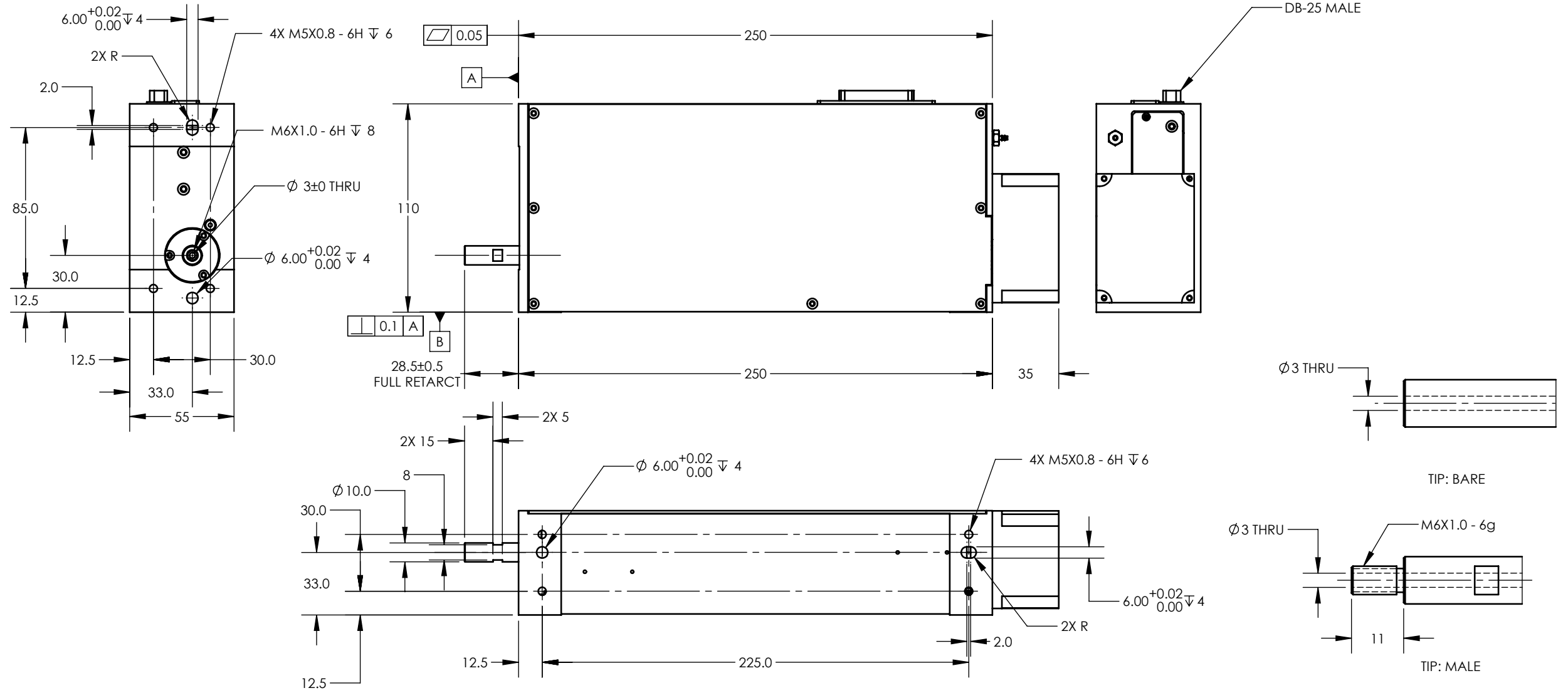


NOTES (UNLESS OTHERWISE SPECIFIED)

- 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: 16 N @ 1.6A (24Vdc)
 25 N @ 1.8A (48Vdc)
 FORCE CONSTANT: 13 N/A (24Vdc)
 17 N/A (48Vdc)
 MOVING MASS: 0.79 kg (DIRECT DRIVE)
 TOTAL MASS: 4 kg
- 2. ROTARY SPECIFICATIONS: SEE TABLE
- 3. VACUUM OPTION: N/A
- 4. SPRING OPTION: N/A
- 5. OPERATING TEMPERATURE: 0°C TO 40°C

| REVISIONS | | | | |
|-----------|------|--------------------------------------|-----------|----------|
| REV | ECR | DESCRIPTION | DATE | APPROVED |
| J | 7580 | UPDATED MOTOR SPECIFICATION, REDRAWN | 5/26/2021 | TW |



DIRECT DRIVE, FEMALE SHAFT MODEL

| 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

LAR55-100-5X-1

| STANDARD OPTION SPEC | DIRECT DRIVE | 4:1 GEAR | 16:1 GEAR |
|-------------------------------|---|-----------------------|-----------------------|
| ENC. RESOLUTION(+A/-A, +B/-B) | 20000 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) | 240 RPM (WITH 0 LOAD) |
| GEAR BACK LASH: | N/A | LESS THAN 20 arcmin | LESS THAN 35 arcmin |

***2000 CPR NOT AVAILABLE

LAR55-100-7X-1

| STANDARD OPTION SPEC | DIRECT DRIVE | 4:1 GEAR | 16:1 GEAR |
|-------------------------------|---|--|-----------------------|
| ENC. RESOLUTION(+A/-A, +B/-B) | 20000 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 |

***2000 CPR NOT AVAILABLE

| | | | | |
|--|--------------------------------|---|-----------------|--|
| <p>UNLESS OTHERWISE SPECIFIED</p> <p>ALL DIMENSIONS ARE IN MM</p> <p>BREAK EDGES AND REMOVE BURRS</p> <p>TOLERANCES</p> <p>X: ±0.5 X.X: ±0.1</p> <p>XXX: ±0.03 ANGLE: ±0.1°</p> <p>CONCENTRICITY: ±0.025</p> <p>ROUNDNESS: ±0.025</p> <p>EDGE BREAKS: 0.2 MAX</p> <p>ALL DIMENSIONS AND TOLERANCES ARE FINAL</p> | MATERIAL: SEE BOM | NAME: TW | DATE: 5/26/2021 | <p>SMAC</p> <p>5807 VAN ALLEN WAY CARLSBAD CA, 92008 (760) 929-7588</p> |
| | FINISH: SEE BOM | DWN BY: TMV | 5/26/2021 | |
| | MACHINE FINISH: 1.6 | CHK BY: TMV | 5/26/2021 | |
| | INTERPRET PER: ASME Y14.5-2009 | ENG APP: TMV | 5/26/2021 | |
| | THIRD ANGLE PROJECTION | <p>PROPRIETARY AND CONFIDENTIAL</p> <p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SMAC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SMAC IS PROHIBITED.</p> | | <p>MOVING COIL ACTUATORS</p> <p>LINEAR ROTARY ACTUATOR</p> <p>SIZE: B PART NO: LAR55-100-XX-1</p> <p>SCALE: 4:10 DO NOT SCALE</p> |

| | |
|-------------|-----------|
| REF. NUMBER | LAR55-100 |
| CONTRACT | STD |

REV: J

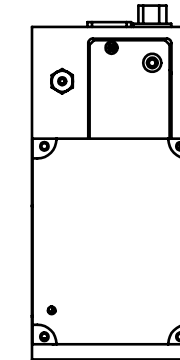
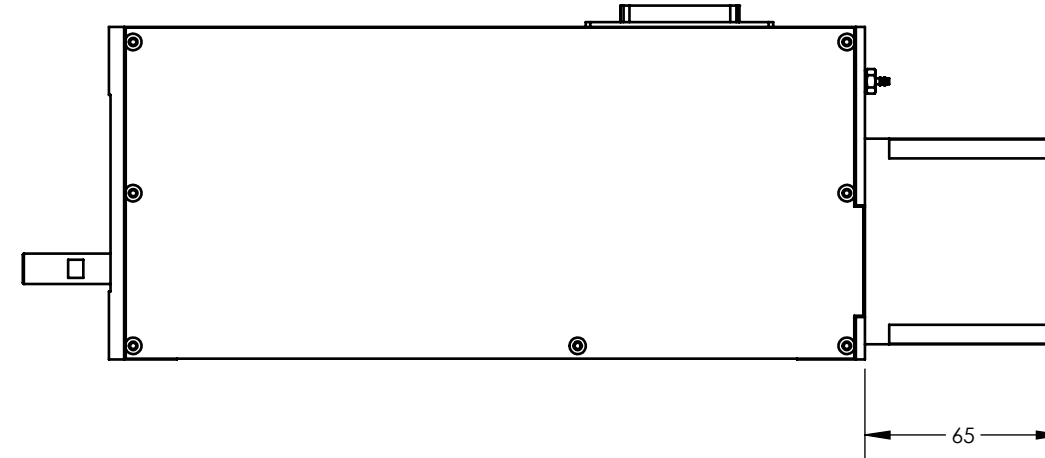
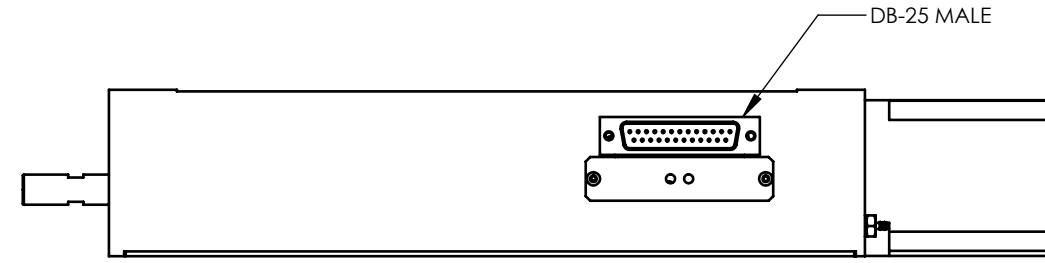
SHEET: 1 / 2

4

3

2

1



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

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

TITLE:
**LINEAR ROTARY
 ACTUATOR**

| | | | | | | | |
|-------------|-----------|--------|------|--------------|----------------|--------|-------|
| REF. NUMBER | LAR55-100 | SIZE: | B | PART NO: | LAR55-100-XX-1 | REV: | J |
| CONTRACT | STD | SCALE: | 4:10 | DO NOT SCALE | | SHEET: | 2 / 2 |

4

3

2

1

B

B

A

A