

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:** 10 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:

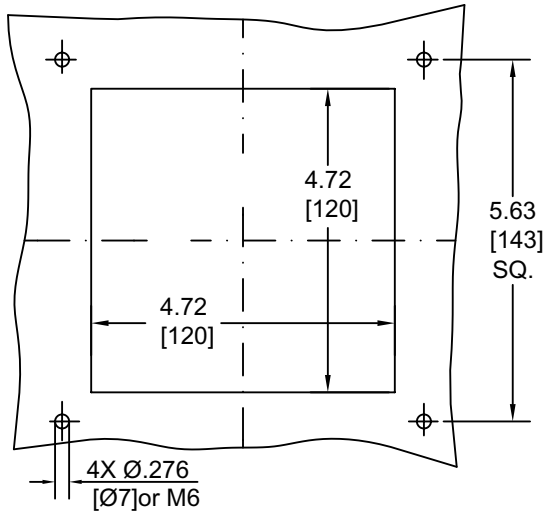
- **Operating Temperature:** -25° to +70°C
- **Detented Positions:** Up to 7-0-7
- **Mechanical Life:** 10 million plus cycles
- **Gear Ratio:** 3:1
- **Handle Travel:** ± 40°
- **Potentiometer rotation:** ±120°
- **Operations:** Normal duty cycle
1000 operations per hour

Electrical:

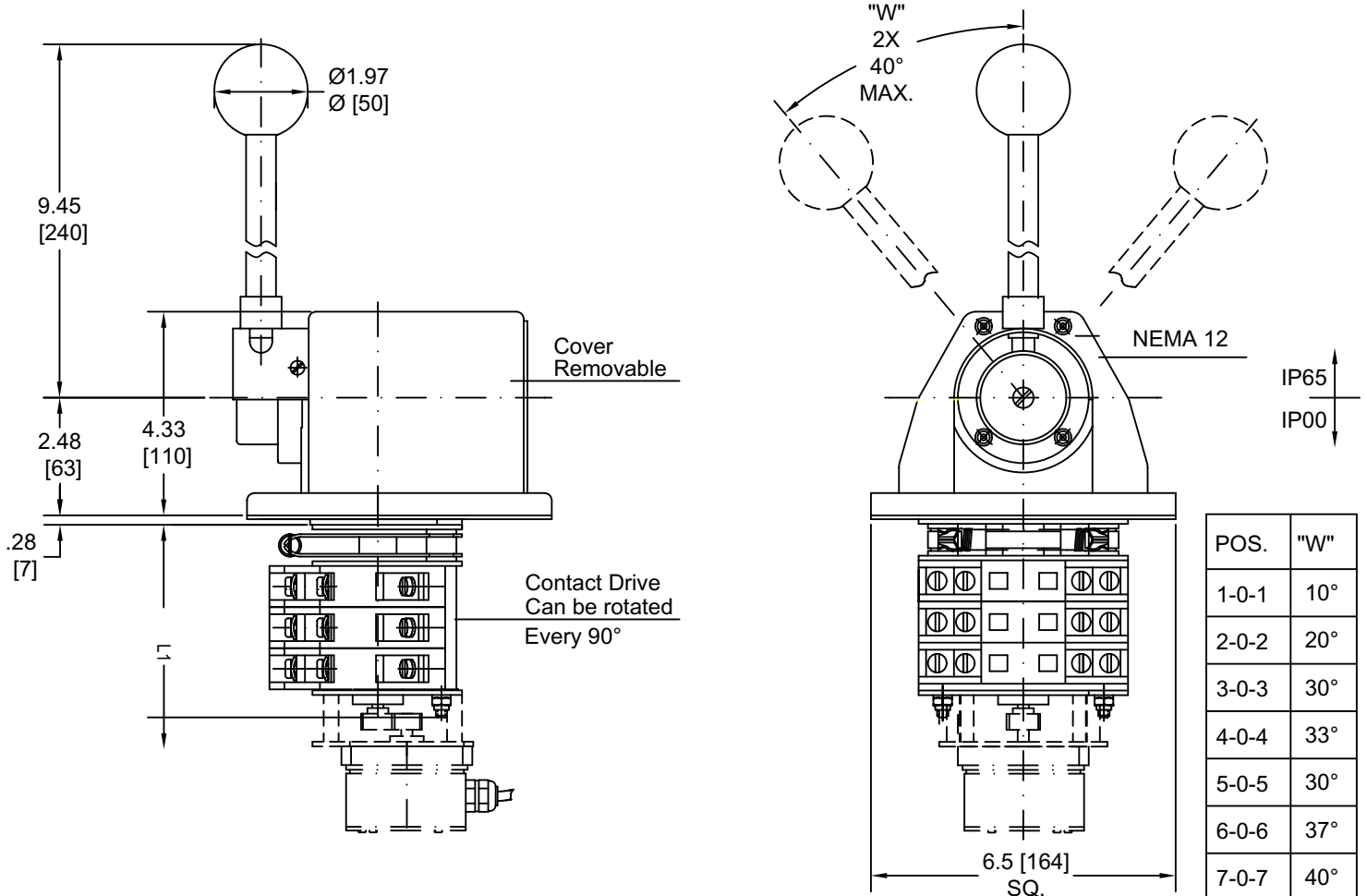
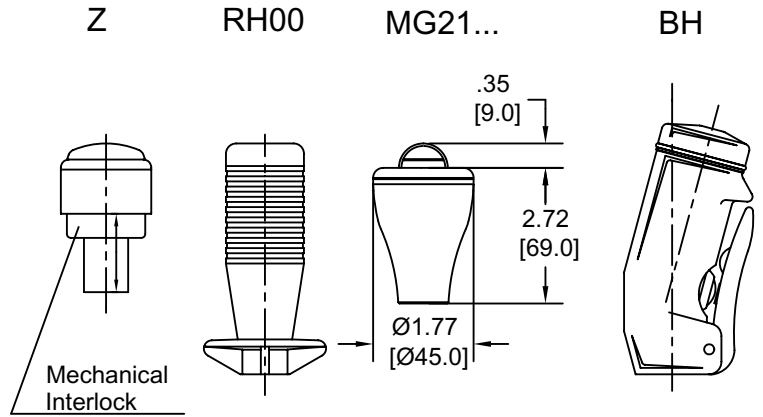
- **Contacts:** Double Pole contact blocks, 20 circuits maximum. (consult factory if additional circuits required.)
- **Rating AC:**
NS2-KA
AC continuous 25 amps @ 600 volts
AC resistive 20 amps @ 240 volts
AC inductive 14 amps @ 240 volts
- **Rating DC:**
NSB2-KA (with magnetic blow-out)
Resistive 5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

NS2-KA DIMENSIONS

Panel Mounting Detail



Handle options



| POS. | "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 | 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]

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