

NSO-SF

Rugged Cast Design Single Axis Controller

Application:

The **TYPE NSO-SF** Single Axis Controller is capable of operating contacts, potentiometers or a (P.F.C.) Proportional Feathering Control electronics amplifier. The NSO-SF features cast housing construction making it durable and suitable for use in wet environments. These devices are used in shipboard applications both above and below deck for controlling Cranes, Windlasses, Engine Governors and Bow Thrusters. Some other applications include controlling Cranes, Dredgers and Material Handling equipment.

Features and Options:

- Rugged NEMA 4X construction.
- Up to (20) 16A 240VAC programmable snap-in contacts.
- Detented positions up to 7-0-7 steps
- Spring Return or Friction Brake.
- Direct Drive potentiometer system (eliminates gear misalignment and reduces backlash tolerances).
- P.F.C. series of Proportional Feathering Control remote electronic amplifier for controlling Electro-Hydraulics.
- Mechanical Interlock and custom handles available.



NSO-SF ORDERING INFORMATION

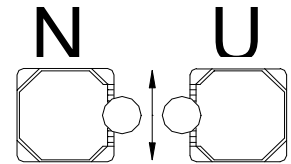
- Basic Assembly:** 2 piece handle, epoxy painted aluminum cast housing and mounting gasket.
- Drive Arrangement:** N = Left, U = Right
- Handle:** Reference Handle Section 5 for a selection of custom handles and handle operated deadman functions.
- Contacts:** Each contact block supplied with two poles.
Maximum number of Contacts = 20 (10 contact blocks).
- Potentiometers:** 0.5 watt 5 million revolutions conductive plastic standard. Specify resistance and type required.
(Consult factory for custom requirements.)
- Electronics:** See PFC or PFC/CR, (Proportional Feathering Control electronics) for ordering information.

Optional bronze cast housing available.

NSO-SF Technical Data

Mechanical:

- **Operating Temperature:** -25° to +70°C
- **Detented Positions:** Up to 7-0-7 steps
- **Mechanical Life:** Maintained action 10 million plus operations
- **Operations:** Rated duty cycle 1000 operations per hour
- **Gear Ratio:** 2:6:1 (handle travel $\pm 54^\circ$, cam and potentiometer rotation $\pm 140^\circ$)
Other angles available, consult factory

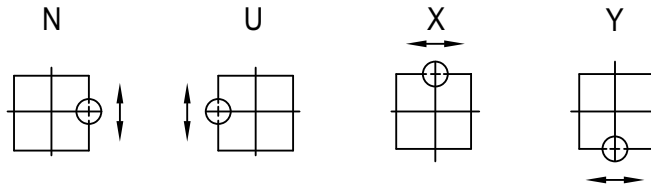


Electrical:

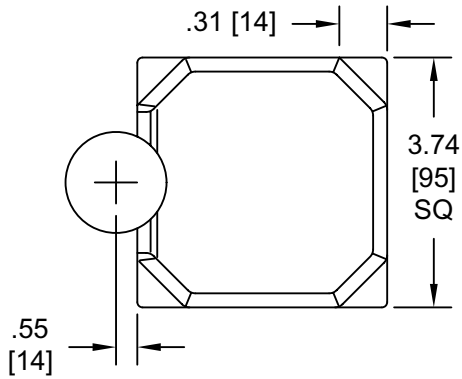
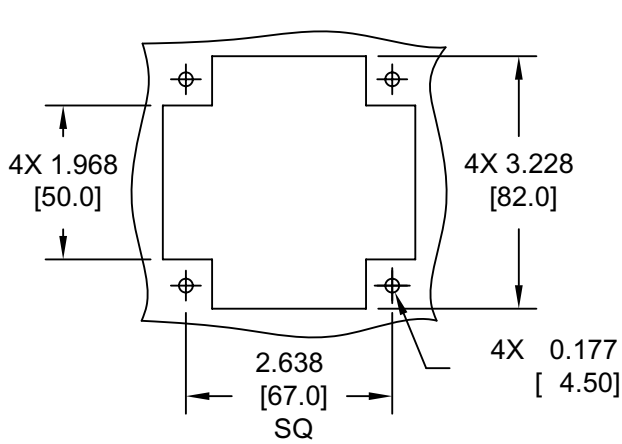
- **Contacts:** Double Pole snap in contact blocks 20 circuits.
(Consult factory if additional circuits are required)
- **Terminals:** M3.5 x0.5 screw with saddle clamp
- **Wire Size:** #12 AWG maximum
- **Rating AC:**
 - a) AC continuous 16 amps @ 240 volts
 - b) AC resistive 8 amps @ 240 volts
 - c) AC inductive 6 amps @ 240 volts
 - d) 1 H.P. 120 VAC 1 Phase
 - e) 2 H.P. 240 VAC 1 Phase
- **Max. switching capacity:** Making AC – 100 amps
Breaking AC 80 amps (0.7PF) 240V
- **Electro Mechanical life:** Breaking AC current
 - a) Resistive: 1 million operations @ 8 amps 240VAC
10 million operations @ 2 amps 240VAC
 - b) Inductive: 1 million operations @ 6 amps 240VAC
10 million operations @ 2 amp 240VAC

Consult factory for low voltage gold, V3 Form C, and DC rated contacts

NSO-SF DIMENSIONS

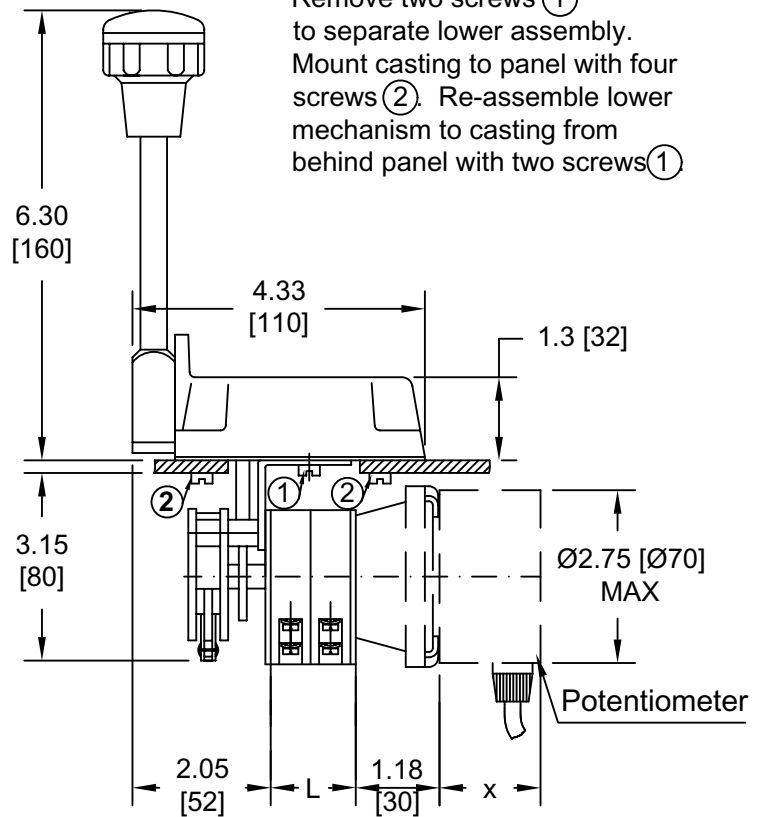
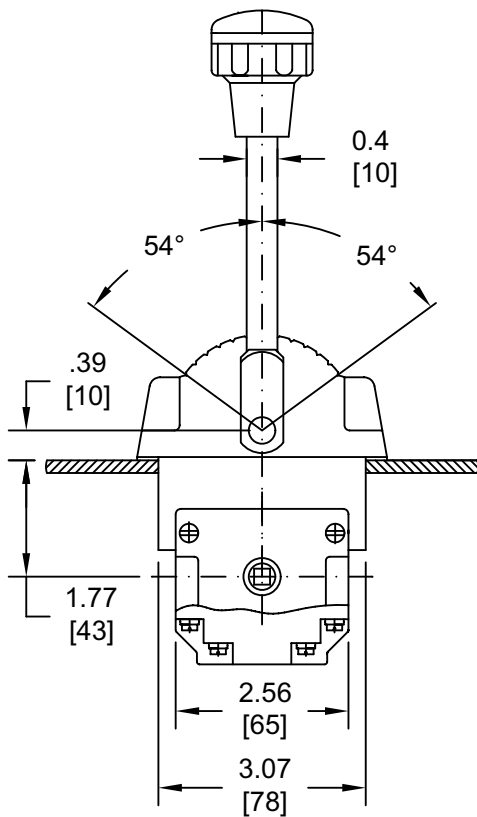


PANEL CUT-OUT



MOUNTING INSTRUCTIONS

Remove two screws ① to separate lower assembly. Mount casting to panel with four screws ②. Re-assemble lower mechanism to casting from behind panel with two screws ①.



Double pole contact block	1	2	3	4	5	6	7	8	9	10
L dimension	0.59 [15]	1.18 [30]	1.77 [45]	2.36 [60]	2.95 [75]	3.54 [90]	4.13 [105]	4.72 [120]	5.31 [135]	5.9 [150]