REVISIONS

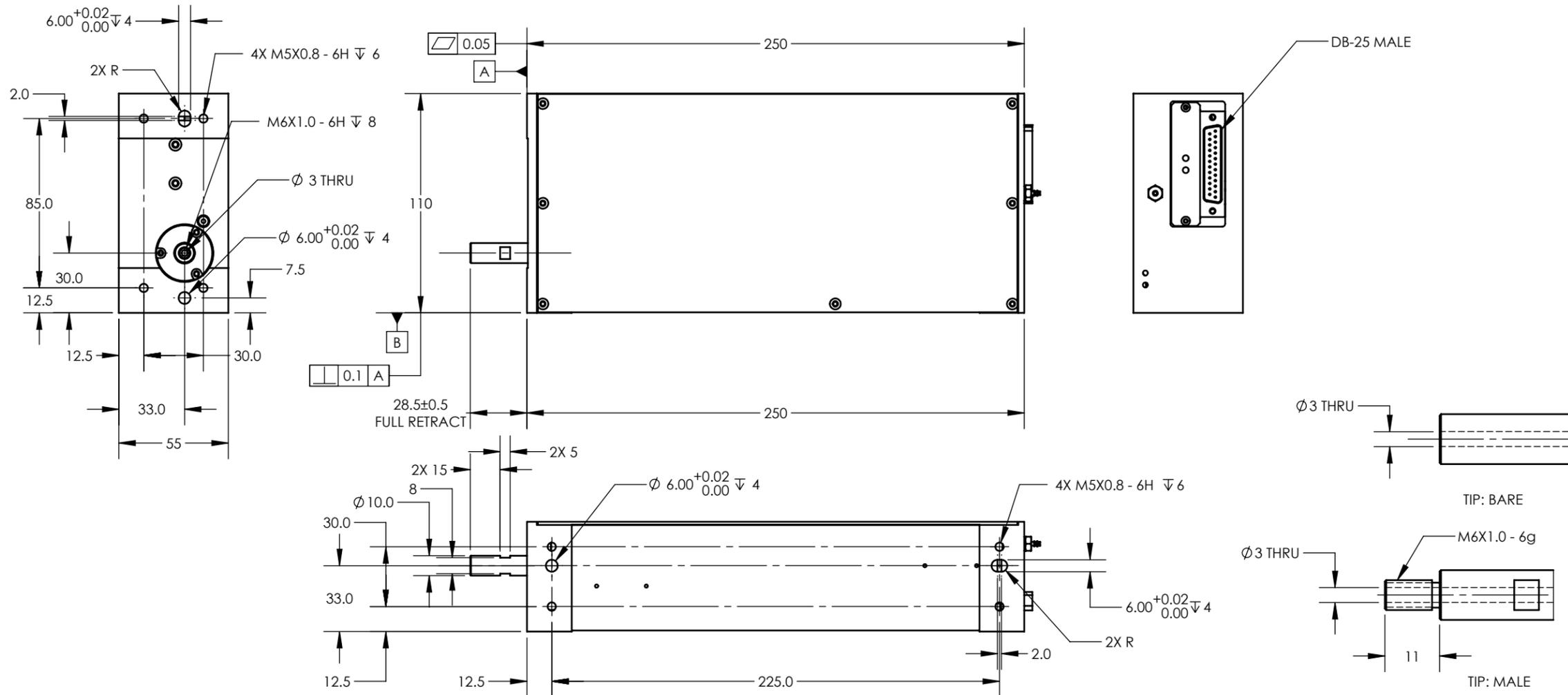| REV	ECR	DESCRIPTION	DATE	APPROVED
L	7580	UPDATED MOTOR SPECIFICATION, REDRAWN	5/26/2021	TW
M	8014	120 RPM WAS 240, CORRECTED TYPO	9/26/2022	TW

NOTES (UNLESS OTHERWISE SPECIFIED)
1. LINEAR SPECIFICATIONS:
   LINEAR STROKE: 50 +3/-0 mm
   ENC. RESOLUTION(+A/-A;+B/-B): 5, 1, 0.5, 0.1 um
   ENCODER REPEATABILITY: ±4 COUNT
   OPERATING VOLTAGE: 24, 48 Vdc
   COIL RESISTANCE: 15 Ohm (24Vdc)
                       24 Ohm (48Vdc)
   PEAK FORCE: 25 N @ 1.6A (24Vdc)
               40 N @ 1.8A (48Vdc)
   FORCE CONSTANT: 19 N/A (24Vdc)
                     27 N/A (48Vdc)
   MOVING MASS: 0.76 kg (DIRECT DRIVE)
   TOTAL MASS: 3.2 kg
2. ROTARY SPECIFICATIONS: SEE TABLE
3. VACUUM OPTION: N/A
4. SPRING OPTION: N/A
5. OPERATING TEMPERATURE: 0°C TO 40°C

DB-25 MALE

DIRECT DRIVE, FEMALE SHAFT MODEL ⟨M⟩

TIP: BARE

TIP: MALE

PIN No	DB-25P
1	+5 Vdc
2	5V RTN
3	(R) MOTOR -
4	(L) PH. A-
5	NC
6	LIMIT RTN (OPTION)
7	(L) MOTOR+
8	(L) MOTOR+
9	(L) PH. B -
10	(R) MOTOR+
11	(L) LIMIT+ - (OPTION)
12	(L) LIMIT - - (OPTION)
13	(R) PH. B -
14	(L) PH. A+
15	(R) PH. A+
16	(L) PH. B+
17	(R) PH. B+
18	(L) PH. Z+
19	(L) MOTOR -
20	(L) MOTOR -
21	(R) PH. A -
22	(R) INDEX (COARSE)
23	(L) PH. Z -
24	(R) PH. Z+
25	(R) PH. Z -

#22: ONLY FOR GEAR MODEL

LAR55-050-5X-1

STANDARD OPTION SPEC	DIRECT DRIVE	4:1 GEAR	16:1 GEAR
ENC. RESOLUTION(+A/-A, +B/-B)	2000 CPR	4 X 2000 CPR	16 X 2000 CPR
FINE INDEX (+Z/-Z)	YES	YES	YES
MOTOR TYPE:	DC BRUSH(HANSEN 40mm)	DC BRUSH(HANSEN 40mm)	DC BRUSH(HANSEN 40mm)
PEAK TORQUE: Nm@VDC, A	0.13 Nm @ 24VDC, 2A	0.48 Nm @ 24VDC, 2A	1.8 Nm @ 24VDC, 2A
TORQUE CONSTANT: Nm/A	0.069 Nm/A	0.25 Nm/A	0.94 Nm/A
MAXIMUM SPEED: RPM	2300 RPM(WITH 0 LOAD & NON VACUUM) 500 RPM (WITH 0 LOAD & VACUUM)	500 RPM (WITH 0 LOAD)	120 RPM (WITH 0 LOAD) ⟨M⟩
GEAR BACK LASH:	N/A	LESS THAN 20 arcmin	LESS THAN 35 arcmin

LAR55-050-7X-1

STANDARD OPTION SPEC	DIRECT DRIVE	4:1 GEAR	16:1 GEAR
ENC. RESOLUTION(+A/-A, +B/-B)	2000 CPR	4 X 2000 CPR	16 X 2000 CPR
FINE INDEX (+Z/-Z)	YES	YES	YES
MOTOR TYPE:	DC BRUSH(HANSEN 40mm)	DC BRUSH(HANSEN 40mm)	DC BRUSH(HANSEN 40mm)
PEAK TORQUE: Nm@VDC, A	0.26 Nm @ 48VDC, 4A	0.96 Nm @ 48VDC, 4A	3.6 Nm @ 48VDC, 4A
TORQUE CONSTANT: Nm/A	0.069 Nm/A	0.25 Nm/A	0.94 Nm/A
MAXIMUM SPEED: RPM	4500 RPM(WITH 0 LOAD & NON VACUUM) 500 RPM (WITH 0 LOAD & VACUUM)	1000 RPM (WITH 0 LOAD & NON VACUUM) 500 RPM (WITH 0 LOAD & VACUUM)	240 RPM (WITH 0 LOAD)
GEAR BACK LASH:	N/A	LESS THAN 20 arcmin	LESS THAN 35 arcmin

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN MM
BREAK EDGES AND REMOVE BURRS
TOLERANCES
X.: ±0.5   X.X: ±0.1
X.XX: ±0.03   ANGLE: ±0.1°
CONCETRICITY: ±0.025
ROUNDNESS: ±0.025
EDGE BREAKS: 0.2 MAX
ALL DIMENSIONS AND TOLERANCES ARE FINAL

MATERIAL: SEE BOM
FINISH: SEE BOM
MACHINE FINISH: 1.6
INTERPRET PER: ASME Y14.5-2009

THIRD ANGLE PROJECTION

	NAME	DATE
DWN BY	TW	5/26/2021
CHK BY	TMV	5/26/2021
ENG APP	TMV	5/26/2021
MFG APP		
QA APP		

SMAC
MOVING COIL ACTUATORS
5807 VAN ALLEN WAY
CARLSBAD CA, 92008
(760) 929-7588

TITLE:
LINEAR ROTARY ACTUATOR

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REF. NUMBER: LAR55-050
CONTRACT: STD

SIZE: B
PART NO: LAR55-050-XX-1
REV: M
SCALE: 4:10   DO NOT SCALE   SHEET: 1/2

DB-25 MALE

20
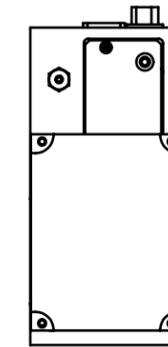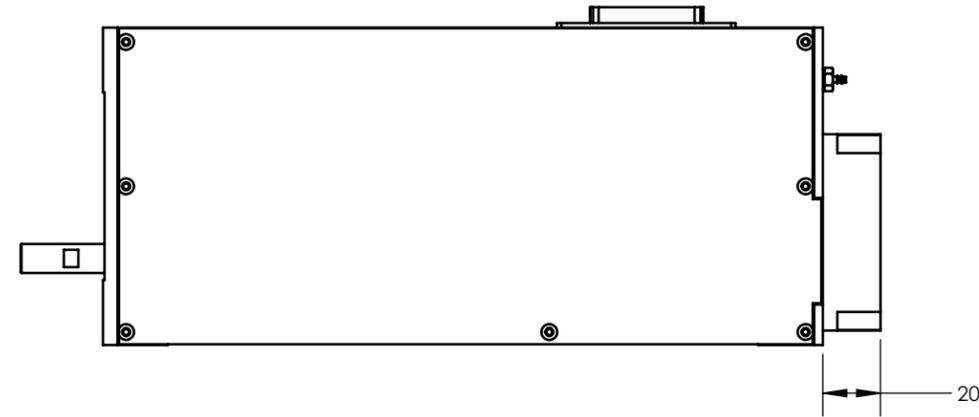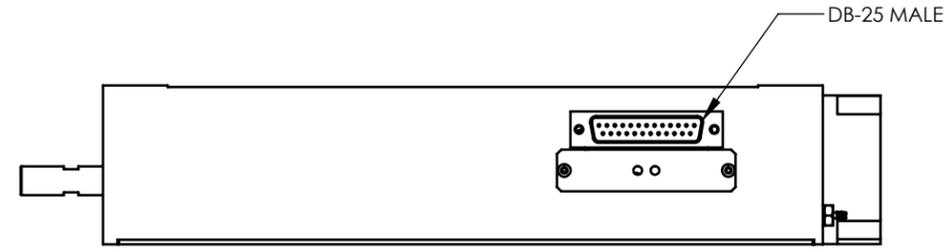
4:1, 16:1 GEAR OPTION
MOUNTING HOLE LOCATION IS SAME
AS DIRECT DRIVE MODEL

TITLE:
LINEAR ROTARY
ACTUATOR

REF. NUMBER	LAR55-050	SIZE: B	PART NO: LAR55-050-XX-1	REV: M
CONTRACT	STD	SCALE: 4:10 **DO NOT SCALE**	SHEET: 2 / 2	