NEMA 23 MOTOR MOUNT, WITH Ø16mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 21mm

NEMA 23 MOTOR MOUNT, WITH Ø25mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 21mm

NEMA 34 MOTOR MOUNT, WITH Ø16mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 31mm

NEMA 34 MOTOR MOUNT, WITH Ø25mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 31mm

NEOMETRIC 70 MOTOR MOUNT, WITH Ø16mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 30mm

NEOMETRIC 70 MOTOR MOUNT, WITH Ø25mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 30mm

THESE TWO SURFACES ARE FLUSH.
CLEARANCE FOR THE MOTOR MAY BE REQUIRED DEPENDING ON THE MOTOR THAT IS TO BE MOUNTED.
BELLOWS STYLE

MOTOR SIDE BORE SIZES:
METRIC: 6mm, 8mm, 9mm, 11mm

THIS COUPLING USED FOR ALL TRAVELS EXCEPT
* ONLY FOR 700-2000mm TRAVEL UNITS

CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

33 CLEARANCE THRU HOLE

BELLOWS STYLE

MOTOR SIDE BORE SIZES:
METRIC: 6mm, 8mm, 9mm, 11mm

THIS COUPLING USED ONLY FOR 100-600mm TRAVEL UNITS
* THESE BORES AVAILABLE ONLY FOR 100-600mm TRAVEL UNITS

CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

OLDHAM STYLE

MOTOR SIDE BORE SIZES:
METRIC: 6mm, 8mm, 9mm

THIS COUPLING USED FOR ALL TRAVELS

CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

GENERAL NOTES:
1.) PULLEY SPACING SHOWN APPLIES TO BOTH THE MOTOR PULLEY (SHOWN)
AND THE DRIVEN PULLEY.
2.) ANY OF THE STANDARD MOTOR MOUNTING PLATES CAN BE APPLIED IN ANY
OF THE THREE PARALELL MOUNTING CONFIGURATIONS. ALL PLATES MOUNT
WITH THE CENTER POINT AT THE SAME POSITION AS THE PLATE SHOWN.

OLDHAM STYLE

MOTOR SIDE BORE SIZES:
METRIC: 6mm, 8mm, 9mm

THIS COUPLING USED ONLY FOR 100-600mm TRAVEL UNITS
* THESE BORES AVAILABLE ONLY FOR 100-600mm TRAVEL UNITS

CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGULAR ± 1°
ALL MACHINED SURFACES FINISH: 63 MAX
CORNER BREAK: .005"-.020"
FRAC. 1/64"
GENERAL NOTES:

1.) PULLEY SPACING SHOWN ON PAGE 3, SECTION E-E, APPLIES TO BOTH THE MOTOR PULLEY AND THE DRIVEN PULLEY, IN ALL INSTANCES.

2.) ANY OF THE STANDARD MOTOR MOUNTING PLATES CAN BE APPLIED IN ANY OF THE THREE PARALLEL MOUNTING CONFIGURATIONS. ALL PLATES MOUNT WITH THE CENTER POINT AT THE SAME POSITION AS THE PLATE SHOWN.

3.) THESE TWO SURFACES ARE FLUSH CLEARANCE FOR THE MOTOR MAY BE REQUIRED DEPENDING ON THE MOTOR THAT IS TO BE MOUNTED.

MATERIAL:

FINISH:

DANAHER MOTION
PARALLEL MOUNTS

TOLERANCES UNLESS OTHERWISE SPECIFIED

DS6 TABULATION

CONTRACT:

ENGINEER: KDV
CHECKER:

DRAWN BY: KDV
DATE: 12/18/03

THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. X 90°.
TO REMOVE THE ENCODER:
- GENTLY PULL OFF THE ENCODER COVER,
- LOOSEN THE TWO M2 MOUNTING SCREWS (BUT DO NOT REMOVE),
- LOOSEN THE SET SCREW IN THE HUB,
- PULL SLIDE/LOCK MECHANISM TO EXTENDED POSITION,
- REMOVE MOUNTING HARDWARE, AND
- SLIDE THE ENCODER OFF THE SCREW SHAFT.

TO RE-INSTALL THE ENCODER:
- SLIDE ENCODER ONTO THE SCREW SHAFT, BY PUSHING ON THE HUB ONLY, UNTIL ENCODER IS RESTING ON MOUNTING SURFACE,
- PRESS DOWN ON HUB TO ENSURE IT IS SEATED PROPERLY AND TIGHTEN SET SCREW,
- INSTALL AND SECURE THE TWO M2 MOUNTING SCREWS,
- PRESS IN THE SLIDE/LOCK MECHANISM COMPLETELY, AND
- SNAP ON THE ENCODER COVER.

NOTE THAT THE ENCODER REFERENCE MARKER POSITION MAY CHANGE SLIGHTLY EACH TIME THIS IS DONE. IF THIS POSITION IS CRITICAL FOR HOMING THE SYSTEM, IT IS RECOMMENDED THAT THE ENCODER NOT BE REMOVED – CONSULT FACTORY FOR ALTERNATIVE SOLUTIONS.

TO REMOVE THE BRAKE:
- REMOVE THE TWO M4 X 10MM MOUNTING SCREWS,

IT IS NOT NECESSARY TO REMOVE THE BRAKE HUB FROM THE BALLSCREW.

TO RE-INSTALL THE BRAKE:
- PRESS THE BRAKE ONTO THE MOUNTING SURFACE SO THAT THE INTERNAL TEETH MESH WITH THE TEETH ON THE HUB,
- WHEN THE BRAKE IS PROPERLY SEATED, ROTATE TO ALIGN THE MOUNTING HOLES,
- INSERT AND TIGHTEN THE MOUNTING SCREWS.

NUMERICAL TABLES:

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
<th>Wire Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VCC</td>
<td>Red</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>Black</td>
</tr>
<tr>
<td>3</td>
<td>CH A</td>
<td>White</td>
</tr>
<tr>
<td>4</td>
<td>CH A NOT</td>
<td>Yellow</td>
</tr>
<tr>
<td>5</td>
<td>CH B</td>
<td>Green</td>
</tr>
<tr>
<td>6</td>
<td>CH B NOT</td>
<td>Blue</td>
</tr>
<tr>
<td>7</td>
<td>INDEX</td>
<td>Orange</td>
</tr>
<tr>
<td>8</td>
<td>INDEX NOT</td>
<td>Brown</td>
</tr>
<tr>
<td>9</td>
<td>SHIELD</td>
<td>-</td>
</tr>
</tbody>
</table>

BRAKE SPECIFICATIONS
Electromagnetic Power-Off Type Brake

ELECTRICAL
- Coil Voltage: 24VDC
- Current Draw: 516mA
- Resistance: 46.5 Ohms ±7% (nominal)
- Power: 13W MAX

MECHANICAL
- Holding Torque: 5.65Nm
- Weight: 520g
- Inertia: 34.5kg-cm²
- Armature Engagement: 120ms
- Armature Disengagement: 20ms
- Max Operating Temperature: 180°C

CABLE
- Cable Length: 300mm MIN
- Cable Type: 2x 22 gauge conductors with Teflon insulation

AIR PURGE OPTION
Plastic barbed fitting ships with unit.

This option can be used to positively pressurize the unit to prevent particulates from entering the unit.

To utilize this option remove black plastic plug, and thread in the included 1/8-NPT barbed fitting. Attach a piece of 1/4" inner diameter plastic tubing (not included) to the barbed fitting and lead out to a CLEAN air source.

Recommended Max Pressure to unit: 14-20kPa (2-3psi)

TOLERANCES UNLESS OTHERWISE SPECIFIED

<table>
<thead>
<tr>
<th>DATUM</th>
<th>SIZE</th>
<th>TOLERANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Fraction</td>
<td>1/64</td>
<td></td>
</tr>
</tbody>
</table>

MATERIAL:
Dwg. No. 41-0140Rev2

FINISH:
DS6 TABULATION
ROTARY ENCODER / BRAKE OPTIONS

DRAWN BY: KIV
DATE: 12/18/03

ENGINEER: KIV
CHECKER:
LINEAR ENCODER SPECIFICATIONS

- Resolution: 0.1µm; 0.5µm; 1.0µm; (Incremental)
- Signal: Square wave differential line driver; Two-channel quadrature
- Power Supply: 5VDC ±2%, 120mA (0.5µm and 1.0µm)
  150mA (0.1µm only)
- Operating Temperature: 0°C to +55°C
- Storage Temperature: -20°C to +70°C
- Humidity: 10-90% RH (non-condensing)
- Sealing: IP64
- Accuracy: ±2µm/m with linear compensation
- Linearity: ±1µm/60mm; 3µm/m
- Cable Type: 1.5m, 4.2mm integral double shielded cable
  - 9-pin 'D' type plug
- Cable Flex Life: >20 million cycles at 25mm bend radius

Pin Function Wire Color
1 0VDC White
2 CH A Green
3 CH Z Pink
4 CH B Blue
5 +5VDC Brown
6 CH A NOT Yellow
7 CH Z NOT Grey
8 CH B NOT Red
9 Inner Shield _____
- Outer Shield _____

TOLERANCES UNLESS OTHERWISE SPECIFIED

- ANGULAR ±1°
- ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: "-.005", -.020"

DRAWN BY: KDV       DATE: 12/18/03       THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA., A 90°

MATERIAL: DS6 TABULATION LINEAR ENCODER OPTION

SCALE: 1:1 UNITS: MM SHEET 6 OF 15
LIMIT SWITCH SPECIFICATIONS:
Inductive Proximity Sensors
Available Types: NPN Normally Open / Closed
PNP Normally Open / Closed
Repeatibility: ±8µm
Power Supply: 5 to 30 VDC
Current Consumption: ≤10mA
Current Capacity: 100mA
Temperature Range: -20°C to +70°C
Sealing: IP67
Cable: 5m Cable w/ 3 x 28AWG conductors and flying leads
WIRING COLORS
+VDC     Brown
Ground     Blue
Signal     Black

NOTES:
1. MINIMUM DISTANCE FROM END OF TABLE TO LIMIT SWITCH MOUNT TO ENSURE LIMIT TRIPS PRIOR TO TABLE HARD STOP BEING REACHED.
2. ALL SWITCH ASSEMBLIES ARE FULLY ADJUSTABLE ALONG THE LENGTH OF THE BASE EXTRUSION. TO ADJUST POSITION, SLIGHTLY LOOSEN M4 SCREW, MOVE SWITCH TO DESIRED LOCATION, AND RE-TIGHTEN SCREW.
FULL LENGTH RISER PLATES ARE AVAILABLE UPON REQUEST.

TOE MOUNTS MUST BE EQUALLY SPACED ALONG THE ENTIRE LENGTH OF THE UNIT.

INTERNAL COUNTERBORES OR THE TOE MOUNTS BE USED TO MOUNT THE DS6 TO A FLAT SURFACE.

NOT TO EXCEED 0.013mm/300mm. FOR SPECIFICATION CRITICAL APPLICATIONS, IT IS RECOMMENDED THAT THE

ACTUAL DS6 PERFORMANCE WILL DEPEND ON RISER BLOCK SPACING, LOADS, AND IMPORTANT: PUBLISHED DS6 SPECIFICATIONS DO NOT APPLY WHEN USING THIS MOUNTING OPTION.

THE MINIMUM NUMBER OF RISER MOUNT SETS, THAT SHOULD BE ORDERED WITH A PARTICULAR LENGTH DS6.

THIS MOUNTING OPTION MUST BE ALIGNED WITH THE INTERNAL COUNTERBORE POSITIONS. THE TABLE SHOWS

RECOMMENDED RISER MOUNT SPACING: ONE MOUNT AT EVERY INTERNAL COUNTERBORE, EXCEPT THE

CENTRAL PATTERN OF FOUR, SPACED AT 136mm.

ONE SET (P/N: 12-0275) INCLUDES:

- 4X M6 SHCS 25mm LONG
- 1X WIDE RISER BLOCK
- 2X TOE MOUNT BLOCKS
- 1X M6-5/16" X 3/4" Long

ONE SET (P/N: 12-0274) INCLUDES:

- 4X M6 SHCS 35mm LONG
- 1X WIDE RISER BLOCK
- 2X TOE MOUNT BLOCKS
- 1X M6-5/16" X 3/4" Long

RECOMMENDED RISER MOUNT SPACING: ONE MOUNT AT EVERY 150mm.

ONE SET (P/N: 12-0273) INCLUDES:

- 2X TOE MOUNT BLOCKS
- 1X M6-5/16" X 3/4" Long

ACTUAL DS6 PERFORMANCE WILL DEPEND ON RISER BLOCK SPACING, LOADS, AND IMPORTANT: PUBLISHED DS6 SPECIFICATIONS DO NOT APPLY WHEN USING THIS MOUNTING OPTION.

THE MINIMUM NUMBER OF RISER MOUNT SETS, THAT SHOULD BE ORDERED WITH A PARTICULAR LENGTH DS6.

THIS MOUNTING OPTION IS INDEPENDENT OF THE INTERNAL COUNTERBORE POSITIONS. THE TABLE SHOWS

RECOMMENDED TOE CLAMP MOUNT SPACING: APPROXIMATELY ONE SET EVERY 150mm.

ONE SET (P/N: 12-0272) INCLUDES:

- 4X M6 SHCS 12mm LONG
- 2X TOE MOUNT BLOCKS
- 1X M6-5/16" X 3/4" Long

RECOMMENDED TOE MOUNT SPACING ALONG LENGTH OF EXTRUSION.

RECOMMENDED TOE MOUNT SPACING ALONG LENGTH OF EXTRUSION.

DESIGN EXTRACTS SHEET 8 OF 15

DS6 TABULATION MOUNTING OPTIONS

Dwg. No. 41-0140Rev2

ENGINEER: KDV

CHECKER:

SCALE: 1:1

FINISH:

DRAWN BY: KDV
DATE: 12/18/03

THIRD ANGLE PROJECTION

NOTES:
1. THIS PAGE SHOWS THE EXTERNAL MOUNTING OPTIONS. FOR INTERNAL COUNTERBORE MOUNTING, SEE SHEET 1.
2. TO MAINTAIN CATALOG SPECIFICATIONS, THE DS6 MUST BE MOUNTED TO A flat SURFACE WITH FLATNESS ERROR NOT TO EXCEED 0.013mm/300mm. FOR SPECIFICATION CRITICAL APPLICATIONS, IT IS RECOMMENDED THAT THE

TOE MOUNTS MUST BE EQUALLY SPACED ALONG THE ENTIRE LENGTH OF THE UNIT.

FULL LENGTH RISER PLATES ARE AVAILABLE UPON REQUEST.

CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°. ENGINEER: KDV CHECKED:

MATERIAL:

DRAWN TO SHEET 8 OF 15

TOLERANCES UNLESS OTHERWISE SPECIFIED

This document is the sole property of Danaher Motion and is not to be reproduced or used without written consent. Countersink tapped holes to full thread dia. x 90°.

FINISHED: X.XX ± .001
FINISHED: X.XXX ± .005
FRACTION: .1/64"
NOTE:
1) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN.
REFER TO SHEET 2 AND 3 FOR MORE DETAILS
2) 3 METER CABLE SUPPLIED WITH MATING CONNECTOR

MOTOR CONNECTOR STEPPER MATING CABLE
PIN # WIRE COLOR
1 A+ RED
2 A- ORANGE
3 N/C WHITE
4 B+ GREEN
5 B- BLUE
6 N/C BLACK
7 N/C VIOLET
8 N/C YELLOW
9 N/C BROWN

METAL HOOD SHIELD

MOTOR PARAMETERS
T22T (Series) T22V (Parallel)
Cont. Stall Torque
Rated Cont. Current / Phase 0.90A 1.80A
Phase Inductance (±20% ) 64mH 16mH
Weight
Rotor Inertia
1.40 N-m [200 oz-in]
0.0408x10^-3 kg-m^2 [.0056 oz-in-sec^2]
1.23 kg [2.70lb]
NOTE:
1. BASIC MOTOR DIMENSIONS AND CONNECTOR DIMENSIONS SHOWN REFER TO SHEET 2 AND 3 FOR MORE DETAILS.
2. A 8192 CPR ROTARY ENCODER IS INCORPORATED INTO THE SERVOMOTOR.
3. 1, 3, AND 9 METER CABLES ARE AVAILABLE FOR THIS MOTOR OPTION, AND MUST BE ORDERED SEPARATELY.

MOTOR PARAMETERS
- Continuous Stall Torque: 1.16 N·m (164.3 oz-in)
- Peak Torque: 3.84 N·m (543.8 oz-in)
- Torque Sensitivity (±10%): 0.52 N·m/A RMS
- Back EMF (±10%): 33.8 V RMS / krpm
- Maximum Speed: 8000 rpm
- Weight: 1.38 kg (3.04 lb)
- Rotor Inertia: 0.22 kg·cm² (1.9 x 10⁻⁴ lb-in·sec²)

THIRD ANGLE PROJECTION

Dwg. No. BK30-0140Rev2
SIZE: D
SHEET 10 OF 15
DRAWN BY: KDV
DATE: 12/18/03
CHECKER: 
NOTE:
1. BASIC MOTOR DIMENSIONS AND CONNECTOR DIMENSIONS SHOWN ON PAGE 10.
   REFER TO SHEET 2 AND 3 FOR MORE DETAILS.
2. A 8192 CPR ROTARY ENCODER IS INCORPORATED INTO THE SERVOMOTOR.
3. 1, 3, AND 9 METER CABLES ARE AVAILABLE FOR THIS MOTOR OPTION,
   AND MUST BE ORDERED SEPARATELY.

X.XX  ± .01
X.XXX  ± .005
X.XXXXX  ± .001
FRAC.  ± .064

Dwg. No. 41-0140Rev2
DATE: 12/18/03
CHECKER: KDV

MATERIAL: DS6 TABULATION
FINISH: BK23 MOTOR, UNDER, AND RIGHT

THIRD ANGLE PROJECTION

THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION
AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN
CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA x 90°

ENGINEER: KDV
DRAWN BY: KDV
SCALE: 1:1
UNITS: MM
SHEET 11 OF 15

TOLERANCES UNLESS OTHERWISE SPECIFIED

CORNER BREAK: .005"-.020"

X.X  .01
X.XXX  .005
X.XXXX  .001
FRAC.  1/64"
NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN. REFER TO SHEETS 2 AND 3 FOR MORE DETAILS.
2.) 3 METER CABLE SUPPLIED WITH MATING CONNECTOR, AS SHOWN. 8 AND 16 METER CABLES ARE ALSO AVAILABLE.
NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN. REFER TO SHEETS 2 AND 3 FOR MORE DETAILS.

D A N A H E R  M O T I O N

NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN. REFER TO SHEETS 2 AND 3 FOR MORE DETAILS.
NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN. REFER TO SHEET 10 FOR CONNECTOR SIZE AND PINNING.
NOTE:
1.) BASIC MOTOR DIMENSIONS SHOWN ON PAGE 14. CONNECTOR PINNING
AND DIMENSIONS SHOWN ON PAGE 10.