XLD Series

10 to 1125 HP
(39 to 1250A)

The XLD Series Specifications

The field-proven, digital soft start solution

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)

Protection

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 9x unit 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 Separate 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

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Operator Interface

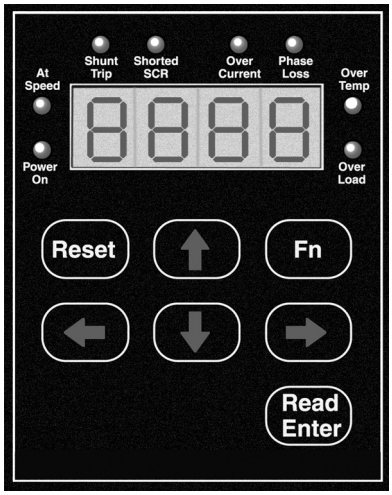
LED readout	4 digit alpha numeric, high brightness, 7 segment display
Keypad	8 function keys with tactile feedback
Status Indicators	8 LEDs for run and fault indication
Remote Capability	Up to 10 ft (3 meters) with NEMA1 or NEMA12 mounting kit

Metering Functions

Phase Currents	0 - 9999 amps, Phase A, B, or C
Thermal Capacity	0 - 100% of remaining motor thermal capacity
Elapsed Time	0 - 1,000,000.0 hours
Run Cycle Counter	0 - 10,000,000 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 (Adapter Kit Required)

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

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 networks 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.