## Find out more: www.sprint-electric.com

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# DC MOTOR CONTROL TECHNOLOGY PRODUCT CATALOGUE THREE PHASE DC DRIVES













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# DC Motor Control Technology:

Increase your productivity, save energy and reduce downtime.

With an extensive range of DC motor control products, you will find an answer to your industrial automation questions.

## Your Industry - Our Experience.

We've used our renowned industrial automation experience to design a range of DC motor controllers which provide you with solutions to the most demanding motor control applications.

It's now easier than ever to design new DC motor control systems or improve the performance of an existing application by retrofitting with the latest DC technology.

#### Single Phase products

We also manufacture single phase DC motor controllers. Please see our single phase catalogue for details.

## Save with Compact Designs and Ex-Stock Delivery.

You can save cabinet space in new control systems, or easily upgrade an existing DC motor application. Compact design comes as standard.

Reduce your downtime by relying on our ex-stock delivery. With a global network of partners and all products built for stock, you can quickly get your business moving again.

## Take control of the most demanding motor control applications.

The PL and PLX DC drives give a fast controlled response over the full speed range.

## Key Features:

- Friendly easy-to-use menu structure with descriptive parameter names.

- Extremely flexible block diagram including unique "Configuration Checker", detects conflicts in user programmed configurations.
- Failsafe automatic "Revert to AVF" on speed feedback failure.



The 4Q PLX can motor and brake in forward and reverse and regenerate energy into the mains supply when braking.

All models include 40 character alpha-numeric back-lit display, full set of centre winding blocks and a field weakener for extended speed range. A high quality product from a world beating company.

Available in both 2Q and 4Q versions the range comprises 5 very compact chassis sizes with models rated from 12 to 1850 Amps.

- Five feedback transducer options as standard.
- Non-volatile trip alarm memory, even after power-down.
- Real language parameter description eliminates need for look-up tables.
- Built-in "Oscilloscope" output for full parameter monitoring.
- Three fully independent, user programmable drive configurations.
- Full suite of centre winding macros included.

- A choice of two drive configuration and monitoring packages.
- PL Pilot. Free with PL/X.
- Savvy. Free and can be upgraded to signal flow diagram.
- Ultra compact sizes offering significant panel space savings over other manufacturers.
- Programming menu is designed for rapid travel to desired parameter using ergonomically designed keys.

- Extensive, multi-function programmable I/O, with over 36 digital and analogue input/output combinations.
- Built-in system application blocks with descriptive connection points.
- Unique electronic regenerative stopping facility on selected 2Q models.
- In-depth fault monitoring and comprehensive system alarms.
- Serial communications to allow off-site programming and remote diagnostics.

- In-depth diagnostic facility available from on-board display and "in-built meter".
- On board fully controlled field with five operating modes.
- Easy to use product manual with display graphics and block diagrams.
- Full suite of built-in encoder functions as standard.
- Large 40 character backlit alphanumeric LCD display.
- All PL/X models are compatible with drive.web, to provide robust programmable peer control for drives and systems.

# SPECIFICATION



## Ratings

POWER CONFIGURATION - PLX Four Quadrant

- Regenerative - PL Two Quadrant Non-
- Regenerative (some PL models have electronic regenerative stopping facility)
- Fully controlled variable field supply

ARMATURE VOLTAGE - V armature = Vac x 1.2

#### ARMATURE CURRENT RATINGS (ADC)

- 12, 24, 36, 51, 72, 99, 123, 155, 205, 270, 330, 430, 530, 630, 650, 750, 850, 950, 1050, 1250, 1450, 1650, 1850 - Overload 150% for 25 seconds

#### FIFLD CURRENT

- 8A (12-123A ratings)
- 16A (155-330A ratings)
- 32A (430-630A ratings) - 64A (1250-1850A ratings)

#### FIELD VOLTAGE

- V field = 0 to  $0.9 \times Auxiliary$ AC Supply

#### AC SUPPLY VOLTAGE (VAC)

- Main 3 phase 50-60Hz: - 12 to 480Vac +/- 10%
- for armature power - 690Vac option
- for 650A-1850A

#### Auxiliary 3 phase 50-60Hz:

- 100 to 480Vac +/- 10% for field power
- 690Vac option for 650A-1850A

#### Control 1 phase 50-60Hz:

- 110 to 240Vac +/- 10% for control power

06



### Protection

- Interline device networks
- High energy MOV's
- Instantaneous over-current
- Field failure and over-current - Motor over-temperature
- Thyristor stack
- over-temperature
- Mains supply phase loss
- Mains synchronisation loss
- Armature over-volts
- Speed feedback failure
- Stall protection
- Standstill logic
- Thyristor 'trigger' failure

## - Digital output short circuit

#### Inputs/Outputs

ANALOGUE INPUTS - (8 Total - resolution

- 5mV+sign)
- All configurable
- All have programmable thresholds and 4 voltage
- ranges
- +/- 5/10/20/30V - All inputs are over voltage
- protected (can also be utilised as digital inputs)
- ANALOGUE OUTPUTS
- (4 Total resolution
- 2.5mV+sign)
- 1 armature current output
- 3 configurable
- All outputs are short circuit protected

#### DIGITAL INPUTS

- (17 Total) - All configurable
- DIGITAL OUTPUTS
- (7 Total 24V logic -350mA total)
- Short circuit protected
- Over temp and
- over voltage protected
- All configurable

- Field economy



PRODUCT NAME

DESCRIPTION

screens simultaneously.

important conditions.

The PC running the PL PILOT software is connected to the drive

via the PC's standard serial port. The package is designed for ease

of use and provides a clear, defined and understandable method

Unique 'Configuration Checker' automatically scans for user

Diagnostic monitoring in engineering units (volts, amps, Kw,

RPM, Hz) and percentages for all terminals and block outputs.

Extensive colour dynamics to assist in the detection of

drive.web

All PL/X models are compatible with

drive.web. The drive.web distributed

control technology uses Ethernet and

powerful graphical tools to provide

robust, Programmable Peer Control

The drive.web technology is infinitely

scalable and cost effective for systems

DRIVES AND

MOTORS

of any size or complexity. For typical

motor control systems, drive.web

beats using any PLC on cost,

performance and ease of use.

(PPC) for drives and systems.

programmed connection faults and highlights the conflicts. Tile

and zoom facility allows user to view and arrange any number of

for accessing all levels of the drives extensive built in functionality.

## Environment

- Ambient operating temperature

- 0-50°C (all ratings)

#### Steady state accurácy

- 0.01% Encoder feedback
- with digital reference.
- 0.1% Analogue tachogenerator feedback
- 2% Armature voltage feedback
- 0.01% Encoder + tach,
- encoder + AVF or encoder only feedback
- Maximum encoder frequency 100KHz

## Standards

CE marked to EN50178 - (low voltage directive)

EN50082-2:1995

- Immunity industrial environment

#### EN50082-1:1997

- Immunity residential commercial and light industry

#### EN50081-2:1993

- Emissions industrial environment (EN55011 Class A)

#### EN50081-1:1992

(EN55022 Class B)

650-1850Amps

- UL and cUL pending

- UL and cUL listed 12-630Amps

- Motor armature volts - Emissions industrial environment
- Output power - AC supply volts

functions

macros

memory

- Delay timer

- Latch

- Current Profiling

- Spindle Orientation

- Jog/Crawl functions

- Dual motor swap

- Linear or S ramp

- Slack take up

- Batch counter

- Draw control

configurations

at power off

(amps)

Monitoring

- Full suite of centre winding

- Motorised pot simulator with

- 2x PIDs (undedicated)

- 2x Summers (undedicated)

- Auto self-tune current loop

- 3 user programmable drive

Alarm Status

- First fault latched and

automatically displayed.

- Fault automatically saved

- All analogue input voltages

- All analogue output voltages

- All digital input states

- All digital output states

- Tachogenerator voltage

- Motor armature current

- Motor field current (amps)

- 2x Filters (undedicated)

### Field configurations

- Fixed current
- Fixed voltage
- Field weakening
- Delayed quenching
- Standby field value

# - 25 to +55°C storage

# PL/X configuration and monitoring tools

## Minimise your setup and commissioning time. A choice of 2 drive configuration and monitoring packages.

PRODUCT NAME



DESCRIPTION

Savvy is a sophisticated software tool that can be used to configure the PL/X as an alternative to PL PILOT.

Savvy can be upgraded for a small cost to include a signal flow diagram (SFD) graphical package. This allows the user configured internal block diagram of the PL/X system to be represented as a block diagram on screen and changed by drag and drop connections from PIN to PIN.

When used in conjunction with the drive.web distributed control products the Savvy software can produce an entire configuration diagram of a multiple drive system.





#### DESCRIPTION

The PL/X DC motor controller uses closed loop control of armature current and feedback voltage to give precise control of motor torque and speed. The unit also controls the motor excitation field. The closed loop parameters are programmable by the user and a wealth of inputs and outputs are provided to allow very complex motion control processes to be achieved.

#### PRODUCT NAME





#### RATINGS & DIMENSIONS

PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	HP @ 460v	ARMATURE CURRENT	FIELD AMPS
PL* and PLX 5	5	6.6	12	8
PL* and PLX 10	10	13.3	24	8
PL* and PLX 15	15	20	36	8
PL* and PLX 20	20	26.6	51	8
PL* and PLX 30	30	40	72	8
PL* and PLX 40	40	53.3	99	8
PL* and PLX 50	50	66.6	123	8
* PL model has regen stopping facility				



 $(\downarrow)$ 

#### PRODUCT NAME

# PL/X65-145



	PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	HP @ 460v	ARMATURE CURRENT	FIELD AMPS	1	H
						,	N
	PL and PLX 65	65	90	155	16		
	PL and PLX 85	85	115	205	16		D
	PL and PLX 115	115	155	270	16	S	Н
	PL* and PLX 145	145	190	330	16	W	/E
* PL model has regen stopping facility							1!





3

6

PRODUCT NAME

# PL/X185-265



F	RATINGS	5 & DIN	IENSIONS

PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	HP @ 460v	ARMATURE CURRENT DC AMPS	FIELD AMPS
PL and PLX 185	185	250	430	32
PL* and PLX 225	225	300	530	32
PL only 265	265	350	630	32
* PL model has regen stopping facility				

н	505 mm	
w	216 mm	
D	294 mm	
	PPING GHT	
24	kg	

FRAME SIZE

#### DESCRIPTION

These models have all the functionality of the smaller units, but with added flexibility on the supply voltage and input port.

As well as standard voltages up to 480V AC, they have the option of being supplied as HV units that are able to

All models are also available with the high current 3 phase supply terminals in standard top entry, or bottom entry as an option.

#### PRODUCT NAME

 $\downarrow$ 





RATINGS & DIM	IENSIONS		FRAME SIZE	Ve
PL 2 QUADRANT PLX 4 OUADRANT	KW @ 460v	ARMATURE CURRENT DC AMPS	H 700 mm	PL
•	KII C TOOT	De Ann D	W 253 mm	Th
PL and PLX 275	275	650		tw
PL and PLX 315	315	750	<b>D</b> 350 mm	de
PL and PLX 360	360	850	SHIPPING	to pr
PL* and PLX 400	400	950	WEIGHT	on
PL and PLX 440	440	1050	45kg	du the
* PL model has regen s	stopping facility			be

accept voltages up to 690 volts for motors with armatures of up to 750 volts DC.

kit fixing



#### nting kit for units /X275-440 and PL/X500-800

e venting kit comprises o steel ducts which are igned to telescope ether. There is also a otective cowl for mounting the enclosure roof. The ict length from the top of drive is adjustable between 270mm to 538mm.

#### DESCRIPTION

These models have all the functionality of the smaller units, but with added flexibility on the supply voltage and input port.

As well as standard voltages up to 480V AC, they have the option of being supplied as HV units that are able to accept voltages up to 690 volts for motors with armatures of up to 750 volts DC.

All models are also available with the high current 3 phase supply terminals in standard top entry, or bottom entry as an option.

PRODUCT NAME

# PL/X520-800





FRAME SIZE

0 mm

) mm

١G

m top entry)

#### RATINGS & DIMENSIONS

PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	ARMATURE CURRENT DC AMPS		H (75	700 5 mi
PL and PLX 520	520	1250	,	w	506
PL and PLX 600	600	1450		D	350
PL* and PLX 700	700	1650	6		
PL* and PLX 800	800	1850	-		PPIN GH1
* PL model has regen	stopping facility			0.01	

## PLXD

PRODUCT NAME

#### DESCRIPTION

## Thyristor Stack Controller

The PLXD is used for controlling external 3 phase thyristor stacks for DC motors, and possesses all the functionality of the PL/X range. It is in the same package as the PL/X 5 - 50 models.

The PLXD provides gate drive pulses for driving user supplied pulse transformers with primary pulse current up to 1.5 Amp.

There are terminals to accept an externally generated isolated armature current signal, field signal, thermal heatsink sensor switch, and high voltage armature voltage feedback.

The unit also provides a +24v supply for the gate drive pulse transformers that is short circuit protected.

The following stack configurations can be driven by the PLXD:

1) 6 pulse 2 Quadrant bridge (6 thyristors), or 2 bridges in parallel (12 thyristors).

2) 6 pulse 4 Quadrant regen anti-parallel bridge (12 thyristors).

Extra stacks can be used in parallel within the gate drive capability.

All customer control terminals are the plug-in screw terminal variety.

The PLXD can be used with up to 690v AC on its 3 phase auxiliary supply inputs (EL1/2/3). The external stacks can be of higher voltages if required.

The armature voltage inputs can monitor up to +/-1000 Volts DC.

PLA APPLICATIONS MODULE

Designed primarily for systems integrators and panel builders, the PLA allows you to enhance and simplify any analogue or digital drive control system. It can reduce or eliminate the need for costly PLC or PC based systems. You can use the PLA to work with a range of industrial applications. Easy to use configurable software blocks offer you a powerful and flexible method of processing analogue and digital signals.



There is an integral motor field bridge with independent single phase AC supply inputs (EF2/3) for controlling fields up to 32 Amps. The internal field bridge supply input voltage rating is 480v AC.

Provision is made for providing an external field feedback signal and controlling an external field with user supplied primary gate pulse transformer drivers.

There is a pulse transformer unit (Product code LA102800) available at extra cost for users who prefer not to supply their own components. It contains all the external interface components required to combine the PLXD with the thyristor stack and its associated Accts (AC current transformers). It includes 12 pulse transformer networks for 2 or 4 quadrant bridges, an armature burden rectifier network, and 2 pulse transformer networks for an external field bridge. The unit is designed to be mounted on a DIN rail and all the interface connections are via screw terminals.





SI/X

5kw to 50kw

#### DESCRIPTION

For users who prefer or require analogue control loops.

The SL 2 Quadrant and SLX 4 Quadrant models are compact, reliable and efficient DC motor controllers.

facility ideal for extruder applications

KEY FEATURES

Available in 2 and 4 Quadrant

Available from 5kw to 145kw

Built in field weakener

Extra 50% peak torque

for rapid acceleration or

Zero reference interlock

for extended speed range

versions

SL 2 Quadrant

SLX 4 Quadrant

240v and 480v

shock loads

50/60Hz AC operation

Numerous alarms for enhanced drive and motor protection

High accuracy armature voltage feedback mode eliminates the need for additional tacho in most applications

Automatic economy field mode protects motors in cold climates

Torque control input for basic winding or tension control, with overspeed limiting

Many additional input and output signals, ideal for system applications



DIMENSIONS

10DFL	COMPARISON	

MODEL	AC SUPPLY RANGE	TYPICAL ARMATURE	MAX CONTINUOUS	NOMINAL	H 250 mm	
SL* and SLX 5			124	5кw	W 204 mm	
			IZA	JKW		
SL* and SLX 10			24A	10kw	<b>D</b> 143 mm	
SL* and SLX 15			36A	15кw		
SL* and SLX 20	200-240v 380-480v	460v	460v	48A	20кw	
SL* and SLX 30			72a	30кw	SHIPPING WEIGHT	
SL* and SLX 40			96A	40ĸw	WEIGHT	
SL* and SLX 50			120A	50ĸw	8kg	

\* SL model has regen stopping facility

See parts list at back for low voltage supply options and fuses.

#### PRODUCT NAME

SI/X

The 4Q models improve your energy efficiency by regenerating energy into the mains supply whilst under braking. The energy invested accelerating the load mass is recovered when braking. No dissipation of energy in wasteful braking resistors.

With fully isolated control electronics and a wealth of I/O, the SL/X is easy for you to integrate with other drives and equipment.





#### MODEL COMPARISON

	MODEL	AC SUPPLY RANGE	TYPICAL ARMATURE	MAX CONTINUOUS	NOMINAL	1
	SL and SLX 65	200-240v 380-480v		155a	65кw	
	SL and SLX 85		460v	205a	85кw	- I
	SL and SLX 115		4000	270A	115кw	
	SL* and SLX 145			330A	145ĸw	S
* SL model has regen stopping facility						W
	-					

Refer to features chart for further details or download product manual for full specification

## 65kw to 145kw

To allow you greater control of high motor speed applications, the SL/X has a built-in field weakener for extended speed range.

## KEY FEATURES

Switched maximum current ranges for easy matching to motor current rating

PLC compatible input and output signals

Field current input for constant horsepower applications

Delayed field quench for secure emergency stopping

Features Sprint Electric micro analog processor

Compact size, saves panel space and makes for easy retrofitting

Ultra stable potentiometer reference for optimum long term speed and torque stability

Output signals for easy display of motor speed and load

On board relay indicates zero speed and/or motor overload

Isolated control electronics for easy connection to other drives/equipment

Switch selectable feedback calibration no component changes

Adjustable field output for easy motor matching



#### DIMENSIONS

1	410 mm
N	204 mm
5	187 mm

SHIPPING NEIGHT

15kg

**KEY FEATURES** 

2 Quadrant three phase

Extremely compact size,

saves panel space and makes for easy retrofitting

Extra 50% peak torque

shock loads

matching

limiting

drives/equipment

for rapid acceleration or

Isolated control electronics

for easy connection to other

Configurable field bridge

Wide AC supply range,

380 - 480v or 200-240v,

Torque control input

Switch selectable

feedback calibration -

no component changes

Switch selectable Tach or Armature voltage feedback

Numerous alarms for

protection

enhanced drive and motor

control, with overspeed

user selectable

for easy motor field voltage

for basic winding or tension

controller

14kw

24kw

34kw

44kw

Four models:

DESCRIPTION

14kw to 44kw

## Single direction 2 quadrant an DC Motor controller.

The SLE drive has been specifically designed at a cost and size to benefit OEMS, and yet without any compromise in specification, reliability or performance.

Its compact footprint (250mm x 204mm) enables additional savings and ensures easy integration within new designs or trouble free installation when retrofitting

DIMENSIONS

H 250 mm W 204 mm D 115 mm SHIPPING WEIGHT

7kg



MODEL COMPARISON

MODEL	AC SUPPLY RANGE	TYPICAL ARMATURE VOLTAGE	MAX CONTINUOUS ARMATURE CURRENT	NOMINAL POWER
SLE 14		460v	34A	14кw
SLE 24	200-240v		58A	24кw
SLE 34	380-480v		82A	34кw
SLE 44			106A	44ĸw

alogue	
0	

# SLE

## SPECIFICATION Fully isolated control electronics

Control action:	Dual loop Proportional and Ir
Speed regulation:	0.1% Tachogenerator, 2% Armature voltage feedba
Armature:	Four models: 34, 58, 82 and 1
Overload protection:	Extra 50% peak torque for 30 trip operation
Field output:	2 phase or 3 phase bridge <sup>1</sup> /2 or full wave
Customer presets:	Max speed: 12v - 500v full sca Min speed 0 to 30% of max s Up ramp (Acceleration) 1-30 s Down Ramp (Deceleration) 1- Stability • IR Comp • jog speec Max armature current 0-100%
Switches:	Maximum current - 2 ranges Feedback voltage - 4 ranges Relay Function - zero speed a and/or overload Ramp connect • Tach /AVF sele
Inputs:	Speed • Torque Auxiliary speed inputs +ve an 4-20mA and 0-20mA Drive Run • TachoGenerator Push Button stop/start
Outputs:	Speed · Current · Setpoint Ran Total Demand · AVF signal Zero speed, and stall & overlo +/-12V, +/- 24V rails
Relay:	Volt free change over Contacts for zero speed and/o
Other features:	Overspeed limit Over torque limit Inverse time overload 50% stall threshold option Precision reference Precision tach rectifier option Zero reference interlock

## 14kw to 44kw

Integral

back

106 Amps continuous

30 secs prior to stall

ale feedback speed secs. 1-30 secs. d

and/or stall,

lection

nd -ve

amp

load relay driver

/or stall, and/or overload

# KEY FEATURES

Zero reference interlock facility ideal for extruder applications

Numerous inputs and outputs for complex system applications

#### S shaped ramp facility

User adjustable:

- Acceleration
- Deceleration
- Max motor speed - Min motor speed
- Max motor current
- IR compensation
- Stability
- Jog speed

Relay outputs for stall, zero speed and motor overload

Switched maximum current ranges for easy matching to motor current rating

Ultra stable potentiometer reference for optimum long term speed and torque stability

4-20mA and 0-20mA loop input option as standard

Output signals for easy display of motor speed and load

Features Sprint Electric micro analog processor PL5

Controller

Controller

Line reactor

Aux Semiconductor Fuse, 3 required 6 x 32

DIN Rail Clip for Aux Fuseholder, 3 required

Main Semiconductor Fuse, 3 required 14 x 51

Aux Fuseholder, 3 required 6 x 32

Main Fuseholder, 3 required 14 x 51

Pot kit including graduated dial & knob

PL5

LR48

CH00620A

CP102071

FE101969

CH00612A

CP102071

POTKIT

PL10

LR48

CH00620A

CP102071

FE101969

CH00740A

CP102053

POTKIT

PL15

LR48

CH00620A

CP102071

FE101969

CH00740A

CP102053

POTKIT

PRODUCT NAME

PL40

PL50

PL65

PI 85

PL115

PART

## 40KW 99A

THIS MODEL HAS REGENERATIVE S

Line reactor

Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x 3 DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main Fuseholder, 3 required Size Pot kit including graduated dial

## 50KW 123A

THIS MODEL HAS REGENERATIVE S

Line reactor

Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x 3 DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main Fuseholder, 3 required Size Pot kit including graduated dial

## 65KW 155A

Controller Line reactor

Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x 3 DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main Fuseholder, 3 required Size Pot kit including graduated dial

## 85KW 205A

Controller

Line reactor Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x 3 DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main 3 pole Fuseholder Size 1 Pot kit including graduated dial

#### 115KW 270A Controller

Line reactor

Aux Semiconductor Fuse, 3 required 6 x 3 Aux Fuseholder, 3 required 6 x 3 DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main 3 pole Fuseholder Size 1 Pot kit including graduated dial

Please refer to website for further information or product technical manual for full specification.	

Line reactor Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for holder, 6 required Main Semiconductor Fuse, 3 required 6 x 32 Main Fuseholder, 3 required 6 x 32 Pot kit including graduated dial & knob 10 KW 24 A this model has regenerative stopping capability as standard Controller Line reactor Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for Aux Fuseholder, 3 required Main Semiconductor Fuse, 3 required 14 x 51 Main Fuseholder, 3 required 14 x 51 Pot kit including graduated dial & knob

PL RANGE, DIGITAL THREE PHASE 2Q DRIVE WITH INTEGRAL FIELD WEAKENER

 $5 \mathrm{KW}\,12 \mathrm{A}$  this model has regenerative stopping capability as standard

PL15

PL10





$20\mathrm{KW}51\mathrm{A}$ this model has regenerative stopping capability as standard	ARD
Controller	PL20
Line reactor	LR48
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH00850A
Main Fuseholder, 3 required Size 000	CP102054
Pot kit including graduated dial & knob	POTKIT

15KW 36A THIS MODEL HAS REGENERATIVE STOPPING CAPABILITY AS STANDARD

PL30



$30\mathrm{KW}^{\prime\prime}\mathrm{ZA}$ this model has regenerative stopping capability as standard				
Controller	PL30			
Line reactor	LR120			
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A			
Aux Fuseholder, 3 required 6 x 32	CP102071			
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969			
Main Semiconductor Fuse, 3 required Size 000	CH00880A			
Main Fuseholder, 3 required Size 000	CP102054			
Pot kit including graduated dial & knob	POTKIT			

1	8	

Please refer to website for further infor	Please	refer	to	website	for	further	inforr
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STOPPING CAPABILITY AS STANDARD	
	PL40
	LR120
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 000	CH008100
ze 000	CP102054
l & knob	POTKIT
STOPPING CAPABILITY AS STANDARD	
	PL50
	LR120
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 000	CH008125
ze 000	CP102054
ıl & knob	POTKIT
	PL65
	LR270
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 000	CH008160
ze 000	CP102054
ll & knob	POTKIT
	PL85
	LR270
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 1	CH009250
	CP102055
ıl & knob	ΡΟΤΚΙΤ
	PL115
	LR270
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 1	CH009250
4	CP102055
ıl & knob	POTKIT

PRODUCT NAME	PART	PART NO.	PRODUCT NAME	PART		PART NO.
PL145	145KW 330A THIS MODEL HAS REGENERATIVE STOPPING CAPABILITY AS Controller Line reactor Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for Aux Fuseholder, 3 required Main Semiconductor Fuse, 3 required Size 3 Main 3 pole Fuseholder Size 3	STANDARD PL145 LR330 CH00620A CP102071 FE101969 CH010550 CP102233	PL360	360KW 850A Options TE - top entry (standard) BE - bottom entry (no cost option) 50 Amp field (extra cost option) HV - 690VAC (extra cost option) Refer to supplier for information	Controller Line Reactor Main Semiconductor Fuse, 3 required Aux Semiconductor Fuse, 3 required Aux Fuseholder, 3 required Pot kit inc. graduated dial and knob	PL360 LR850 CH103303 CH103361 CP103371 POTKIT
PL185	Pot kit including graduated dial & knob 185KW 430A Controller 50 Amp option on field output Line reactor Aux Semiconductor Fuse Size 000, 3 required Aux Fuseholder Size 000, 3 required	POTKIT PL185 LR430 CH00850A CP102054	PL400	400KW 950A Options TE - top entry (standard) BE - bottom entry (no cost option) 50 Amp field (extra cost option) HV - 690VAC (extra cost option) Refer to supplier for information	Controller Line Reactor Main Semiconductor Fuse, 3 required Aux Semiconductor Fuse, 3 required Aux Fuseholder, 3 required Potkit inc. graduated dial and knob	PL400 LR950 CH103304 CH103361 CP103371 POTKIT
PL225	Main Semiconductor Fuse, 3 required Size 3 Main 3 pole Fuseholder Size 3 Pot kit including graduated dial & knob 225KW 530A THIS MODEL HAS REGENERATIVE STOPPING CAPABILITY AS Controller 50 Amp option on field output	CH010550 CP102233 POTKIT STANDARD PL225	PL440	440KW 1050A Options TE - top entry (standard) BE - bottom entry (no cost option) 50 Amp field (extra cost option) HV - 690VAC (extra cost option) Refer to supplier for information	Controller Line Reactor Main Semiconductor Fuse, 3 required Aux Semiconductor Fuse, 3 required Aux Fuseholder, 3 required CP103371 Potkit inc. graduated dial and knob	PL440 LR1050 CH103305 CH103361 POTKIT
PL265	Line reactor Aux Semiconductor Fuse Size 000, 3 required Aux Fuseholder Size 000, 3 required Main Semiconductor Fuse, 3 required Size 3 Main 3 pole Fuseholder Size 3 Pot kit including graduated dial & knob 265KW 630A	LR530 CH00850A CP102054 CH010550 CP102233 POTKIT	PL520	520KW 1250A Options TE - top entry (standard) BE - bottom entry (no cost option) HV - 690VAC (extra cost option) Refer to supplier for information	Controller Line Reactor Main Semiconductor Fuse, 3 required Aux Semiconductor Fuse, 3 required Aux Fuseholder, 3 required Potkit inc. graduated dial and knob	PL520 LR1250 CH103306 CH103363 CP103373 POTKIT
	Controller 50 Amp option on field output Line reactor Aux Semiconductor Fuse Size 000, 3 required Aux Fuseholder Size 000, 3 required Main Semiconductor Fuse, 3 required Size 3 Main 3 pole Fuseholder Size 3 Pot kit including graduated dial & knob	PL265 LR630 CH00850A CP102054 CH010700 CP102233 POTKIT	PL600	600KW 1450A Options TE - top entry (standard) BE - bottom entry (no cost option) HV - 690VAC (extra cost option) Refer to supplier for information	Controller Line Reactor Main Semiconductor Fuse, 3 required Aux Semiconductor Fuse, 3 required Aux Fuseholder, 3 required Potkit inc. graduated dial and knob	PL600 LR1450 CH103307 CH103363 CP103373 POTKIT
PL275	275KW 650A         Options       Controller         TE - top entry (standard)       Line Reactor         BE - bottom entry (no cost option)       Main Semiconductor Fuse, 3 required         50 Amp field (extra cost option)       Aux Semiconductor Fuse, 3 required         HV - 690VAC (extra cost option)       Aux Fuseholder, 3 required         Refer to supplier for information       Potkit inc. graduated dial and knob	PL275 LR650 CH103301 CH103361 CP103371 POTKIT	PL700	700KW 1650A Options TE - top entry (standard) BE - bottom entry (no cost option) HV - 690VAC (extra cost option) Refer to supplier for information	Controller Line Reactor Main Semiconductor Fuse, 3 required Aux Semiconductor Fuse, 3 required Aux Fuseholder, 3 required Potkit inc. graduated dial and knob	PL700 LR1650 CH103308 CH103363 CP103373 POTKIT
PL315	315KW 750AOptionsControllerTE - top entry (standard)Line ReactorBE - bottom entry (no cost option)Main Semiconductor Fuse, 3 required50 Amp field (extra cost option)Aux Semiconductor Fuse, 3 requiredHV - 690VAC (extra cost option)Aux Fuseholder, 3 requiredRefer to supplier for informationPotkit inc. graduated dial and knob	PL315 LR750 CH103302 CH103361 CP103371 POTKIT	PL800	800KW 1850A Options TE - top entry (standard) BE - bottom entry (no cost option) HV - 690VAC (extra cost option) Refer to supplier for information	Controller Line Reactor Main Semiconductor Fuse, 3 required Aux Semiconductor Fuse, 3 required Aux Fuseholder, 3 required Potkit inc. graduated dial and knob	PL800 LR1850 CH103309 CH103363 CP103373 POTKIT

PLX5

PI X10

Controller

Line reactor

Controller

Line reactor

5KW 12A 4Q

Armature fuse size 000

10KW 24A 40

Armature fuse size 000

Armature fuseholder size 000

WITH INTEGRAL FIELD WEAKENER

PLX RANGE, DIGITAL THREE PHASE 40 FULLY REGENERATIVE CONTROLLER

Aux Semiconductor Fuse, 3 required 6 x 32

Main Semiconductor Fuse, 3 required 6 x 32

Aux Fuseholder, 3 required 6 x 32

DIN Rail Clip for holder, 6 required

Main Fuseholder, 3 required 6 x 32

Pot kit including graduated dial & knob

Aux Semiconductor Fuse, 3 required 6 x 32

DIN Rail Clip for Aux Fuseholder, 3 required

Main Semiconductor Fuse, 3 required 14 x 51

Aux Fuseholder, 3 required 6 x 32

Main Fuseholder, 3 required 14 x 51

PLX5

LR48

CH00620A

CP102071

FE101969

CH00612A

CP102071 CH00816A

CP102054

POTKIT

PLX10

LR48

CH00620A

CP102071

FE101969

CH00740A

CP102053

CH00832A

CP102054

POTKIT

PLX15

LR48

CH00620A

CP102071

FE101969

CH00740A

CP102053

CH00940A

CP102906

POTKIT

#### PRODUCT NAME

#### PART

## 30KW 72A 40

PLX30

#### PLX40



# PLX50



### PLX65



## 50KW 123A 40

## 65KW 155A 40

22

PLX15



Armature fuseholder size 000 Pot kit including graduated dial & knob 15KW 36A 40 Controller Line reactor Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for Aux Fuseholder, 3 required Main Semiconductor Fuse, 3 required 14 x 51 Main Fuseholder, 3 required 14 x 51

PLX20



## 20KW 51A 40

Armature fuse size 1

Armature fuseholder size 1

Pot kit including graduated dial & knob

Controller	PLX20
Line reactor	LR48
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH00850A
Main Fuseholder, 3 required Size 000	CP102054
Armature fuse size 1	CH00963A
Armature fuseholder size 1	CP102906
Pot kit including graduated dial & knob	

Controller	PLX30
Line reactor	LR120
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH00880A
Main Fuseholder, 3 required Size 000	CP102054
Armature Fuse size 1	CH00980A
Armature Fuseholder size 1	CP102906
Pot kit including graduated dial & knob	POTKIT
40KW 99A 4Q	
Controller	PLX40
Line reactor	LR120
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH008100
Main Fuseholder, 3 required Size 000	CP102054
Armature Fuse size 1	CH009125
Armature Fuseholder size 1	CP102906
Pot kit including graduated dial & knob	POTKIT
50KW 123A 4Q	
Controller	PLX50
Line reactor	LR120
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH008125
Main Fuseholder, 3 required Size 000	CP102054
Armature Fuse size 1	
	CH009160
Armature Fuseholder size 1	CP102906
Pot kit including graduated dial & knob	РОТКІТ
65KW 155A 4Q	
Controller	PLX65
Line reactor	LR270
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
	CP102071
Aux Fuseholder, 3 required 6 x 32	
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH008160
Main Fuseholder, 3 required Size 000	CP102054
Armature Fuse size 1	CH009200
Armature Fuseholder size 1	CP102906
Pot kit including graduated dial & knob	POTKIT

PLX115

PLX145

PLX185

PLX85

#### PART

PART NO.

PLX115

LR270

CH00620A

CP102071

FE101969

CH009250

CP102055 CH009315 CP102906

POTKIT

PLX145

CH00620A

CP102071 FE101969

CH010550

CP102233

CH009400

CP102906

POTKIT

PLX185

LR430

CH00850A

CP102054

CH010550

CP102233

CH013500

CP102949

POTKIT

LR330

PRODUCT NAME

PLX225

PLX275

Ш

#### PART

225KW 530A 4Q

Controller 50 Amp option on field output Line reactor

Aux Semiconductor Fuse Size 00 Aux Fuseholder Size 000, 3 requ Main Semiconductor Fuse, 3 req Main 3 pole Fuseholder Size 3 Armature Fuse size 2 Armature Fuseholder size 2 Pot kit including graduated dial

#### 275KW 650A 4Q Options

TE - top entry (standard) BE - bottom entry (no cost optic 50 Amp field (extra cost option) HV - 690VAC (extra cost option) Refer to supplier for information

#### PLX315 Ш



TE - top entry (standard) BE - bottom entry (no cost optic 50 Amp field (extra cost option) HV - 690VAC (extra cost option) Refer to supplier for information

#### PLX360 Ш





BE - bottom entry (no cost opti 50 Amp field (extra cost option) HV - 690VAC (extra cost option) Refer to supplier for informatio

#### PLX400 ILL



#### Options TE - top entry (standard) BE - bottom entry (no cost opti

400KW 950A 40

50 Amp field (extra cost option) HV - 690VAC (extra cost option) Refer to supplier for information

-	Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for Aux Fuseholder, 3 required Main Semiconductor Fuse, 3 required Size 1 Main 3 pole Fuseholder Size 1 Armature fuse size 1 Armature fuseholder size 1 Pot kit including graduated dial & knob
	115KW 270A 4Q Controller Line reactor Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for Aux Fuseholder, 3 required Main Semiconductor Fuse, 3 required Size 1 Main 3 pole Fuseholder Size 1 Armature fuse size 1 Armature Fuseholder size 1 Pot kit including graduated dial & knob
	145KW 330A 4Q Controller Line reactor Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for Aux Fuseholder, 3 required Main Semiconductor Fuse, 3 required Size 3 Main 3 pole Fuseholder Size 3 Armature fuse size 1 Armature Fuseholder size 1 Pot kit including graduated dial & knob
	185KW 430A 4Q Controller 50 Amp option on field output Line reactor Aux Semiconductor Fuse Size 000, 3 required Aux Fuseholder Size 000, 3 required Main Semiconductor Fuse, 3 required Size 3 Main 3 pole Fuseholder Size 3 Armature fuse size 2

Armature Fuseholder size 2

Pot kit including graduated dial & knob

## 85KW 205A 4Q

Controller	PLX85
Line reactor	LR270
Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 1	CH009250
Main 3 pole Fuseholder Size 1	CP102055
Armature fuse size 1	CH009250
Armature fuseholder size 1	CP102906
Pot kit including graduated dial & knob	POTKIT

Please refer to website for further information or product technical manual for full specification.

	PLX225
	LR530
00, 3 required	CH00850A
uired	CP102054
quired Size 3	CH010550
	CP102233
	CH013550
	CP102949
l & knob	ΡΟΤΚΙΤ

	Controller	
	Line Reactor	PLX275 LR650
ion)	Main Semiconductor Fuse, 3 required	CH103311
1)	Aux Semiconductor Fuse, 3 required	CH103361
)	Aux Fuseholder, 3 required	CP103371
on	Armature Fuse, 2 required	CH103321
	Potkit inc. graduated dial and knob	ΡΟΤΚΙΤ
	Controller	PLX315
	Line Reactor	LR750
ion)	Main Semiconductor Fuse, 3 required	CH103312
n)	Aux Semiconductor Fuse, 3 required	CH103361
ı)	Aux Fuseholder, 3 required	CP103371
on	Armature Fuse, 2 required	CH103322
	Potkit inc. graduated dial and knob	ΡΟΤΚΙΤ
	Controller	PLX360
	Line Reactor	LR850
ion)	Main Semiconductor Fuse, 3 required	CH103313
ı)	Aux Semiconductor Fuse, 3 required	CH103361
)	Aux Fuseholder, 3 required	CP103371
on	Armature Fuse, 2 required	CH103323
011	Potkit inc. graduated dial and knob	POTKIT
		10 mai
	Controller	PLX400
	Line Reactor	LR950
ion)	Main Semiconductor Fuse, 3 required	CH103314
ı)	Aux Semiconductor Fuse, 3 required	CH103361
ı)	Aux Fuseholder, 3 required	CP103371
-		

Armature Fuse, 2 required

Potkit inc. graduated dial and knob

CH103324

POTKIT

PLX440

PLX520

#### PART

440KW 1050A 40 Options TE - top entry (standard) BE - bottom entry (no cost option) 50 Amp field (extra cost option) n) ion

HV - 690VAC (extra cost option
Refer to supplier for informati

520KW 1250A 4Q		
Options	Controller	PLX520
TE - top entry (standard)	Line Reactor	LR1250
BE - bottom entry (no cost option)	Main Semiconductor Fuse, 3 required	CH103316
HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH103363
Refer to supplier for information	Aux Fuseholder, 3 required	CP103373
	Armature Fuse, 2 required	CH103326
	Potkit inc. graduated dial and knob	POTKIT

Main Semiconductor Fuse, 3 required

Aux Semiconductor Fuse, 3 required

Potkit inc. graduated dial and knob

Aux Fuseholder, 3 required

Armature Fuse, 2 required

Main Semiconductor Fuse, 3 required

Aux Semiconductor Fuse, 3 required

Potkit inc. graduated dial and knob

Aux Fuseholder, 3 required

Armature Fuse, 2 required

Controller

Controller

Line Reactor

Line Reactor

PLX600	600KW 1450A 4Q Options
	TE - top entry (standard)
	BE - bottom entry (no cost option)
	HV - 690VAC (extra cost option)
	Refer to supplier for information

#### 700KW 1650A 40 Options

TE - top entry (standard) BE - bottom entry (no cost option) HV - 690VAC (extra cost option) Refer to supplier for information

Controller	PLX700
Line Reactor	LR1650
Main Semiconductor Fuse, 3 required	CH103318
Aux Semiconductor Fuse, 3 required	CH103363
Aux Fuseholder, 3 required	CP103373
Armature Fuse, 2 required	CH103328
Potkit inc. graduated dial and knob	POTKIT

## PLX800

PLX700



## 800KW 1850A 40

Options TE - top entry (standard) BE - bottom entry (no cost option) HV - 690VAC (extra cost option) Refer to supplier for information

Controller	PLX800
Line Reactor	LR1850
Main Semiconductor Fuse, 3 required	CH103319
Aux Semiconductor Fuse, 3 required	CH103363
Aux Fuseholder, 3 required	CP103373
Armature Fuse, 2 required	CH103329
Potkit inc. graduated dial and knob	POTKIT



### **OPTIONS & ACCESSORIES**

Profibus card	Profibus card
Devicenet card	Devicenet card
Mounting board for Profibus/Devicenet card	LA102738
Daisy chain mtg board for Profibus/Devicenet	LA103001
Additional Drive to PC comms cable	LA102595
Drive to drive cable FCC68/FCC68	LA102596
Venting kit for PL/X 275 - 440	LA103392
Venting kit for PL/X 520 - 800	LA103402

#### PART NO.

PLX440

LR1050 CH103315

CH103361

CP103371

CH103325

POTKIT

PLX600

LR1450 CH103317

CH103363

CP103373

CH103327

POTKIT

#### PRODUCT NAME

PART

## SLE RANGE, THREE PHASE 2Q ANALOGUE DC CONTROLLER

### SI F14



## SLE24



## SLE34



## SLE44



#### Line reactor Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x

## SL RANGE, THREE PHASE ANALOGUE 20 DRIVE WITH INTEGRAL FIELD WEAKENER

SL5

5KW 12A THIS MODEL H Controller

7.5 Amp option on field output Line reactor

DIN Rail Clip for holder, 3 requi Main Semiconductor Fuse, 3 rec Main Fuseholder, 3 required 6 x Pot kit including graduated dia

14KW 34A Controller Line reactor Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 reg Main Fuseholder, 3 required 14

## 24KW 58A

## 34KW 82A

## 44KW 106A

Please refer to website for further information or product technical manual for full specification.

PART NO.

Controller Line reactor Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32 DIN Rail Clip for Aux Fuseholder, 3 required Main Semiconductor Fuse, 3 required 14 x 51 Main Fuseholder, 3 required 14 x 51 Pot kit including graduated dial & knob	SLE14 LR48 CH00608A CP102071 FE101969 CH00740A CP102053 POTKIT
24KW 58A	
Controller	SLE24
Line reactor	LR48
Aux Semiconductor Fuse, 3 required 6 x 32	CH00608A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH00880A
Main Fuseholder, 3 required Size 000	CP102054
Pot kit including graduated dial & knob	ΡΟΤΚΙΤ
34KW 82A Controller	SLE34
Line reactor	LR120
Aux Semiconductor Fuse, 3 required 6 x 32	CH00608A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Main Semiconductor Fuse, 3 required Size 000	CH00880A
Main Fuseholder, 3 required Size 000	CP102054 POTKIT
Pot kit including graduated dial & knob	POIKII
44KW 106A	
Controller	SLE44
Line reactor	LR120
Aux Semiconductor Fuse, 3 required 6 x 32	CH00608A
Aux Fuseholder, 3 required 6 x 32	CP102071
DIN Rail Clip for Aux Fuseholder, 3 required	FE101969 CH008100
Main Semiconductor Fuse, 3 required Size 000 Main Fuseholder, 3 required Size 000	CP102054
Pot kit including graduated dial & knob	CI 102034
for Kritheldung gruddeed dal a knob	

HAS REGENERATIVE STOPPING CAPABILITY AS STANDARD	)
	SL5
t	
	LR48
ired	FE101969
quired 6 x 32	CH00612A
x 32	CP102071
al & knob	POTKIT

PRODUCT NAME	PART	PART NO.	PRODUCT NAME	PART	PART NO.
					l'attric.
SL10	$10 { m KW}~24 { m A}$ this model has regenerative stopping capa	ABILITY AS STANDARD	SL65	65KW 155A	
Contraction of the local division of the loc	Controller	SL10	min.c.	Controller	SL65
· ·	7.5 Amp option on field output			15 Amp option on field output	10070
	Line reactor	LR48		Line reactor Aux Semiconductor Fuse, 3 required 6 x 32	LR270 CH00620A
	Main Semiconductor Fuse, 3 required 14 x 51	CH00740A		Aux Semiconductor Fuse, 3 required 6 x 32 Aux Fuseholder, 3 required 6 x 32	CH00620A CP102071
	Main Fuseholder, 3 required 14 x 51	CP102053		DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
Construction of the local division of the lo	Pot kit including graduated dial & knob	ΡΟΤΚΙΤ		Main Semiconductor Fuse, 3 required Size 000	CH008160
				Main Fuseholder, 3 required Size 000	CP102054
SL15	$15 \mathrm{KW}~36 \mathrm{A}$ this model has regenerative stopping CAPA	ABILITY AS STANDARD		Pot kit including graduated dial & knob	ΡΟΤΚΙΤ
Survey of the Owner, or other Designation of the Ow	Controller	SL15			
· ·	7.5 Amp option on field output		SL85	85KW 205A	
The second s	Line reactor	LR48		Controller	SL85
	Main Semiconductor Fuse, 3 required 14 x 51	CH00740A		15 Amp option on field output	5205
	Main Fuseholder, 3 required 14 x 51	CP102053		Line reactor	LR270
Transferra (Statements)	Pot kit including graduated dial & knob	POTKIT		Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
				Aux Fuseholder, 3 required 6 x 32	CP102071
SL20	$20 \mathrm{KW}\ 48 \mathrm{A}$ this model has regenerative stopping cap			DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
	Controller	SL20		Main Semiconductor Fuse, 3 required Size 1	CH009250
Contraction of the	7.5 Amp option on field output	SL20		Main 3 pole Fuseholder Size 1	CP102055
and the second se	Line reactor	LR48		Pot kit including graduated dial & knob	POTKIT
	Main Semiconductor Fuse, 3 required Size 000	CH00850A			
	Main Fuseholder, 3 required Size 000	CP102054	SL115	115KW 270A	
Taxable in the local data	Pot kit including graduated dial & knob	POTKIT		Controller	SL115
				15 Amp option on field output	
SL30	$30 \mathrm{KW}~72 \mathrm{A}$ this model has regenerative stopping capability as standard			Line reactor	LR270
SL3U		ABILITY AS STANDARD		Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
Contraction of the local division of the loc	Controller	SL30		Aux Fuseholder, 3 required 6 x 32	CP102071
	10 Amp option on field output			DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
	Line reactor	LR120		Main Semiconductor Fuse, 3 required Size 1 Main 3 pole Fuseholder Size 1	CH009250 CP102055
	Main Semiconductor Fuse, 3 required Size 000	CH00880A		Pot kit including graduated dial & knob	POTKIT
	Main Fuseholder, 3 required Size 000	CP102054			TOTKI
N	Pot kit including graduated dial & knob	POTKIT	SL145	$145 \mathrm{KW}~330 \mathrm{A}$ this model has regenerative stopping	
			JLI4J		
SL40	40 KW 96 A this model has regenerative stopping capa	ABILITY AS STANDARD		Controller	SL145
State State Street	Controller	SL40		15 Amp option on field output Line reactor	LR330
· ·	10 Amp option on field output			Aux Semiconductor Fuse, 3 required 6 x 32	CH00620A
	Line reactor	LR120		Aux Fuseholder, 3 required 6 x 32	CP102071
	Main Semiconductor Fuse, 3 required Size 000	CH008100		DIN Rail Clip for Aux Fuseholder, 3 required	FE101969
· ·	Main Fuseholder, 3 required Size 000	CP102054	·	Main Semiconductor Fuse, 3 required Size 3	CH010550
Constanting of the second second	Pot kit including graduated dial & knob	POTKIT		Main 3 pole Fuseholder Size 3	CP102233
				Pot kit including graduated dial & knob	POTKIT
SL50	$50 \mathrm{KW}~120 \mathrm{A}$ this model has regenerative stopping CA	APABILITY AS STANDARD			
No. of Concession, Name	Controller	SL50			
· ·	10 Amp option on field output		SLX RANGE, THE	REE PHASE 4Q FULLY REGENERATIVE ANALO(	JUE CONTROLLER
and the second se	Line reactor	LR120	WITH INTEGRAL	FIELD WEAKENER	
	Main Semiconductor Fuse, 3 required Size 000	CH008125			
	Main Fuseholder, 3 required Size 000	CP102054	SLX5	5KW 12 AMP 4Q	
() - E	Pot kit including graduated dial & knob	POTKIT		Controller	SLX5
				7.5 Amp option on field output	52.00
				Line reactor	LR48
				Main Semiconductor Fuse, 3 required 6 x 32	CH00612A
				Main Fuseholder, 3 required 6 x 32	CP102071
				DIN Rail Clip for holder, 3 required	FE101969
				Armature Fuse	CH00816A
				Armature Fuseholder	CP102054
				Pot kit including graduated dial & knob	POTKIT

## SLX10



## 10KW 24 AMP 4Q

PART

Controller	SLX10
7.5 Amp option on field output	
Line reactor	LR48
Main Semiconductor Fuse, 3 required 14 x 51	CH00740A
Main Fuseholder, 3 required 14 x 51	CP102053
Armature Fuse	CH00832A
Armature Fuseholder	CP102054
Pot kit including graduated dial & knob	POTKIT

SLX15



## 15KW 36 AMP 4Q

•	
Controller	SLX15
7.5 Amp option on field output	
Line reactor	LR48
Main Semiconductor Fuse, 3 required 14 x 51	CH00740A
Main Fuseholder, 3 required 14 x 51	CP102053
Armature Fuse	CH00940A
Armature Fuseholder	CP102906
Pot kit including graduated dial & knob	POTKIT

SLX20



## 20KW 48 AMP 40

Controller	SLX20
7.5 Amp option on field output	
Line reactor	LR48
Main Semiconductor Fuse, 3 required Size 000	CH00850A
Main Fuseholder, 3 required Size 000	CP102054
Armature Fuse	CH00963A
Armature Fuseholder	CP102906
Pot kit including graduated dial & knob	POTKIT



## 30KW 72 AMP 40

Controller	SLX30
10 Amp option on field output	
Line reactor	LR120
Main Semiconductor Fuse, 3 required Size 000	CH00880A
Main Fuseholder, 3 required Size 000	CP102054
Armature Fuse	CH00980A
Armature Fuseholder	CP102906
Pot kit including graduated dial & knob	POTKIT

SLX40



### 40KW 96 AMP 40

Controller	SLX40
10 Amp option on field output	
Line reactor	LR120
Main Semiconductor Fuse, 3 required Size 000	CH008100
Main Fuseholder, 3 required Size 000	CP102054
Armature Fuse	CH009125
Armature Fuseholder	CP102906
Pot kit including graduated dial & knob	POTKIT

#### PRODUCT NAME

PART NO.

## 50KW 120 AMP 40



## SLX65



## SLX85



### SLX115



## SLX145



PART

Controller 10 Amp option on field output Line reactor Main Semiconductor Fuse, 3 req Main Fuseholder, 3 required Size

Armature Fuse Armature Fuseholder Pot kit including graduated dial

#### 65KW 155 AMP 4 Controller

15 Amp option on field output Line reactor

Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main Fuseholder, 3 required Size Armature Fuse Armature Fuseholder

Pot kit including graduated dial

#### 85KW 205 AMP 4 Controller

15 Amp option on field output Line reactor

Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main 3 pole Fuseholder Size 1 Armature Fuse

Armature Fuseholder Pot kit including graduated dial

#### 115KW 270 AMP Controller

15 Amp option on field output Line reactor

Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 req Main 3 pole Fuseholder Size 1 Armature Fuse Armature Fuseholder

Pot kit including graduated dial

## 145KW 330 AMP

Controller 15 Amp option on field output Line reactor Aux Semiconductor Fuse, 3 requ Aux Fuseholder, 3 required 6 x

DIN Rail Clip for Aux Fuseholder Main Semiconductor Fuse, 3 reg Main 3 pole Fuseholder Size 3 Armature Fuse Armature Fuseholder

Pot kit including graduated dial & knob



ΨQ	
:	SLX50
	LR120
quired Size 000	CH008125
ze 000	CP102054
	CH009160
	CP102906
al & knob	POTKIT
4Q	
	SLX65
:	
	LR270
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 000	CH008160
ze 000	CP102054
	CH009200
	CP102906
al & knob	POTKIT
10	
. ~	SLX85
	LR270
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 1	CH009250
	CP102055
	CH009250
	CP102906
al & knob	POTKIT
2 4Q	
	SLX115
	LR270
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 1	CH009250
	CP102055
	CH009315
	CP102906
al & knob	POTKIT
4Q	
	SLX145
	LR330
uired 6 x 32	CH00620A
32	CP102071
er, 3 required	FE101969
quired Size 3	CH010550
	CP102233
	CH009400
	CP102906
l & knob	POTKIT

Please refer to website for further information or product technical manual for full specification.

POTKIT