PRO-4
SINGLE AXIS
JOYSTICK CONTROLLER

PRO-4 – Single Axis Joystick
PRO-4H – Hall-effect Joystick
PRO-4N – VNSO Contact block
PRO-4B/B – Bang / Bang

Construction:
The ultra-rugged PRO-4 provides precise proportional or
discrete control for electro-hydraulic valves and AC/DC variable
speed drives. Your specific control requirements can be
accommodated by a variety of standard and custom
engineered configurations.

Also available with Hall-effect or VNSO contact blocks.

The versatile design of the PRO-4 accommodates a variety of
handle options including mechanical interlock and lever
actuated deadman as well as proportional and discrete outputs
including 11A micro-switches, potentiometers, Hall-effect,
PWM, CAN Bus, and bang / bang.

Application:
For use on Scissor Lifts, Work Platforms, Bucket Trucks,
Cranes, Agricultural, Mining and Forestry equipment.

Features:
• Versatile design
• Heavy duty construction
• Long life, compression type return spring system
• 20 Million cycle mechanical operating life
• Rugged 10mm diameter handle shaft
• Tooled fixed cams

Options:
• Multiple mounting systems
• Friction held handle
• Large variety of optional handle configurations including;
deadman and mechanical interlock options
• Stepped detents
• Large selection of proportional outputs including
potentiometer, Hall-effect, PWM and CAN Bus
• Hall-effect, output meets or exceeds CE EMC
Requirements
PRO-4H ORDERING INFORMATION

Drive Arrangement: Single Axis
Basic Assembly: 3.25” shaft length and boot supplied standard
Handle: 1.25” diameter round ball
Handle Action: Spring Return
Output: Proportional
Output Devices: Hall-effect
Immunity: Meets or exceeds CE EMC requirements

PRO-4H Technical Data

Mechanical:
- Mechanical Life: 20 million cycles
- Gear Ratio: 3.5:1
- Handle Travel: ±20°

Environmental:
- Operating Temperature: -25 to +70°C
- Storage Temperature: -40 to +70°C
- Protection above the panel: IP55
- Hall effect EMC Emissions:
  Complies with EN61000-6-4:2007
  Class A Group 1, 80 – 1000 MHz
- Hall effect EMC Immunity:
  Complies with or exceeds EN61000-6-2:2005
  expanded to include:
  RFI Immunity of 100 V/M @ 80 – 1000 MHz
  ESD Immunity of 15 Kv air, 8 Kv contact

Electrical:
- Hall Effect:
  Supply Voltage: 4.5 to 5.5VDC
  Output Voltage: Ratiometric 0.5 – 2.5 – 4.5V
  ±0.15V @ 5.0V supply
  Output Current: 10 mA
  Power Consumption: 20 mA @ full load
  Connections: 4 position terminal block with #6 screw terminal

Options:
- Handle: See handle section for a selection of handle options
- Handle Action: Friction Brake
- Mounting: See mounting section for a selection of mounting options
- Hall Effect:
  Option 1: Supply Voltage: 7 to 30VDC
  Output Voltage: 0.5 – 2.5 – 4.5V ±0.15V
  Connections: 4 position terminal block with #6 screw terminal
  Option 2: Supply Voltage: 4.5 to 5.5VDC
  Output Voltage: Redundant - Ratiometric 0.5 – 2.5 – 4.5V ±0.15V complementary @ 5.0V supply
  Connections: 6 position terminal block with #6 screw terminal
- Electronics: CAN Bus
  Connections: Varies with product

Please consult factory for other available options not listed.
PRO-4H HALL-EFFECT OVERALL DIMENSIONS

SINGLE SENSOR
- Input (I)
- Ground (G)
- Ground (G)
- Output (O)

REDUNDANT
- Main Input (I)
- Main Ground (G)
- Main Out (O)
- Redundant Input (I)
- Redundant Ground (G)
- Redundant Out (O)

Dimensions:
- 20°
- 3.5 [89]
- Ø1.25 [Ø32]
- 2.8 [71]
- 3.4 [86]
- 1.4 [36]
- 1.0 [24]
- 1.2 [31]
- 1.4 [36]
PRO-4 MOUNTING DIMENSIONS

MOUNTING STYLE 1
Standard (3) holes w/Ø1.380 [Ø35.0] center hole

Ø1.378 [Ø35.0]  2X Ø.212 [Ø5.4]
.433 [11.0]
1.890 [48.0]

MOUNTING STYLE 2
Standard (3) holes w/Ø1.630 [Ø41.0] center hole

Ø1.630 [Ø41.0]  2X Ø.212 [Ø5.4]
.433 [11.0]
1.890 [48.0]

MOUNTING STYLE 3
Standard (3) holes w/Ø1.700 [Ø43.0] center hole

Ø1.700 [Ø43.0]  2X Ø.212 [Ø5.4]
.433 [11.0]
1.890 [48.0]

OPTIONAL MOUNTING HOLES

Remove lever before mounting

Note: BH-104 uses Style 4

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CONTROLS, INC.
Stratford, CT • 1-800-333-5762 • www.jrmerritt.com
Pub. # 24.C14

(Consult factory for other handle options)
PRO-4 MOUNTING DIMENSIONS

MOUNTING STYLE 4:
5 Holes With
2.25Ø [35] Center Hole

MOUNTING STYLE 5:
5 Holes With
4.50 [114.3] X 2.625 [66.7] Center Cut

MINIMUM MOUNTING DIMENSIONS WITH POTENTIOMETERS AND 2 MICROSWITCHES

(Consult factory for other handle options)
## PRO-4 OVERALL HANDLE OPTION DIMENSIONS

<table>
<thead>
<tr>
<th>Handle Option</th>
<th>Shaft Diameter</th>
<th>Shaft Length</th>
<th>Corresponding Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROUND BALL</td>
<td>Ø1.57 [Ø40]</td>
<td>4.8 [123]</td>
<td>Ø2.2 [Ø56] or Ø1.8 [Ø46]</td>
</tr>
<tr>
<td>2 PIECE HANDLE</td>
<td>4.5 [115]</td>
<td>5.0 [128]</td>
<td></td>
</tr>
<tr>
<td>MG27V</td>
<td>4.5 [115]</td>
<td>5.0 [127]</td>
<td>4.6 [117]</td>
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<tr>
<td>RHN-01 HANDLE</td>
<td>3.7 [95]</td>
<td>6.3 [161]</td>
<td></td>
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<tr>
<td>BH HANDLE</td>
<td>3.3 [85]</td>
<td>5.9 [151]</td>
<td></td>
</tr>
<tr>
<td>RHS HANDLE</td>
<td>1.57 [Ø40]</td>
<td>5.6 [142]</td>
<td></td>
</tr>
</tbody>
</table>

(Consult factory for other handle options)