

MERRITT REVO

HEAVY MILL DUTY JOYSTICK

The REVO is a heavy-duty joystick engineered for demanding industrial environments where durability, precision, and reliability are critical. Built with a robust design and high-quality components, the REVO delivers smooth, responsive operation while withstanding the harsh conditions commonly found in steel mills and other demanding applications.



HEAVY DUTY
& RUGGED



IN FIELD
ADJUSTABILITY



DROP IN
REPLACEMENT

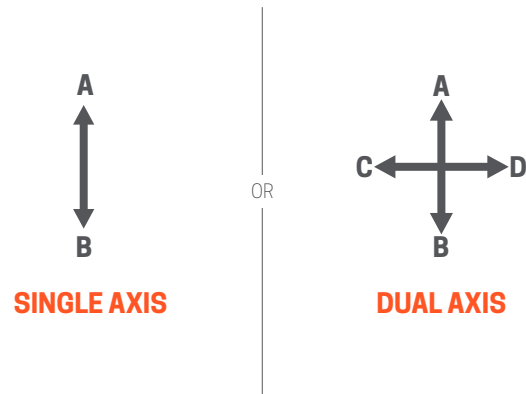
STANDARD FEATURES

- Rugged construction ensures durability and compatibility with VNSO.
- Up to 36° deflection with spring return for smooth, consistent operation.
- Interchangeable shaft diameters for versatile applications.
- Field-adjustable components allow quick part changes and reduced downtime.

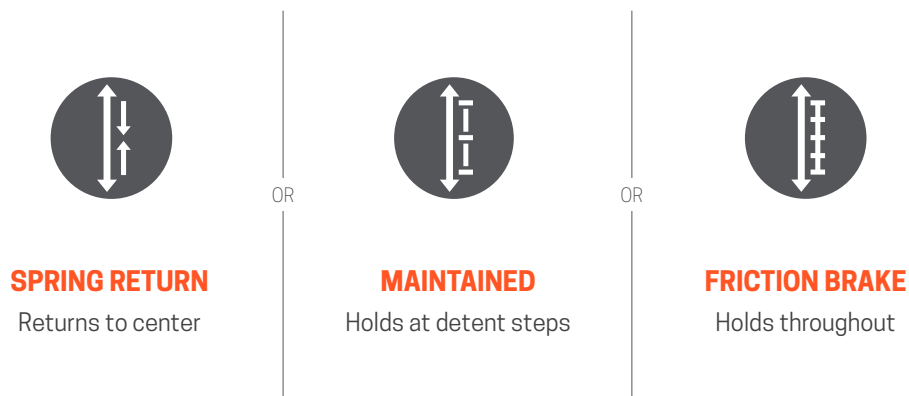


J.R. MERRITT
CONTROLS

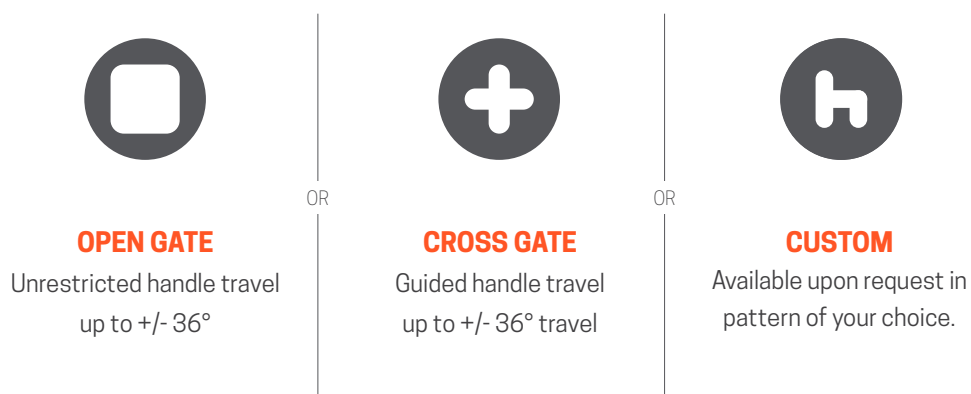
AXIS OPTIONS



JOYSTICK ACTION



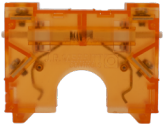
HANDLE TRAVEL OPTIONS



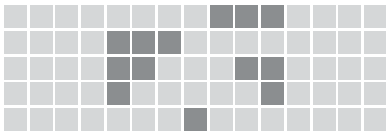
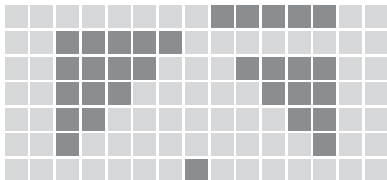


CONTACT TYPE

<p>AC (STANDARD) PART #: 37.501</p>	OR	<p>DC PART #: 37.518 RATING: 1 amp 250VDC</p>
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AC SPECIFICATIONS

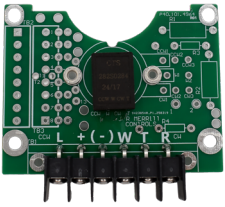
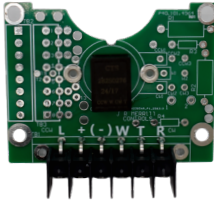


	<p>MAX. SWITCHING CAPACITY (AC) Making - 100 amps Breaking - (0.7PF) 80 amps 240V</p>	<p>ELECTRO-MECHANICAL LIFE (AC) Resistive Operations: 1 million @ 8 amps 240V 10 million @ 2 amps 240V Inductive Operations: 1 million @ 6 amps 240V 10 million @ 2 amps 240V</p>
<p>STANDARD SPECIFICATIONS # OF CONTACTS: Up to 10 double pole, snap-in blocks (i.e. 20 circuits for each axis)</p>	<p>RATING (AC) Resistive 8 amps @ 240V Inductive 6 amps @ 240V</p>	

CONTACT SEQUENCES

<p>STEPPED DETENT OPTIONS</p> <ul style="list-style-type: none"> 1-0-1 2-0-2 3-0-3 4-0-4 5-0-5 6-0-6 7-0-7 	<p>COMMON STEPPED SEQUENCES</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>3 2 1 0 1 2 3</p>  <p>30</p> </div> <div style="text-align: center;"> <p>5 4 3 2 1 0 1 2 3 4 5</p>  <p>50</p> </div> </div>
OR	<p>COMMON STEPLESS SEQUENCES</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>8P1</p> </div> <div style="text-align: center;">  <p>9P1</p> </div> </div>
<p>STEPLESS DETENT 0 (NULL)</p>	

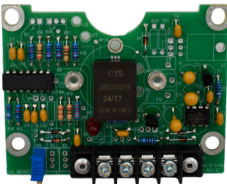
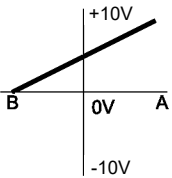
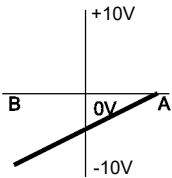
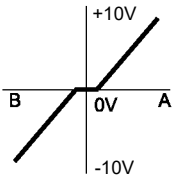
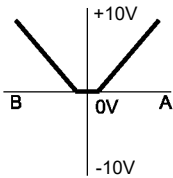
POTENTIOMETERS

Other potentiometers available upon request

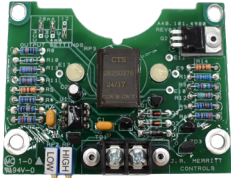
 <p>3-WIRE 5K PART # (W/ BOARD): 04.836</p>	<p>TYPE CTS STYLE Conductive Plastic</p> <p>RATING 0.5 Watt</p> <p>OR</p>  <p>4-WIRE 10K PART # (W/ BOARD): 04.821</p> <p>REVOLUTIONS 2 - 5 Million</p> <p>WIPER CURRENT 0mA to 10mA</p>
 <p>4-WIRE 5K PART # (W/ BOARD): 03.287</p>	<p>TYPE PW55 STYLE Conductive Plastic</p> <p>RATING 3 Watt</p> <p>OR</p>  <p>4-WIRE 10K PART # (W/ BOARD): 04.015</p> <p>REVOLUTIONS 2 - 5 Million</p> <p>WIPER CURRENT 0mA to 10mA</p>

*Lifespan is dependent on the application and environmental conditions

ESS10010 ANALOG AMPLIFIER

	<p>Generates a linear output voltage proportional to the joystick's handle position. Available with 3 or 4-wire pot in the configurations shown below. See ESS10010 literature for more details.</p>	<p>SUPPLY VOLTAGE 18 - 30 VDC</p> <p>STANDARD OUTPUT +/- 10V</p> <p>OUTPUT CURRENT MAX 10 mA</p>	<p>OUTPUT ADJ. RANGE 3.5 - 11VDC</p> <p>OFFSET ADJ. RANGE 0 - +/- 0.1V</p> <p>POTENTIOMETER LIFE 2 - 5 million revolutions</p>
 <p>0V to +V</p>	<p>OR</p>  <p>-V to 0V</p>	<p>OR</p>  <p>-V to +V with Center Deadband</p>	<p>OR</p>  <p>+V with Center Deadband (requires directional contacts)</p>

4-20 mA TRANSMITTER (2-WIRE CIRCUIT)



Acts as a self powered control card with 4-20 mA output. Transmits a current signal which is proportional to the handle position. See **ESS420 literature** for more details.

ESS420
MODEL #:
 05.317
SUPPLY VOLTAGE:
 12 - 40 VDC

OUTPUT CURRENT
 22 mA (max)
ADJUSTMENT RANGE
 2-22 mA

SIGNAL CONVERTER

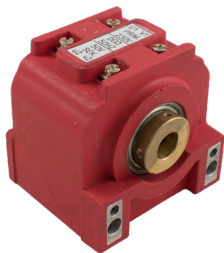
DGO-1 (115/50V)
PART #: 04.024

OR

DGO-2 (220/50V)
PART #: 04.025

OR

DGO-3 (115/30V/30V)
WITH ESS030
AC/DC CONVERTER
DGO-3 PART #: 04.030 & 05.638



High life contactless rotary transformers that are ideal for high duty applications where an AC signal is a requirement. See **DGO literature** for more details and specifications.

ROTATION
 +/- 105 degrees
MAX LOAD
 3VA
WEIGHT
 1.43 LB

Converts AC signal to a DC reference signal that commands a variable drive. See **ESS030 literature** for more details.



ENCODER

Other output types available upon request

8-BIT GRAY ENCODER



Produces a gray code digital output in a completely contactless system with high noise immunity. See **8-bit Gray Encoder literature** for more details.

SUPPLY CURRENT
 Typical 100 mA
OUTPUT CURRENT
 Max. 20 mA
MAX SWITCHING FREQ
 50 kHz
RESOLUTION
 255 discrete counts
 in each direction

OR

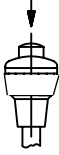


8-BIT BINARY ENCODER

Produces a digital output in a completely contactless system with high noise immunity. See **Encoder literature** for more details.

HANDLES





<p>STANDARD MG27</p> 	<p>ROUND BALL</p> 	<p>PUSH DOWN TO OPERATE* (CONTACT)</p> 	<p>PULL UP TO OPERATE* (CONTACT)</p> 
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STANDARD HANDLES WITH PUSH BUTTON

<p>EXTENDED PUSH BUTTON*</p> 	<p>FLUSH PUSH BUTTON*</p> 	<p>RECESSED PUSH BUTTON*</p> 
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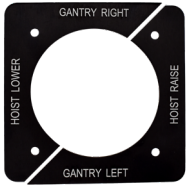
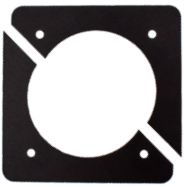


STANDARD HANDLES WITH MECHANICAL INTERLOCK

<p>MECHANICAL INTERLOCK (MI)</p> 	<p>MI & EXTENDED PUSH BUTTON*</p> 	<p>MI & FLUSH PUSH BUTTON*</p> 	<p>MI & RECESSED PUSH BUTTON*</p> 
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*All models listed above feature 1 NO (normally opened) and 1 NC (normally closed) contact that is actuated by a flex shaft.
See **standard handle** literature for more contact options.

NAME PLATE LABELING OPTIONS

 <p>CUSTOM TEXT Laser Engraved</p>	<p>OR</p>  <p>BLANK</p>
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2 - PIECE PLATE (STANDARD)

Black Aluminum
Quick, hassle-free installation and
easy field replacement.
No handle removal required.

ROCKER HANDLES	RH	<p>Rocker handle with optional:</p> <ul style="list-style-type: none"> (Top) Rocker Switch (Top) Momentary Push Button (Top) Maintained Push Button (Side) Momentary Push Button  <p>HEIGHT: 7.3" [186]</p>	RHS	<p>Rocker handle with optional:</p> <ul style="list-style-type: none"> (Top) Rocker Switch (Top) Momentary Push Button (Top) Maintained Push Button (Side) Momentary Push Button  <p>HEIGHT: 6.3" [160]</p>	BH	<p>Lever handle with optional:</p> <ul style="list-style-type: none"> (Top) Rocker Switch (Top) Momentary Push Button (Side) Lever Actuated Momentary Push Button  <p>HEIGHT: 6.8" [173]</p>
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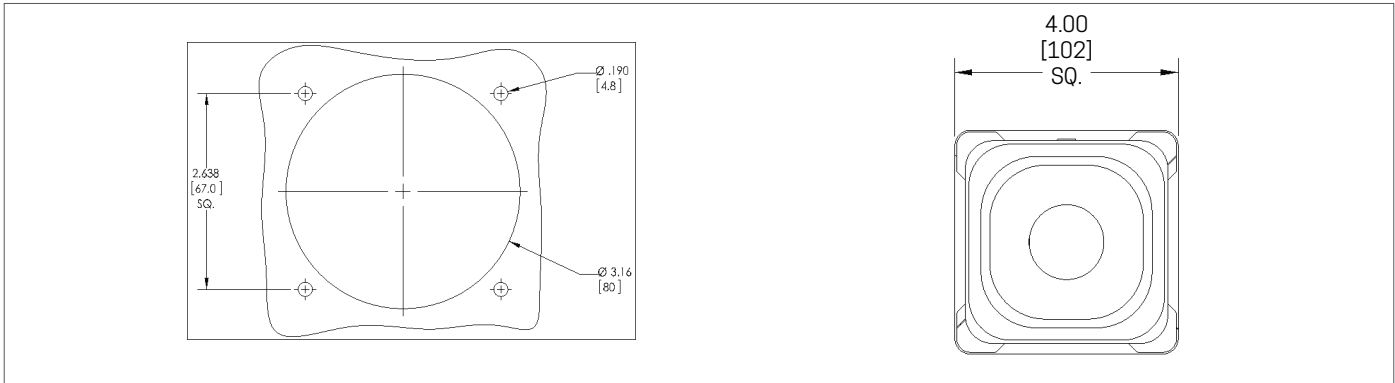
FIGHTER GRIPS	FG-3	<p>Fighter grip handle with optional:</p> <ul style="list-style-type: none"> Rocker Switches Thumbwheels Push Buttons Trigger  <p>HEIGHT: 7.5" [191]</p>	FG-8	<p>Fighter grip handle with optional:</p> <ul style="list-style-type: none"> Rocker Switches & Thumbwheels Push Buttons Trigger  <p>HEIGHT: 8" [204]</p>	XG1	<p>Multi-function handle with optional:</p> <ul style="list-style-type: none"> Rocker Switches Thumbwheels Push Buttons Trigger  <p>HEIGHT: 7.7" [195]</p>
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T HANDLES	MG1	<p>T Handle with optional:</p> <p>Side Push Button</p>  <p>HEIGHT: 4.9" [125]</p>	MG2	<p>T Handle with optional:</p> <p>Side Push Buttons</p>  <p>HEIGHT: 6.9" [175]</p>	MG13	<p>Twist handle with optional:</p> <p>Side Push Button or Hall-Effect Twist Handle</p>  <p>HEIGHT: 4.5" [115]</p>	CUSTOM HANDLES
	<p>Contact us today to learn more about our engineering & design services.</p> 						
	<p>Illustration only - handle not available for purchase.</p>						

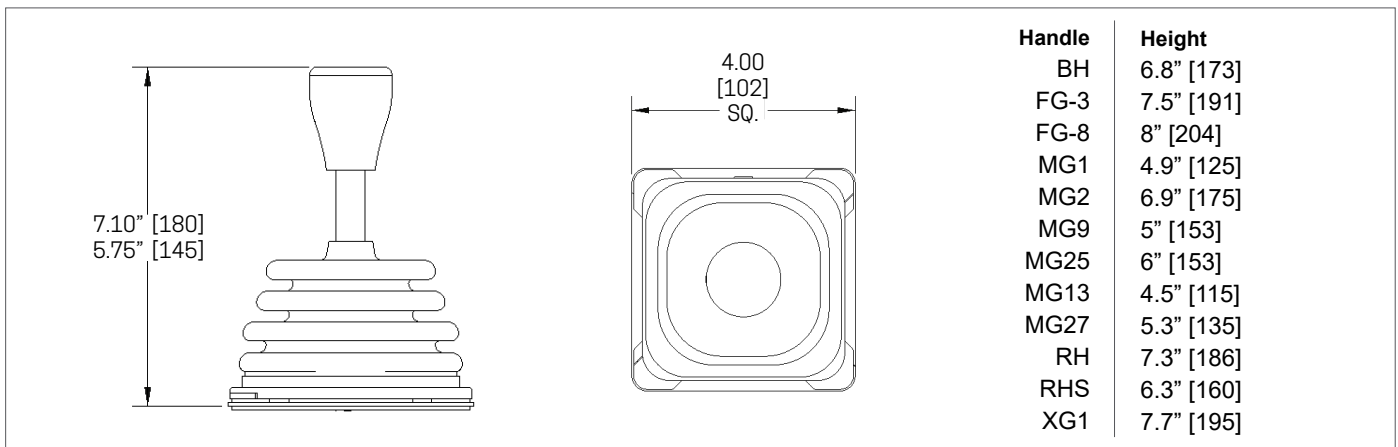
PALM HANDLES	MG25	<p>Palm handle with optional:</p> <p>Top & Side Push Buttons</p>  <p>HEIGHT: 6" [153]</p>	MG27	<p>Options:</p> <p>Extended or Recessed Push Button</p>  <p>HEIGHT: 5.3" [135]</p>	MG9	<p>Palm handle with optional:</p> <p>Top & Side Push Buttons</p>  <p>HEIGHT: 5" [153]</p>	<p>*Heights shown are measurements from the panel to the top of the handle, and are subject to change.</p>
	<p>Illustration only - handle not available for purchase.</p>						
	<p>*Heights shown are measurements from the panel to the top of the handle, and are subject to change.</p>						

STANDARD MOUNTING

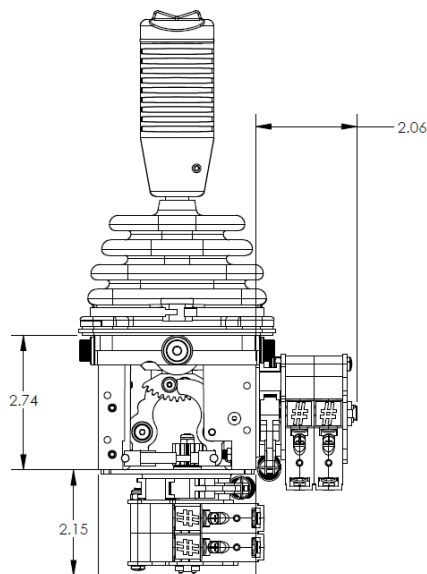
Mounts from below.



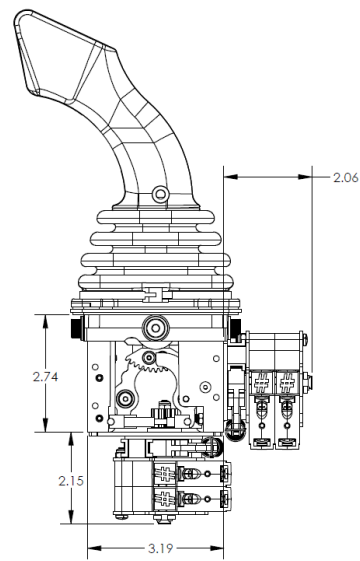
ABOVE THE PANEL



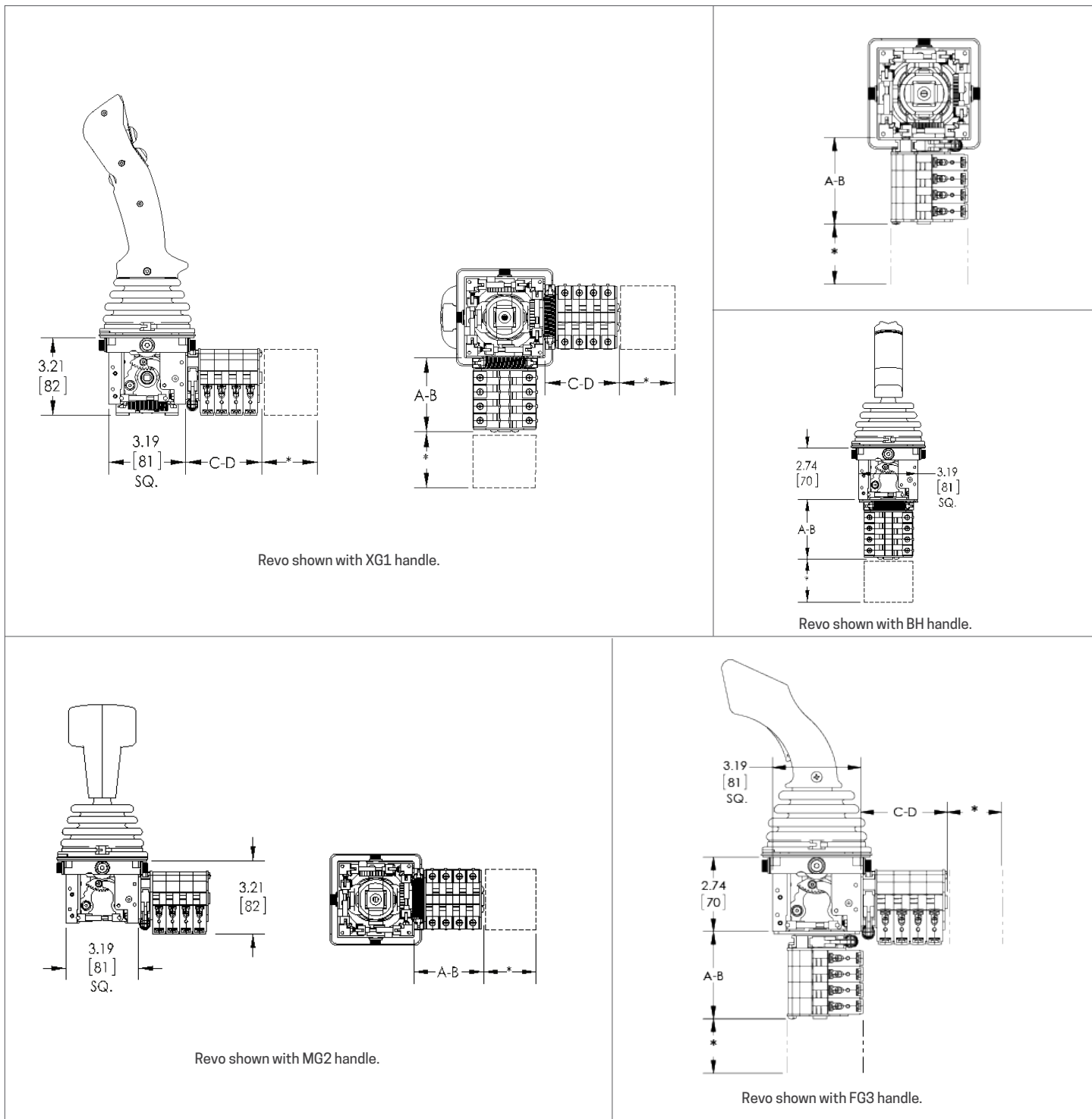
DIMENSIONS



Revo shown with RHS handle.



Revo shown with FG3 handle.

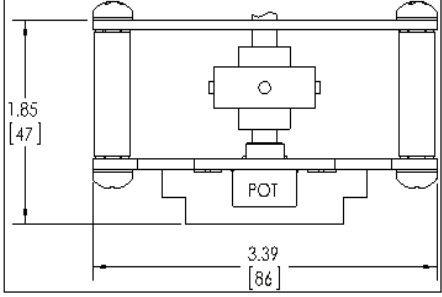
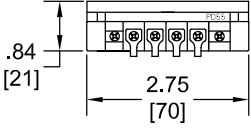
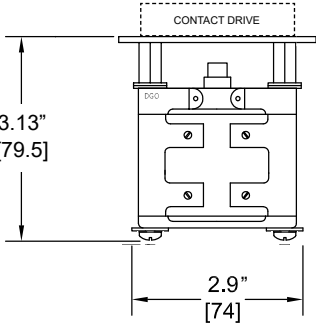
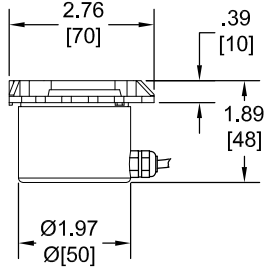


# of Contact Blocks	1	2	3	4	5	6	7	8	9	10
Length of A-B and/or C-D Drives	1.38" [35]	1.97" [50]	2.56" [65]	3.15" [80]	3.74" [95]	4.34" [110]	4.92" [125]	5.51" [140]	6.10" [155]	6.69" [170]

*See output dimensions on page 10.

All dimensions in inches [mm] and are subject to change.

OUTPUT DEVICE DIMENSIONS

<p>CTS POTENTIOMETERS</p> <p>ESS10010 ANALOG AMPLIFIER</p> <p>4-20 mA TRANSMITTER</p>	 <p>1.85 [47]</p> <p>3.39 [86]</p>	<p>Adds 1.85 inches onto contact drive</p>
<p>PW55 POTENTIOMETERS</p> <p>Adds .84 inches onto contact drive</p>  <p>.84 [21]</p> <p>2.75 [70]</p>	<p>DGO TRANSFORMERS</p> <p>Adds 3.13 inches onto contact drive</p>  <p>CONTACT DRIVE</p> <p>3.13" [79.5]</p> <p>2.9" [74]</p>	<p>8-BIT CODE ENCODER</p> <p>Adds 1.89 inches onto contact drive</p>  <p>2.76 [70]</p> <p>.39 [10]</p> <p>1.89 [48]</p> <p>Ø1.97 Ø[50]</p>

All dimensions in inches [mm] and are subject to change.

ENVIRONMENTAL DETAILS

Operating Temperature

-13° to +158° F [-25° to +70°C]

Storage Temperature

-40° to +158° F [-25° to +70°C]

IP Rating

IP54 (Above Panel)

MECHANICAL DETAILS

Mechanical Life

20 million plus life cycles

Handle Travel

Up to ±36 degrees

Gear Ratio

3.5:1 (other gear ratios available upon request)