PHANTOM IV

SINGLE PHASE TWO QUADRANT CONVERTOR

PRODUCT OVERVIEW

The Phantom IV is a dual purpose controller designed to operate either as a two quadrant DC brake or for exciting DC motor fields. With regard to the latter, it is possible to configure the controller to operate in the field spillover mode. When used as a straight field exciter it will accept either a voltage or current reference.

One model caters for all the single phase ranges.

Two dual thyristors in isolated packages, configured as a DC bridge ensure chassis to mains isolation. The speed of the DC motor, armature or field, is controlled using linear closed loop circuitry with either armature \ field voltage or tachogenerator feedback. The armature \ field voltage is isolated from the control circuit by a high impedance buffer. A ACCT derived, current feedback signal, galvanically isolated from the control circuitry, completes the current loop.

OTHER STANDARD FEATURES

TWO QUADRANT CONTROLLER

- 220 or 380 vac supply voltage link selectable.
- Field supply selectable for 220 vac or 380 vac.
- On board high speed fusing of field and armature.
- Torque reference input.
- Single board simplicity, bolts directly on SCR's.

FIELD REGULATOR

- Speed linearising curve. Corrects the exponential relationship between field excitation and motor speed.
- Current reference input, eliminates speed variations due to temperature changes in the motor.
- Field OK relay with a normally closed potential free contact.
- Field economy. In spill-over mode the field voltage is reduced to 50 % if the armature voltage is absent for 90 seconds.
- Full block firing. Allows for trouble free control of highly inductive loads.

ELECTRICAL SPECIFICATIONS

MODEL	SUPPLY VOLTAGE	INPUT CURRENT	OUTPUT VOLTAGE	OUTPUT CURRENT	HEAT DISS.
0.1 – 7.5 Kw	220 – 380 VAC	.1 – 38 AAC	200 – 340 VDC	.1 – 30 ADC	10 – 432W

ALL MODELS:

FIELD VOLTS:	.9 x SUPPLY VOLTAGE.
FIELD CURRENT:	2 AMPS
MAXIMUM OVERLOAD ON UNIT:	150 % FOR 15 SECONDS.
MAXIMUM FORM FACTOR:	1.5.
I SQ.T FUSING REQUIREMENT:	300 AMPS SQ. PER SEC.
SUPPLY FREQUENCY:	50 HZ.
ENCLOSURE:	IP00
OPERATING TEMPERATURE:	-10 TO 40 DEG. C
HUMIDITY:	85 % R.H. AT 40 DEG. C NON-CONDENSING.
ALTITUDE:	ABOVE 1000 M DERATE 1 % PER 100 M

SPEED CONTROL

ARMATURE FEEDBACK

SPEED REGULATION:	3 % TYPICAL
TORQUE / SPEED RANGE:	100 : 1

TACHOGENERATOR FEEDBACK

SPEED REGULATION:	1 % TYPICAL
TORQUE / SPEED RANGE:	100 : 1
CONTROL FUNCTION:	CLOSED LOOP PROPORTIONAL PLUS INTEGRAL CONTROL WITH ADJUSTABLE STABILITY.

TORQUE CONTROL

ACCURACY:	2 % TYPICAL
CONTROL FUNCTION:	CLOSED LOOP PROPORTIONAL PLUS INTEGRAL CONTROL WITH ADJUSTABLE STABILITY.

PHYSICAL DIMENSIONS