

VCSO

COMPACT / RUGGED JOYSTICK CONTROLLER

Construction:

The **TYPE VCSO** Joystick Controller is rugged, compact and offers excellent application versatility. VCSO Joysticks are utilized where precise proportional and step control of A/C or D/C drives and Electro-Hydraulics is desired.

The all plastic Zytel housing and specially treated rugged metal components make this Joystick ideal for use in corrosive environments.

The **VCSO** Joystick is constructed with nickel chromium gimbal yokes, nylon guide blocks, 5/16" hardened operating shaft and bronze gate with shaft roller as a stop. The VCSO also features a new positive detent system and a field removable off point contact module.

Application:

These devices are commonly utilized to control Material Handling and Processing machinery used in Metals, Mining, Marine, Construction and Forestry Industries where durability and resistance to corrosion is paramount.

Features and Options:

- Rugged construction.
- Compact design (6 contacts & potentiometer in each axis in a 4 3/4 square area).
- Corrosion resistant
- Single and dual axis operation
- Standard and custom switching gates
- 6-0-6 detented steps
- 6 Double Pole contact blocks each axis (field replaceable)
- Potentiometer- high life conductive plastic
- 10 million plus operations with friction brake
- PFC and PFC/CR: Proportional Feathering Control electronics each axis
- Normally closed neutral interlock contacts
- Variety of handle actuated deadman functions
- Mechanical Interlock to prevent inadvertent operation



VCSO ORDERING INFORMATION

- Basic Assembly:** 4 1/8" Shaft length, 2 piece handle, boot, and 3.78" sq. Mounting Plate supplied standard.
- Drive Arrangement:** E=1 Axis, V=2 Axis
- Handle:** Reference handle section for a selection of custom handles and handle operated deadman functions
- Shaft lengths:** 3 1/8, 4 1/8, 5 1/2, or 7 1/8.
- Contacts:** Each contact block supplied with 2 poles. Main housing can be supplied with or without normally closed neutral contact.
Gold Contacts =K
Maximum number of Contacts in each axis = 12 (6 contact blocks).
- Potentiometers:** 0.5 Watt 5 million operations standard. Specify resistance and type required (Consult factory for custom requirements)
- Electronics:** See PFC or PFC/CR (Proportional Feathering Control electronics) for ordering information.

VCSO Technical Data

Mechanical:

- **Operating Temperature:** -25° to +70°C
- **Detented Positions:**
0° neutral and 1-0-1 – 6-0-6 steps
- **Mechanical Life:**
VCSO 5 million plus cycles
10 million plus cycles with friction brake.
- **Gear Ratio:** 3.78:1
- **Handle Travel:** ± 37°
- **Cam and Potentiometer Rotation:** ±140°

UL file # E106738(m)

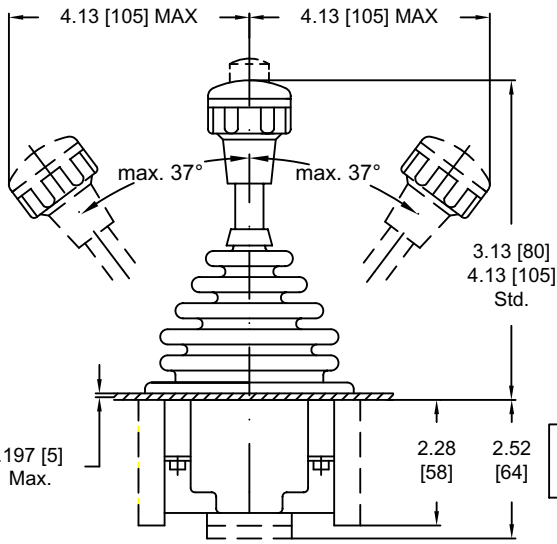
Consult factory for rated contacts

Electrical:

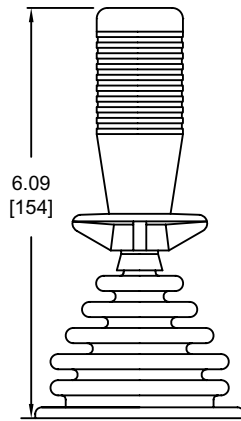
- **Contacts:** 6 Double Pole contact blocks per axis, 12 contacts. 3 Double Pole contact blocks maximum each axis with potentiometer (6 circuits). Can be used for low voltage.
- **Terminals:** M3.5 x0.5 screw with saddle clamp
- **Wire Size:** #12 AWG max.
- **Rating AC:**
 - a) AC continuous 10 amps @ 240 volts
 - b) AC resistive 6 amps @ 240 volts
 - c) AC inductive 4 amps @ 240 volts
- **Max. switching capacity:**
Making AC 60 amps
Breaking AC 60 amps (0.7PF) 240V
- **Electro Mechanical life:** Breaking AC current
 - a) Resistive: 1 million operations @ 6 amps 240VAC
10 million operations @ 2 amps 240VAC
 - b) Inductive: 1 million operations @ 4 amps 240VAC
10 million operations @ 1 amp 240VAC
 - c) DC inductive: 1 million operations @ 0.200 amps
230VDC
1 million operations @ 0.800 amps 24VDC

VCSO DIMENSIONS

CONTACT ASSEMBLY

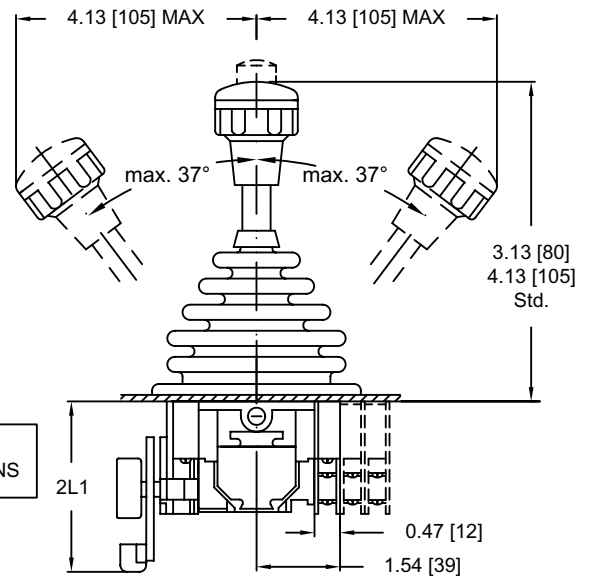


OPTIONAL RH HANDLE



CONSULT FACTORY FOR RH MOUNTING INSTRUCTIONS

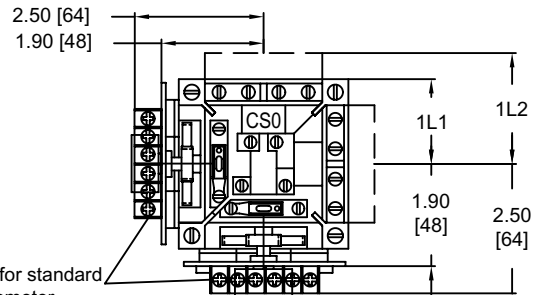
POTENTIOMETER ASSEMBLY



PC BOARD MOUNTING DEPTH

REF.	2L1
STANDARD POT BOARD*	3.32" [84]
ESS420 BOARD	3.32" [84]
PFC VOLTAGE BD*	3.56" [91]
PFC-CR CURRENT REGULATED BOARD	4.38" [111]

*LOW PROFILE VERSION AVAILABLE UPON REQUEST

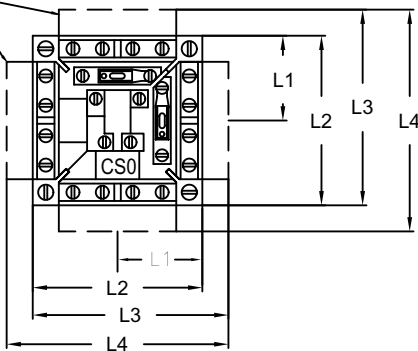


Dimensions for standard potentiometer. Consult factory for special potentiometer requirements.

NUMBER OF CONTACTS

REF.	1-2	3-4
1L1	1.54 [39]	
1L2		2.01 [51]

2 Pole Std. Contact Block (typ.)

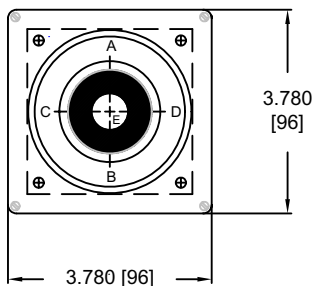


NUMBER OF CONTACTS

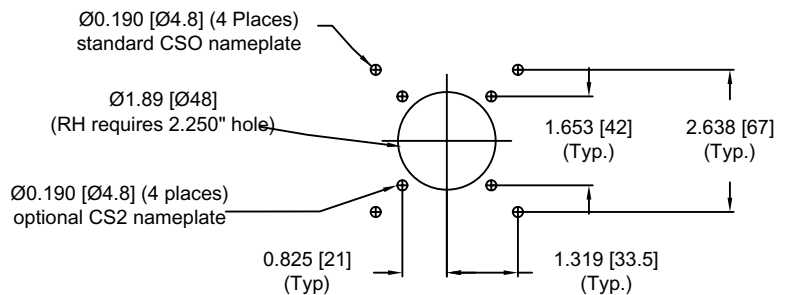
REF.	1-2	3-4	5-6	7-8
L1	1.54 [39]			
L2		3.08 [78]		
L3			3.54 [90]	
L4				4.02 [102]

IMPORTANT: FOR CRITICAL DIMENSIONS WE SUGGEST YOU REQUEST A CERTIFIED DRAWING

STANDARD MOUNTING PLATE



MOUNTING DETAIL



J.R. MERRITT
CONTROLS, INC.

Stratford, CT • 1-800-333-5762 • www.jrmerritt.com