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Unit Specification

KE08101

±10 Volt Ramped Valve Drive Amplifier

ISSUE: 1

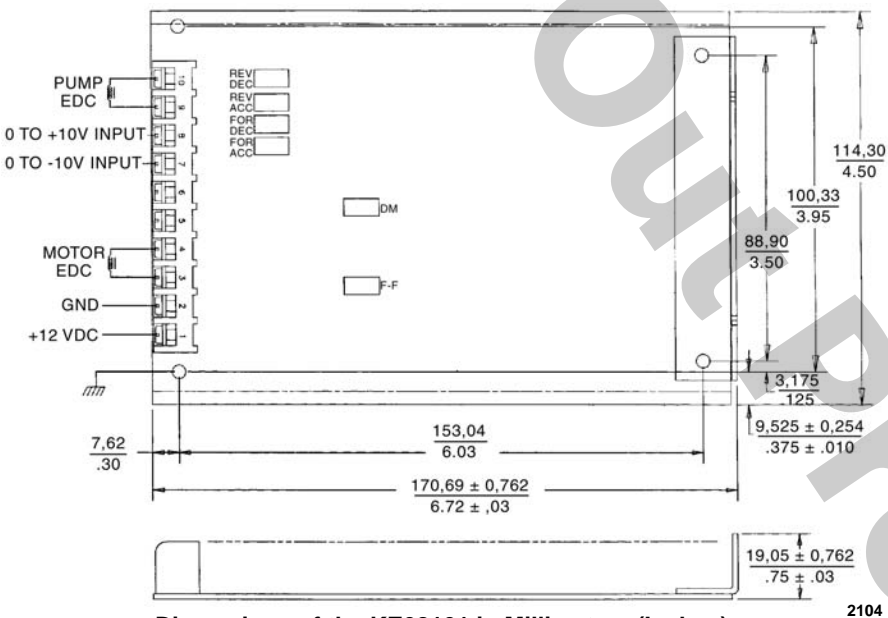
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GENERAL DESCRIPTION

The function of the Ramped Valve Drive Amplifier is to take command voltage signals (0 to +10 Volts for one direction and 0 to -10 Volts for the other direction) and limit the rate of output shaft speed change of a hydrostatic motor. The output of the controller produces 0 to 100 mA for the pump Electrical Displacement Controls (EDCs) and 0 to 150 mA for the variable motor EDCs. The pump EDC connection is automatically reversed as the speed decelerates to zero from one direction and starts to drive in the opposite direction. The pump and motor EDCs are connected in series. The first 0 to 90 mA produce only pump control. After reaching 95 mA and higher the pump stays at maximum and the motor progressively destrokes for higher speed. As the EDC current continues to increase, the pump EDC is clamped at about 150 mA by a bypass network.

The KE08101 is capable of producing a combined maximum output current of 300 mA (typically 0 to 100 mA to the pump EDC and 0 to 200 mA to the motor EDC). In the event that only a pump EDC is being controlled, install a 25 ohm, 3 watt load resistor should be connected across terminals 3 and 4.

The command inputs can be tied together since one of the inputs only responds to a positive voltage. A control handle or other device that can produce 0 to +10 Volts on one input for forward speeds and 0 to -10 Volts on the other input for reverse speed should be used. Input voltage could also be 0 to 5 Volts since the Volts are cut in half right away. Normal Accel/Decel control is maintained and the variable motor EDC control is retained as well.



ELECTRICAL CHARACTERISTICS

- SUPPLY VOLTAGE
12 Vdc
- SUPPLY CURRENT
0.250 amp plus the load current
- OUTPUT CURRENT
0.300 amps maximum
- ACCEL/DECEL
1 to 15 seconds
- INPUT IMPEDANCE
4 kilohm per channel

ADJUSTMENTS

Reference the Dimensions drawing for the adjustment potentiometer locations. There are a total of 6 adjustments that may be required. These are as follows:

- 4 separate ACC and DEC ramp adjustments (1 to 15 seconds) in each direction:

REV DEC this is in conjunction to -10 to 0 command

REV ACC this is in conjunction to 0 to -10 command

FOR DEC this is in conjunction to +10 to 0 command

FOR ACC this is in conjunction to 0 to +10 command

- 2 adjustments affect the output current:

DM this allows the reverse output current to match the forward output current with respect to the same ± input voltage level command

F-F this allows the maximum output current to be set

All potentiometers are 20 turn. To increase the output, turn the potentiometer CW.