

Operating Division Of E.R. Advanced Ceramics Inc. 600 East Clark Street
East Palestine, OH 44413
(330)-426-4500 * Fax (330)-426-1859

MODEL NO .: 764 AVM

PART NO.: 1931741

SERIAL NO .: (1K-200)

INSIR COPIONS DO ZOT DESTROY INPORTAL

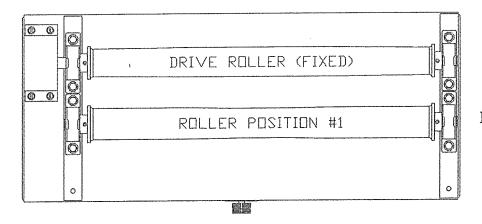
CONTAINS INSTALLATION, OPERATION AND SPARE PARTS DATA



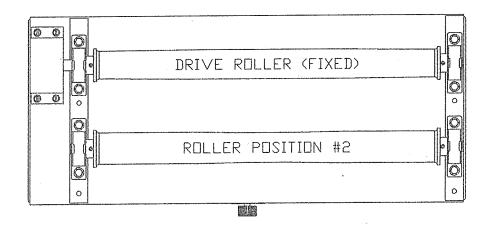
Approximate Roller Speed Settings For 700 Series Jar Mills

Dial Position	R.P.M.		
0	20		
5	28		
10	41		
15	54		
20	69		
25	81		
30	94		
35	106		
40	121		
45	137		
50	155		
55	174		
60	190		
65	205		
70	220		
75	233		
80	247		
85	260		
90	276		
95	290		
100 -	300		

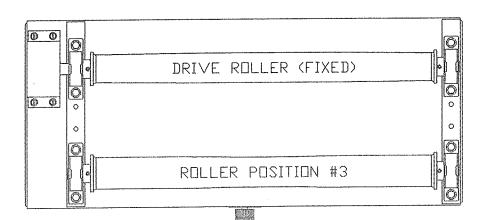
764 AVM JAR MILL ROLLER POSITIONS



SUGGESTED JAR
DIAMETERS 2 1/2"-4"



SUGGESTED JAR DIAMETERS 4"-7"



SUGGESTED JAR
DIAMETERS 7"-10"



Recommended Jar / Roller Speeds For Optimum Grinding Efficiency

Jar Model & Size	Recommended Jar Speed	Roll Speed (700 Series)	Roll Speed (800 Series)	
774 – 000	106.46	180	144	
774 – 00	77.14	222	177	
774 – 0	75.28	235	188	
774 – 1	60.98	274	220	
774 – 2	54.54	300	240	
774 – 3	49.79	N/A	259	
774 – 4	46.10	N/A	277	
774 – 6	46.10	N/A	277	
773 – 00	75.28	240	192	
773 – 1	60.98	288	230	
773 – 3	51.14	N/A	266	
611 – 00	72.63	218	174	
611 – 0	72.63	218	174	
611 – 1	62.39	250	200	
611 – 2	55.56	278	222	
611 – 3	55.56	278	222	
611 – 4	50.56	N/A	243	
611 – 6	46.70	N/A	262	
612 – 00	72.92	229	183	
612 – 0	72.92	229	183	
612 – 1	62.59	261	209	
612 – 2	55.69	284	227	

774 - Roalox

773 – High Alumina

611 - Stainless Steel

612 - Rubber Lined Carbon Steel Jar

N/A – Jar Size Not Recommended For This Machine



INSTRUCTIONS FOR INSTALLATION, OPERATION AND MAINTENANCE OF MODEL 764 AVM JAR MILL

INSTALLATION:

* After placing machine in the desired location, position it so that the rolls are level. (Leveling feet are provided for this purpose)

* Line cords are furnished for 115 or 230 volt, single phase AC power supply. (Machine controls are compatible for 50 or 60 hz. operation)

* On/Off rocker switch is located on the line cord.

Note: Proper rotation should be such that the top of the drive roller turns toward the jar being turned. (CW rotation when viewed from drive end of roller)

OPERATION:

* Refer to the enclosed chart to adjust the idle roller to the size of jar being used.

- * To adjust the idle roller, remove the retaining bolts, etc. and move the roller to desired location. Replace the bolts, etc. and tighten into place.
- * Power switch is located on the line cord.
- * Refer to the enclosed charts to adjust the roller speed to the size of jar being used.
- * Roller speed is controlled by the speed pot on the front of the machine.

LUBRICATION:

* The motor and bearings are lubricated for life.

* Roller Chain - lubricate bi-weekly with an SAE #30 weight oil.

Note: New chains will loosen up slightly as the joints seat themselves causing initial elongation which is many times greater than the elongation during the balance of chain life. To adjust the chain tension, loosen the nuts on the retaining bolts and apply a downward pressure to the sub-assembly. (Speed reduction) Once desired chain tension is achieved, re-tighten the nuts on the retaining bolts.

REPLACEMENT PARTS:

* Parts can be identified by referring to the assembly drawing. To order replacement parts, please include the part number, part name, and serial number of the machine.

Thank You For Purchasing A Quality Built U.S. Stoneware Product!!

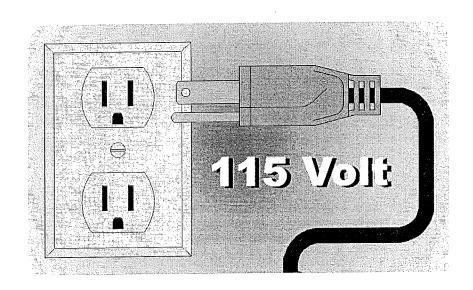


- Voltage Requirement Notice -

This machine is listed for 115 volt single phase input.

It will accept +/- 15% of the listed input voltage.

It is also capable of accepting 50 or 60 Hz input.





NEW EQUIPMENT WARRANTY

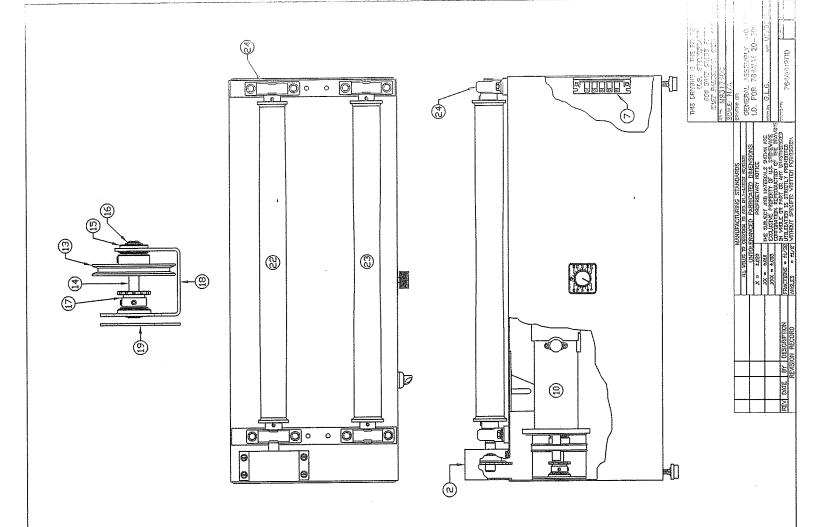
We warrant that this equipment from U.S. Stoneware is within stated specifications and is free from defects in materials and workmanship.

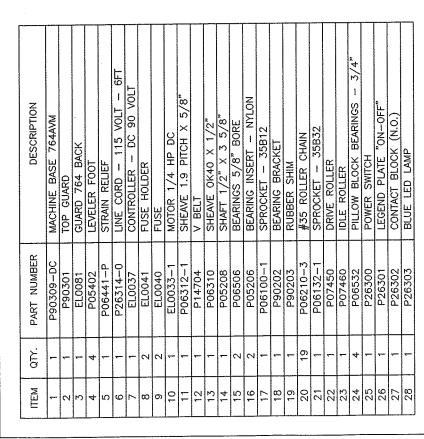
Our obligation under this warranty is limited to repairing or replacing F.O.B. our factory and defective parts in this product that to our satisfaction existed at time of shipment, provided the purchaser gives us written notice immediately upon discovery thereof, or in any event within one year from time of shipment.

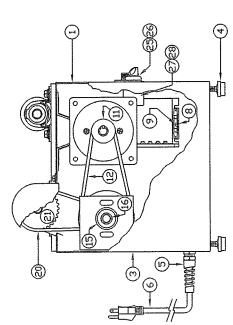
Our warranty does not cover work or replacement of parts made necessary by carelessness, misuse, accident or by incidents which occur outside of use of the instrument such as water damage, lightning, etc. U.S. Stoneware's liability under this warranty shall not exceed the cost of correcting defects whether it is the correction of the defects or the replacement of the product. Claims based on any defect must be made in writing within 30 days of the purchaser's becoming aware of that defect for this warranty to apply. U.S. Stoneware assumes no liability for consequential or special damages in connection with this contract.

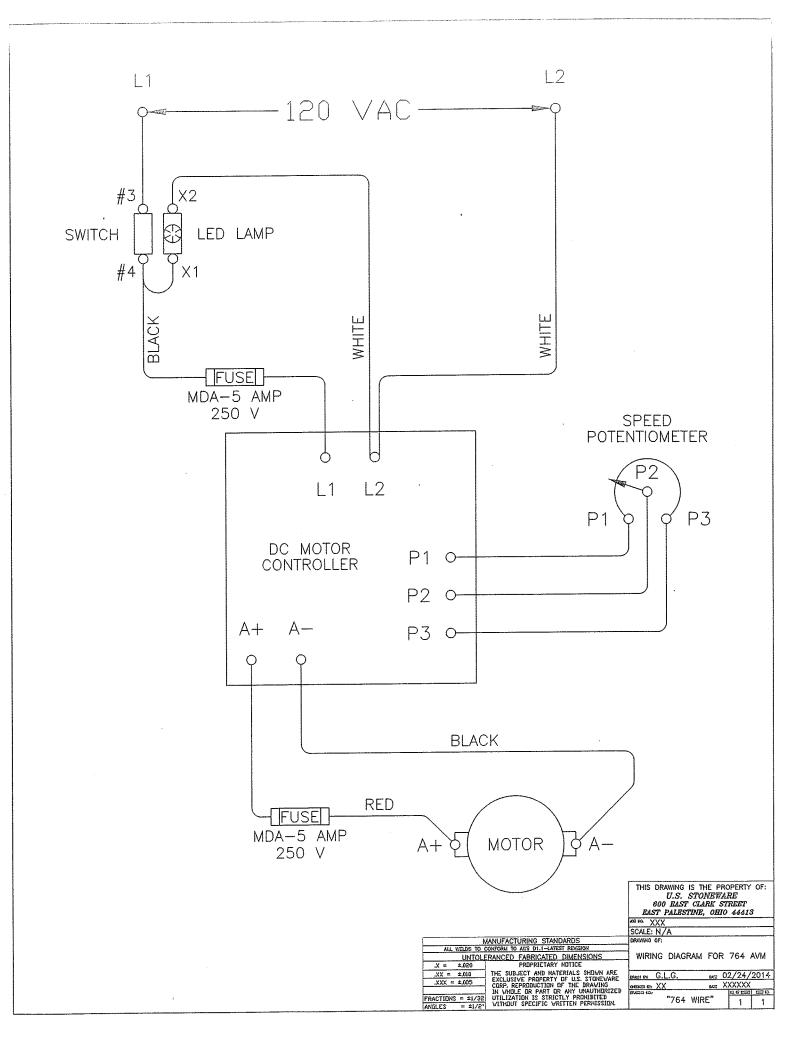
U.S. Stoneware shall have no liability for damages of any kind arising from the installation and / or use of this equipment by anyone. The purchaser, by the acceptance of this equipment, will assume all liability for any damages which may result from its use or misuse.

This is our sole warranty with respect to this equipment. We make no other warranty of any kind whatever, express or implies, and all implied warranties of merchantability and fitness for a particular purpose which exceeds the above obligations are hereby disclaimed by U.S. Stoneware.











Replacing Brushes in D.C. Motors

- 1.) Locate, and remove the two plastic caps near the rear of the motor. (2 screws each)

 Note: Depending on model, the motor may have to be removed for accessibility.
- 2.) Slowly remove the plastic screws found under caps. (1 each side) Screws are under a slight spring tension, take caution as to not lose small parts.
- 3.) Remove brushes and replace with a new set.
- 4.) Carefully replace screws, do not over tighten.
- 5.) Replace caps and re-secure with screws.

Worn out brushes will cause the motor to lose power, run intermittently and cause damage to the armature.

Brushes should be checked periodically for wear. (Minimum of twice a year)

KBIC SERIES QUICK-START INSTRUCTIONS

FOR TECHNICAL ASSISTANCE

CONTACT OUR SALES DEPARTMENT AT 954-346-4900 CALL TOLL FREE 800-221-6570

For Complete Details and Instructions, See the KBIC Installation and Operation Manual Online



SEE SAFETY WARNING ON REVERSE SIDE



Scan this QR Code

1 - INITIAL SETUP AND CONNECTIONS

Wire the control in accordance with the National Electrical Code requirements and other local codes that may apply to the application.

- 1. Install the correct Plug-In Horsepower Resistor® (supplied separately).
- Install the correct AC Line Fuse and Armature Fuse (supplied separately) (if fuse kits are installed).
- Connect the AC Line input to Terminals L1 (Line Fuse) and L2.
- 4. Connect the Motor Armature to Terminals A+ (Armature Fuse) and A-.
- Shunt Motors Only: Connect the Motor Field to Terminals F+ and F-(full voltage field) or Terminals F+ and L1 (half voltage field).
- 6. Connect the Main Speed Potentiometer to Terminals P1, P2, and P3.

CONTROL LAYOUT AND GENERAL CONNECTION DIAGRAM

Shown with Optional AC Line and Armature Fuse Kit Plug-In forsepowe Resistor Supplied Separately u A+ L1 L2 F÷ Armature **AC Line** Fuse Holder use Holder PWR CL ' Kit ON and Fuse and Fuse Supplied Supplied Separately Separately (1 ACCEL (0) 1 (3) CL IR Inhibit Switch Armature AC Line (Open to Run) Input (Close to Stop) *Shunt motors only Main Speed Potentiometer (Front View)

2 – PLUG-IN HORSEPOWER RESISTOR® (PHR)

The PHR is supplied by your distributor and must be installed for the control to operate. It is used to automatically calibrate the IR Compensation and Current Limit based on motor horsepower and voltage. It eliminates the need to recalibrate the control in most applications. Select the correct PHR in accordance with the chart below. Be sure it is inserted completely into the mating sockets.

PLUG-IN HORSEPOWER RESISTOR® CHART*

Horsepower		Approx.	Plug-In Horsepower Resistor®		
90 Volt DC Motors	180 Volt DC Motors	Motor Current (DC Amps)	Value (Ω)	KB Part No. (Individual)	
1/100	1/50	0.1	1	9833	
1/50	1/25	0.2	0.51	9834	
1/30, 1/25	1/15	0.35	0.35	9835	
1/20	1/10	0.5	0.25	9836	
1/15, 1/12	1/6	0.8	0.18	9837	
1/10, 1/8, 1/6	1/4	1.3	0.1	9838	
1/4	1/2	2.5	0.05	9839	
1/3	3/4	3.3	0.035 9840		
1/2	1	5.0	0.025	9841	
3/4	11/2	7.5	0.015	9842	
1**	2**	10	0.01	9843	
1½**	3**	15	0.006	9850	

*For a motor current that is not listed on the chart or for an overlapping motor horsepower range use the next lower value Plug-In Horsepower Resistor®. Supplied separately by your distributor. **Auxiliary Heat Sink (Part No. 9861 or equivalent) must be used to achieve the rating indicated.

3 – AC LINE AND ARMATURE FUSING

The control does not contain fuse holders. The optional Barrier Terminal Board (Part No. 9884) contains prewired AC line and armature fuse holders (fuses are supplied separately). It is recommended to install an AC Line fuse (Littelfuse 3AB, Bussmann ABC, or equivalent) or a circuit breaker (Square D QOU or equivalent) in series with each ungrounded conductor. On domestic 230 Volt AC lines, separate branch circuit protection for each line must be used. It is also recommended to install an armature fuse (Littelfuse 3AB, Bussmann ABC, or equivalent). Select the correct fuses in accordance with the table below. Select the correct fuses in accordance with the table below.

AC LINE AND ARMATURE FUSE SELECTION

Horsepower		Approx.	Recommended Fuse Rating (Amps)		
90 Volt DC Motors	180 Voit DC Motors	Motor Current (DC Amps)	AC Line	Armature	
1/100	1/50	0.1	12	2/10	
1/50	1/25	0.2	12	3/10	
1/30	1/15	0.3	12	1/2	
1/20	1/10	0.5	12	3/4	
1/15	1/8	0.7	12	1	
1/10	1/5	1	12	1½	
1/8	1/4	1.3	12	2	
1/6	1/3	1.7	12	3	
1/4	1/2	2.5	12	4	
1/3	3/4	3.3	12	5	
1/2	1	5	12	8	
3/4	11/2	7.5	12	12	
1*	2*	10	15	15	
1½*	3*	15	25	25	

*Auxiliary Heat Sink (Part No. 9861 or equivalent) must be used to achieve the rating indicated.

4 – AC LINE, MOTOR, AND GROUND CONNECTIONS

See the Control Layout and General Connection Diagram. Download the Installation and Operation Manual by scanning the QR Code at the top of this page.

WARNINGI HIGH VOLTAGE! Read Safety Warning before using the control. Disconnect the main power before making connections to the control. To avoid electric shock, be sure to properly ground the control.

 $\stackrel{\frown}{\square}$ CAUTION! The rated AC Line voltage of the control must match the actual AC Line input voltage.

MINIMUM SUPPLY WIRE SIZE REQUIREMENTS

Maximum	90 – 130 Volt	180 Volt	Minimum Wire Size (Cu)			
Motor Current	••	DC Motors	Max.	50 Ft.	Max. 1	100 Ft.
(Amps DC) (Max. HP (kW))	(Max. HP (kW))	AWG	mm²	AWG	mm²	
6	1/2 (0.37)	1 (0.75)	16	1.3	14	2.1
12	1 (0.75)	2 (1.5)	14	2.1	12	3.3
16	1½ (1.1)	3 (2.2)	12	3.3	12	3.3

AC LINE INPUT: Wire the AC Line input to Terminals L1 and L2. Models KBIC-120 and KBIC-125 operate on 115 Volt AC Line input only, to provide 0 - 90 Volt DC Output. Models KBIC-240 and KBIC-225 operate on 208/230 Volt AC Line input only, to provide 0 - 180 Volt DC output. Model KBIC-240D operates on 115 and 208/230 Volt AC Line input to provide 0 - 90 Volt DC output with 115 Volt AC Line input and 0 - 180 Volt DC output with 208/230 Volt AC Line input. Model KBIC-240DS operates on 115 and 208/230 Volt AC Line input to provide 0 - 90 Volt DC output.

GROUND: Connect the ground wire (earth) to the control chassis.

PERMANENT MAGNET (PM) MOTOR ARMATURE: Wire the motor armature positive (+) lead to Terminal A+ and the negative (-) lead to Terminal A-. Be sure the correct Plug-In Horsepower Resistor® is installed.

CAUTION! Do not use 90 Volt DC motors on controls with 180 Volt DC output.

FIELD (SHUNT MOTORS ONLY): Full Voltage Field: Wire the field positive (+) lead to Terminal F+ and the negative (-) lead to Terminal F-. Half Voltage Field: Wire the field positive (+) lead to Terminal F+ and the negative (-) lead to Terminal L1 (Line Fuse).

5 - INHIBIT SWITCH OR CONTACT CONNECTION

The control can be stopped and started with an Inhibit Circuit.

WARNING! The Inhibit Circuit is never to be used as a Safety Disconnect since it is not fail-safe. Use only the AC line for this purpose.

INHIBIT: Close to stop, open to run. Wire the switch or contact to Terminals I1 and I2. An open collector (NPN) can be wired in lieu of a switch or contact.

6 - ADJUSTABLE TRIMPOTS

The control contains trimpots which have been factory set for most applications. Some applications may require readjustment of the trimpots in order to tailor the control for a specific requirement.



Note: In order for the IR Compensation and Current Limit settings to be correct, the proper Plug-In Horsepower Resistor® must be installed for the particular motor and input voltage being used.

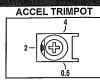
ACCELERATION (ACCEL): Allows for a smooth start over an adjustable time period each time the AC power is applied or the Main Speed Potentiometer is adjusted to a higher speed. The ACCEL Trimpot sets the time it will take for the motor to accelerate from zero speed to full speed. Units: Seconds

MINIMUM SPEED (MIN): Sets the minimum speed of the motor when the Main Speed Potentiometer is set fully counterclockwise. Units: % Base Speed

MAXIMUM SPEED (MAX): Sets the maximum speed of the motor when the Main Speed Potentiometer is set fully clockwise. Units: % Base Speed

CURRENT LIMIT (CL): Sets the current limit (overload), which limits the maximum current (torque) to the motor. The CL also limits the AC line inrush current to a safe level during startup. Do not exceed 2 times motor current rating (maximum clockwise position. Units: % Full Load

IR COMPENSATION (IR): Sets the compensating voltage required to keep the motor speed constant under changing loads. If the load does not vary substantially, the IR Trimpot may be set to a minimum level (approximately 1/4 of full clockwise rotation). Units: Volts DC



MIN TRIMPOT



MAX TRIMPOT





IR TRIMPOT



7 – APPLICATION INFORMATION

MOTOR TYPE: The control is designed for permanent magnet (PM) and Shunt Wound DC motors. Controls operated on 115 Volt AC line input are designed for 90 Volt SCR rated motors. Controls operated on 230 Volt AC line input are designed for 180 and 90 Volt SCR rated motors. Use of motors with higher rated voltage will result in a reduction of the available maximum speed. Also, if the motor is not an SCR rated type, the actual AC line current at full load and full speed should not exceed the motor's DC nameplate current rating.

TORQUE REQUIREMENTS: The motor selected for the application must be capable of supplying the necessary torque. Be sure the current under full load does not exceed the motor nameplate rating.

A CAUTION! Consult our Sales Department before using this control on constant horsepower applications such as saws and drill presses. Do not use this control in an explosive atmosphere. Be sure the control is used within its ratings. Follow all instructions carefully.

ARMATURE SWITCHING: If armature switching is required for reversing or dynamic braking, use Model KBMG, KBRG, KBPB, or KBCC-R.

WARNING! Do not switch the armature in and out of circuit or catastrophic failure will result.

STEP-DOWN TRANSFORMER AND AC LINE SWITCHING: When using a stepdown transformer (460 Volts AC to 230 Volts AC), be sure the output current rating of the transformer is at least 3 times the current rating of the motor. Do not switch the primary side of the transformer to disconnect power or catastrophic failure can result. Always disconnect the control from the secondary side of the transformer.

8 - OPTIONAL ACCESSORIES

Auxiliary Heat Sink (Part No. 9861): Doubles the maximum horsepower rating of the control.

Barrier Terminal Accessory Kit (Part No. 9863): When used with the Auxiliary Heat Sink, it converts the quick-connect terminals of the control to a barrier terminal block.

Barrier Terminal Board (Part No. 9884): Converts the quick-connect terminals of the control to a barrier terminal block. Contains PC board mounted line and armature fuse holders (fuses supplied separately). Plugs onto the quick-connect terminals of the control.

SI-5 Signal Isolator (Part No. 9443): Provides isolation between non-isolated signal sources and the control. Plugs onto the quick-connect terminals of the control.

Run/Brake Module (Part No. 9952): Used for applications that require rapid stopping of the motor. Contains a barrier terminal block.

Dial Plate and Knob Kit (Part No. 9832): Provides indication of the Main Speed Potentiometer position (0 - 100%).

Optional Accessories continued at the top right column of this page.

AC Line and Armature Fuse Kit (Part No. 9849): Provides fusing for the AC Line input and motor armature. Includes wired fuse holders and mounting screws. Fuses sold separately.

DIN Rail Mounting Kit (Part No. 9995): Converts the control to standard DIN Rail mounting.

RFI Filters: To comply with CE Council Directive 89/336/EEC relating to the Class A Industrial Standard and Class B Residential Standard, an RFI filter must be installed. Filters are available in remote or undermount types.

To Validate the 18 Month Warranty, Register this Product Online サーサーサーサーサーサー Ψ

KBelectronics.com/registration.htm

HIGH VOLTAGE DIELECTRIC WITHSTAND TEST (HI-POT TEST)

WARNINGI Disconnect all AC power before performing hi-pot test. esting agencies such as UL, CSA, etc., usually require that equipment undergo a Hi-Pot Test. In order to prevent catastrophic damage to the control, which has been installed in the equipment, it is recommended that the procedure outlined in the Installation and Operation Manual (viewable online and downloadable) be followed.

Do not exceed 1500 VAC for 115 VAC controls and 1700 VAC for 230 VAC controls. Control damage may result if hi-pot voltage is exceeded.

Note: Controls have been factory hi-pot tested in accordance with UL508C Standard.

CE INFORMATION

This product complies with all CE directives pertinent at the time of manufacture Contact our Sales Department for Declaration of Conformity. Installation of a CE approved RFI filter is required. Additional shielded cable and/or AC Line cables may be required.

Note: To meet CE requirements, a separate CE approved filter must be installed.

UL NOTICE (ALL MODELS)

115 Volt Drives: Suitable for use on a circuit capable of delivering not more than 5 kA RMS symmetrical Amperes. 115 Volts maximum. Use copper conductors rated 75 °C. Suitable for operation in a maximum surrounding air temperature of 40 °C.

230 Volt Drives: Suitable for use on a circuit capable of delivering not more than 5 kA RMS symmetrical Amperes. 230 Volts maximum. Use copper conductors rated 75 °C. Suitable for operation in a maximum surrounding air temperature of 40 °C.

Enclosure: This control should be mounted in an enclosure having adequate strength and thickness in the intended manner and with acceptable spacing being provided. Motor Overload Protection: This control does not provide motor overload protection. This protection must be provided in the end application.

🖄 🗥 SAFETY WARNING! – PLEASE READ CAREFULLY!

This product must be installed and serviced by a qualified technician, electrician, or electrical maintenance person familiar with its operation and the hazards involved. Proper installation, which includes electrical connections, fusing or other current protection, and grounding, can reduce the chance of electrical shocks, and/or fires, in this product or products used with this product, such as electric motors, switches, colls, solenoids, and/or relays. Do not use this drive in an explosion-proof application Eye protection must be worn and insulated adjustment tools must be used when working with drive under power. This product is constructed of materials (plastics, metals, carbon, silicon, etc.) which may be a potential hazard. Proper shielding, grounding, and filtering of this product can reduce the emission of radio frequency interference (RFI) which may adversely affect sensitive electronic equipment. It is the responsibility of the equipment manufacturer and individual installer to supply this Safety Warning to the ultimate end user of this product. (SW 8/2012)

The control must be mounted in an enclosure. Care should be taken to avoid extreme hazardous locations where physical damage to the control can occur due to moisture, metal chips, dust, and other contamination including corrosive atmosphere. If such contamination is present, special enclosures may be required, such as NEMA type 4X. To prevent accidental contact with high voltage, it is required that the fingersafe cover be properly installed onto the control after all connections are complete.

The control contains electronic Start/Stop circuits, which can be used to start and stop the control. However, these circuits are never to be used as safety disconnects since they are not fail-safe. Disconnect the input power for this purpose. Be sure to read and follow all instructions carefully. Fire and/or electrocution can result due to improper use of this product.

The information contained in these instructions is intended to be accurate. However, the manufacturer retains the right

to make changes in design which may not be included herein.











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