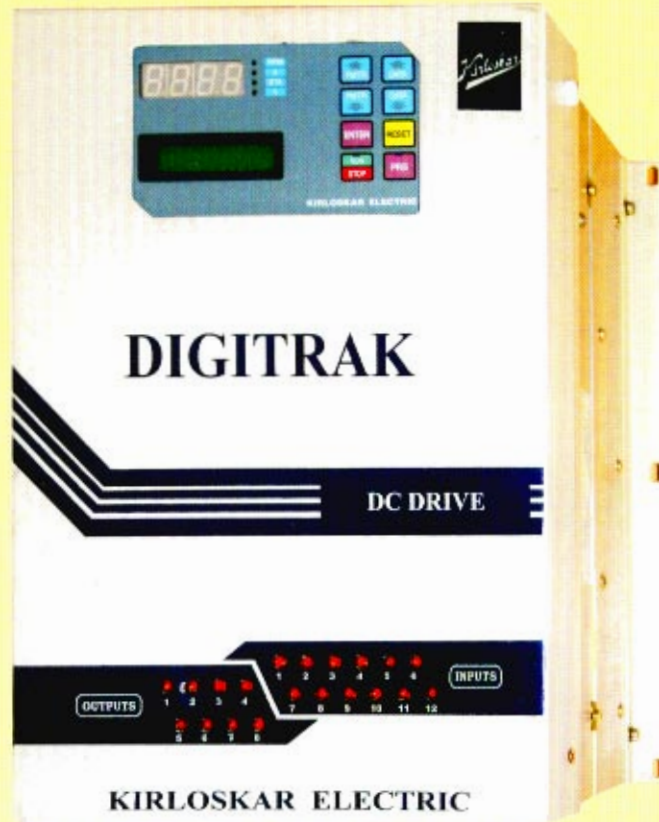


KIRLOSKAR

ELECTRIC

DIGITRAK MK II



**DIGITAL DC DRIVE
25A-3200A**

Certified ISO 9001 by



STANDARD FEATURES

- ◆ Fully Digital Controller.
- ◆ Self Commissioning.
- ◆ Adaptive pulse triggering and gain switching with a very fast sampling rate to achieve fast response.
- ◆ Phase Locked Loop (PLL) technique for synchronized zero crossing signal.
- ◆ Compensation for input line voltage and frequency variation.
- ◆ Auto mains synchronization.
- ◆ Common controller for single, two or four quadrant operations.
- ◆ 32 character alphanumeric display with backlite and keypad for parameter / status display.
- ◆ Parameter editing and drive programming.
- ◆ Seven segment display for viewing of drive status and parameters from a distance.
- ◆ EEPROM for parameter storage.
- ◆ Extensive self diagnostics.
- ◆ Fault discrimination.
- ◆ Fault history.
- ◆ Analog / Digital speed reference setting.
- ◆ Encoder / Tacho / Armature feedback facility.
- ◆ Multiple isolated programmable digital input outputs for system logic.
- ◆ Multiple isolated analog input / outputs for drive signal interface.
- ◆ Two isolated PWM outputs for meeting.
- ◆ Start / Stop facility through keypad with LED indication.
- ◆ Galvanic isolation of controller ground.
- ◆ Four layer printed circuit board (PCB) for compact packaging, increased reliability and better noise immunity.
- ◆ Easy serviceability with hinged construction and front accessibility.
- ◆ Large number of programmable features such as selection of regenerative / non-regenerative operation, bypassing ramp, selection of reference and feedback types, selection of application modules bypassing speed loop, bypassing inch ramp, programmable digital outputs for output faults and status, programmable analog outputs for different signals, bypassing of ramp for auxiliary input, bypassing of ramp during stop, selection of encoder as reference or feedback, selection of current limit control, current control, ratio control, thumbwheel ratio setting, crawl to run changeover drive status on LED display etc.

OPTIONAL FEATURES

- ◆ Speed ramp rate control through analog signal.
- ◆ Current reference control through analog signal.
- ◆ Current limit control through analog signal (4 to 20 mA or 0-10 V)
- ◆ Auxiliary speed reference setting with adjustable gain and ramp time.
- ◆ Raise / Lower operation.
- ◆ Inch/Crawl operation.
- ◆ Local / Remote reference selection.
- ◆ Master follower operation.
- ◆ Automatic feedback changeover.

From Encoder to Tacho feedback

From encoder to Armature feedback

From Tacho to Armature feedback

From Encoder to Tacho to Armature feedback.

- ◆ Adjustable rate of rise of current reference signal.
- ◆ Ratio control.
- ◆ Stretch control
- ◆ RS 232/485 Serial Communication.

BASIC HARDWARE

- ◆ Control PCB containing 16 bit microprocessors associated interface and firing logic.
- ◆ Signal interface circuit containing signal conditioning, conversion circuits and status indication LEDs for digital I/O
- ◆ Display board containing 32 character LCD display and 4 character, seven segment display with keypad.
- ◆ I/O termination PCB.
- ◆ Switch mode power supply PCB.
- ◆ Power board with pulse transformers and other interface components.

ELECTRICAL SPECIFICATIONS

AC Input Voltage : 415, +/- 10%
3 Phase, 3 wire

Frequency : 47 Hz to 63 Hz.

DC OUTPUT

Armature Voltage : 400 / 440 / 460V
Current : Upto 3200A
Field Voltage : 220 V or 180 V typical

ENVIRONMENTAL SPECIFICATIONS

Ambient temp. : 0 to 50 Deg. C.
Humidity : 0 to 85% RH
Non-condensing
Altitude : Upto 1000m above MSL
Storage Temperature : -10 to + 65 Deg. C

SAFETY AND PROTECTION

- ◆ PLL circuit for providing immunity from line transients and distortion.
- ◆ Automatic electronic trip and high speed pulse inhibition under faults such as :
 - ◆ Phase fail
 - ◆ Field fail
 - ◆ Instantaneous over current
 - ◆ AC under voltage
 - ◆ DC over voltage
 - ◆ Mains under / over frequency
 - ◆ Motor overspeed
 - ◆ Feedback fail / reverse
- ◆ DC loop open
- ◆ Inverse time overload
- ◆ Motor stall
- ◆ PLL Unlock
- ◆ Hardware watch dog trip
- ◆ External fault
- ◆ Software security for drive parameters.
- ◆ A programming mode key with LED indication.
- ◆ Prevents changes being made to parameters unintentionally.
- ◆ Earthing stud for safe operation of equipment.
- ◆ Galvanically isolated control and signal Interface cards.



RATING CHART

SL. NO.	CONVERTER MODEL		TYPICAL DC MOTOR RATING AT 440V		MAX. CONT. DC CURRENT RATING	COOLING TYPE
	1 Q	4 Q	HP	KW	AMPS	
1.	3N 11 - 11	3R 11 - 11	12	9	25	NATURAL
2.	3N 11 - 15	3R 11 - 15	17	13	35	NATURAL
3.	3N 11 - 22	3R 11 - 22	33	25	65	NATURAL
4.	3N 11 - 40	3R 11 - 40	40	30	80	NATURAL
5.	3N 11 - 55	3R 11 - 55	60	45	120	FORCE COOLED
6.	3N 11 - 70	3R 11 - 70	65	49	130	NATURAL
7.	3N 11 - 130	3R 11 - 130	138	104	275	FORCE COOLED
8.	3N 11 - 165	3R 11 - 165	158	118	315	FORCE COOLED
9.	3N 11 - 200	3R 11 - 200	200	150	400	FORCE COOLED
10.	3N 11 - 250	3R 11 - 250	250	187	500	FORCE COOLED
11.	3N 11 - 290	3R 11 - 290	357	266	696	FORCE COOLED
12.	3N 11 - 350	3R 11 - 350	450	336	850	FORCE COOLED
13.	3N 11 - 440	3R 11 - 440	518	386	975	FORCE COOLED
14.	3N 11 - 520	3R 11 - 520	610	455	1150	FORCE COOLED
15.	3N 11 - 660	3R 11 - 660	854	636	1607	FORCE COOLED
16.	3N 11 - 800	3R 11 - 800	1055	785	1900	FORCE COOLED
17.	3N 11 - 2200	3R 11 - 2200	1235	920	2200	FORCE COOLED
18.	3N 11 - 2500	3R 11 - 2500	1402	1045	2500	FORCE COOLED
19.	3N 11 - 3200	3R 11 - 3200	1800	1341	3200	FORCE COOLED

NOTES :

1. Module rating are for IP 00 degree protection.
2. For IP 30 protection of panel derate the current ratings by 10%.
3. For IP 40 protection of panel derate the current ratings by 20%.
4. For IP 50 protection of panel derate the current ratings by 20%. However, please note, IP 50 protection can be offered for range of modules 11-40, 70 which are natural cooled. For requirements of IP 50 protection for other ratings, please refer to manufacturing unit.

APPLICATIONS

◆ SUGAR

ID Fan, FD Fan, Cane Crushers, GRPF drives, TRPF drives, Centrifuges, Fibrisers, Mills etc.

◆ MATERIAL HANDLING

Wagon Tippler, Stacker Reclaimers, Conveyors, Weigh Feeders etc.

◆ TYRE & RUBBER

Extruder, Conveyor, Mixer, Calender, Fabric dip units etc.

◆ CEMENT

Kilns, Classifiers, Preheaters, Fans, Cooling Conveyors, Weigh Feeders, Grate Coolers etc.

◆ PLASTIC

Blow Film line, Extrusion line, Kneader etc.

◆ TEXTILE

Webwinder, Draw Texturising etc.

◆ TEST RIG

Gear box test rig, Engine test rig, Turbine test rig, Clutch test rig, Helicopter blade test rig etc.

◆ PAPER MILL

Line shaft or Sectional drives, Rewinders, Slitters, Cutters etc.

◆ STEEL

Hot Rolling, Cold Rolling, Casters, Process line, Finishing line, Stretch Mill, Forming Mill, Tube Mill, Draw Bench, Pinch Rolls, Coilers, Kiln Main Drive, Plate Mill etc.

◆ CABLE & WIRE DRAWING

Winders, Rewinders, Coiler, Excentric Binder, Drawing, Spoolers, Concentric Binders, Takeup drives, Steelarmouring etc.

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