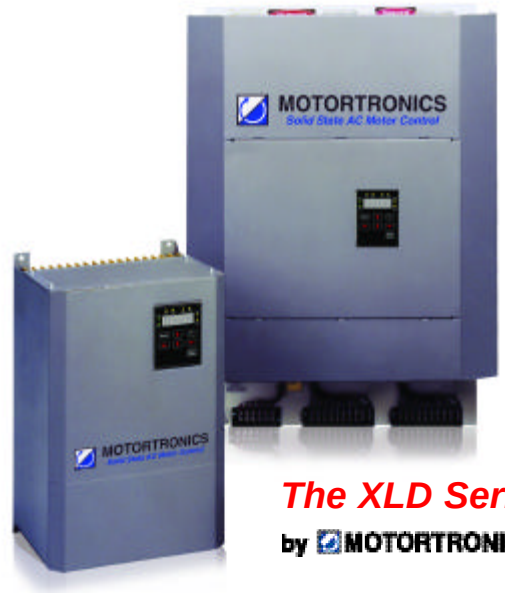
The XLD Series... for Advanced Protection



The XLD Series
by MOTORTRONICS

Acceleration Adjustments

Ramp types	Voltage ramp or current ramp
Starting torque	0 - 100% of line voltage or 0 - 600% of FLA
Ramp time	1 to 120 seconds
Current limit	200 - 600%

Dual Ramp Settings*

Four (4) programmable ramp options

Deceleration Adjustments

Begin decel level	0 - 100% of line voltage
Stop level	0 to 1% less than begin decel
Decel time	0 - 60 seconds
Operation during overload	Ramp down or coast-to-stop

Jog Settings*

Jog at set current	100 - 500% of FLA
Jog at set voltage	0 - 100% of line voltage
Voltage jog max time	0 - 20 seconds

Kick Start Settings

Kick start	0 - 100% of line voltage
Kick start time	0.1 - 2 seconds

Programmable Output Relays

Three (3) relays can be individually programmed for change of state indication for any one of 18 conditions.

Type / Rating	FORM C (SPDT), rated 5 amps, 240VAC max (1200VA)

*Separate external control inputs

Advanced Motor Protection in a Soft Starter

Start & Run Protection

Two programmable overload trip curves allow for the thermal capacity required to start the load while providing motor overload protection needed during the run time.

Start:	Programmable for Class 5 - 30
Run:	Programmable for Class 5 - 30, enabled when starter detects motor is "At-Speed"
Reset:	Manual or automatic, selectable via programming

The ***XLD Series*** recognizes motor cool-down rates are a function of the run time and that sometimes a motor will cool faster if allowed to run.

Real-Time Thermal Modeling — Continuously calculates motor operating temperature even when your motor isn't running. Knows when your motor is cool enough for a successful restart.

Retentive Thermal Memory — Remembers the thermal condition of the motor even in the event of a power brown-out or black-out. Extrapolates motor temperature using a real-time clock.

Dynamic Reset Capacity — Overload will not reset until thermal capacity in the motor is sufficient for a successful restart. Starter learns and retains this information from previous starts.

Phase Current Imbalance/Loss Protection

Imbalance trip level	5 - 30% current between any two phases
Imbalance trip delay	0 - 20 seconds
Phase loss	Trips on any phase current loss

Electronic Shear Pin Protection

Shear pin trip level	50 - 300% of motor FLA
Shear pin trip delay	0 - 20 seconds

Load Loss Trip Protection

Under current trip level	10 - 90% of motor FLA
Under current trip delay	0 - 20 seconds

Coast Down (Back Spin) Lockout Timer

Coast down time	0 - 60 minutes

Starts-per-Hour Lockout Timer

Starts-per-hour	1 - 10 successful starts per hour
Time between starts	0 - 60 min. between start attempts

Phase Rotation — Phase sequence insensitive

Shorted Load — During start, injects voltage for ¼ second and will trip if it sees a current surge

Short Circuit — Trips in 12.5 ms at 10x unit current rating during run

Shorted SCR — Trips on a voltage drop of less than 1½ V across any SCR pair

Shunt Trip — Relay trips on current flow while in the OFF mode (multiple shorted SCRs)

Over Temperature — Thermal sensors on heat sinks trip when temperature exceeds 185° F

XLD Series... Reliable, Digital Soft Starters

Simple to use keypad operator

Operator Interface

LED readout	4 digit alpha numeric, high brightness, 7 segment display
Keypad	7 function keys with tactile feedback
Status Indicators	8 LEDs for run and fault indication
Remote Capability	Up to 10 ft (3 meters) with NEMA1 or NEMA12 mounting kit

Metering Functions

Phase Currents	0 - 9999 amps, Phase A, B, or C
Thermal Capacity	0 - 100% of remaining motor thermal capacity
Elapsed Time	0 - 9,999,000 hours
Run Cycle Counter	0 - 99,990,000 run commands
Fault History	Last 3 faults, including time and date stamps for each

Processor Intelligence

Real Time Clock	Lithium ion battery for clock memory only, 10+ year life span.
Customer Settings	Non-volatile EEPROM, no battery backup necessary
Operating Memory	DRAM, loaded from EPROM and EEPROM at initialization
Factory Default Storage	Flash EPROM, field replaceable

Serial Communications

Protocol	Modbus RTU & RS232
Signal	RS-485
Network	Up to 247 devices per node
Functionality	Full operation, status view and programming via the comm port

How to Order

□ XLD - 288 - □ - N - □

Optional Disconnect
Blank = None
B = Circuit Breaker
F = Fusible Disconnect
(39 & 48A models only)

Max. Amps
39 - 1250 Amps

Voltage
Blank = 208 - 480V
600 = 208 - 600V

Enclosure
P = Panel Mount
N = NEMA 1
E = NEMA 12
N4 = NEMA 4/4X

Control Power
Blank = 120 VAC
240 = 240 VAC

General Specifications

Type of Load
Three phase AC induction motors

AC Supply Voltage
208 - 600VAC ±10%, 50/60 Hz

Current and HP Ratings
39 - 1250 Amps; 10 - 1125HP

Unit Overload Capacity
(% of motor FLA)
125% - Continuous
500% - 60 Seconds
600% - 30 Seconds

Control
2 or 3 wire 120 VAC (customer supplied)
Order 240 VAC control as option
Optional CPTs also available

SCR Peak Inverse Voltage
1600V (ratings above 39 A)

Transient Voltage Protection
RC snubber (dv/dt) network on each phase

Ambient Condition Design
0 - 50° C open panel (32° F to 122°F)
0 - 40° C enclosed (32 - 104°F)

Cooling Systems
Convection up to 180A, fan assisted
62 - 120A; Fan ventilated 220 - 1250A

Bypass Contactor
Shunt rated contactor included as standard in all NEMA 12 enclosed units ≥ 92A and all NEMA 12 combination starters. Line start rated contactor optional.

Approvals

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