

NS2/NSB2-KB

HEAVY MILL DUTY COMPACT AC & DC CAST JOYSTICK CONTROLLER

Construction:

The type **NS2/NSB2-KB** series of joystick controllers are characterized by their versatility and rugged construction for step and stepless AC & DC controls.

Space saving design and popular mounting hole pattern allow for easy replacement of other manufacturer's master switches.

Your specific control requirements can be accommodated by a variety of standard and custom engineered configurations including a variety of handle options and proportional and discrete outputs.

Application:

For use in steel mills, process lines, foundry cranes, mining shovels, and logging equipment. Widely used on Class E cranes and in-plant process control where duty cycle is continuous.

Features:

- Versatile design
- Cast construction, double ball bearing operating shaft
- Space saving design
- Environmentally sealed, field replaceable torsion spring return system
- 20 Million cycle mechanical operating life
- Rugged 12mm diameter handle shaft
- Corrosion resistant components
- Double pole, field replaceable contacts

Options:

- Maintained or friction held handle
- Large variety of optional handle configurations including; push button, mechanical interlock and rocker switch handle
- Stepped detents (up to 7-0-7)
- DC contacts with magnetic blow outs (NSB2-KB)
- Large selection of proportional outputs including potentiometer, DGO, rotary differential transformer, encoder, 4-20mA, 10V amplifier and CAN bus
- Variety of steel enclosures and pedestals



NS2-KB

NS2/NSB2-KB ORDERING INFORMATION

Drive Arrangement:	Single axis cast housing
Basic Assembly:	9.5" handle height off of panel and cast housing supplied standard
Handle:	2.0" diameter round ball
Handle Action:	Spring Return
Output:	Proportional, discrete (AC and DC contacts with magnetic blowouts)
Output Devices:	Potentiometer, DGO rotary differential transformer, encoder, 4-20 mA, 10V amplifier and CAN bus

NS2-KB Technical Data

Mechanical:

- **Mechanical Life:** 20 million cycles
- **Gear Ratio:** 3:1
- **Detented Positions:** 7-0-7 max.
- **Handle Travel:** $\pm 40^\circ$ max.
- **Potentiometer Rotation:** $\pm 126^\circ$

Environmental:

- **Operating Temperature:** -25 to +70 degrees C
- **Storage temperature:** -40 to +70 degrees C
- **Protection above panel:** IP65

Options:

- **Handle:** See handle section for a selection of handle options
- **Shaft Length:** Please consult factory for special shaft length requirements.
- **Handle Action:** Friction brake or maintained action
- **Gates:** Please consult factory for special gate requirements.
- **Special Pots:** 3 watt – 10 million revolution and 5 watt – 20 million revolution wire wound available. Please consult factory for other special potentiometer requirements.

Please consult factory for other available options not listed.

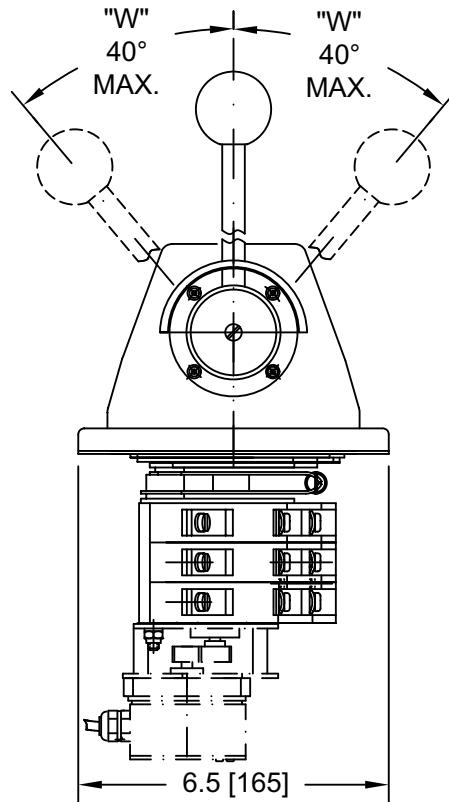
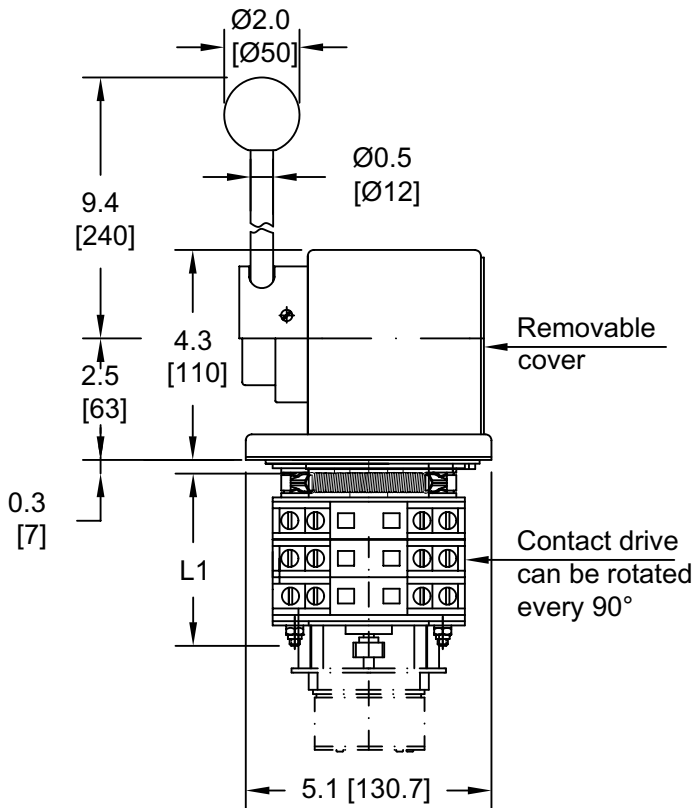
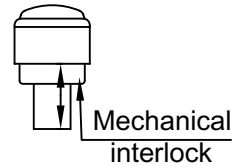
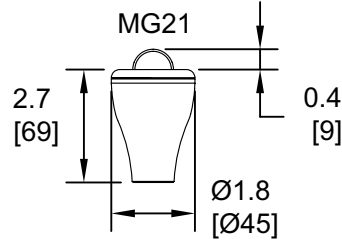
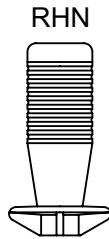
Electrical:

- **Contacts:** Double pole contact block – 20 circuits max. standard
- **AC Rating (NS2-KB)**
AC continuous 25 amps @ 600 volts
AC resistive 20 amps @ 240 volts
AC inductive 14 amps @ 240 volts
- **DC Rating (NSB2-KB) with Magnetic Blowout:**
Resistive 5 amps @ 250 volts
Inductive 2 amps @ 250 volts
- **Maximum Switching Capacity:**
Making – 160 amps
Breaking – (0.7 PF) 240 volts, 160 amps
- **Potentiometers:** 0.5 watt 5K 3-wire or 10K 4-wire center tap, 5 million revolutions

Connections: 6 position terminal block with #6 screw terminal
- **Rotary Differential Transformers:**
115/50 VAC (DGO-1)
220/50 VAC (DGO-2)
115/30/30 VAC (DGO-3)
- **Electronics:** Encoders, 4-20 mA, pot amplifiers, motor control and CAN bus
Connections: Varies with product

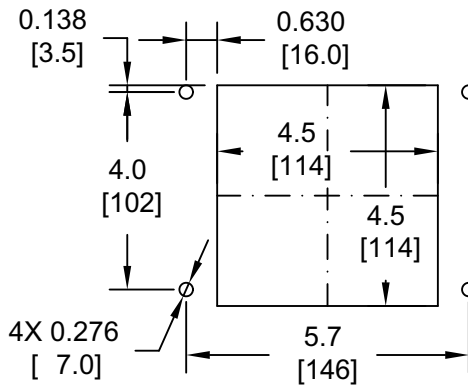
NS2/NSB2-KB DIMENSIONS

HANDLE OPTIONS



IP65
↑
IP00
↓

MOUNTING DETAIL



Detent	"W"
1-0-1	10°
2-0-2	20°
3-0-3	30°
4-0-4	33°
5-0-5	30°
6-0-6	37°
7-0-7	40°

Number of double contacts	1	2	3	4	5	6	7	8	9	10	
Dimension L1	in mm	2.28 [58]	3.15 [80]	4.02 [102]	4.88 [124]	5.75 [146]	6.61 [168]	7.48 [190]	8.35 [212]	9.21 [234]	10.08 [256]