Marine, Maritime & Navy Brakes
Solenoid-Actuated Brakes

<table>
<thead>
<tr>
<th>Description</th>
<th>Marine</th>
<th>Maritime</th>
<th>Navy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance (Note A)</td>
<td>IEEE 45</td>
<td>IEEE 45 ABS</td>
<td>IEEE 45 ABS</td>
</tr>
<tr>
<td>Stearns Series (Note B)</td>
<td>350</td>
<td>360</td>
<td>1-056-200-K0</td>
</tr>
<tr>
<td>Enclosure</td>
<td>IP 56</td>
<td>IP 56</td>
<td>IP 56</td>
</tr>
<tr>
<td>Enclosure Finish</td>
<td>DI - Water Based Primer</td>
<td>Water Based Primer</td>
<td>Alkyd Primer</td>
</tr>
<tr>
<td>Coil</td>
<td>Encapsulated Construction Class H Insulation</td>
<td>Injection Molded Construction Class B Insulation</td>
<td>Injection Molded Construction Class B Insulation</td>
</tr>
<tr>
<td>Endplate or Mount Plate Material</td>
<td>Steel</td>
<td>Cast Iron</td>
<td>Ductile Iron</td>
</tr>
<tr>
<td>Housing Material</td>
<td>Cast Aluminum or Ductile Iron</td>
<td>Cast Iron</td>
<td>Ductile Iron</td>
</tr>
<tr>
<td>Support Plate Material</td>
<td>N/A</td>
<td>Steel</td>
<td>(Note H) Ductile Iron</td>
</tr>
<tr>
<td>Pressure Plate &amp; Stationary Disc Material</td>
<td>N/A</td>
<td>Brass</td>
<td>Brass</td>
</tr>
<tr>
<td>Self Adjusting (Note G)</td>
<td>No. Gap By Gage</td>
<td>No. Gap By Scale</td>
<td>Yes</td>
</tr>
<tr>
<td>Manual Release (Note D)</td>
<td>Optional</td>
<td>Maintained</td>
<td>Maintained</td>
</tr>
</tbody>
</table>

A. IEEE 45 compliance nameplate is optional. ABS Certificate SB374021
B. Additional options and modifications are included in the full 12 digit part number
C. IP 56 with side release option available in 1-087-000-K0 & 1-082-000-K0
D. The maintained release holds the brake in a release condition until the brake is electrically, or manually, re-engaged
E. The non-maintained ("deadman") release is manually held in the the released condition, re-setting when the force is removed
F. Spring-set, Solenoid with coil & linkage actuated brake (SAB), AC or DC voltage coil
G. Stearns Actuated direct-acting brake (AAB), DC voltage coil
H. Carrier ring friction disc is standard with the 350 & 360 series and is an option in the SAB brakes
I. Stainless Steel Self-Adjust is standard with the 1-08x-600 and 1-087-M00

Armature-Actuated Brakes

MIL-B-16392C is inactive for new design and is no longer required, except for replacement purposes, per statement issued by Naval Sea Systems Command in June of 2001. The armature-actuated brake (AAB) was designed in consultation with Naval specification authorities as a suitable Commercial off the shelf (COTS) motor brake.

Series 350
Pressure Plate Mount
Internal Maintained Manual Release

<table>
<thead>
<tr>
<th>Torque (lb-ft)</th>
<th>Model Number</th>
<th>NEMA Frame Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>3-51-734H0</td>
<td>182TC-256TSC</td>
</tr>
<tr>
<td>110</td>
<td>3-51-744H0</td>
<td>182TC-256TSC</td>
</tr>
<tr>
<td>110</td>
<td>3-51-744J0</td>
<td>284TC-286TSC</td>
</tr>
<tr>
<td>110</td>
<td>3-51-744K0</td>
<td>324TC-405TSC</td>
</tr>
<tr>
<td>180</td>
<td>3-51-844J0</td>
<td>284TC-286TSC</td>
</tr>
<tr>
<td>180</td>
<td>3-51-844K0</td>
<td>324TC-405TSC</td>
</tr>
<tr>
<td>300</td>
<td>3-51-944K0</td>
<td>324TC-405TSC</td>
</tr>
</tbody>
</table>

Series 360
Magnet Body Mount
Internal Maintained/ Optional External Non-Maintained Manual Release

<table>
<thead>
<tr>
<th>Torque (lb-ft)</th>
<th>Model Number</th>
<th>NEMA Frame Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>3-61-644H0</td>
<td>182TC-256TSC</td>
</tr>
<tr>
<td>60</td>
<td>3-61-644J0</td>
<td>284TC-286TSC</td>
</tr>
<tr>
<td>75</td>
<td>3-61-734H0</td>
<td>182TC-256TSC</td>
</tr>
<tr>
<td>110</td>
<td>3-61-744H0</td>
<td>182TC-256TSC</td>
</tr>
<tr>
<td>110</td>
<td>3-61-744J0</td>
<td>284TC-286TSC</td>
</tr>
<tr>
<td>180</td>
<td>3-61-844J0</td>
<td>284TC-286TSC</td>
</tr>
<tr>
<td>180</td>
<td>3-61-844K0</td>
<td>324TC-405TSC</td>
</tr>
<tr>
<td>300</td>
<td>3-61-944K0</td>
<td>324TC-405TSC</td>
</tr>
<tr>
<td>300</td>
<td>3-61-944L0</td>
<td>444TC</td>
</tr>
</tbody>
</table>
Mining Brakes - MSHA Certified

Stearns 1-082-3X4-06 series of electric fail-safe motor brakes are now certified for use in underground mines by the federal Mine Safety and Health Administration (MSHA).

Stearns is the only supplier of MSHA certified motor brakes.

MSHA approves and certifies products for use in underground coal and gassy mines to ensure that they do not cause a fire or explosion.

**Features:**

- Fan Guard Mounted
- Mounting face: 12.5" AK, 11.0" AJ
  (NEMA 324 and 326 TC, NEMA 364 and 365 TC, NEMA 404 and 405 TC)
- Static Torque: 125 through 330 lb-ft
- Spring-Set Electrically-Released
- Enclosure Material: Cast Iron
- Manual Release Type: Side lever, latching with automatic reset when electric power is applied to the brake coil
- Enclosure Protection: IP 56
- Self-Adjust Design: Automatic adjustment for friction disc wear - to reduce maintenance
- Class H Coil Insulation
- Thermal Cut-Out Switch
- Electrical Connections terminate at terminal block
- MSHA Certification Number: 18-XPA070006-0

**Options:**

- Internal Encoder
- Internal Electric Heater
- Electrical Release Indicator Switch
- Carrier Ring Friction Discs

<table>
<thead>
<tr>
<th>Model No.</th>
<th>No. of Discs</th>
<th>Torque (lb-ft)</th>
<th>C</th>
<th><strong>L</strong></th>
<th>SL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-082-314-06</td>
<td>2</td>
<td>125</td>
<td>5.72</td>
<td>4.63</td>
<td>5.65</td>
</tr>
<tr>
<td>1-082-324-06</td>
<td>2</td>
<td>175</td>
<td>5.72</td>
<td>4.63</td>
<td>5.65</td>
</tr>
<tr>
<td>1-082-334-06</td>
<td>3</td>
<td>230</td>
<td>6.22</td>
<td>5.13</td>
<td>6.15</td>
</tr>
<tr>
<td>1-082-344-06</td>
<td>3</td>
<td>330</td>
<td>6.22</td>
<td>5.13</td>
<td>6.15</td>
</tr>
</tbody>
</table>

**Ordering Information - specify1:**

- Model Number
- Bore & keyway2
- Voltage2
- Options
- Leadwire packing gland - left or right (looking towards brake mounting face). Note: encoder option requires that the encoder wiring enters the brake from the opposite side of all of the other brake wiring.

1 These brakes need to be purchased from the motor manufacturer, as the required shaft length (dimension "SL" above) is not standard.
2 Refer to Stearns Catalog page 37
Encoder Brakes
Stearns Solenoid Actuated Brakes with Internally Mounted Encoder

Features
• Available in frame sizes 182TC - 505TC
• All enclosure ratings available, including hazardous location
• Separate conduit exits are provided for the brake and encoder leads, to minimize potential electrical interference
• Choice of popular encoder manufacturers

Benefits
• Encoder located in protected environment enclosed inside the brake housing
• Simplified encoder mounting - using a hub or shaft-mount encoder - and it’s already done!
• Reduced package length - an internal encoder does not add any length to the brake
• Lower installed cost

Ordering Information
Stearns brakes with internal encoders are purchased through the motor manufacturer, as the required shaft length and diameter are non-standard. An internal encoder is not a retrofit option, like a brake coil, heater or switch. To order the brake motor package, specify the brake model and encoder option from table on following page.
Encoder Brakes (Con’t)
Stearns Solenoid Actuated Brakes with Internally Mounted Encoder

Ordering Information
For Stearns Solenoid Actuated Brakes (SABs), with internal encoders

### Industrial Locations

<table>
<thead>
<tr>
<th>Frame Size</th>
<th>Brake Series</th>
<th>Torque Range (lb-ft)</th>
<th>Encoder Options</th>
<th>Connector / Cable</th>
<th>Stearns Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>182TC - 256TC</td>
<td>1-087-EX2</td>
<td>25 - 105</td>
<td>Dynapar HS20</td>
<td>M12, 8 Pin / 15' M12, 8 Pin / 5m 10 Pin / 20'</td>
<td>1087E00ED 1087E00ED</td>
</tr>
<tr>
<td>324TC - 405TC</td>
<td>1-081-XXX</td>
<td>125 - 230</td>
<td>Dynapar HS20</td>
<td>M12, 8 Pin / 15' M12, 8 Pin / 5m 10 Pin / 20'</td>
<td>10810022ED 10810022ED</td>
</tr>
<tr>
<td>324TC - 405TC</td>
<td>1-082-XXX</td>
<td>125 - 440</td>
<td>Dynapar HS20</td>
<td>M12, 8 Pin / 15' M12, 8 Pin / 5m 10 Pin / 20'</td>
<td>10820022ED 10820022ED</td>
</tr>
<tr>
<td>444TC - 505TC</td>
<td>1-086-XXX</td>
<td>500 - 1000</td>
<td>Dynapar HS20</td>
<td>M12, 8 Pin / 15' M12, 8 Pin / 5m 10 Pin / 20'</td>
<td>10860022ED 10860022ED</td>
</tr>
</tbody>
</table>

### Division 1 Hazardous Location

<table>
<thead>
<tr>
<th>Frame Size</th>
<th>Brake Series</th>
<th>Torque Range (lb-ft)</th>
<th>Encoder Options</th>
<th>Connector / Cable</th>
<th>Stearns Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>182TC - 256TC</td>
<td>1-087-3X2</td>
<td>10 - 105</td>
<td>Dynapar HS20</td>
<td>M12, 8 Pin / 15' M12, 8 Pin / 5m 10 Pin / 20'</td>
<td>1087308D1 1087308D</td>
</tr>
<tr>
<td>324TC - 405TC</td>
<td>1-082-3X4</td>
<td>125 - 330</td>
<td>Dynapar HS20</td>
<td>M12, 8 Pin / 15' M12, 8 Pin / 5m 10 Pin / 20'</td>
<td>1082304D1 1082304D</td>
</tr>
</tbody>
</table>

1 Encoders are Optical, 1024 PPR.
2 Cables are shielded. Lengths are from encoder connector, inside the brake (not from outside of brake housing)
3 Request this drawing for shaft design requirements
4 No motor shaft modifications required, beyond the brake requirements for a standard hazardous location brake.
5 Drawing 1087308D brake model mounts close-coupled to the motor end bell. For the brake model that mounts to the motor fan guard, refer to drawing 10873081D. For the brake model that mounts to the motor fan guard - with a slinger - refer to drawing 10873052D.
6 Drawing 1082304D brake model mounts close-coupled to the motor end bell. For the brake model that mounts to the motor fan guard, refer to drawing 10823042D.

In addition to the fully enclosed brake with internal encoder options, encoders can be adapted externally to Stearns brakes:

- Motor shaft mounted encoder tethered to the brake housing.
- Motor shaft mounted encoder bolted to the brake housing.
- Encoder mounts to the stepped shaft of a double C-face brake (145TC-256TC frame.)
- In-line coupling style encoder (182TC-256TC frame.).
## Sales Offices

### MICHIGAN REGION
**Ganco Industrial, Inc.**
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Fax: (616) 249-8628
gnorris@gancoindustrial.com

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### MID-ATLANTIC REGION
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