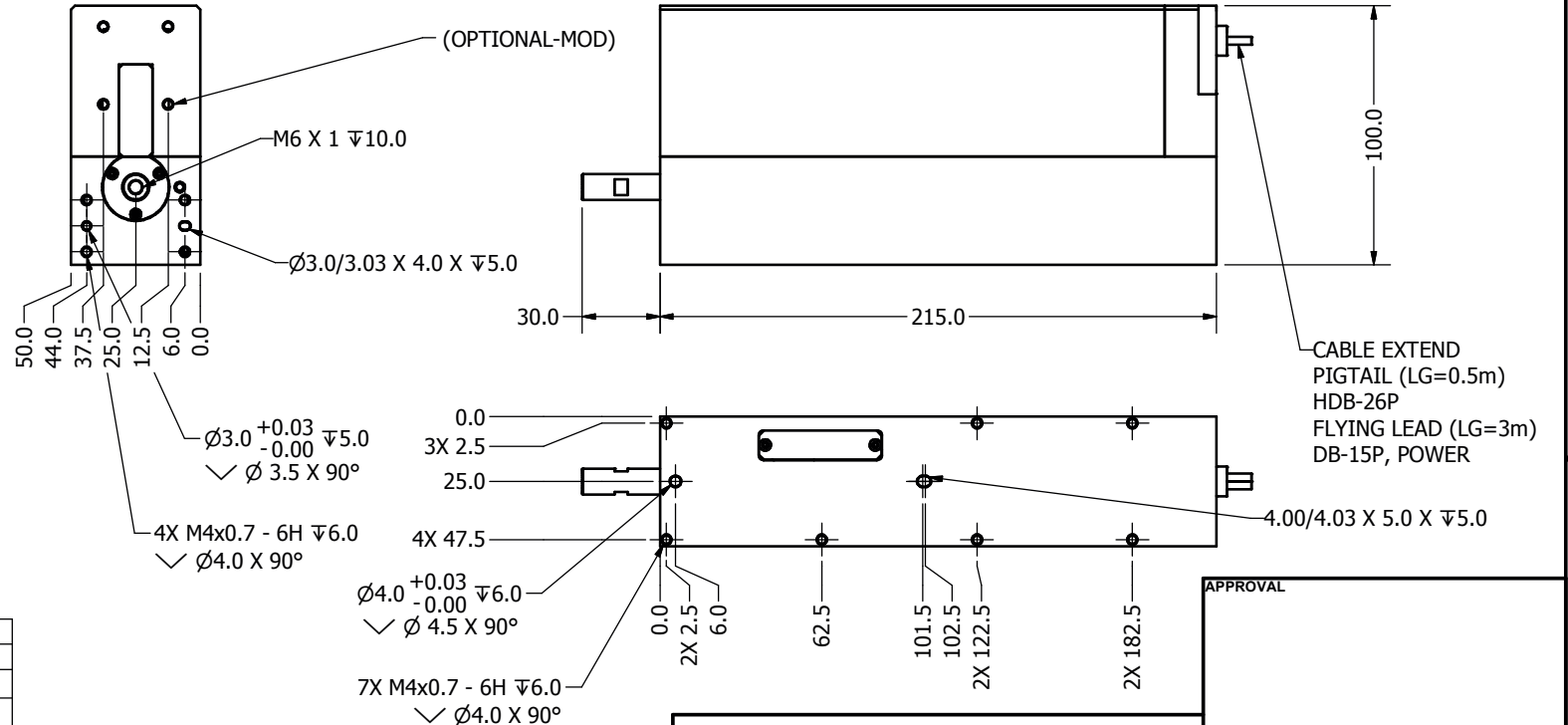


**NOTES (UNLESS OTHERWISE SPECIFIED)**

1. ALL DIMENSIONS APPLY AFTER PLATING.
2. BREAK ALL SHARP EDGES AND REMOVE BURRS.
3. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
4. LINEAR STROKE: 50 +1/-0mm
5. PEAK FORCE: AVG. 85 N (48V@ 3.0A)
6. FORCE CONSTANT: AVG. 30N/A@48V
7. COIL RESISTANCE: 14.3 ohm
8. INDUCTANCE: 33mH
9. ENCODER RESOLUTION: 5,1,0.1um
10. ENCODER REPEATABILITY: ±4 ENC. COUNTS
11. MOVING MASS: .465 kg
12. TOTAL MASS: 4.34 kg
13. OPERATING TEMPERATURE: 0°C TO 65°C

| REVISION HISTORY |           |      |              |          |
|------------------|-----------|------|--------------|----------|
| REV              | DATE      | ECN  | DESCRIPTION  | APPROVED |
| A                | 3/2/2011  | 4785 | NEW RELEASE  | ORAMAS   |
| B                | 4/1/2013  | 5190 | ADJUST FORCE | MAC      |
| C                | 7/21/2014 |      | SHAFT THD    | ORAMAS   |



| DB 26P PINOUT |                 |
|---------------|-----------------|
| PIN           | FUNCTION        |
| 1             | (AXIS 1) PH. A+ |
| 2             | (AXIS 1) PH. B+ |
| 3             | (AXIS 1) PH. Z+ |
| 4             | NC              |
| 5             | NC              |
| 6             | I/O RTN         |
| 7             | NC              |
| 8             | NC              |
| 9             | NC              |
| 10            | (AXIS 1) PH. A- |
| 11            | (AXIS 1) PH. B- |
| 12            | (AXIS 1) PH. Z- |
| 13            | NC              |
| 14            | NC              |
| 15            | NC              |
| 16            | NC              |
| 17            | NC              |
| 18            | NC              |
| 19            | +5VDC           |
| 20            | 5V RTN          |
| 21            | (AXIS 1) COIL + |
| 22            | (AXIS 1) COIL + |
| 23            | (AXIS 1) COIL - |
| 24            | (AXIS 1) COIL - |
| 25            | NC              |
| 26            | NC              |

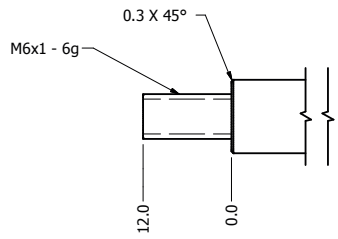
| DB-15P PINOUT |        |
|---------------|--------|
| PIN           | DETAIL |
| 1             | PH. A+ |
| 2             | PH. Z+ |
| 3             | PH. B+ |
| 4             | +5V    |
| 5             | NC     |
| 6             | NC     |
| 7             | NC     |
| 8             | NC     |
| 9             | PH. A- |
| 10            | PH. Z- |
| 11            | PH. B- |
| 12            | 5V RTN |
| 13            | 5V RTN |
| 14            | NC     |
| 15            | NC     |

| POWER |        |
|-------|--------|
| No    | DETAIL |
| 1     | V RTN  |
| 2     | + V    |
| 3     | COIL + |
| 4     | COIL - |

**SIGNATURE NEEDED FOR ORDER APPROVAL**  
 SIGN: \_\_\_\_\_ DATE: \_\_\_\_\_  
**APPROVAL NOT RECEIVED WITHIN 48 HOURS MAY AFFECT DELIVERY**

|   |  |                                     |  |   |  |                              |  |                       |  |                                   |  |                                |  |                  |  |
|---|--|-------------------------------------|--|---|--|------------------------------|--|-----------------------|--|-----------------------------------|--|--------------------------------|--|------------------|--|
| <b>TOLERANCES ARE:</b><br>X. ± 0.50<br>X.X ± 0.1<br>X.XX ± 0.05<br>X.XXX ±<br>ANGULARITY ± 0.1°<br>CONCENTRIC ± 0.01<br>ROUNDNESS ± 0.05<br>EDGE BREAK 0.02 MAX<br>CHAMFER 0.03 MAX |  | <b>MATERIAL:</b><br>_____           |  | <h1 style="text-align: center;">SMAC</h1> |  | REF. NUMBER<br><b>LCA 50</b> |  |                       |  |                                   |  |                                |  |                  |  |
| <b>HEAT TREATMENT:</b><br>_____   |  | DESIGNED BY:<br>MARK C              |  |   |  | DATE:<br>2/28/2011           |  | CHECKED BY:<br>_____  |  | DATE:<br>_____                    |  | CONTRACT:<br>_____             |  |                  |  |
| <b>MACHINE FINISH:</b><br>3.2/  |  | PART NAME:<br><b>LCA50-050-7X-2</b> |  | DRAWN BY:<br>MARK C                       |  | DATE:<br>4/1/2013            |  | APPROVED BY:<br>_____ |  | DATE:<br>_____                    |  | SHEET NUMBER:<br><b>1 OF 1</b> |  |                  |  |
| <b>EXCEPT NOTED</b><br>PROTECTIVE FINISH:   |  | SCALE:<br>_____                     |  | DWG SIZE:<br><b>B</b>                     |  | PART NUMBER:<br>_____        |  | REVISION:<br><b>C</b> |  | FILE NAME:<br>LCA 50-050-7X-2.idw |  | SPEC. NUMBER:<br>_____         |  | DO NOT SCALE DWG |  |

| REVISION HISTORY |          |     |             |          |
|------------------|----------|-----|-------------|----------|
| REV              | DATE     | ECN | DESCRIPTION | APPROVED |
| A                | 2/9/2015 |     | RELEASE     | MAC      |



|   |   |   |                                   |                              |
|---|---|---|-----------------------------------|------------------------------|
| <b>TOLERANCES ARE:</b><br>X ± 0.50<br>XX ± 0.1<br>XXX ± 0.05<br>XXXX ±<br>ANGULARITY ± 0.1°<br>CONCENTRIC ± 0.01<br>ROUNDNESS ± 0.05<br>EDGE BREAK 0.02 MAX<br>CHAMFER 0.03 MAX | <b>MATERIAL:</b><br>Stainless Steel                         | <b>SMAC</b>                                       |                                   | <b>REF. NUMBER</b>           |
|   | <b>HEAT TREATMENT:</b>                                      | <b>DESIGNED BY:</b><br>MARK C                     | <b>DATE:</b><br>4/23/2010         | <b>CHECKED BY:</b><br>DATE:  |
|   | <b>MACHINE FINISH:</b><br>EXCEPT NOTED<br>PROTECTIVE FINISH | <b>DRAWN BY:</b><br>FRBK                          | <b>DATE:</b><br>2/9/2015          | <b>APPROVED BY:</b><br>DATE: |
|   | <b>FILE NAME:</b><br>MALE SHAFT ALL LCA 50.idw              | <b>PART NAME:</b><br><b>MALE SHAFT ALL LCA 50</b> | <b>SCALE:</b><br>DO NOT SCALE DWG | <b>DWG SIZE:</b><br>C        |
| <b>CHAMFER</b> 0.03 MAX   | <b>SPEC. NUMBER:</b>  | <b>PART NUMBER:</b>                               | <b>REVISION:</b><br>A             |                              |