PRO-6
HEAVY-DUTY SINGLE AXIS
JOYSTICK CONTROLLER

PRO-6 – Single Axis Heavy-Duty Joystick
PRO-6H – Single Axis Heavy-Duty Hall-effect Joystick

Construction:
The ultra-rugged PRO-6 provides precise proportional 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 electronic amplifiers.

It features smooth, field-adjustable friction brake with positive center detent for applications where speed must remain constant under continuous shock and vibration. Unit is designed for mechanical operating life of 20 million cycles and offers universal mounting capability and various electronic amplifiers to accommodate control requirements.

Application:
For use on Cranes, Agricultural, Mining, Paving and Forestry equipment.

Features:
• Versatile design
• Heavy duty construction
• 2.6” mounting centered between stacked controllers
• 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
• Large selection of proportional outputs including potentiometer, Hall-effect, PWM and CAN bus
• Hall-effect, output meets or exceeds CE EMC Requirements
## Mechanical:
- **Mechanical Life:** 20 million cycles
- **Gear Ratio:** 3.5:1
- **Detented Positions:** 0° Null
- **Handle Travel:** ±36° for potentiometer
- **Potentiometer Rotation:** ±126°

## Electrical:
- **Contacts:** 11A 125, 250 VAC Form C V series snap action switch (4 max.) with .187” quick connect tab
- **Potentiometers:** 0.5 watt 5K 3-wire or 10K 4-wire, 5 million Revolutions. Connections: 6 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
- **Special Pots:** Please consult factory with special potentiometer requirements
- **Electronics:** PWM Amplifiers, Pot Amplifiers, Motor Control, CAN bus. Connections: Varies with product

*Please consult factory for other available options not listed.*
PRO-6H ORDERING INFORMATION

Drive Arrangement: Single axis
Basic Assembly: 4.1” 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-6H 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: IP54
- 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-6 STANDARD OVERALL DIMENSIONS

A

B

2.3 [58]

2.7 [68]

SQ Boot base

3.5 [88]

Ø1.25 [Ø32]

36°

36°

1.0 [26]

1.1 [29]

1.2 [32]

1.5 [39]

3.6 [91]

3.9 [98]

3.4 [86]

4.0 [102]

Current board

3.6 [91]

3.9 [98]

3.4 [86]

4.0 [102]

Pot board

J.R. MERRITT

CONTROLS, INC.

Stratford, CT • 1-800-333-5762 • www.jrmerritt.com
PRO-6H 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°
- 3.4 [86]
- 4.1 [105]
- 3.2 [81]
- 1.3 [33]
- 1.0 [24]
- 1.9 [48]
PRO-6 OVERALL HANDLE OPTIONS DIMENSIONS

MG27
4.5 [115] SHAFT

MG27V
4.5 [115] SHAFT

MI
5.0 [127] SHAFT

RHNC-01
3.7 [95] SHAFT

BH
3.3 [85] SHAFT

RHS-01
3.4 [87] SHAFT

(Consult factory for other handle options)
See handle section for handle degree protection
PRO-6 MOUNTING DIMENSIONS

**MOUNTING STYLE 1:**
Standard 5 hole with 2.070Ø [52.6] center hole

**MOUNTING STYLE 2:**
Optional CS2 5 hole with 1.890Ø [48.0] center hole, includes mounting plate and black aluminum escutcheon plate

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ROUND MI MG27 RHNC BH TH25 RHS RHS STD TH20 BALL

BH must remove lever before mounting

Fits all handles shown in mounting style 1 except
PRO-6 MOUNTING DIMENSIONS

MOUNTING STYLE 3:
5 hole with 4.50 [114.3] X 2.625 [66.7] center cutout

MINIMUM MOUNTING DIMENSIONS WITH POTENTIOMETERS AND 2 SNAP ACTION SWITCHES

J.R. MERRITT CONTROLS, INC.