

VNS2 / VNSB2

MILL DUTY

MASTERSWITCH & JOYSTICK CONTROLLER

Application:

The **TYPE VNS2 / VNSB2** series of Joystick Controllers are characterized by their unmatched versatility and rugged construction. They provide step and stepless control for AC & DC variable speed drives and electro-hydraulic proportional valves. Applications include: Steel, Rolling Mill and Foundry Cranes, Mining Shovels and Excavators, and Logging Equipment.

Features:

- **Rugged Construction:** Forged nickel chromium gimbal mechanism, hardened bearings.
- **Mechanical Life:** 20 Million cycles.
- **Design Flexibility:** Contact and potentiometer drive locations can be selected to accommodate available panel space. Tandem drive arrangement available for mounting at end or at base of controller.
- **Multi-Axis Control:** 1 or 2 axis control with non-simultaneous or simultaneous handle operation. Both standard and custom switching patterns available.
- **Handle:** Variety of handle styles and handle operated dead-man functions.
- **Precise Step Control:** Up to 7-0-7 individually detented steps in each axis.
- **Contacts:** (10) 25A 600 VAC or 2A 250 VDC inductive double pole field replaceable contacts. DC contacts with magnetic blowouts.
- **Potentiometers:** 0.5 watt 5 million revolution conductive plastic potentiometers furnished standard.
- **Electronics:** Proportional Feathering Control (P.F.C.) electronic amplifiers for operation of Electro-Hydraulic valves and strokers.
- **Enclosures:** Variety of standard steel and fiberglass consoles available; NEMA 1, 3R, 12 and 13.



VNS2 / VNSB2 ORDERING INFORMATION

- Basic Assembly:** 9.5" handle height, 2-piece handle, boot and mounting plate supplied standard.
- Drive Arrangement:** See VNS2 Dimensions for selecting contact drive mounting arrangements.
- Handle:** Reference Handle section for handle options and custom grips.
- Shaft length:** 8"
- Contacts:** Each contact block supplied with 2 poles.
- Output Devices:**
- Potentiometers:** 0.5 watt conductive plastic 5 million revolutions furnished standard.
Specify resistance and type required. (Consult factory for custom requirements).
 - Electronics:** See Proportional Feathering Control (P.F.C.) and PFC/CR electronics for ordering information.
 - Encoder:** See OGR8G-M1 8 Bit gray code absolute encoder information sheet.
 - Transformer:** See DGO 1, 2 & 3 Rotary Inductive Differential Transformer information sheet.

VNS2 TECHNICAL DATA

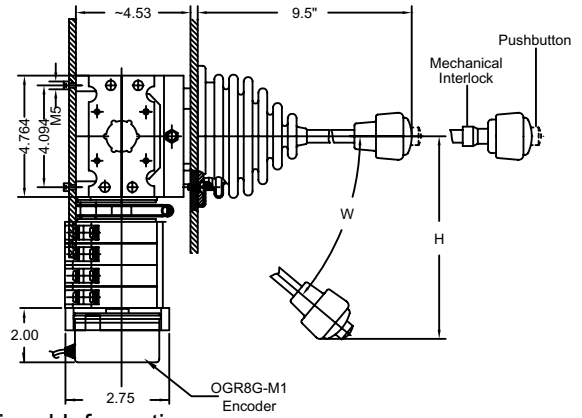
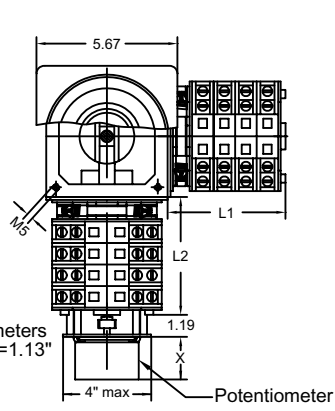
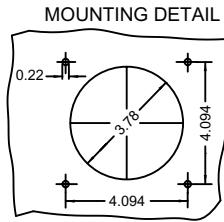
MECHANICAL:

- **Operating Temperature:** -25°-+70°C
- **Detented Positions:** Up to 7-0-7 Steps.
- **Gear Ratio:** 3:1 (Handle deflection $\pm 40^\circ$, cams and potentiometers $\pm 120^\circ$). (Other angles available consult factory).
- **Mechanical Life:** 20 million plus cycles.

ELECTRICAL:

- **Contacts:** 10 Double pole replaceable blocks and 20 circuits for each axis.
(Consult factory if additional circuits required)
- **Terminals:** M5 machine screws
- **VNS2 Rating AC:**
 - a) AC continuous 25 amps @ 600V
 - b) AC resistive 20 amps @ 240V
 - c) AC inductive 14 amps @ 240V
- **VNSB2 Rating DC:** (with magnetic blow-out)
Resistive 5 amps 250V
Inductive 2 amps 250V
- **Max. Switching Capacity:**
Making - 160 amps
Breaking - (0.7PF) 160 amps 240V

VNS2 / VNSB2 DIMENSIONS



*For PD550 Flat Potentiometers
Total Dimensions including x=1.13"
Potentiometer Rotation
Standard 126°-0°-126°

See Below For Additional Dimensional Information

Drive Arrangement Selection Table

VNS2-E		VNS2-G		VNS2-A									
				Pos.	W	H							
				1-0-1	10°	2.50							
				2-0-2	20°	3.87							
				3-0-3	30°	5.00							
				4-0-4	40°	6.37							
				5-0-5	40°	6.37							
L1 or L2 Dimensions	2.28	3.15	4.00	4.88	5.75	6.61	7.48	8.35	9.21	10.07	6-0-6	35°	5.75
Double Pole Contact Blocks	1	2	3	4	5	6	7	8	9	10	7-0-7	40°	6.37

IMPORTANT: Consult factory for critical dimensions and custom options.

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