

VCSO & VCS2 JOYSTICK SERVICE BULLETIN

Installation Instructions

The VCSO and VCS2 Joysticks are rugged, compact devices that offer excellent application versatility. Configured to accommodate your specific space requirements, they provide the operator with a manually selectable step or stepless output for controlling the operation of heavy equipment and machinery. The VCSO is provided with 10A contact blocks and the VCS2 has 5A or 10A micro switches.

Installation:

Both types of controllers require a 5 hole mounting pattern (see panel hole detail). It is not necessary to remove the operating knob or boot to install either controller. When the joystick includes a bronze guide gate (single axis, dual axis cross gate or special gate) care must be taken to correctly align the gate assuring that the shaft operates smoothly in the gate slots. Alignment marks on the gate and the switch body are provided to facilitate this task. Any final adjustments can be made just prior to fully tightening the mounting screws. Access to the controller should be comfortable and unobstructed. Care should be taken in console and cab design to avoid locations where inadvertent operation is possible, where the operator is able to apply an excessive amount of force to the control lever, where the control handle could be used as a means of supporting entrance and exit from the cab area or where hand and knuckle clearance is limited.

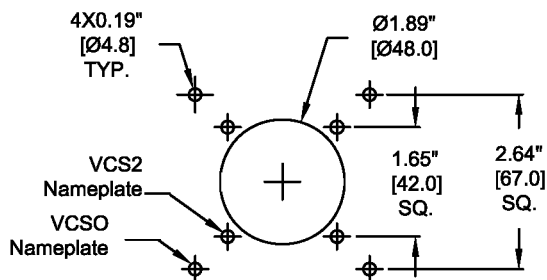
5 Hole Mounting with 1.890"Ø (48mm) or 2.244"Ø (57mm)

Center Hole:

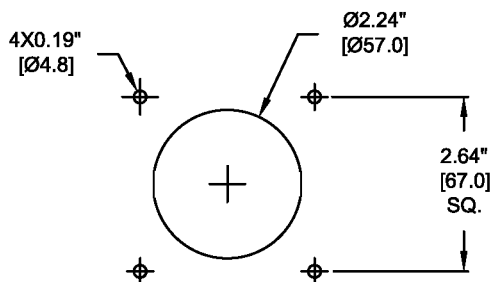
The following handles fit through the 1.890"Ø hole: Round Ball, RHS, RH with small skirt, BH, Push-buttons, 2 piece and MG20 Hall Effect twist.

The following handles fit through the 2.244"Ø hole: RH with full skirt and MG1.

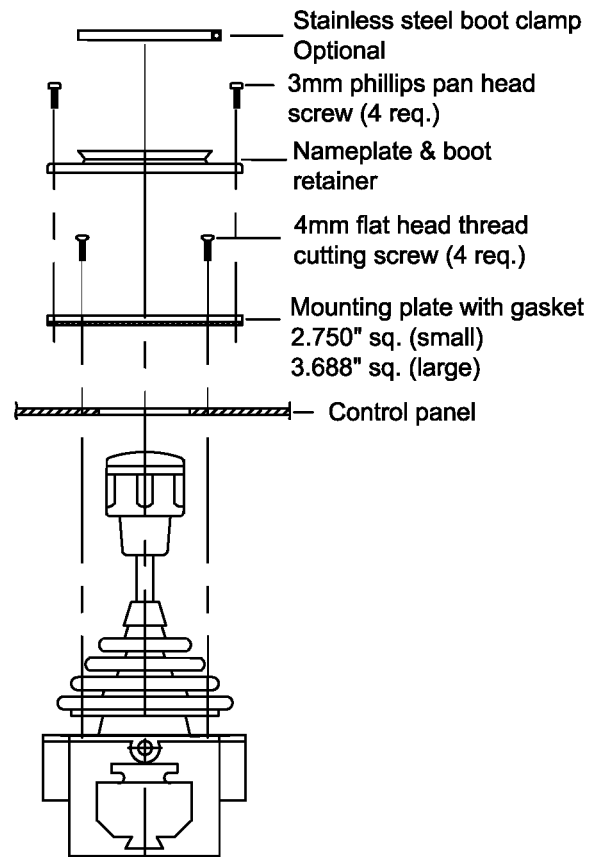
PANEL MOUNTING 1.89"Ø(48mm)



PANEL MOUNTING 2.25"Ø(57mm)

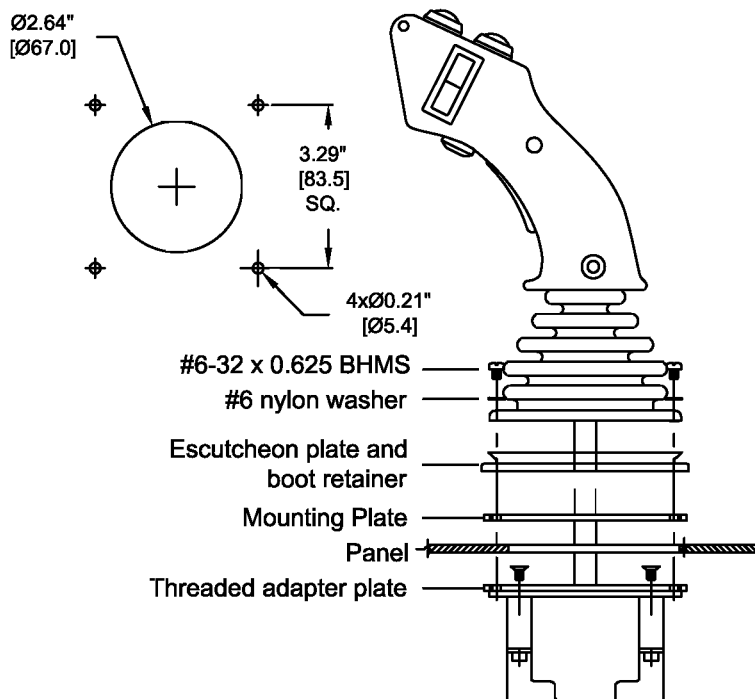


VCSO / VCS2 BASIC SWITCH

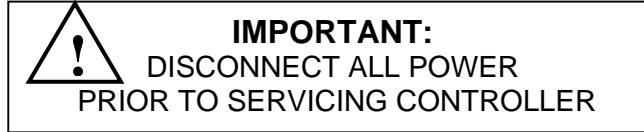


5 Hole Mounting with 2.638"Ø (67mm) Center Hole and adapter plate.

The 2.638"Ø hole will accommodate Fighter Grips and all other handle assemblies.



TYPE VCISO/VCS2 COMPACT JOYSTICK SERVICE BULLETIN



Service

Periodic lubrication is recommended. A light grease should be applied to active components, such as spring return arms, yokes, gear drives and detent rollers.

Inspect for torn or damaged boots and replace them immediately.

Check assembly and mounting bolts for tightness.



Immediately report any abnormal operation characteristics of the controller to the proper authority.

Wiring

The type VCISO contacts utilize a saddle clamp type terminal. It is recommended when using bare copper wire that all terminal connections are re-tightened after a short interval to "cold flow" the conductor. Cold flowing the copper through re-tightening will insure a non-resistive connection.

Proportional Control

Potentiometers, Rotary Inductive Transformers, Encoders, Rheostats, etc. are field replaceable but may require calibration and alignment by a field service technician. Before operating, the device should be tested by an authorized technician for proper alignment and calibration.

VCS2 Micro-switch Replacement

Remove micro-switch mounting screws and switch. Replace in the reverse order. Check that micro is operating properly. If adjustment is needed, loosen screws and reposition micro-switch. Re-tighten and re-test.

Disclaimer

Joysticks are supplied with deadman spring return of handles to neutral. For safety reasons, electronic deadman equipment control is recommended for applications with maintained handle action. (Consult factory).

The customer is responsible for meeting OSHA compliance of deadman safety devices, providing operator safety and proper equipment use training, and for maintaining the equipment and controls in a safe working condition. Customer agrees to indemnify and hold J.R. Merritt Controls, Inc. harmless and defend at its expense, all claims and suits asserted or brought against J.R. Merritt Controls, Inc. due to the absence, removal, tampering, improper installation or improper use of this equipment and associated deadman safety

Contacts and Cams

Cam-operated contacts on the VCISO are field replaceable and can be removed by unscrewing the (2) clamps and sliding the contact block out of its channel (See Fig. 1). If contacts are to be cleaned, it is recommended that a low residue spray contact cleaner be used. The micro switches on the VCS2 are not field replaceable. (Never file or sand the contact tips).

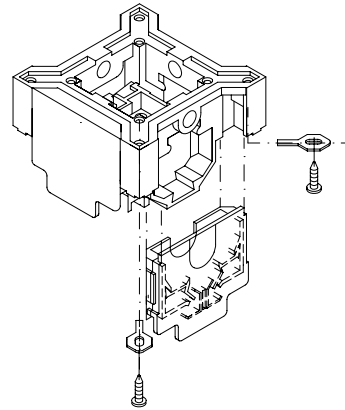


Fig. 1

Contact AC Ratings

TYPE VCISO

AC continuous	10 amps @ 240 volts
AC resistive	6 amps @ 240 volts
AC inductive	4 amps @ 240 volts

TYPE VCS2

Type SS AC continuous	5 amps @ 125 volts
Type SS AC continuous	3 amps @ 240 volts
Type V3 AC continuous	10 amps @ 125 volts



Important: 1 and 2 axis Joysticks are supplied with deadman spring return of handles to neutral. Electronic deadman control is available for applications requested with maintained handle action. (Consult factory).