XXX-X000 (SHEET 2)

POWER LEADS:

16 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH

BLK - PHASE A
RED - PHASE B
WHT - PHASE C



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SPECIFIED DIMENSIONS ARE REQUIRED TO ACHIEVE MOTOR PERFORMANCE ILLUSTRATED IN P070-1-052-01.
2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATIONS.
3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.

REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
B	007805	SEE DCN	2021-DEC-20	RMH
A	007630	INITIAL RELEASE	2021-JUN-21	AFT

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DRAWN IAW ASME Y14.5-2009 X: ± 1.25 X.XX ± 0.125 X.X ± 0.25 X.XXX ± 0.0125 ANGULAR: X ± 1°	UNITS MM
TITLE: MOTOR KIT MOUNTING INTERFACE	DRAWING NUMBER: P070-1-051-01
MATERIAL: NA TREATMENT: NA SURFACE FINISH: NA	DRWN: A.TEAO 5/19/21 CHKD: R.HORN 5/26/21 APPVD: R.HORN 5/26/21 SCALE: 2:1 SIZE: B SHEET 1 of 2

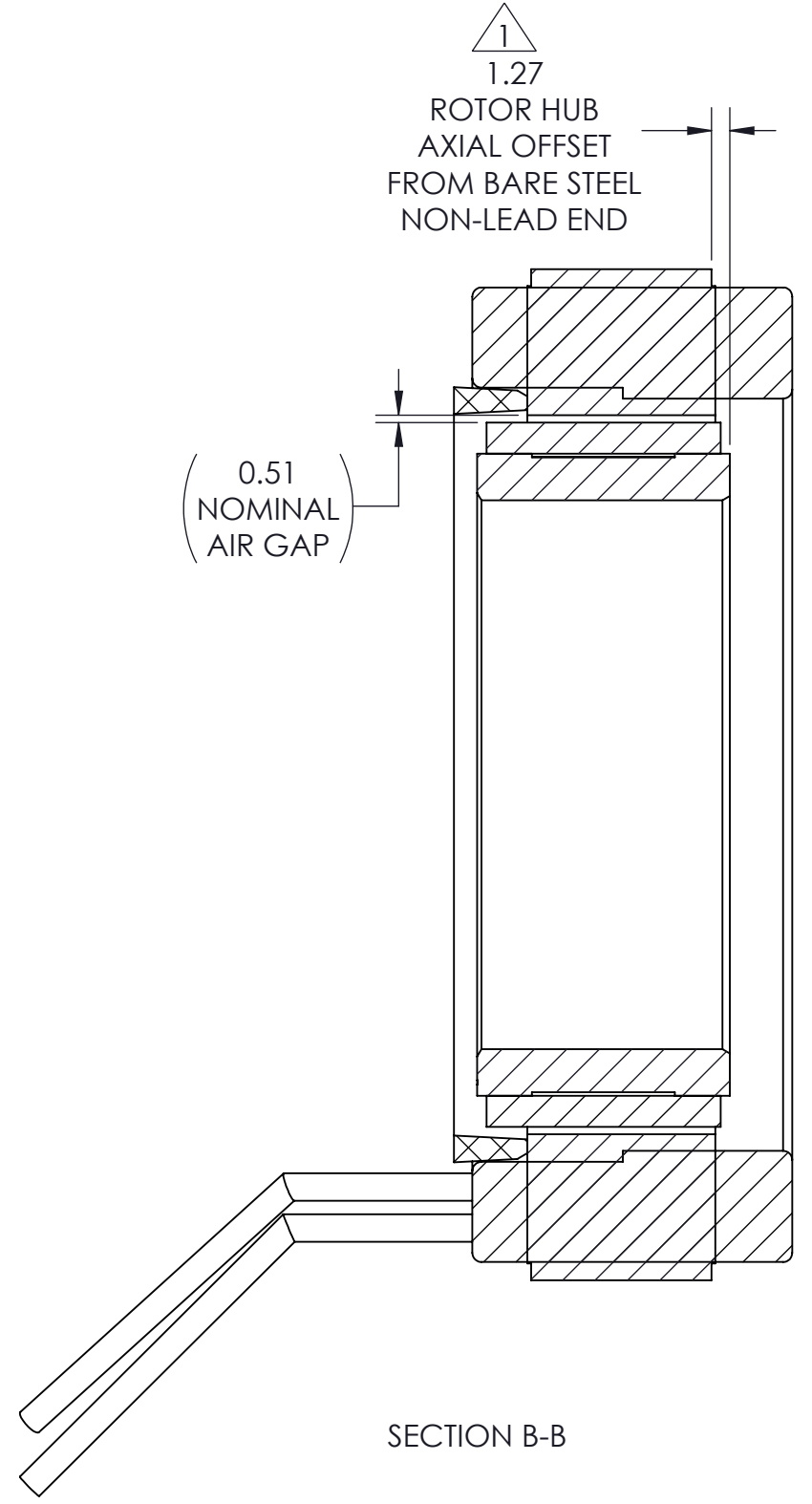
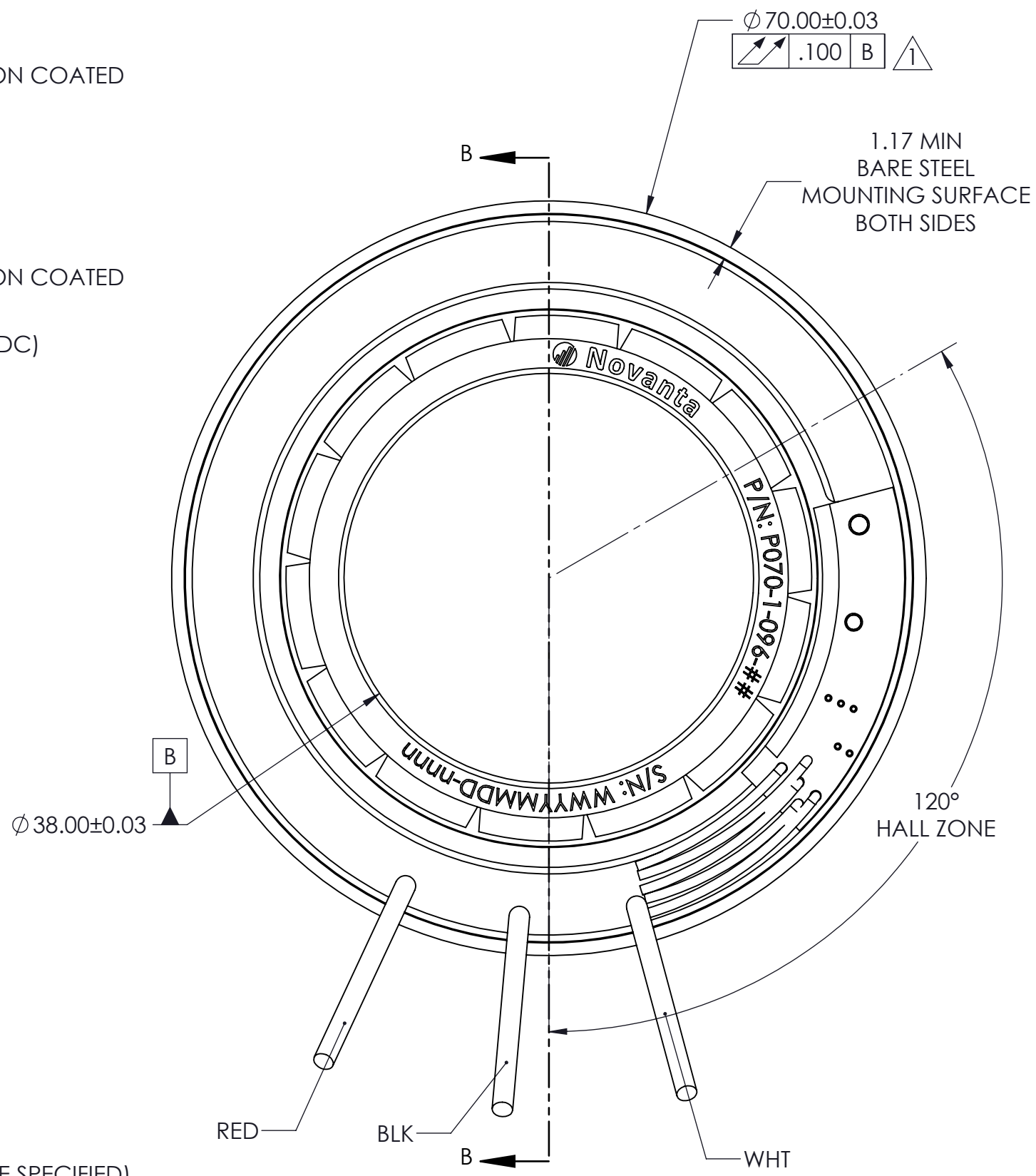
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

POWER LEADS:
 16 AWG, M22759/11 TEFLON COATED
 762 MM MIN LENGTH

BLK - PHASE A
 RED - PHASE B
 WHT - PHASE C

HALL LEADS:
 28 AWG, M22759/11 TEFLON COATED
 762 MM MIN LENGTH

RED - POWER (3-27 VDC)
 BLK - GROUND
 BRN - HALL 1
 ORG - HALL 2
 YEL - HALL 3



- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. SPECIFIED DIMENSIONS ARE REQUIRED TO ACHIEVE MOTOR PERFORMANCE ILLUSTRATED IN P070-1-052-01.
 2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATIONS.
 3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.
 4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY

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	DRAWING NUMBER:		REV
	P070-1-051-01		B
	SCALE: 2:1 <small>DO NOT SCALE DRAWING</small>	SIZE: B	SHEET 2 of 2

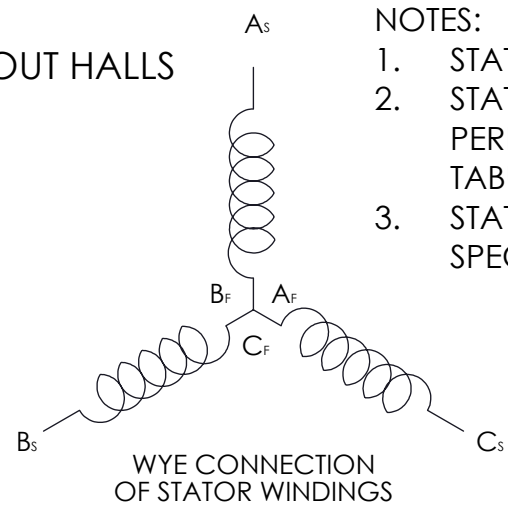
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

THIS SHEET APPLIES TO MODELS WITHOUT HALLS

LEAD COLOR CODE

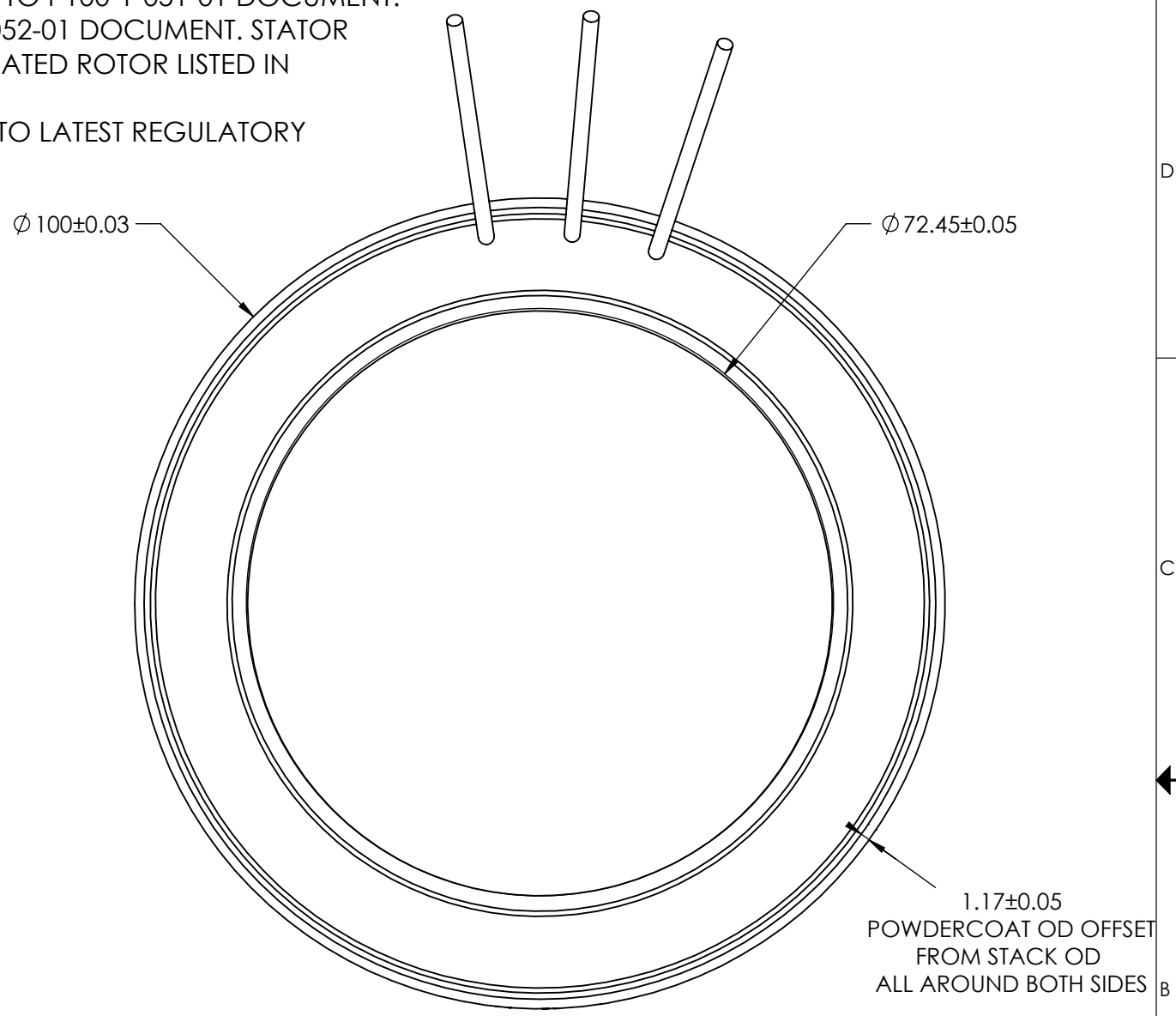
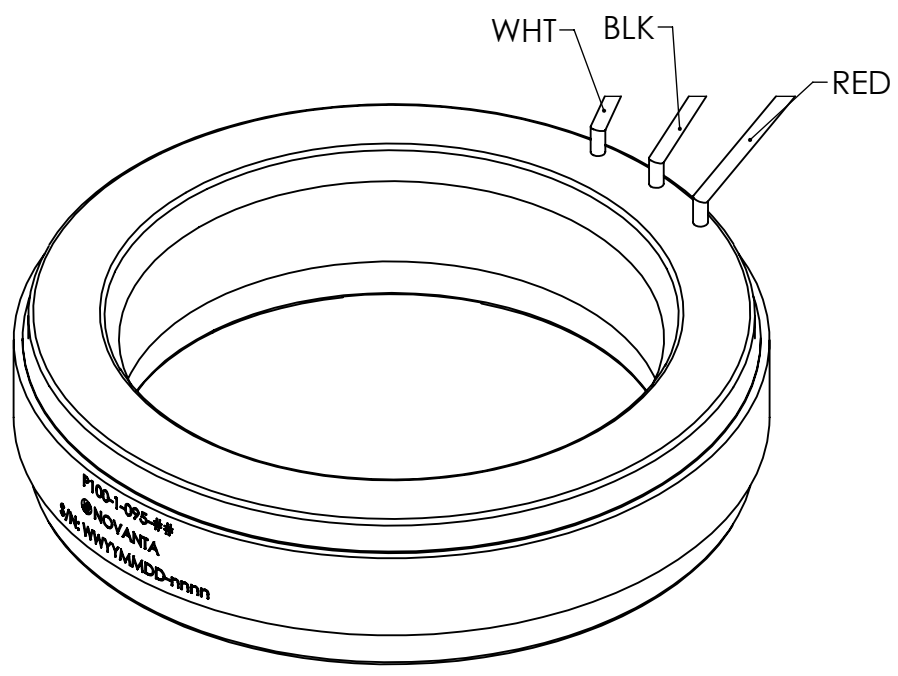
POWER LEADS

16 AWG, M22759/11 TEFLON COATED
762mm MIN LENGTH, FLYING LEADS
BLK - PHASE A
RED - PHASE B
WHT - PHASE C

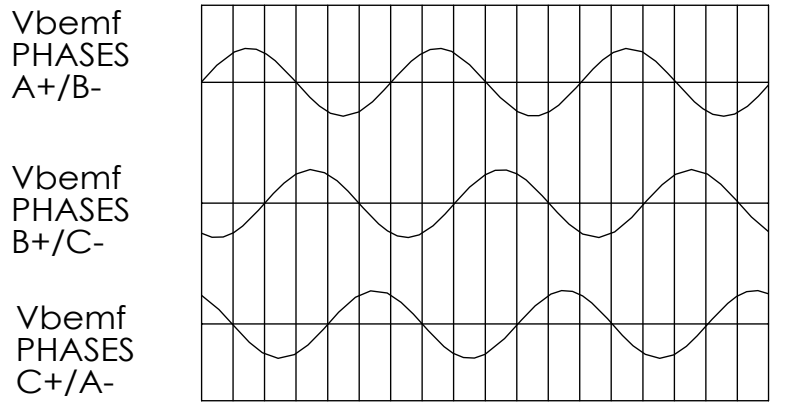


NOTES:

1. STATOR MOUNTING REQUIREMENTS, REFER TO P100-1-051-01 DOCUMENT.
2. STATOR PERFORMANCE REFER TO P100-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3.
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATIONS.

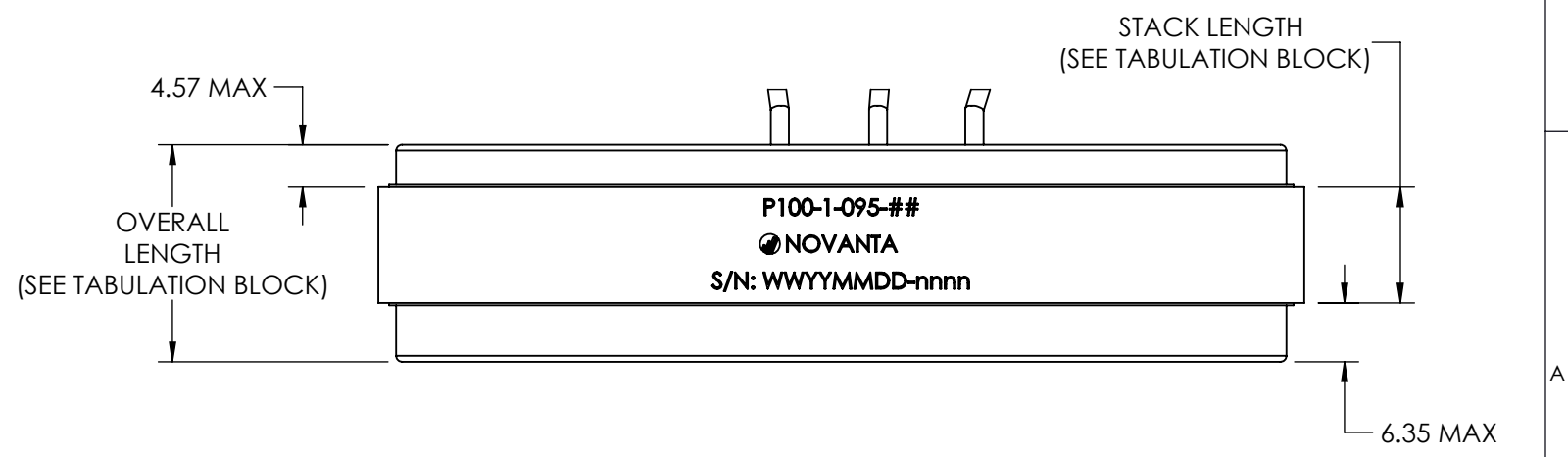


PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	-
2	+	-	-
3	-	+	-
4	-	+	-
5	-	-	+
6	-	-	+



REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
2	007805	SEE DCN	2021-DEC-20	RMH
1	007775	INITIAL RELEASE	2021-NOV-23	AFT

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Celera A Novanta Company
MATERIAL: NA
TREATMENT: NA
SURFACE FINISH: NA

DRAWN IAW ASME Y14.5-2009
X: ± 1.25 X.XX ± 0.125
X.X ± 0.25 X.XXX ± 0.0125
ANGULAR: X ± 1°
UNITS: **MM**
TITLE: **STATOR INTERFACE DRAWING**
DRWN: A.TEAO 10/11/2021
CHKD: R.HORN 11/10/2021
APPVD: S.DAWSON 11/10/2021
DRAWING NUMBER: **P100-1-095-XX**
SCALE: 5:4
SIZE: B SHEET 1 of 3

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

THIS SHEET APPLIES TO MODELS WITH HALLS/COMMUTATION

LEAD COLOR CODE

POWER LEADS

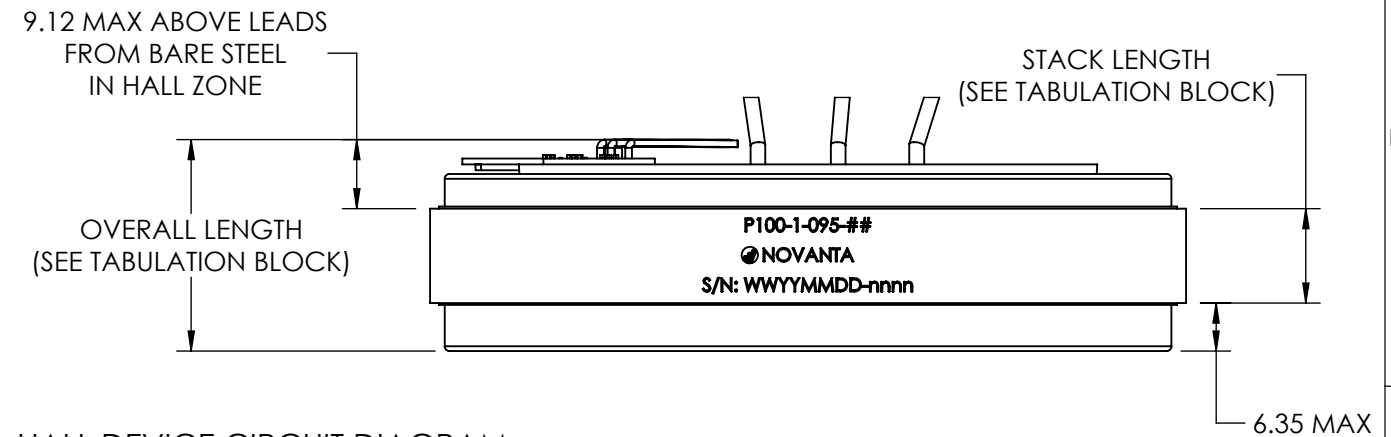
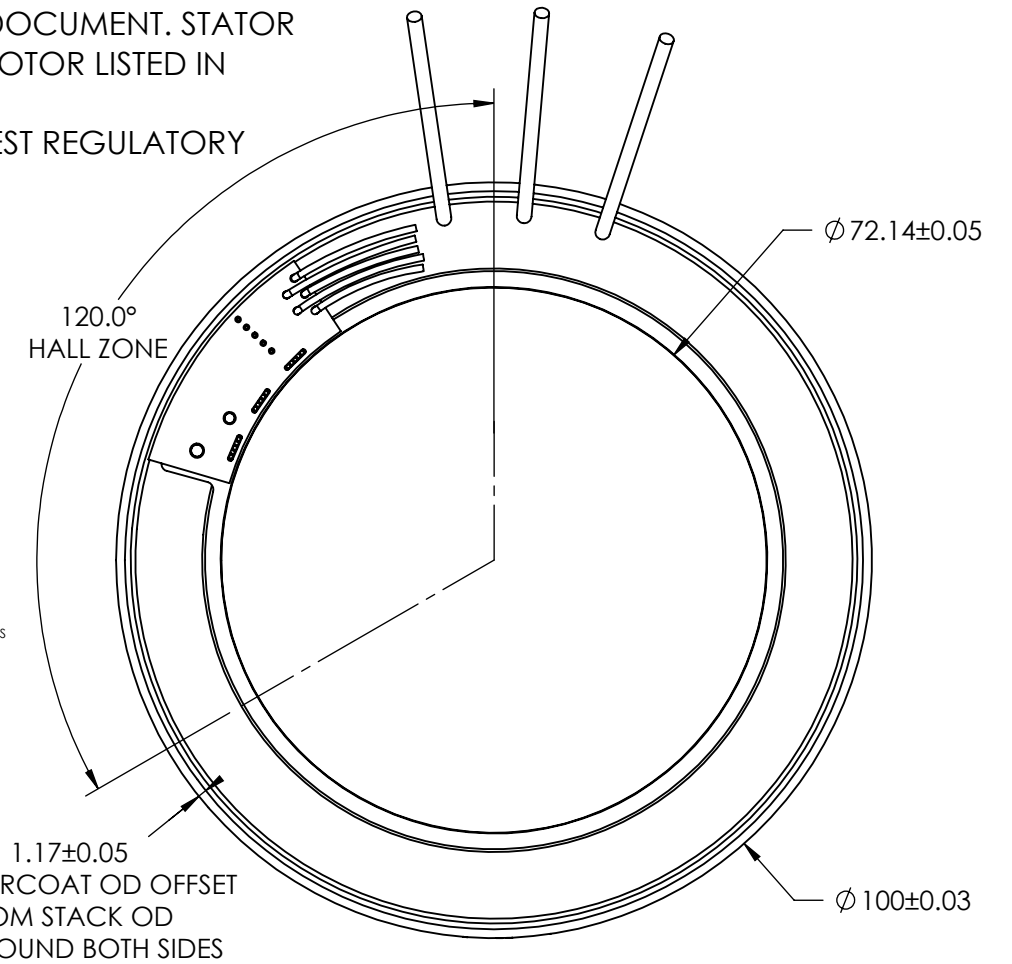
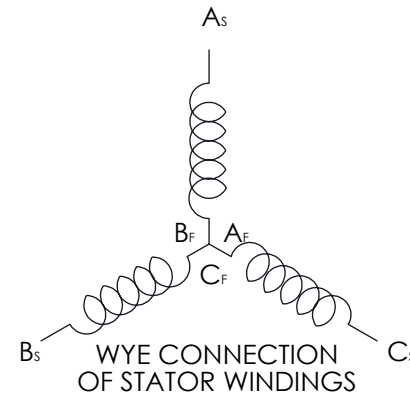
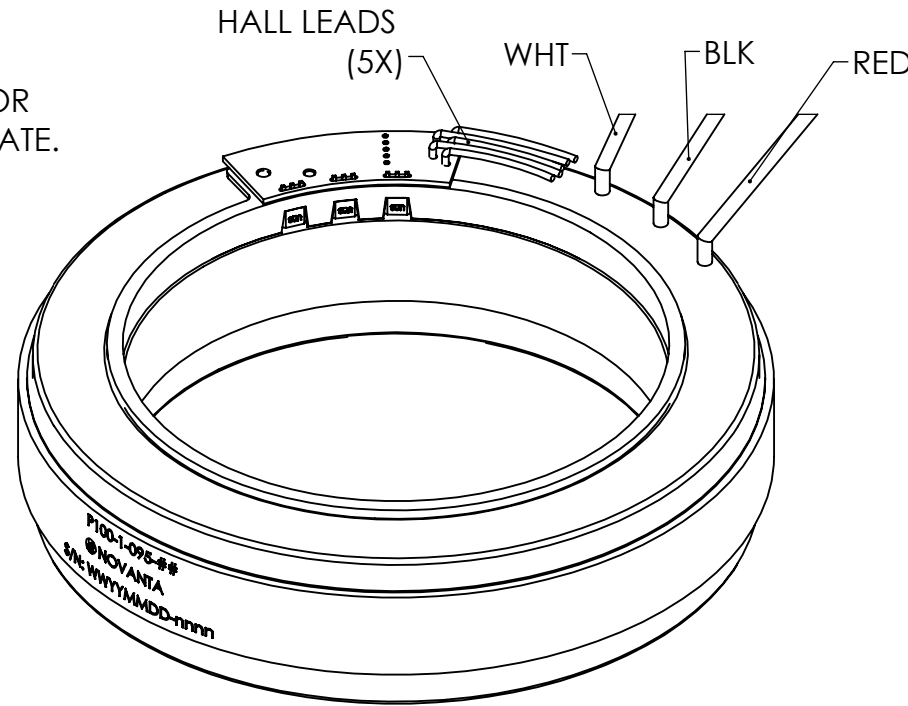
16 AWG, M22759/11 TEFLON COATED
762mm MIN LENGTH, FLYING LEADS
BLK - PHASE A
RED - PHASE B
WHT - PHASE C

HALL LEADS

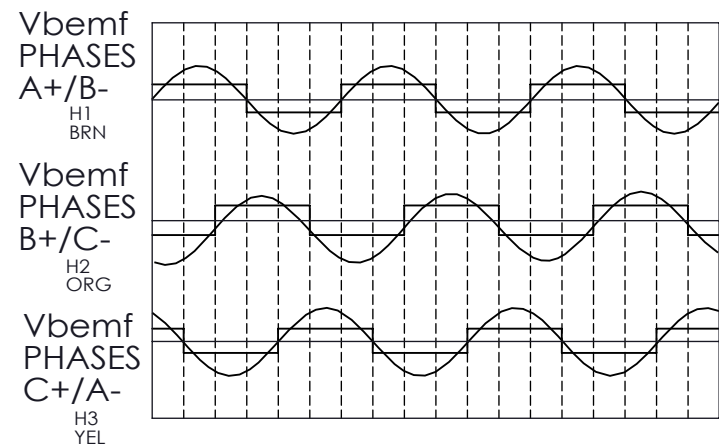
28 AWG, M22759/11 TEFLON COATED
762mm MIN LENGTH, FLYING LEADS
NOTE: HALL DEVICES ARE OPEN COLLECTOR
AND REQUIRE PULL-UP RESISTORS TO OPERATE.
BLK - RETURN
RED - POWER (3.5 TO 27 VDC)
BRN - HALL 1
ORG - HALL 2
YEL - HALL 3

NOTES:

1. STATOR MOUNTING REQUIREMENTS, REFER TO P100-1-051-01 DOCUMENT.
2. STATOR PERFORMANCE REFER TO P100-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3.
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATIONS.
4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY.



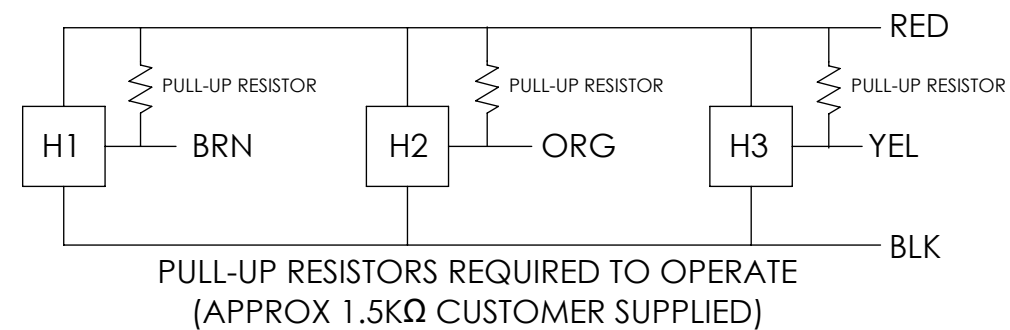
PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	-
2	+	-	-
3	-	+	-
4	-	+	-
5	-	-	+
6	-	-	+

HALL DEVICE CIRCUIT DIAGRAM



PULL-UP RESISTORS REQUIRED TO OPERATE (APPROX 1.5KΩ CUSTOMER SUPPLIED)

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Celera A Novanta Company
MOTION

DRAWING NUMBER: **P100-1-095-XX** REV **2**
SCALE: 1:1 SIZE: B SHEET 2 of 3



TABULATION BLOCK

MODEL NUMBER	STATOR DRAWING NUMBER	ASSOCIATED ROTOR DRAWING NUMBER	STACK LENGTH	OVERALL LENGTH
OPN-100013-A000	P100-1-095-01	P100-1-096-01	12.5±.13	23.6 MAX
OPN-100013-B000	P100-1-095-03			
OPN-100013-C000	P100-1-095-05			
OPN-100025-A000	P100-1-095-07	P100-1-096-02	25.0±.13	36.1 MAX
OPN-100025-B000	P100-1-095-09			
OPN-100025-C000	P100-1-095-11			
OPN-100038-A000	P100-1-095-13	P100-1-096-03	37.5±.13	48.6 MAX
OPN-100038-B000	P100-1-095-15			
OPN-100038-C000	P100-1-095-17			
OPN-100050-A000	P100-1-095-19	P100-1-096-04	50.0±.13	61.1 MAX
OPN-100050-B000	P100-1-095-21			
OPN-100050-C000	P100-1-095-23			
OPH-100013-A000	P100-1-095-25	P100-1-096-01	12.5±.13	28.1 MAX
OPH-100013-B000	P100-1-095-27			
OPH-100013-C000	P100-1-095-29			
OPH-100025-A000	P100-1-095-31	P100-1-096-02	25.0±.13	40.6 MAX
OPH-100025-B000	P100-1-095-33			
OPH-100025-C000	P100-1-095-35			
OPH-100038-A000	P100-1-095-37	P100-1-096-03	37.5±.13	53.1 MAX
OPH-100038-B000	P100-1-095-39			
OPH-100038-C000	P100-1-095-41			
OPH-100050-A000	P100-1-095-43	P100-1-096-04	50.0±.13	65.6 MAX
OPH-100050-B000	P100-1-095-45			
OPH-100050-C000	P100-1-095-47			

D
C
B
A

D
C
B
A



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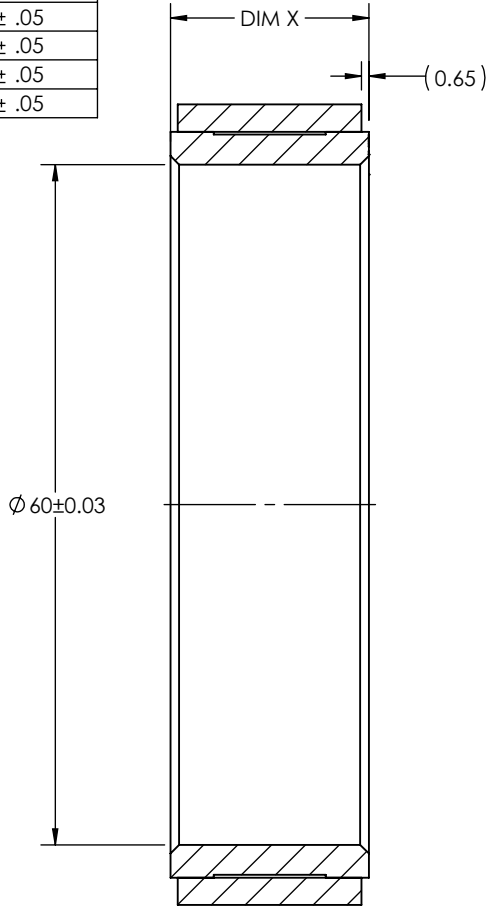


A Novanta Company

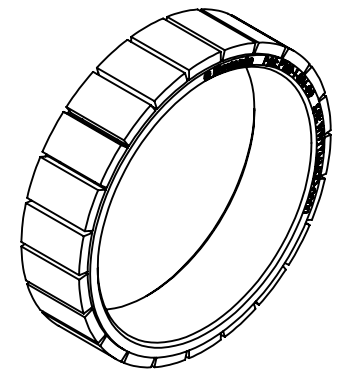
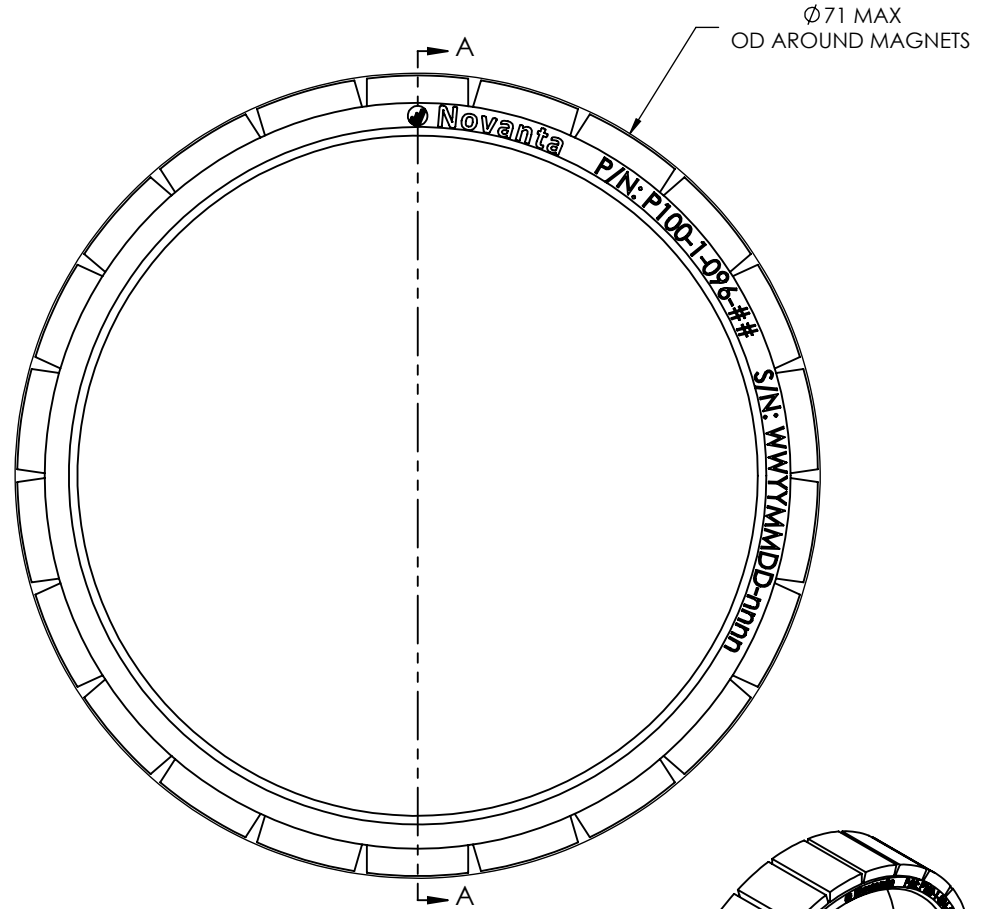
DRAWING NUMBER:	REV
P100-1-095-XX	2
SCALE: 1:1 <small>DO NOT SCALE DRAWING</small>	SIZE: B SHEET 3 of 3



TABULATION BLOCK	
PART NUMBER	DIM X
P100-1-096-01	17.5 ± .05
P100-1-096-02	30.0 ± .05
P100-1-096-03	42.5 ± .05
P100-1-096-04	55.0 ± .05



SECTION A-A



NOTES: (UNLESS OTHERWISE SPECIFIED):

1. ROTOR MOUNTING REQUIREMENTS, REFER TO P100-1-051-01 DOCUMENT
2. ESTIMATED MASS AND OTHER SPECIFICATIONS REFER TO P100-1-052-01 DOCUMENT.
3. HIGHLY MAGNETIZED ASSEMBLY, HANDLE WITH CARE TO AVOID DAMAGE OR INJURY.
4. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
5. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.

REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
2	007805	SEE DCN	2021-DEC-20	RMH
1	007775	INITIAL RELEASE	2021-NOV-23	AFT

CONFIDENTIAL

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DRAWN IAW ASME Y14.5-2009
 X. ± 1.25 X.XX ± 0.125
 X.X ± 0.25 X.XXX ± 0.0125
 ANGULAR: X ± 1°

UNITS
MM

TITLE: ROTOR INTERFACE DRAWING		DRAWING NUMBER:		REV
MATERIAL: N/A	DRWN: A.TERA0	8/10/2021	P100-1-096-XX	2
TREATMENT: N/A	CHKD: R. HORN	11/10/2021		
SURFACE FINISH: N/A	APPVD: S DAWSON	11/10/2021		

SCALE: 1:1
 (DO NOT SCALE DRAWING) SIZE: A SHEET 1 of 1

MODEL: (THIS DRAWING APPLIES FOR THE FOLLOWING MODEL NUMBERS)

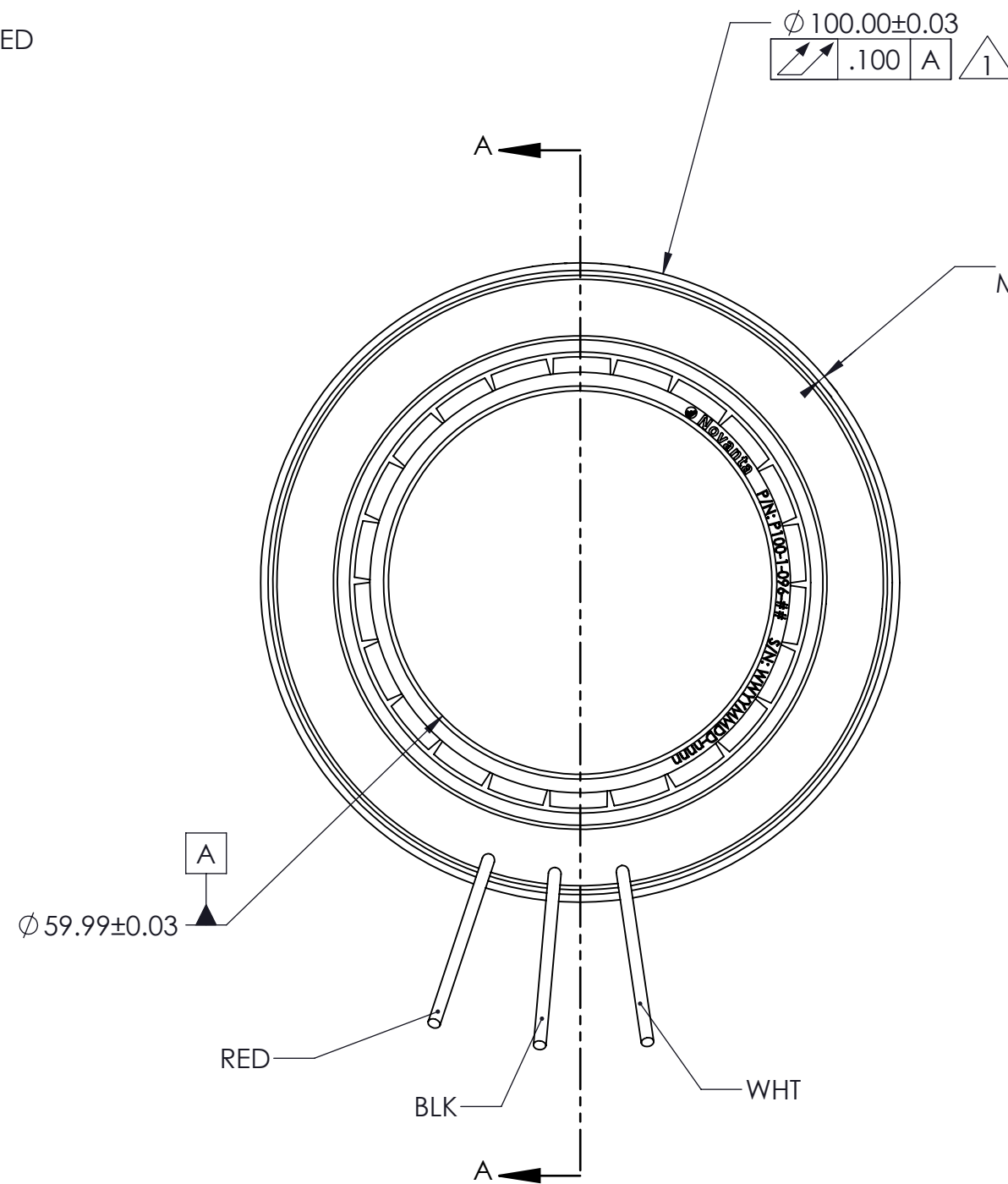
OPN-100XXX-X000 (SHEET 1)

OPH-100XXX-X000 (SHEET 2)

POWER LEADS:

16 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH

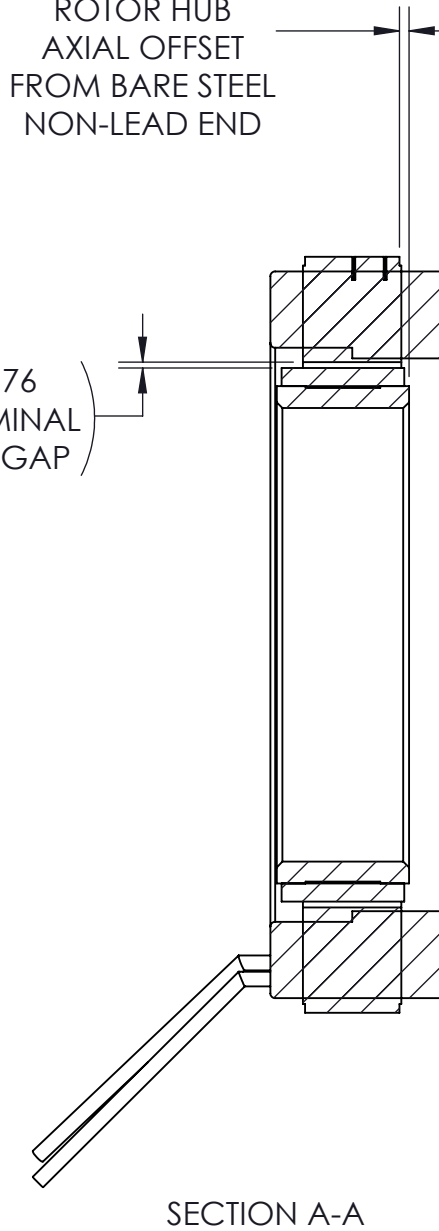
BLK - PHASE A
RED - PHASE B
WHT - PHASE C



1.17 MIN
BARE STEEL
MOUNTING SURFACE
BOTH SIDES

1.27
ROTOR HUB
AXIAL OFFSET
FROM BARE STEEL
NON-LEAD END

0.76
(NOMINAL
AIR GAP)



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SPECIFIED DIMENSIONS ARE REQUIRED TO ACHIEVE MOTOR PERFORMANCE ILLUSTRATED IN P100-1-052-01.
2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.

REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
1	007805	INITIAL RELEASE	2021-DEC-20	RMH

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Celera A Novanta Company
MOTION Company

DRWN: RM HORN	12/7/2021	DRAWING NUMBER:	REV
CHKD: S DAWSON	12/7/2021	P100-1-051-01	1
APPVD: S DAWSON	12/7/2021	SCALE: 1:1	SIZE: B SHEET 1 of 2

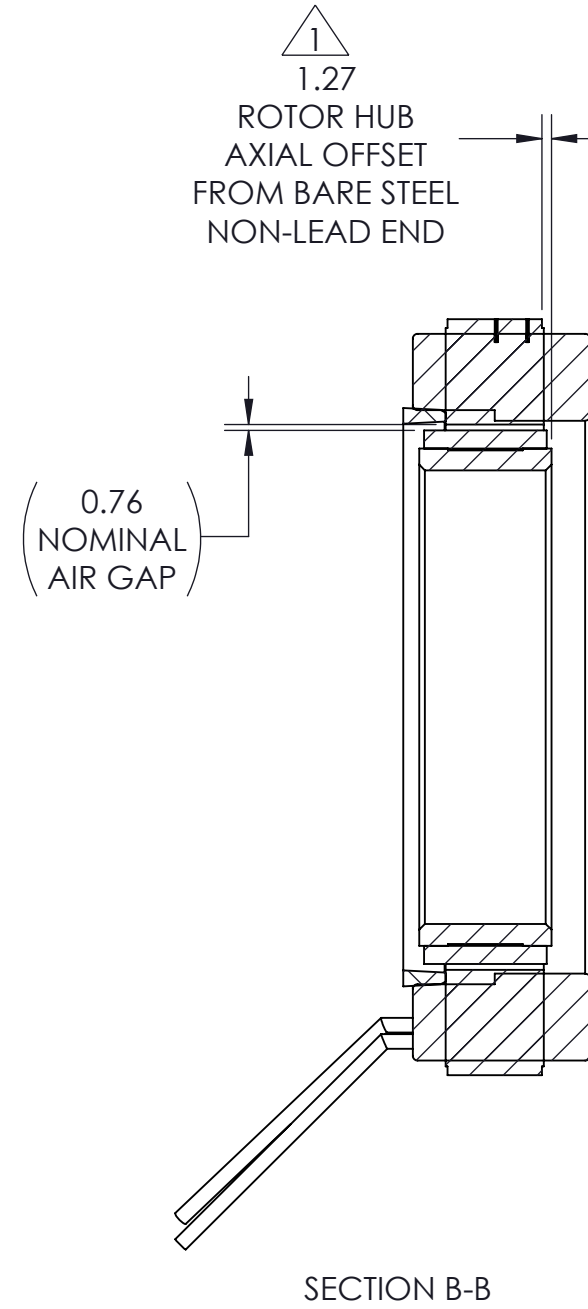
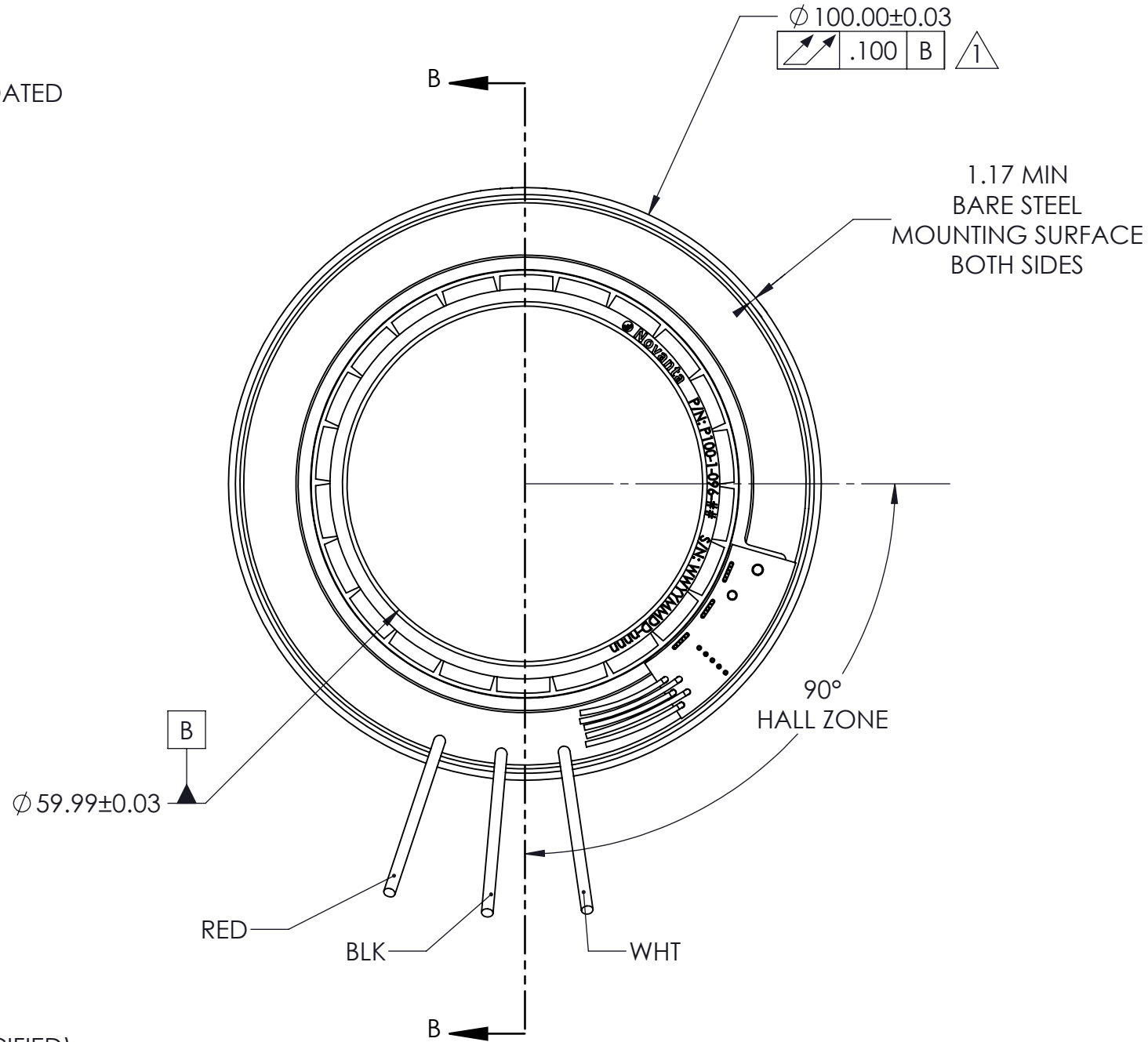
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

POWER LEADS:
 16 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH

BLK - PHASE A
 RED - PHASE B
 WHT - PHASE C


HALL LEADS:
 28 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH

RED - POWER (3-27 VDC)
 BLK - GROUND
 BRN - HALL 1
 ORG - HALL 2
 YEL - HALL 3



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SPECIFIED DIMENSIONS ARE REQUIRED TO ACHIEVE MOTOR PERFORMANCE ILLUSTRATED IN P100-1-052-01.
2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.
4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY

CONFIDENTIAL THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CELERA MOTION AND MAY NOT BE IN WHOLE OR IN PART, DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART. DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CELERA MOTION.	 A Novanta Company	
	DRAWING NUMBER: P100-1-051-01	REV: 1
SCALE: 1:1 <small>DO NOT SCALE DRAWING</small>	SIZE: B	SHEET 2 of 2

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

THIS SHEET APPLIES TO MODELS WITHOUT HALLS

LEAD COLOR CODE

POWER LEADS

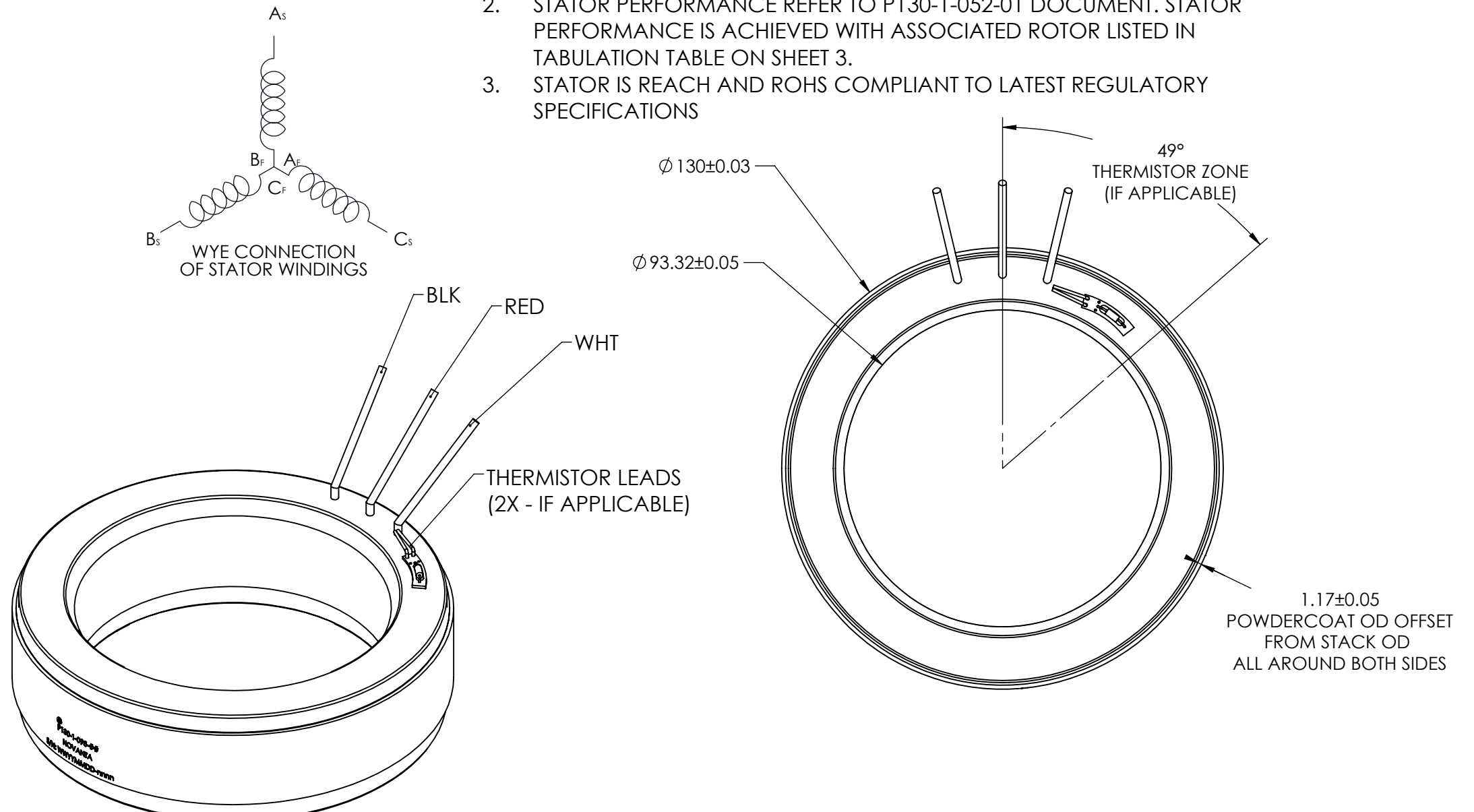
14 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH, FLYING LEADS
 BLK - PHASE A
 RED - PHASE B
 WHT - PHASE C

THERMISTOR LEADS (IF APPLICABLE)

SENSOR PN: CANTHERM STS1 LINEAR PTC
 28 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH, FLYING LEADS
 2 BLUE LEADS, NO POLARITY REQUIREMENT

NOTES:

1. STATOR MOUNTING REQUIREMENTS, REFER TO P130-1-051-01 DOCUMENT.
2. STATOR PERFORMANCE REFER TO P130-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3.
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATIONS

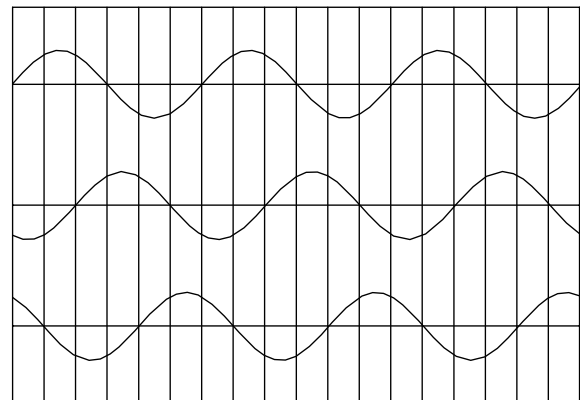


PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END

Vbemf PHASES A+/B-

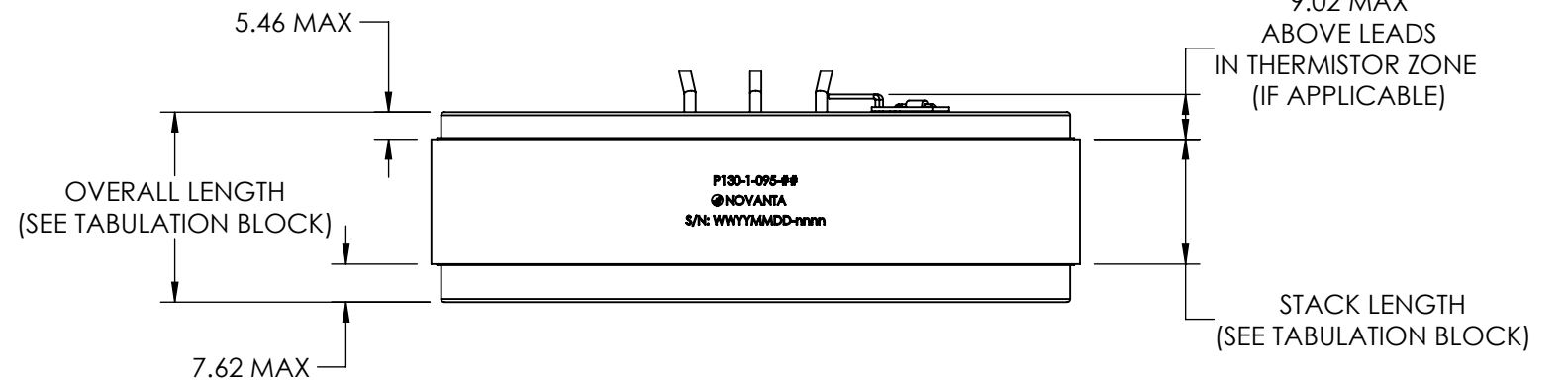
Vbemf PHASES B+/C-

Vbemf PHASES C+/A-



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	
2	+		-
3		+	-
4	-	+	
5	-		+
6		-	+



CUSTOMER PCN LEVEL: STANDARD

REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
A	7955	TRANSFER TO PRODUCTION	2022-OCT-24	AFT
1	7910	INITIAL RELEASE	2022-AUG-16	AFT

CONFIDENTIAL

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Celera A Novanta Company
 MATERIAL: NA
 TREATMENT: NA
 SURFACE FINISH: NA

DRAWN IAW ASME Y14.5-2009 X.X ± 1.25 X.XX ± 0.125 X.XX ± 0.25 X.XXX ± 0.0125 ANGULAR: X ± 1°
 TITLE: **STATOR INTERFACE DRAWING**
 DRWN: A.TEAO 8/2/2022
 CHKD: R.HORN 8/4/2022
 APPVD: R.HORN 8/4/2022
 DRAWING NUMBER: **P130-1-095-XX**
 SCALE: 1:1
 SIZE: B SHEET 1 of 3

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONTROLLED

THIS SHEET APPLIES TO MODELS WITH HALLS/COMMUTATION

LEAD COLOR CODE

POWER LEADS

14 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
BLK - PHASE A
RED - PHASE B
WHT - PHASE C

HALL LEADS

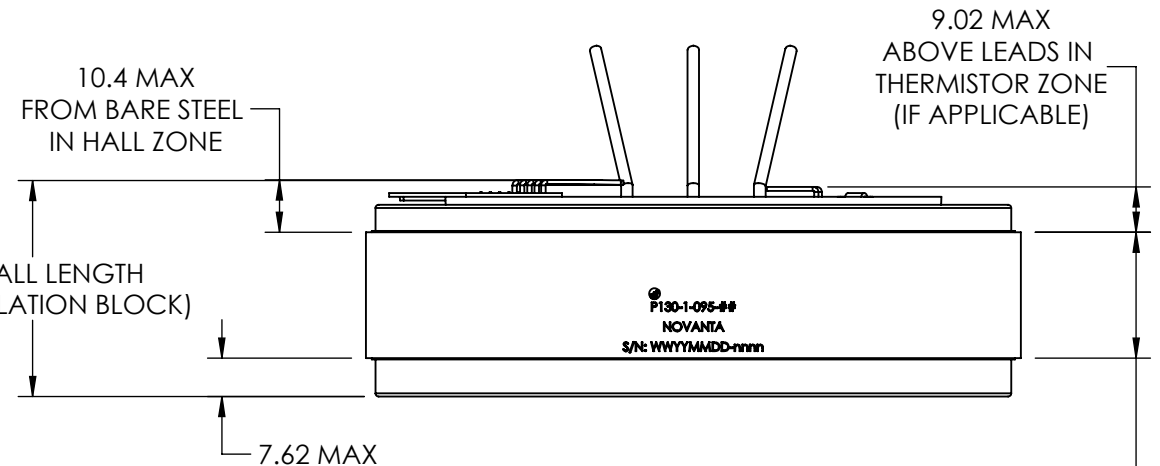
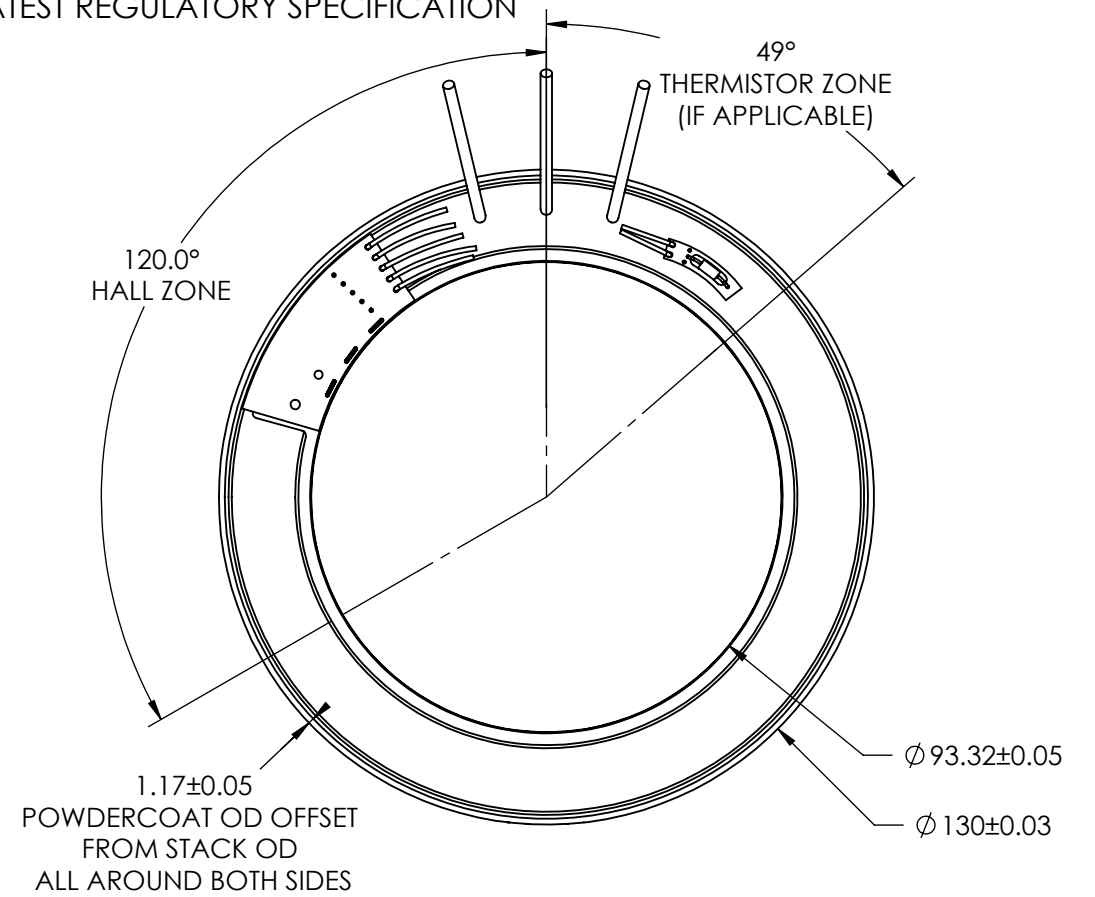
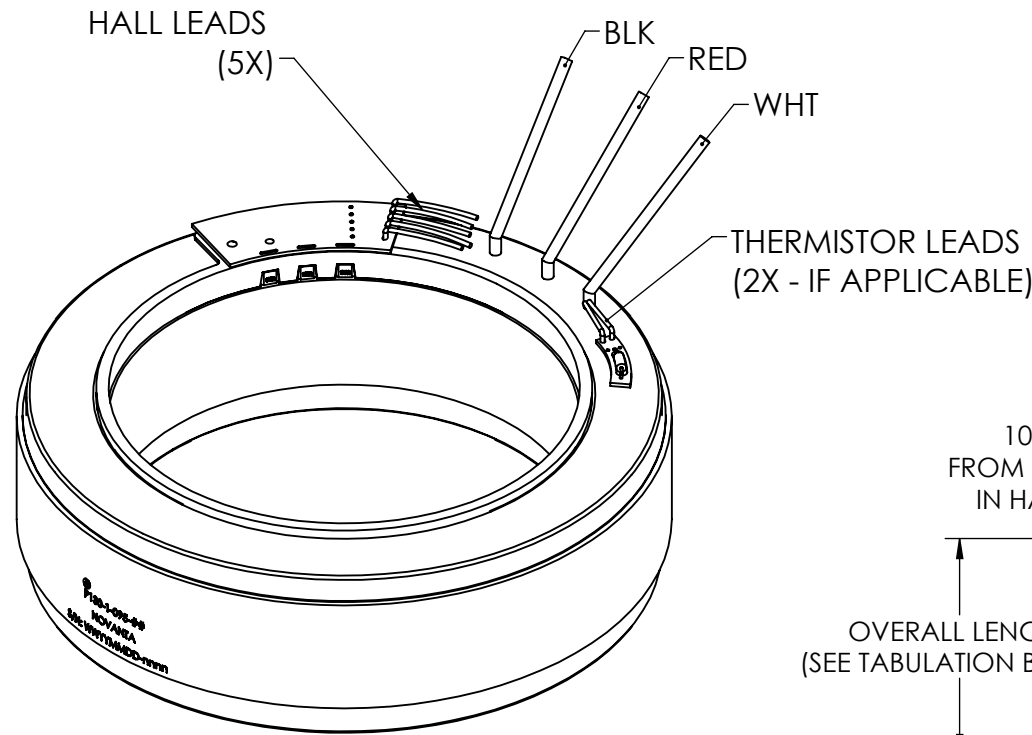
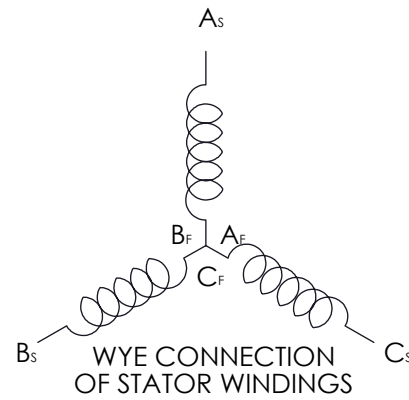
28 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
NOTE: HALL DEVICES ARE OPEN COLLECTOR
AND REQUIRE PULL-UP RESISTORS TO OPERATE.
BLK - RETURN
RED - POWER (3.5 TO 27 VDC)
BRN - HALL 1
ORG - HALL 2
YEL - HALL 3

THERMISTOR LEADS (IF APPLICABLE)

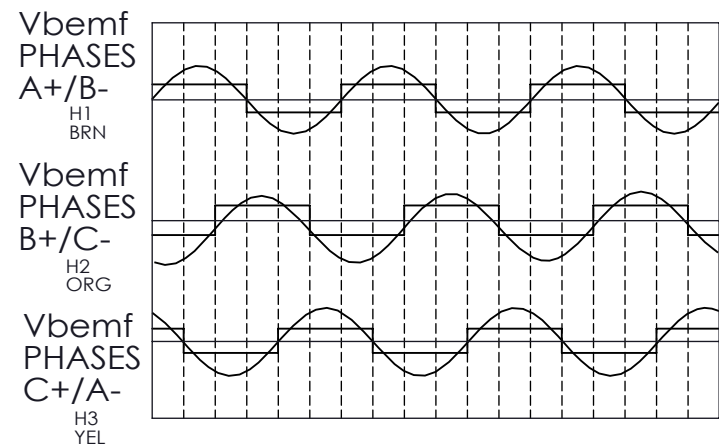
SENSOR PN: CANTHERM STS1 LINEAR PTC
28 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
2 BLUE LEADS, NO POLARITY REQUIREMENT

NOTES:

1. STATOR MOUNTING REQUIREMENTS, REFER TO P130-1-051-01 DOCUMENT.
2. STATOR PERFORMANCE REFER TO P130-1-052-01 DOCUMENT. STATOR PERFORMANCE IS ACHIEVED WITH ASSOCIATED ROTOR LISTED IN TABULATION TABLE ON SHEET 3.
3. STATOR IS REACH AND ROHS COMPLIANT TO LATEST REGULATORY SPECIFICATION
4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY



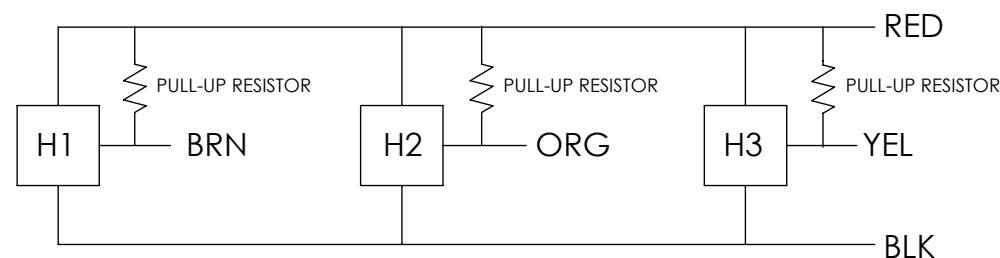
PHASE RELATION OF BACK EMF PHASE-TO-PHASE VOLTAGES DURING CW ROTATION OF MOTOR VIEWED FROM LEAD END



CW ROTATION OF ROTOR WHEN ENERGIZED WITH DC SUPPLY IN SEQUENCE SHOWN IN CHART BELOW

	A	B	C
1	+	-	-
2	+	-	-
3	-	+	-
4	-	+	-
5	-	-	+
6	-	-	+

HALL DEVICE CIRCUIT DIAGRAM



PULL-UP RESISTORS REQUIRED TO OPERATE (APPROX 1.5kΩ CUSTOMER SUPPLIED)

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Celera A Novanta Company
MOTION

DRAWING NUMBER: **P130-1-095-XX** REV **A**
SCALE: 1:1 SIZE: B SHEET 2 of 3


TABULATION BLOCK (WITHOUT HALLS)

MODEL NUMBER	STATOR DRAWING NUMBER	THERMISTOR ADDED	ASSOCIATED ROTOR DRAWING NUMBER	STACK LENGTH	OVERALL LENGTH
OPN-130013-A000	P130-1-095-01	NO	P130-1-096-01	12.5 ± .13	25.7 MAX
OPN-130013-A001	P130-1-095-02	YES			29.3 MAX
OPN-130013-B000	P130-1-095-03	NO			25.7 MAX
OPN-130013-B001	P130-1-095-04	YES			29.3 MAX
OPN-130013-C000	P130-1-095-05	NO			25.7 MAX
OPN-130013-C001	P130-1-095-06	YES			29.3 MAX
OPN-130025-A000	P130-1-095-07	NO	P130-1-096-02	25.0 ± .13	38.2 MAX
OPN-130025-A001	P130-1-095-08	YES			41.7 MAX
OPN-130025-B000	P130-1-095-09	NO			38.2 MAX
OPN-130025-B001	P130-1-095-10	YES			41.7 MAX
OPN-130025-C000	P130-1-095-11	NO			38.2 MAX
OPN-130025-C001	P130-1-095-12	YES			41.7 MAX
OPN-130038-A000	P130-1-095-13	NO	P130-1-096-03	37.5 ± .13	50.7 MAX
OPN-130038-A001	P130-1-095-14	YES			54.3 MAX
OPN-130038-B000	P130-1-095-15	NO			50.7 MAX
OPN-130038-B001	P130-1-095-16	YES			54.3 MAX
OPN-130038-C000	P130-1-095-17	NO			50.7 MAX
OPN-130038-C001	P130-1-095-18	YES			54.3 MAX
OPN-130050-A000	P130-1-095-19	NO	P130-1-096-04	50.0 ± .13	63.2 MAX
OPN-130050-A001	P130-1-095-20	YES			66.8 MAX
OPN-130050-B000	P130-1-095-21	NO			63.2 MAX
OPN-130050-B001	P130-1-095-22	YES			66.8 MAX
OPN-130050-C000	P130-1-095-23	NO			63.2 MAX
OPN-130050-C001	P130-1-095-24	YES			66.8 MAX

TABULATION BLOCK (WITH HALLS)

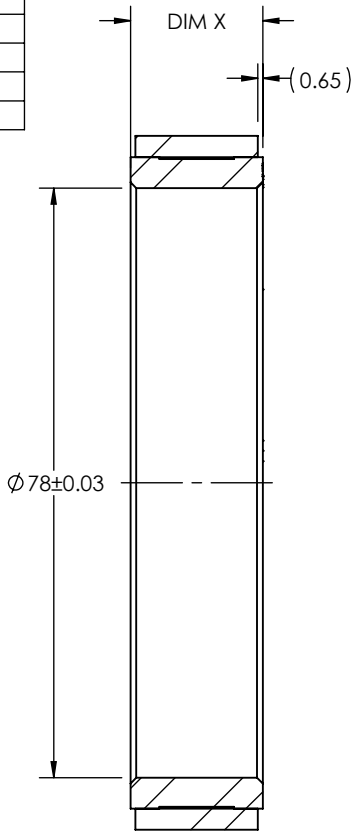
MODEL NUMBER	STATOR DRAWING NUMBER	THERMISTOR ADDED	ASSOCIATE ROTOR DRAWING NUMBER	STACK LENGTH	OVERALL LENGTH
OPH-130013-A000	P130-1-095-25	NO	P130-1-096-01	12.5 ± .13	30.5 MAX
OPH-130013-A001	P130-1-095-26	YES			
OPH-130013-B000	P130-1-095-27	NO			
OPH-130013-B001	P130-1-095-28	YES			
OPH-130013-C000	P130-1-095-29	NO			
OPH-130013-C001	P130-1-095-30	YES			
OPH-130025-A000	P130-1-095-31	NO	P130-1-096-02	25.0 ± .13	43.0 MAX
OPH-130025-A001	P130-1-095-32	YES			
OPH-130025-B000	P130-1-095-33	NO			
OPH-130025-B001	P130-1-095-34	YES			
OPH-130025-C000	P130-1-095-35	NO			
OPH-130025-C001	P130-1-095-36	YES			
OPH-130038-A000	P130-1-095-37	NO	P130-1-096-03	37.5 ± .13	55.5 MAX
OPH-130038-A001	P130-1-095-38	YES			
OPH-130038-B000	P130-1-095-39	NO			
OPH-130038-B001	P130-1-095-40	YES			
OPH-130038-C000	P130-1-095-41	NO			
OPH-130038-C001	P130-1-095-42	YES			
OPH-130050-A000	P130-1-095-43	NO	P130-1-096-04	50.0 ± .13	68.0 MAX
OPH-130050-A001	P130-1-095-44	YES			
OPH-130050-B000	P130-1-095-45	NO			
OPH-130050-B001	P130-1-095-46	YES			
OPH-130050-C000	P130-1-095-47	NO			
OPH-130050-C001	P130-1-095-48	YES			

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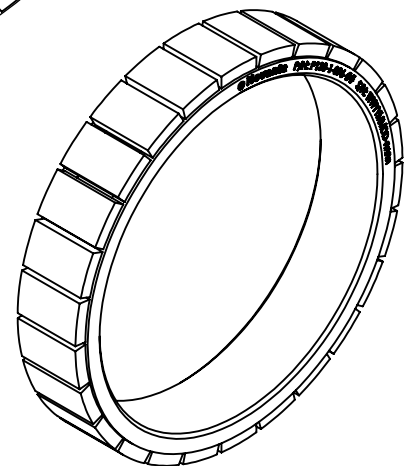
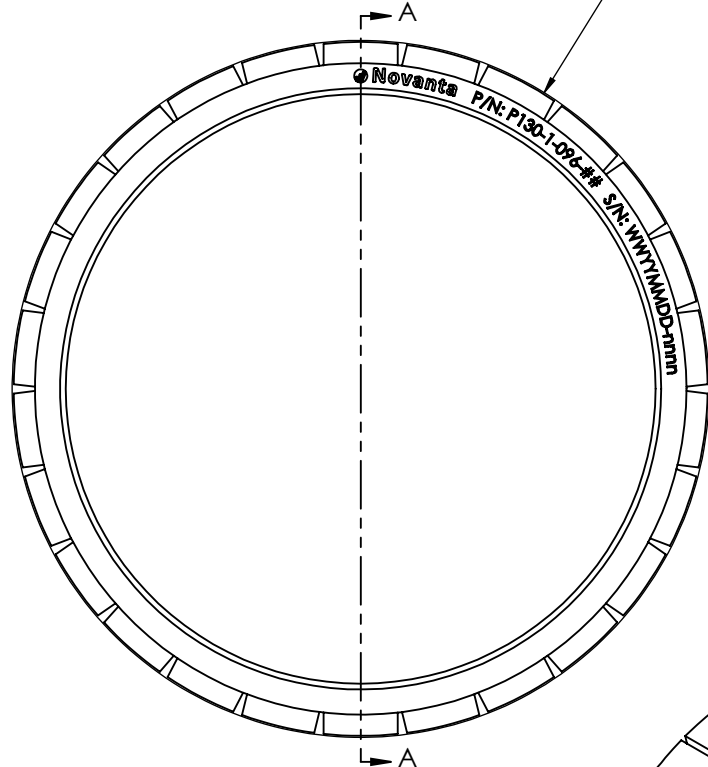


Celera A Novanta Company
 MOTION
 DRAWING NUMBER: **P130-1-095-XX** REV **A**
 SCALE: 1:1 SIZE: B SHEET 3 of 3

TABULATION BLOCK	
PART NUMBER	DIM X
P130-1-096-01	17.5 ± .05
P130-1-096-02	30.0 ± .05
P130-1-096-03	42.5 ± .05
P130-1-096-04	55.0 ± .05



SECTION A-A



NOTES: (UNLESS OTHERWISE SPECIFIED):

1. ROTOR MOUNTING REQUIREMENTS, REFER TO P130-1-051-01 DOCUMENT
2. ESTIMATED MASS AND OTHER SPECIFICATIONS REFER TO P130-1-052-01 DOCUMENT.
3. HIGHLY MAGNETIZED ASSEMBLY, HANDLE WITH CARE TO AVOID DAMAGE OR INJURY.
4. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
5. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.

CUSTOMER PCN LEVEL: STANDARD

REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN
A	7955	TRANSFER TO PRODUCTION	2022-OCT-24	AFT
1	7910	INITIAL RELEASE	2022-AUG-16	AFT

CONFIDENTIAL
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Celera A Novanta Company
 MOTION

MATERIAL: N/A
 TREATMENT: N/A
 SURFACE FINISH: N/A

DRWN: A.TERA0 8/2/2022
 CHKD: R.HORN 8/4/2022
 APPVD: R.HORN 8/4/2022

DRAWN IAW ASME Y14.5-2009
 X. ± 1.25 X.XX ± 0.125
 X.X ± 0.25 X.XXX ± 0.0125
 ANGULAR: X ± 1°

UNITS: MM

TITLE: **ROTOR INTERFACE DRAWING**

DRAWING NUMBER: **P130-1-096-XX**

SCALE: 1:1 (DO NOT SCALE DRAWING)

SIZE: A SHEET 1 of 1

MODEL: (THIS DRAWING APPLIES FOR THE FOLLOWING MODEL NUMBERS)

OPN-130XXX-X000 (SHEET 1)

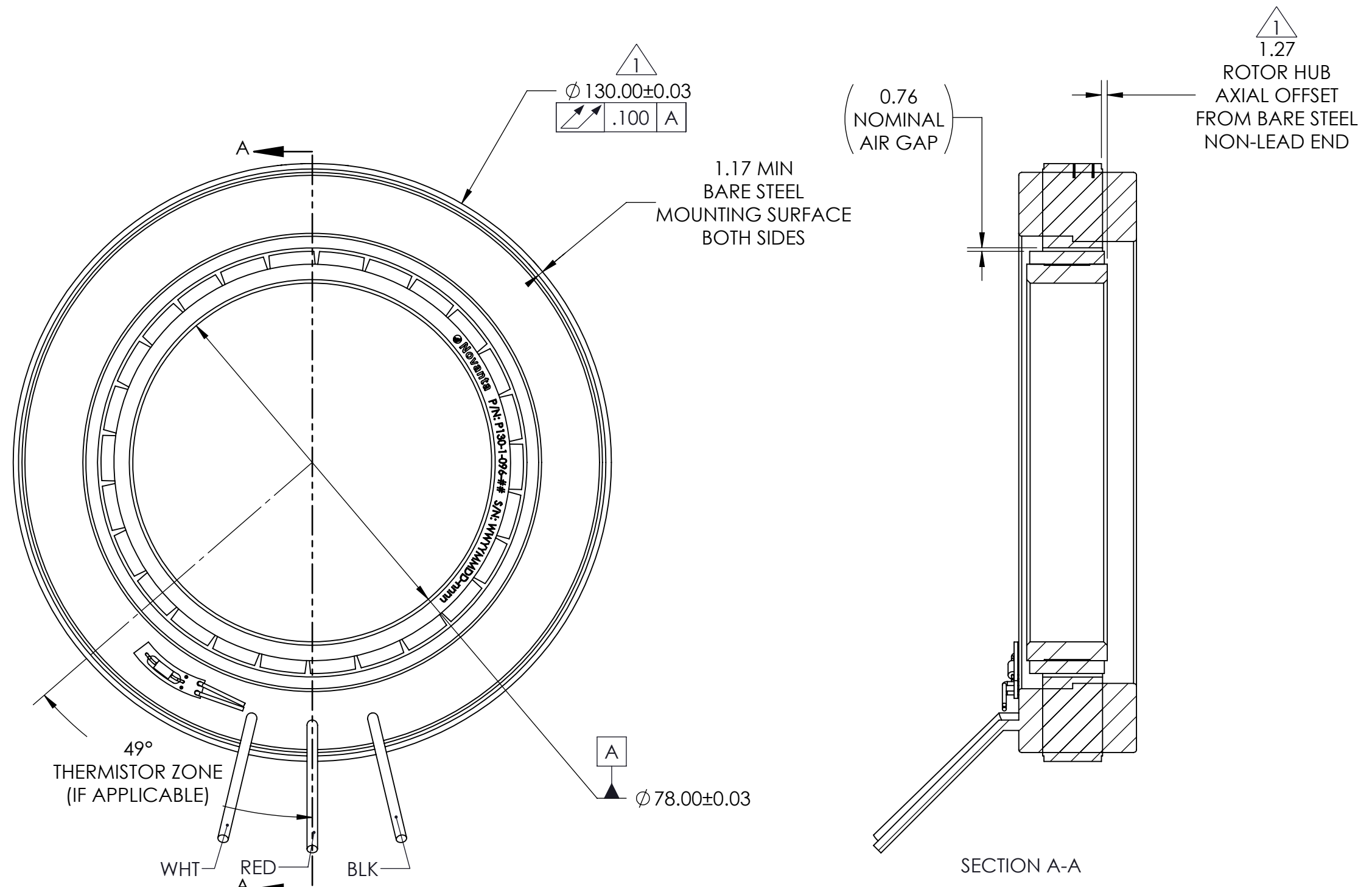
OPH-130XXX-X000 (SHEET 2)

POWER LEADS:

14 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH

BLK - PHASE A
RED - PHASE B
WHT - PHASE C

THERMISTOR LEADS (IF APPLICABLE)
SENSOR PN: CANTHERM STS1 LINEAR PTC
28 AWG, M22759/11 TEFLON COATED
762 mm MIN LENGTH, FLYING LEADS
2 BLUE LEADS, NO POLARITY REQUIREMENT



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SPECIFIED DIMENSIONS ARE REQUIRED TO ACHIEVE MOTOR PERFORMANCE ILLUSTRATED IN P130-1-052-01.
2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.

CUSTOMER PCN LEVEL: STANDARD					
REV	DCN	DESCRIPTION OF CHANGE	DATE	SIGN	
A	7955	TRANSFER TO PRODUCTION	2022-OCT-24	AFT	
1	7914	INITIAL RELEASE	2022-AUG-22	AFT	

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TITLE: MOTOR KIT MOUNTING INTERFACE		DRAWING NUMBER: P130-1-051-01		
MATERIAL: NA	DRWN: A.TERAO	8/10/2022	REV	
TREATMENT: NA	CHKD: S.DAWSON	8/10/2022	A	
SURFACE FINISH: NA	APPVD: S.DAWSON	8/10/2022	SCALE: 1:1	SIZE: B SHEET 1 of 2

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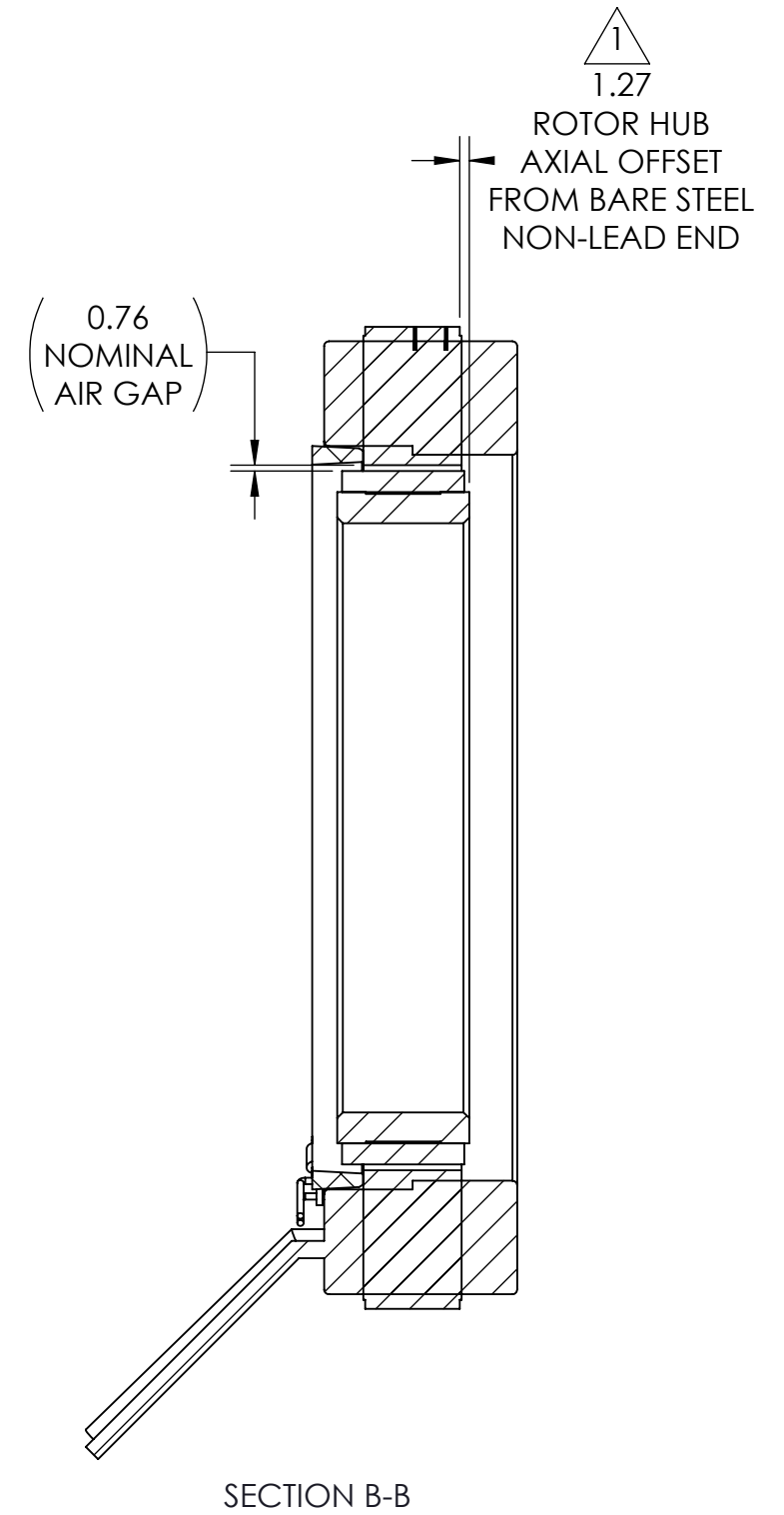
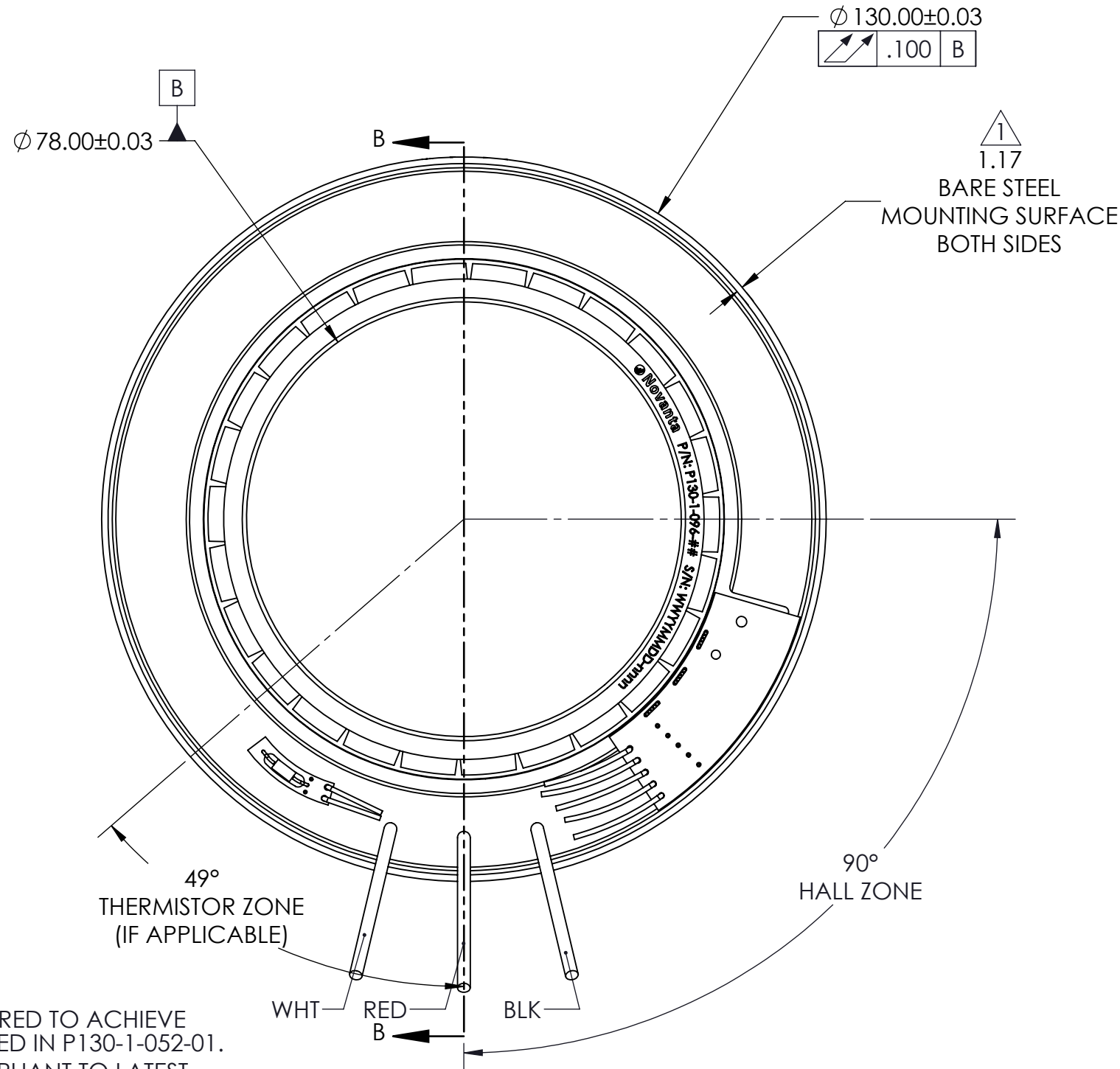
POWER LEADS:
 14 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH

BLK - PHASE A
 RED - PHASE B
 WHT - PHASE C

HALL LEADS:
 28 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH

RED - POWER (3-27 VDC)
 BLK - GROUND
 BRN - HALL 1
 ORG - HALL 2
 YEL - HALL 3

THERMISTOR LEADS (IF APPLICABLE)
 SENSOR PN: CANTHERM STS1 LINEAR PTC
 28 AWG, M22759/11 TEFLON COATED
 762 mm MIN LENGTH, FLYING LEADS
 2 BLUE LEADS, NO POLARITY REQUIREMENT



NOTES: (UNLESS OTHERWISE SPECIFIED)

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2. SHALL BE ROHS AND REACH COMPLIANT TO LATEST VERSION OF REGULATORY SPECIFICATION.
3. MATERIAL AND SURFACE TREATMENT CERTIFICATIONS SHALL BE PROVIDED WITH EACH LOT.
4. ESD SENSITIVE DEVICE, HANDLE ACCORDINGLY

CONFIDENTIAL <small>THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CELERA MOTION AND MAY NOT BE IN WHOLE OR IN PART, DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART. DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CELERA MOTION.</small>		A Novanta Company	
	DRAWING NUMBER: P130-1-051-01		
	SCALE: 1:1 <small>DO NOT SCALE DRAWING</small>	SIZE: B	SHEET 2 of 2
	REV: A		