

# NS2/NSB2-KA

## HEAVY MILL DUTY AC & DC MASTER SWITCH

### Construction:

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

### Application:

For use in Steel Mills, Process Lines, Foundry Cranes, Mining Shovels, and Logging Equipment.

### Features:

- **Rugged Construction:** Cast construction, double ball bearing operating shaft.
- **Mechanical Life:** 20 Million Cycles.
- **Serviceability:** Corrosion resistant components.
- **Handle:** Variety of handle styles and handle operated deadman functions.
- **Precise Step Control:** Up 7-0-7 individually detented steps.
- **Contacts:** (10) 25A 600 VAC double pole field-replaceable contacts. Type NSB2 DC contacts with magnetic blow outs
- **Potentiometers:** 0.5 watt 5 million revolutions conductive plastic furnished standard.
- **Transformers:** Type DGO rotary differential transformers for variable speed drives.
- **Electronics:**  
ESS-420: 4-20 milli-amp 2 wire transmitter.  
ESS0.10.10: 0-10 and  $\pm 10V$  amplifiers.  
Absolute Encoder: 8 Bit 24VDC gray code.  
PFC and PFC/CR Proportional Feathering Control electronic amplifiers for operation of Electro-Hydraulic Proportional Valves.
- **Enclosures:** Variety of standard steel consoles available; NEMA 1, 3R, 4 and 12.



# NS2/NSB2-KA ORDERING INFORMATION

- Basic Assembly:** 9 1/2" Shaft length and round ball handle supplied standard.
- Drive Arrangement:** N = Left, U = Right
- Handle:** Reference Handle for a selection of custom handles and handle operated deadman functions.
- Contacts:** Each contact block supplied with 2 poles.  
Maximum number of Contacts in each axis = 10 (5 double pole contact blocks).
- Detents:** Reference NS2/NSB2-KA dimensions for types available and applicable handle angle.
- 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.
- Rotary Transformer:** See DGO transformer ordering information.

## NS2-KA Technical Data

### Mechanical:

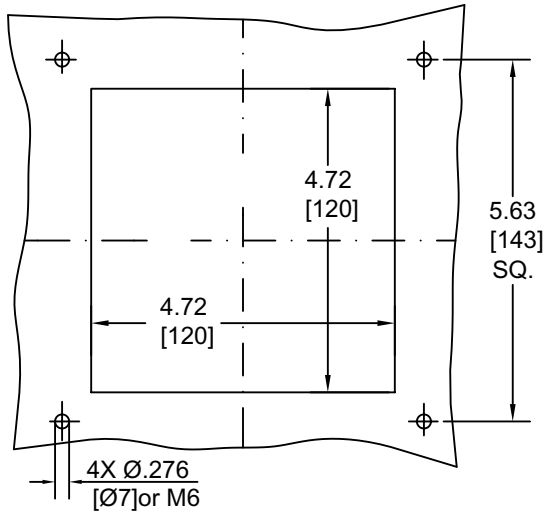
- **Operating Temperature:** -25° to +70°C
- **Detented Positions:** Up to 7-0-7
- **Mechanical Life:** 20 million plus cycles
- **Gear Ratio:** 3:1
- **Handle Travel:** ± 40°
- **Potentiometer rotation:** ±120°
- **Operations:** Normal duty cycle  
1000 operations per hour
- **Rating DC:**  
**NSB2-KA (with magnetic blow-out)**  
Resistive 5 amps @ 250 volts  
Inductive 2 amps @ 250 volts
- **Maximum Switching Capacity:**  
Making – 160 amps  
Breaking – (0.7PF) 240V 160 amps.
- **Electro Mechanical Life:** Breaking AC current.  
Resistive: 1 million operations @ 16 amps 240 V  
10 million operations @ 4 amps 240 V  
Inductive: 1 million operations @ 15 amps 240 V  
10 million operations @ 2 amps 240 V
- **Approvals:** CSA file No. 15040

### Electrical:

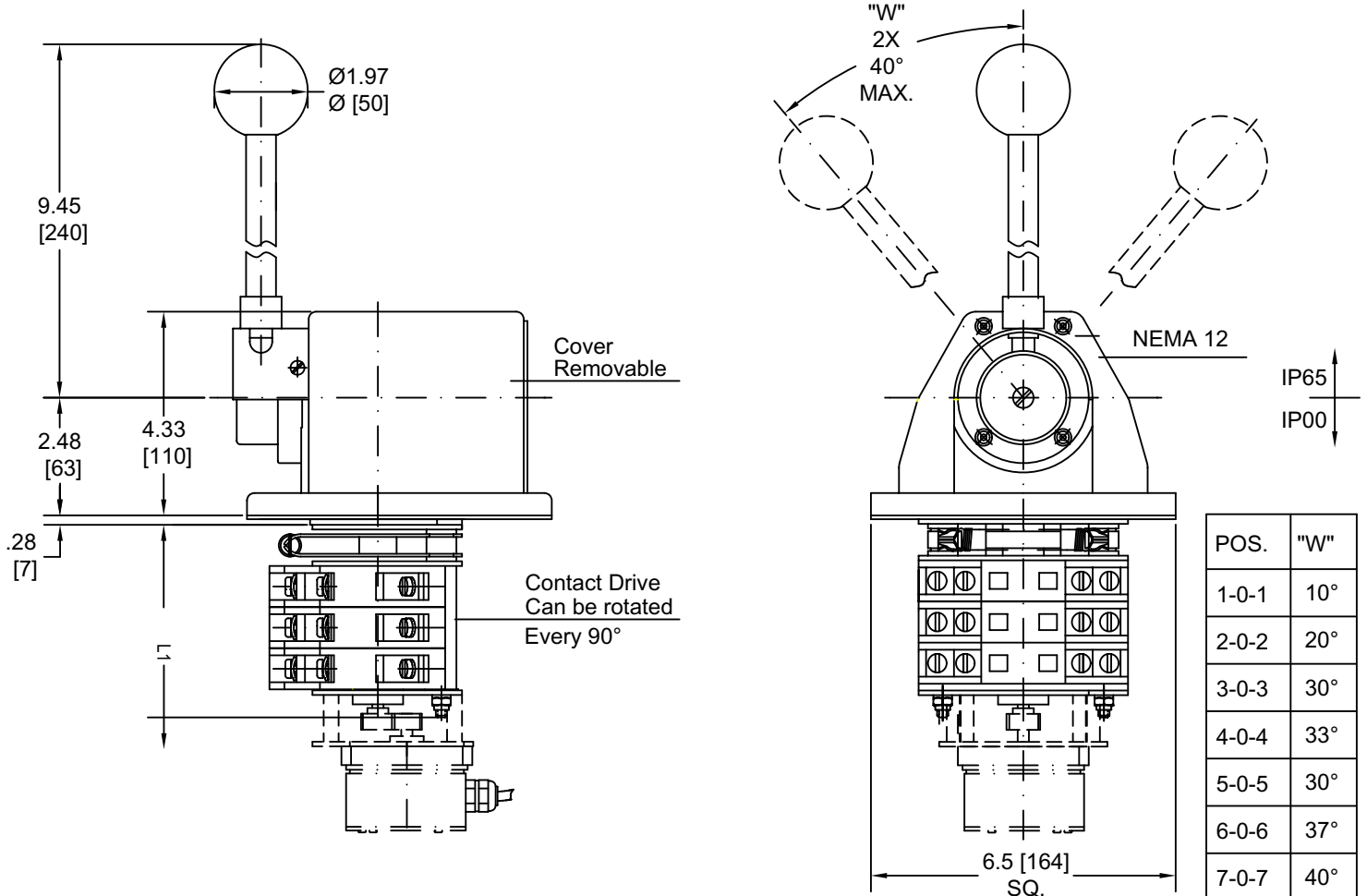
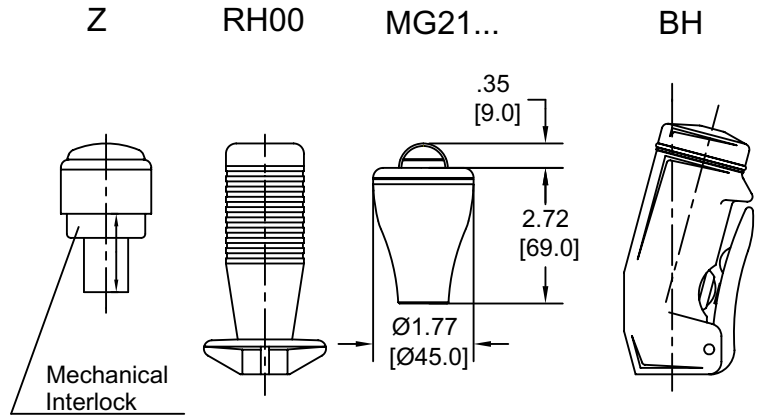
- **Contacts:** Double Pole contact blocks, 20 circuits maximum. (consult factory if additional circuits required.)
- **Rating AC:**  
**NS2-KA**  
AC continuous 25 amps @ 600 volts  
AC resistive 20 amps @ 240 volts  
AC inductive 14 amps @ 240 volts
- **Rating DC:**  
**NSB2-KA (with magnetic blow-out)**  
Resistive 5 amps @ 250 volts  
Inductive 2 amps @ 250 volts
- **Maximum Switching Capacity:**  
Making – 160 amps  
Breaking – (0.7PF) 240V 160 amps.
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# NS2-KA DIMENSIONS

## Panel Mounting Detail



## Handle options



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

**J.R. MERRITT**  
**CONTROLS, INC.**

**Weight:** Operating head -10 lbs[4.5 kg]  
 Each double pole  
 Contact block - 0.9 lbs [0.4 kg]

Stratford, CT · 1-800-333-5762 · [www.jrmerritt.com](http://www.jrmerritt.com)