World Class Design | World Class Function | 30 Years Expertise In Industrial Motor Control

MOTOR CONTROL TECHNOLOGY PRODUCT CATALOGUE

THREE PHASE DRIVES: PL/X & JL/X RANGE

SPRINT ELECTRIC

Sprint Electric, based in England, was formed in 1987 to design and manufacture industrial motor drives. It has specialised in DC drive technology and has been successful in penetrating global markets. This success has been achieved using well trained distributors and direct sales, offering rapid delivery and prompt technical support. Outlets have been established in a wide spread of overseas markets, creating a loyal and varied customer base.

In 2009 Sprint Electric was very proud to become one of an elite group of companies to win a Queen's Award for Enterprise, the most prestigious business award in the UK. The award was made for continuous achievement in International Trade. Winning this award puts Sprint Electric among the most successful of UK businesses.

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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.

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.

Single Phase products

We also manufacture single phase DC motor controllers. Please see our single phase catalogue for details. Available at www.sprint-electric.com.

Slip Ring Motor Drives

We also manufacture the JLX range of digital slip ring motor drives, see www.sprint-electric.com

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.

The PL/X range

5 - 50KW
12 - 123AMPS

65 - 145KW
155 - 330AMPS

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 2250 Amps.

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 tach feedback failure.
- A choice of two drive configuration and monitoring packages.
  - PL Pilot. Free with PL/X.
  - Pilot+. 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.

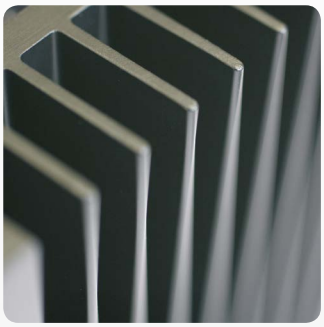
185 - 265KW
430 - 630AMPS

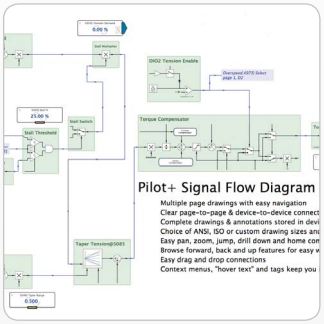
275 - 440KW
650 - 1050AMPS

520 - 980KW
1250 - 2250AMPS

- 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 Apps included.
- Extensive, multi-function programmable I/O, with over 36 digital and analogue input/output combinations.
- Built-in system application blocks with descriptive connection points.
- 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
- 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, 2050, 2250*
- Overload 150% for 25 seconds

*No overload

FIELD CURRENT
- 8A (12-123A ratings)
- 16A (155-330A ratings)
- 32A (430-630A ratings)
- 64A (1250-2250A ratings)

FIELD VOLTAGE
- V field = 0 to 0.9 x Auxiliary AC Supply

AC SUPPLY VOLTAGE (VAC)
Main 3 phase 50-60Hz:
- 12 to 500Vac +/- 10% for armature power
- 600/690Vac options for 650A-2250A

Auxiliary 3 phase 50-60Hz:
- 100 to 500Vac +/- 10% for field power
- 600/690Vac options for 650A-2250A

Control 1 phase 50-60Hz:
- 110 to 240Vac +/- 10% for control power

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 2.5mV+sign)
- All configurable
- All have programmable thresholds and 4 voltage ranges
- +/- 5/10/20/30V
- All inputs are over voltage protected and 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

Standard software functions
- Full suite of centre winding macros
- Motorised pot simulator with memory
- 2x PIDs (undedicated)
- 2x Summers (undedicated)
- 2x Filters (undedicated)
- Delay timer
- Current Profiling
- Spindle Orientation
- Jog/Crawl functions
- Dual motor swap
- Latch
- Linear or S ramp
- Slack take up
- Batch counter
- Draw control
- Auto self-tune current loop
- 3 user programmable drive configurations

Alarm Status
- First fault latched and automatically displayed.
- Fault automatically saved at power off

Monitoring
- All analogue input voltages
- All digital input states
- All analogue output voltages
- All digital output states
- Tachogenerator voltage
- Motor armature current (amps)
- Motor field current (amps)
- Motor armature volts
- Output power
- AC supply volts

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

Environment
- Ambient operating temperature
- 0-40˚C (2050A 2250A 35°C)
- 25 to +55˚C storage

Steady state accuracy
- 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
- Emissions industrial environment (EN55022 Class B)

- UL and cUL listed 12-630Amps
- UL and cUL pending 650-2250Amps

PL/X configuration and monitoring tools

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

PRODUCT NAME

PL PILOT

DESCRIPTION

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

Unique 'Configuration Checker' automatically scans for user programmed connection faults and highlights the conflicts. Tile and zoom facility allows the user to view and arrange any number of screens simultaneously.

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 important conditions.

PRODUCT NAME

PILOT+

DESCRIPTION

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

Pilot+ 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 Pilot+ software can produce an entire configuration diagram of a multiple drive system.

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 (PPC) for drives and systems.

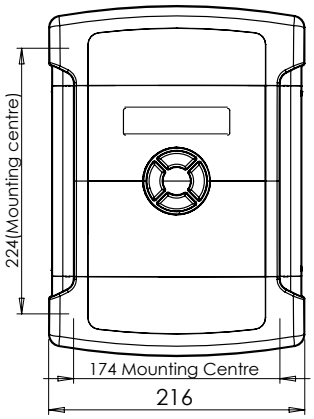
The drive.web technology is infinitely scalable and cost effective for systems of any size or complexity. For typical motor control systems, drive.web beats using any PLC on cost, performance and ease of use.

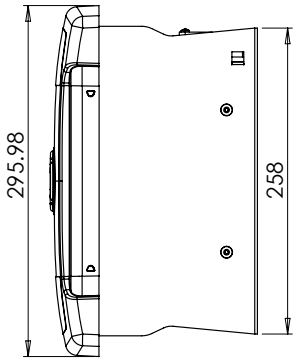
DESCRIPTION

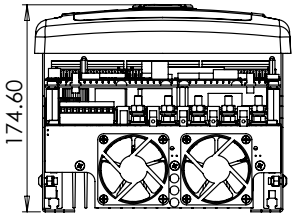
The PL/X DC motor controller uses closed loop control of armature current and feedback voltage to give precise control of motor torque and speed. The unit also controls the motor excitation field. The closed loop parameters are programmable by the user and a wealth of inputs and outputs are provided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

PRODUCT NAME

PL/X5-50







RATINGS & DIMENSIONS

PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	HP @ 460v	ARMATURE CURRENT DC AMPS	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

FRAME SIZE

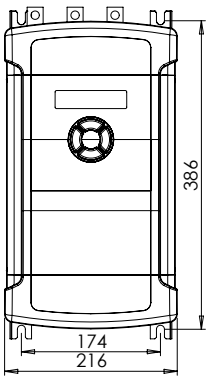
H	**296 mm**
W	**216 mm**
D	**175 mm**

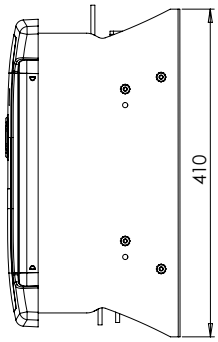
SHIPPING WEIGHT

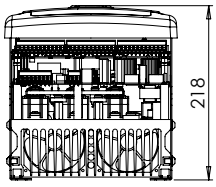
8kg

PRODUCT NAME

PL/X65-145







RATINGS & DIMENSIONS

PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	HP @ 460v	ARMATURE CURRENT DC AMPS	FIELD AMPS
PL and PLX 65	65	90	155	16
PL and PLX 85	85	115	205	16
PL and PLX 115	115	155	270	16
PL and PLX 145	145	190	330	16

FRAME SIZE

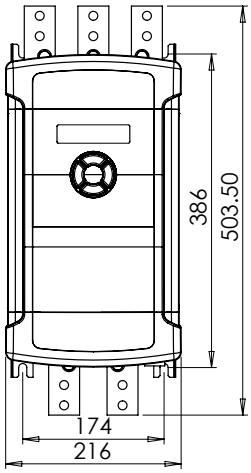
H	**410 mm**
W	**216 mm**
D	**218 mm**

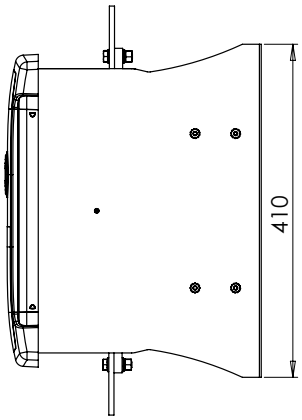
SHIPPING WEIGHT

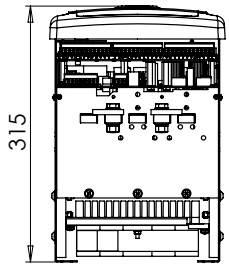
15kg

PRODUCT NAME

PL/X185-265







RATINGS & DIMENSIONS

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

50 Amp field option

FRAME SIZE

H	504 mm
W	216 mm
D	315 mm

SHIPPING WEIGHT

24kg

DESCRIPTION

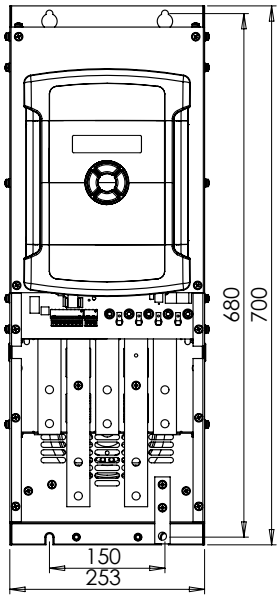
These models have all the functionality of the smaller units, but with added flexibility on the supply voltage and input port.

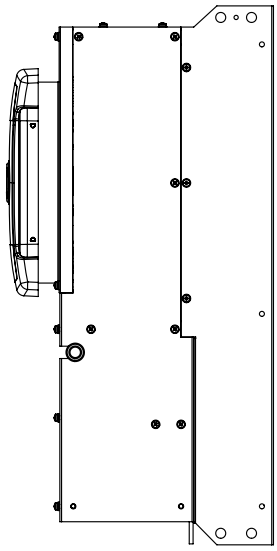
As well as standard voltages up to 500V AC, they have the option of being supplied as MV units that are able to accept voltages of up to 600 volts and HV units that are able to accept voltages up to 690 volts for motors with armatures of up to 750 volts DC.

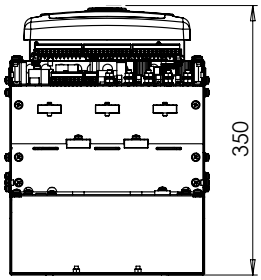
All models are also available with the high current 3 phase supply terminals in standard top entry, or bottom entry as an option.

PRODUCT NAME

PL/X275-440







RATINGS & DIMENSIONS

PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	HP @ 460v	ARMATURE CURRENT DC AMPS	FIELD AMPS
PL and PLX 275	275	370	650	32
PL and PLX 315	315	425	750	32
PL and PLX 360	360	485	850	32
PL and PLX 400	400	540	950	32
PL and PLX 440*	440	590	1050	32

* PLX 440 no overload
50 Amp field option

FRAME SIZE

H	700 mm
W	253 mm
D	350 mm

SHIPPING WEIGHT

45kg

Venting kit for units PL/X275-440

The venting kit comprises two steel ducts which are designed to telescope together. There is also a protective cowl for mounting on the enclosure roof. The duct length from the top of the drive is adjustable between 270mm to 538mm.

DESCRIPTION

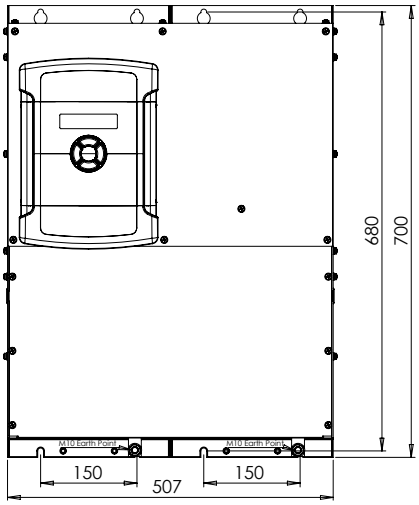
These models have all the functionality of the smaller units, but with added flexibility on the supply voltage and input port location.

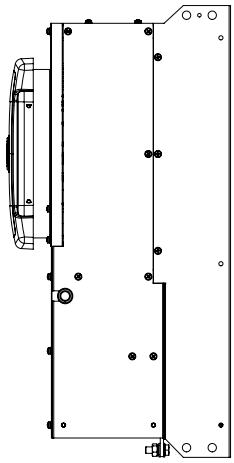
As well as standard voltages up to 500V AC, they have the option of being supplied as MV units that are able to accept voltages of up to 600 volts and as HV units that are able to accept voltages up to 690 volts for motors with armatures of up to 750 volts DC.

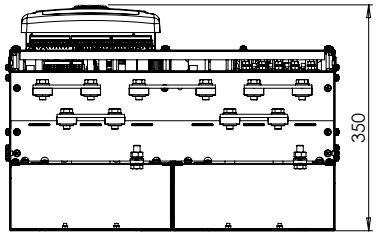
All models are also available with the high current 3 phase supply terminals in standard top entry, or bottom entry as an option.

PRODUCT NAME

PL/X520-980







Venting kit for units PL/X520-980

The venting kit comprises two steel ducts which are designed to telescope together. There is also a protective cowl for mounting on the enclosure roof. The duct length from the top of the drive is adjustable between 270mm to 538mm.

RATINGS & DIMENSIONS

PL 2 QUADRANT PLX 4 QUADRANT	KW @ 460v	HP @ 460v	ARMATURE CURRENT DC AMPS	FIELD AMPS
PL and PLX 520	520	700	1250	64
PL and PLX 600	600	810	1450	64
PL and PLX 700	700	940	1650	64
PL and PLX 800	800	1080	1850	64
PL and PLX 900	900	1200	2050	64
PL and PLX 980*	980	1320	2250	64

* PLX 980 no overload

FRAME SIZE

H 700 mm (755 mm top entry)

W 507 mm

D 350 mm

SHIPPING WEIGHT

90kg

PLXD

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.

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 500v 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.

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.

JLX

DIGITAL CONTROLLER

A new dawn for controlling slip ring motors

SPRINT ELECTRIC

www.sprint-electric.com

PRODUCT NAME

JL/X SLIP RING MOTOR CONTROLLER

DESCRIPTION

The JL/X range of slip ring motor drives is a derivation of the PL/X Digital DC drive product range. It shares the same software and hardware platforms and delivers the same precise digital control functionality enjoyed by users of the established range of DC Drives. The main difference between the PL/X and JL/X range is that the thyristor stack configuration has been designed to provide a firing angle controlled 3 phase output (U, V, W) suitable for controlling slip ring motors in either 2 or 4 Quadrant modes. All the fieldbus options and configuration software packages used with the PL/X are also available for the JL/X range.

The JL/X range covers output currents from 100 to 1680 Amps and is available in 3 frame sizes with standard supply voltage inputs up to 500VAC. (Frame 2, 4 and 5). Frame 4 and 5 also have the option of being supplied as MV or HV units that are able to accept AC supply voltages up to 600 or 690 VAC for higher voltage applications. All models have the high current 3 phase supply terminals in standard top entry, with the motor connections at the bottom of the unit. The overload capability of this range is 150% for 25 seconds.

PRODUCT NAME

JL/XHD HIGH DUTY SLIP RING MOTOR CONTROLLER

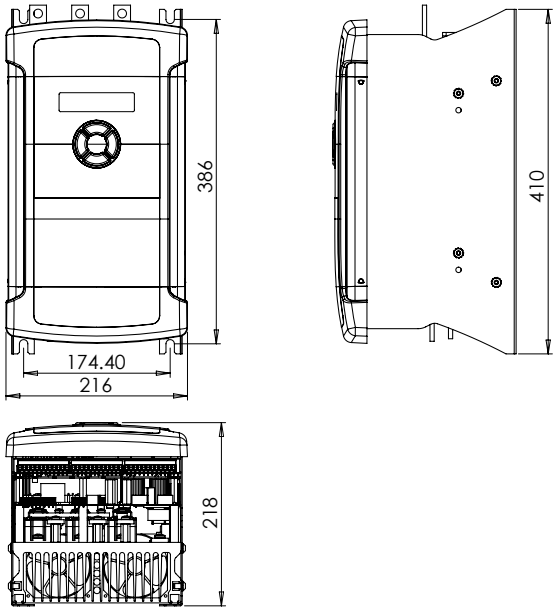
DESCRIPTION

The JL/XHD range of slip ring motor drives is a derivation of the PL/X Digital DC drive product range. It shares the same software and hardware platforms and delivers the same precise digital control functionality enjoyed by users of the established range of DC Drives. The main difference between the PL/X and JL/X range is that the thyristor stack configuration has been designed to provide a firing angle controlled 3 phase output (U, V, W) suitable for controlling slip ring motors in either 2 or 4 Quadrant modes. All the fieldbus options and configuration software packages used with the PL/X are also available for the JL/X range.

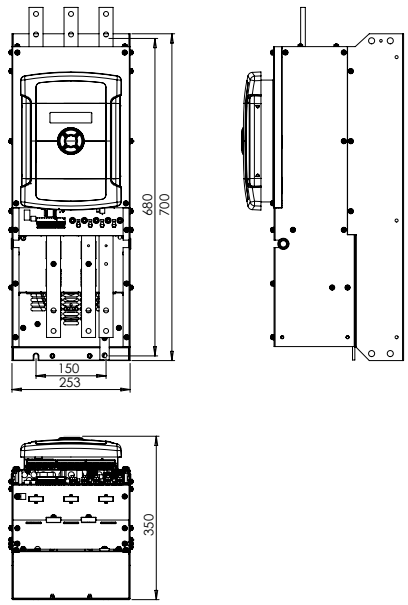
The JL/XHD range covers output currents from 100 to 1010 Amps and is available in 3 frame sizes with standard supply voltage inputs up to 500VAC. (Frame 2, 4 and 5). Frame 4 and 5 also have the option of being supplied as MV or HV units that are able to accept AC supply voltages up to 600 or 690 VAC for higher voltage applications. All models have the high current 3 phase supply terminals in standard top entry, with the motor connections at the bottom of the unit. The overload capability of this high duty range is 250% for 25 seconds.

FRAME DIMENSIONS

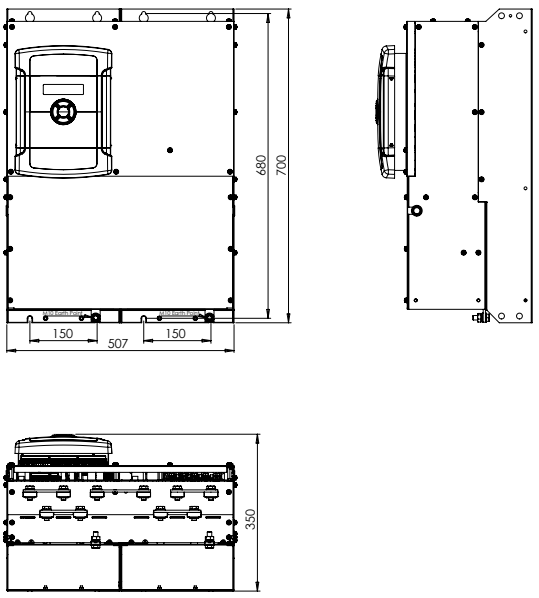
JL/X
130 - 270



JL/X
370 - 780



JL/X
860 - 1680



RATING TABLE FOR JL/X STANDARD VERSIONS

These models have a 150% overload capability for 25 seconds

Nominal maximum continuous shaft ratings

Model JL 2 quadrant JLX 4 quadrant Suffix HV for 690 VAC		kW at 415 Volt AC	HP at 415 Volt AC	HP at 480 Volt AC	HP 600V AC MV model	HP 690V AC HV model	100% Output Current	Line reactor type	Cooling air flow and dissipation		Dimensions mm
									cfm	watts	W x H x D
Frame 2	Model										
JL and JLX	130	75	100	115	-	-	130	LR330	365	380	216 x 410 x 218
JL and JLX	170	100	130	150	-	-	170	LR330	365	500	216 x 410 x 218
JL and JLX	220	130	170	200	-	-	220	LR330	365	650	216 x 410 x 218
JL and JLX	270	160	210	240	-	-	270	LR330	365	875	216 x 410 x 218
Frame 4											
JL and JLX	370	215	290	335	415	480	370	LR530	400	1200	253 x 700 x 350
JL and JLX	450	260	350	405	500	580	450	LR530	400	1450	253 x 700 x 350
JL and JLX	530	310	415	480	600	690	530	LR650	400	1700	253 x 700 x 350
JL and JLX	615	360	480	555	690	800	615	LR750	400	2000	253 x 700 x 350
JL and JLX	700	405	550	630	785	915	700	LR850	400	2300	253 x 700 x 350
JL and JLX	780	450	610	705	880	1015	780	LR950	400	2500	253 x 700 x 350
Frame 5											
JL and JLX	860	500	670	775	965	1115	860	LR1050	800	2700	507 x 700 x 350
JL and JLX	1025	595	800	925	1155	1330	1025	LR1250	800	3200	507 x 700 x 350
JL and JLX	1190	690	930	1075	1340	1550	1190	LR1450	800	3700	507 x 700 x 350
JL and JLX	1350	785	1055	1220	1505	1755	1350	LR1650	800	4200	507 x 700 x 350
JL and JLX	1520	880	1190	1375	1715	1980	1520	LR1850	800	4700	507 x 700 x 350
JL and JLX	1680	975	1310	1515	1890	2180	1680	LR2050	800	5200	507 x 700 x 350

RATING TABLE FOR JL/XHD HIGH DUTY VERSIONS

These models have a 250% overload capability for 25 seconds

Nominal maximum continuous shaft ratings

Model JLHD 2 quadrant JLXHD 4 quadrant Suffix HV for 690 VAC		kW at 415 Volt AC	HP at 415 Volt AC	HP at 480 Volt AC	HP 600V AC MV model	HP 690V AC HV model	100% Output Current	Line reactor type	Cooling air flow and dissipation		Dimensions mm
									cfm	watts	W x H x D
Frame 2	Model										
JLHD & JLXHD	75	45	60	70	-	-	75	LR330	365	380	216 x 410 x 218
JLHD & JLXHD	100	60	80	90	-	-	100	LR330	365	500	216 x 410 x 218
JLHD & JLXHD	130	75	100	115	-	-	130	LR330	365	650	216 x 410 x 218
JLHD & JLXHD	160	95	125	145	-	-	160	LR330	365	875	216 x 410 x 218
Frame 4											
JLHD & JLXHD	220	130	170	200	250	280	220	LR530	400	1200	253 x 700 x 350
JLHD & JLXHD	270	160	210	240	300	350	270	LR530	400	1450	253 x 700 x 350
JLHD & JLXHD	320	190	250	290	360	415	320	LR650	400	1700	253 x 700 x 350
JLHD & JLXHD	370	215	290	335	420	480	370	LR750	400	2000	253 x 700 x 350
JLHD & JLXHD	420	245	330	380	475	550	420	LR850	400	2300	253 x 700 x 350
JLHD & JLXHD	470	270	370	430	535	615	470	LR950	400	2500	253 x 700 x 350
Frame 5											
JLHD & JLXHD	520	300	405	470	585	670	520	LR1050	800	2700	507 x 700 x 350
JLHD & JLXHD	615	360	480	555	690	800	615	LR1250	800	3200	507 x 700 x 350
JLHD & JLXHD	715	415	560	650	810	930	715	LR1450	800	3700	507 x 700 x 350
JLHD & JLXHD	815	475	640	740	925	1065	815	LR1650	800	4200	507 x 700 x 350
JLHD & JLXHD	910	530	710	820	1025	1180	910	LR1850	800	4700	507 x 700 x 350
JLHD & JLXHD	1010	585	790	915	1140	1310	1010	LR2050	800	5200	507 x 700 x 350

PRODUCT NAME	PART	PART NO.

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

PL5

5KW 12A

Controller	PL5
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X5
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required 10 x 38	CH01612A
Main Fuseholder, 3 required 10 x 38	CP105004

PL10

10KW 24A

Controller	PL10
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X10
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required 14 x 51	CH00730A
Main Fuseholder, 3 required 14 x 51	CP102053

PL15

15KW 36A

Controller	PL15
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X15
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required 14 x 51	CH00740A
Main Fuseholder, 3 required 14 x 51	CP102053

PL20

20KW 51A

Controller	PL20
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X20
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required Size 000	CH00850A
Main Fuseholder, 3 required Size 000	CP102054

PL30

30KW 72A

Controller	PL30
Line reactor	LR120
AC Fuse Kit	AC FUSEKIT-PL/X30
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required Size 000	CH00880A
Main Fuseholder, 3 required Size 000	CP102054

PL40

40KW 99A

Controller	PL40
Line reactor	LR120
AC Fuse Kit	AC FUSEKIT-PL/X40
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required Size 000	CH008100
Main Fuseholder, 3 required Size 000	CP102054

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

PRODUCT NAME		PART	PART NO.
PL50		50KW 123A	
		Controller	PL50
		Line reactor	LR120
		AC Fuse Kit	AC FUSEKIT-PL/X50
		Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
		Aux Fuseholder, 3 required 10 x 38	CP105004
		Main Semiconductor Fuse, 3 required Size 000	CH008125
		Main Fuseholder, 3 required Size 000	CP102054
PL65		65KW 155A	
		Controller	PL65
		Line reactor	LR330
		AC Fuse Kit	AC FUSEKIT-PL/X65
		Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
		Aux Fuseholder, 3 required 10 x 38	CP105004
		Main Semiconductor Fuse, 3 required Size 000	CH008160
		Main Fuseholder, 3 required Size 000	CP102054
PL85		85KW 205A	
		Controller	PL85
		Line reactor	LR330
		AC Fuse Kit	AC FUSEKIT-PL/X85
		Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
		Aux Fuseholder, 3 required 10 x 38	CP105004
		Main Semiconductor Fuse, 3 required Size 1	CH009250
		Main 3 pole Fuseholder Size 1	CP102055
PL115		115KW 270A	
		Controller	PL115
		Line reactor	LR330
		AC Fuse Kit	AC FUSEKIT-PL/X115
		Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
		Aux Fuseholder, 3 required 10 x 38	CP105004
		Main Semiconductor Fuse, 3 required Size 1	CH009250
		Main 3 pole Fuseholder Size 1	CP102055
PL145		145KW 330A	
		Controller	PL145
		Line reactor	LR330
		AC Fuse Kit	AC FUSEKIT-PL/X145
		Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
		Aux Fuseholder, 3 required 10 x 38	CP105004
		Main Semiconductor Fuse, 3 required Size 3	CH010550
		Main 3 pole Fuseholder Size 3	CP102233
PL185		185KW 430A	
		Controller	PL185
		50 Amp option on field output	CON299
		Line reactor	LR530
		AC Fuse Kit	AC FUSEKIT-PL/X185
		Aux Semiconductor Fuse Size 14 x 51, 3 required	CH00740A
		Aux Fuseholder Size 14 x 51, 3 required	CP102053
		Main Semiconductor Fuse, 3 required Size 3	CH010550
		Main 3 pole Fuseholder Size 3	CP102233

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

PRODUCT NAME		PART	PART NO.
PL225		225KW 530A	
		Controller	PL225
		50 Amp option on field output	CON299
		Line reactor	LR530
		AC Fuse Kit	AC FUSEKIT-PL/X225
		Aux Semiconductor Fuse Size 14 x 51, 3 required	CH00740A
		Aux Fuseholder Size 14 x 51, 3 required	CP102053
		Main Semiconductor Fuse, 3 required Size 3	CH010550
		Main 3 pole Fuseholder Size 3	CP102233
PL265		265KW 630A	
		Controller	PL265
		50 Amp option on field output	CON299
		Line reactor	LR650
		AC Fuse Kit	AC FUSEKIT-PL265
		Aux Semiconductor Fuse Size 14 x 51, 3 required	CH00740A
		Aux Fuseholder Size 14 x 51, 3 required	CP102053
		Main Semiconductor Fuse, 3 required Size 3	CH010700
		Main 3 pole Fuseholder Size 3	CP102233
PL275		275KW 650A	
		Options	Controller PL275
		TE - top entry (standard)	Line Reactor LR650
		BE - bottom entry (no cost option)	AC Fuse Kit AC FUSEKIT-PL/X275
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required CH103301
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field) CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field) CP102054
PL315		315KW 750A	
		Options	Controller PL315
		TE - top entry (standard)	Line Reactor LR750
		BE - bottom entry (no cost option)	AC Fuse Kit AC FUSEKIT-PL/X315
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required CH103302
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field) CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field) CP102054
PL360		360KW 850A	
		Options	Controller PL360
		TE - top entry (standard)	Line Reactor LR850
		BE - bottom entry (no cost option)	AC Fuse Kit AC FUSEKIT-PL/X360
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required CH103303
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field) CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field) CP102054
PL400		400KW 950A	
		Options	Controller PL400
		TE - top entry (standard)	Line Reactor LR950
		BE - bottom entry (no cost option)	AC Fuse Kit AC FUSEKIT-PL/X400
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required CH103304
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field) CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field) CP102054
PL440		440KW 1050A	
		Options	Controller PL440
		TE - top entry (standard)	Line Reactor LR1050
		BE - bottom entry (no cost option)	AC Fuse Kit AC FUSEKIT-PL/X440
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required CH103305
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field) CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field) CP102054

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

PRODUCT NAME		PART		PART NO.
PL520		520KW 1250A		
		Options	Controller	PL520
		TE - top entry (standard)	Line Reactor	LR1250
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X520
		MV - 600VAC (extra cost option)	Main Semiconductor Fuse, 3 required	CH103306
		HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH008100
		Refer to supplier for information	Aux Fuseholder, 3 required	CP102054
PL600		600KW 1450A		
		Options	Controller	PL600
		TE - top entry (standard)	Line Reactor	LR1450
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X600
		MV - 600VAC (extra cost option)	Main Semiconductor Fuse, 3 required	CH103307
		HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH008100
		Refer to supplier for information	Aux Fuseholder, 3 required	CP102054
PL700		700KW 1650A		
		Options	Controller	PL700
		TE - top entry (standard)	Line Reactor	LR1650
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X700
		MV - 600VAC (extra cost option)	Main Semiconductor Fuse, 3 required	CH103308
		HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH008100
		Refer to supplier for information	Aux Fuseholder, 3 required	CP102054
PL800		800KW 1850A		
		Options	Controller	PL800
		TE - top entry (standard)	Line Reactor	LR1850
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X800
		MV - 600VAC (extra cost option)	Main Semiconductor Fuse, 3 required	CH103309
		HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH008100
		Refer to supplier for information	Aux Fuseholder, 3 required	CP102054
PL900		900KW 2050A		
		Options	Controller	PL900
		TE - top entry (standard)	Line Reactor	LR2050
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X900
		MV - 600VAC (extra cost option)	Main Semiconductor Fuse, 3 required	CH103310
		HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH008100
		Refer to supplier for information	Aux Fuseholder, 3 required	CP102054
PL980		980KW 2250A		
		Options	Controller	PL980
		TE - top entry (standard)	Line Reactor	LR2250
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X980
		MV - 600VAC (extra cost option)	Main Semiconductor Fuse, 3 required	CH103467
		HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH008100
		Refer to supplier for information	Aux Fuseholder, 3 required	CP102054

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

PRODUCT NAME	PART	PART NO.

PLX RANGE, DIGITAL THREE PHASE 4Q FULLY REGENERATIVE CONTROLLER WITH INTEGRAL FIELD WEAKENER

PLX5

5KW 12A 4Q

Controller	PLX5
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X5
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required 10 x 38	CH01612A
Main Fuseholder, 3 required 10 x 38	CP105004
Armature fuse size 000	CH00816A
Armature fuseholder size 000	CP102054

PLX10

10KW 24A 4Q

Controller	PLX10
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X10
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required 14 x 51	CH00740A
Main Fuseholder, 3 required 14 x 51	CP102053
Armature fuse size 000	CH00832A
Armature fuseholder size 000	CP102054

PLX15

15KW 36A 4Q

Controller	PLX15
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X15
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
Main Semiconductor Fuse, 3 required 14 x 51	CH00740A
Main Fuseholder, 3 required 14 x 51	CP102053
Armature fuse size 1	CH00940A
Armature fuseholder size 1	CP102906

PLX20

20KW 51A 4Q

Controller	PLX20
Line reactor	LR48
AC Fuse Kit	AC FUSEKIT-PL/X20
Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
Aux Fuseholder, 3 required 10 x 38	CP105004
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

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

PRODUCT NAME	PART	PART NO.
PLX30	30KW 72A 4Q	
	Controller	PLX30
	Line reactor	LR120
	AC Fuse Kit	AC FUSEKIT-PL/X30
	Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
	Aux Fuseholder, 3 required 10 x 38	CP105004
	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
PLX40	40KW 99A 4Q	
	Controller	PLX40
	Line reactor	LR120
	AC Fuse Kit	AC FUSEKIT-PL/X40
	Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
	Aux Fuseholder, 3 required 10 x 38	CP105004
	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
PLX50	50KW 123A 4Q	
	Controller	PLX50
	Line reactor	LR120
	AC Fuse Kit	AC FUSEKIT-PL/X50
	Aux Semiconductor Fuse, 3 required 10 x 38	CH01610A
	Aux Fuseholder, 3 required 10 x 38	CP105004
	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
PLX65	65KW 155A 4Q	
	Controller	PLX65
	Line reactor	LR330
	AC Fuse Kit	AC FUSEKIT-PL/X65
	Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
	Aux Fuseholder, 3 required 10 x 38	CP105004
	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
PLX85	85KW 205A 4Q	
	Controller	PLX85
	Line reactor	LR330
	AC Fuse Kit	AC FUSEKIT-PL/X85
	Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
	Aux Fuseholder, 3 required 10 x 38	CP105004
	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

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

PRODUCT NAME	PART	PART NO.
PLX115	115KW 270A 4Q	
	Controller	PLX115
	Line reactor	LR330
	AC Fuse Kit	AC FUSEKIT-PL/X115
	Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
	Aux Fuseholder, 3 required 10 x 38	CP105004
	Main Semiconductor Fuse, 3 required Size 1	CH009250
	Main 3 pole Fuseholder Size 1	CP102055
	Armature fuse size 1	CH009315
	Armature Fuseholder size 1	CP102906
PLX145	145KW 330A 4Q	
	Controller	PLX145
	Line reactor	LR330
	AC Fuse Kit	AC FUSEKIT-PL/X145
	Aux Semiconductor Fuse, 3 required 10 x 38	CH01620A
	Aux Fuseholder, 3 required 10 x 38	CP105004
	Main Semiconductor Fuse, 3 required Size 3	CH010550
	Main 3 pole Fuseholder Size 3	CP102233
	Armature fuse size 1	CH009400
	Armature Fuseholder size 1	CP102906
PLX185	185KW 430A 4Q	
	Controller	PLX185
	50 Amp option on field output	CON299
	Line reactor	LR530
	AC Fuse Kit	AC FUSEKIT-PL/X185
	Aux Semiconductor Fuse Size 14 x 51, 3 required	CH00740A
	Aux Fuseholder Size 14 x 51, 3 required	CP102053
	Main Semiconductor Fuse, 3 required Size 3	CH010550
	Main 3 pole Fuseholder Size 3	CP102233
	Armature fuse size 2	CH013500
	Armature Fuseholder size 2	CP102949
PLX225	225KW 530A 4Q	
	Controller	PLX225
	50 Amp option on field output	CON299
	Line reactor	LR530
	AC Fuse Kit	AC FUSEKIT-PL/X225
	Aux Semiconductor Fuse Size 14 x 51, 3 required	CH00740A
	Aux Fuseholder Size 14 x 51, 3 required	CP102053
	Main Semiconductor Fuse, 3 required Size 3	CH010550
	Main 3 pole Fuseholder Size 3	CP102233
	Armature Fuse size 2	CH013550
	Armature Fuseholder size 2	CP102949

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

PRODUCT NAME		PART		PART NO.
PLX275		275KW 650A 4Q		
		Options	Controller	PLX275
		TE - top entry (standard)	Line Reactor	LR650
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X275
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required Size 3	CH103301
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field)	CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field)	CP102054
		Refer to supplier for information	Armature Fuse, 2 required	CH103303
PLX315		315KW 750A 4Q		
		Options	Controller	PLX315
		TE - top entry (standard)	Line Reactor	LR750
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X315
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required Size 3	CH103302
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field)	CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field)	CP102054
		Refer to supplier for information	Armature Fuse, 2 required	CH103304
PLX360		360KW 850A 4Q		
		Options	Controller	PLX360
		TE - top entry (standard)	Line Reactor	LR850
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X360
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required Size 3	CH103303
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field)	CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field)	CP102054
		Refer to supplier for information	Armature Fuse, 2 required	CH103305
PLX400		400KW 950A 4Q		
		Options	Controller	PLX400
		TE - top entry (standard)	Line Reactor	LR950
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X400
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required Size 3	CH103304
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field)	CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field)	CP102054
		Refer to supplier for information	Armature Fuse, 2 required	CH103306
PLX440		440KW 1050A 4Q		
		Options	Controller	PLX440
		TE - top entry (standard)	Line Reactor	LR1050
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X440
		50 Amp field (extra cost option)	Main Semiconductor Fuse, 3 required Size 3	CH103305
		MV - 600VAC (extra cost option)	Aux Semiconductor Fuse, 3 required (32A Field)	CH00850A
		HV - 690VAC (extra cost option)	Aux Fuseholder, 3 required (32A Field)	CP102054
		Refer to supplier for information	Armature Fuse, 2 required	CH103307
PLX520		520KW 1250A 4Q		
		Options	Controller	PLX520
		TE - top entry (standard)	Line Reactor	LR1250
		BE - bottom entry (no cost option)	AC Fuse Kit	AC FUSEKIT-PL/X520
		MV - 600VAC (extra cost option)	Main Semiconductor Fuse, 3 required	CH103306
		HV - 690VAC (extra cost option)	Aux Semiconductor Fuse, 3 required	CH008100
		Refer to supplier for information	Aux Fuseholder, 3 required	CP102054
			Armature Fuse, 2 required	CH103308

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

PRODUCT NAME	PART	PART NO.

PLX600

600KW 1450A 4Q

Options
TE - top entry (standard)
BE - bottom entry (no cost option)
MV - 600VAC (extra cost option)
HV - 690VAC (extra cost option)
Refer to supplier for information

Controller	PLX600
Line Reactor	LR1450
AC Fuse Kit	AC FUSEKIT-PL/X600
Main Semiconductor Fuse, 3 required	CH103307
Aux Semiconductor Fuse, 3 required	CH008100
Aux Fuseholder, 3 required	CP102054
Armature Fuse, 2 required	CH103309

PLX700

700KW 1650A 4Q

Options
TE - top entry (standard)
BE - bottom entry (no cost option)
MV - 600VAC (extra cost option)
HV - 690VAC (extra cost option)
Refer to supplier for information

Controller	PLX700
Line Reactor	LR1650
AC Fuse Kit	AC FUSEKIT-PL/X700
Main Semiconductor Fuse, 3 required	CH103308
Aux Semiconductor Fuse, 3 required	CH008100
Aux Fuseholder, 3 required	CP102054
Armature Fuse, 2 required	CH103310

PLX800

800KW 1850A 4Q

Options
TE - top entry (standard)
BE - bottom entry (no cost option)
MV - 600VAC (extra cost option)
HV - 690VAC (extra cost option)
Refer to supplier for information

Controller	PLX800
Line Reactor	LR1850
AC Fuse Kit	AC FUSEKIT-PL/X800
Main Semiconductor Fuse, 3 required	CH103309
Aux Semiconductor Fuse, 3 required	CH008100
Aux Fuseholder, 3 required	CP102054
Armature Fuse, 2 required	CH103467

PLX900

900KW 2050A 4Q

Options
TE - top entry (standard)
BE - bottom entry (no cost option)
MV - 600VAC (extra cost option)
HV - 690VAC (extra cost option)
Refer to supplier for information

Controller	PLX900
Line Reactor	LR2050
AC Fuse Kit	AC FUSEKIT-PL/X900
Main Semiconductor Fuse, 3 required	CH103310
Aux Semiconductor Fuse, 3 required	CH008100
Aux Fuseholder, 3 required	CP102054
Armature Fuse, 2 required	CH103330

PLX980

980KW 2250A 4Q

Options
TE - top entry (standard)
BE - bottom entry (no cost option)
MV - 600VAC (extra cost option)
HV - 690VAC (extra cost option)
Refer to supplier for information

Controller	PLX980
Line Reactor	LR2250
AC Fuse Kit	AC FUSEKIT-PL/X980
Main Semiconductor Fuse, 3 required	CH103467
Aux Semiconductor Fuse, 3 required	CH008100
Aux Fuseholder, 3 required	CP102054
Armature Fuse, 2 required	CH103469

PL/PLX

OPTIONS & ACCESSORIES

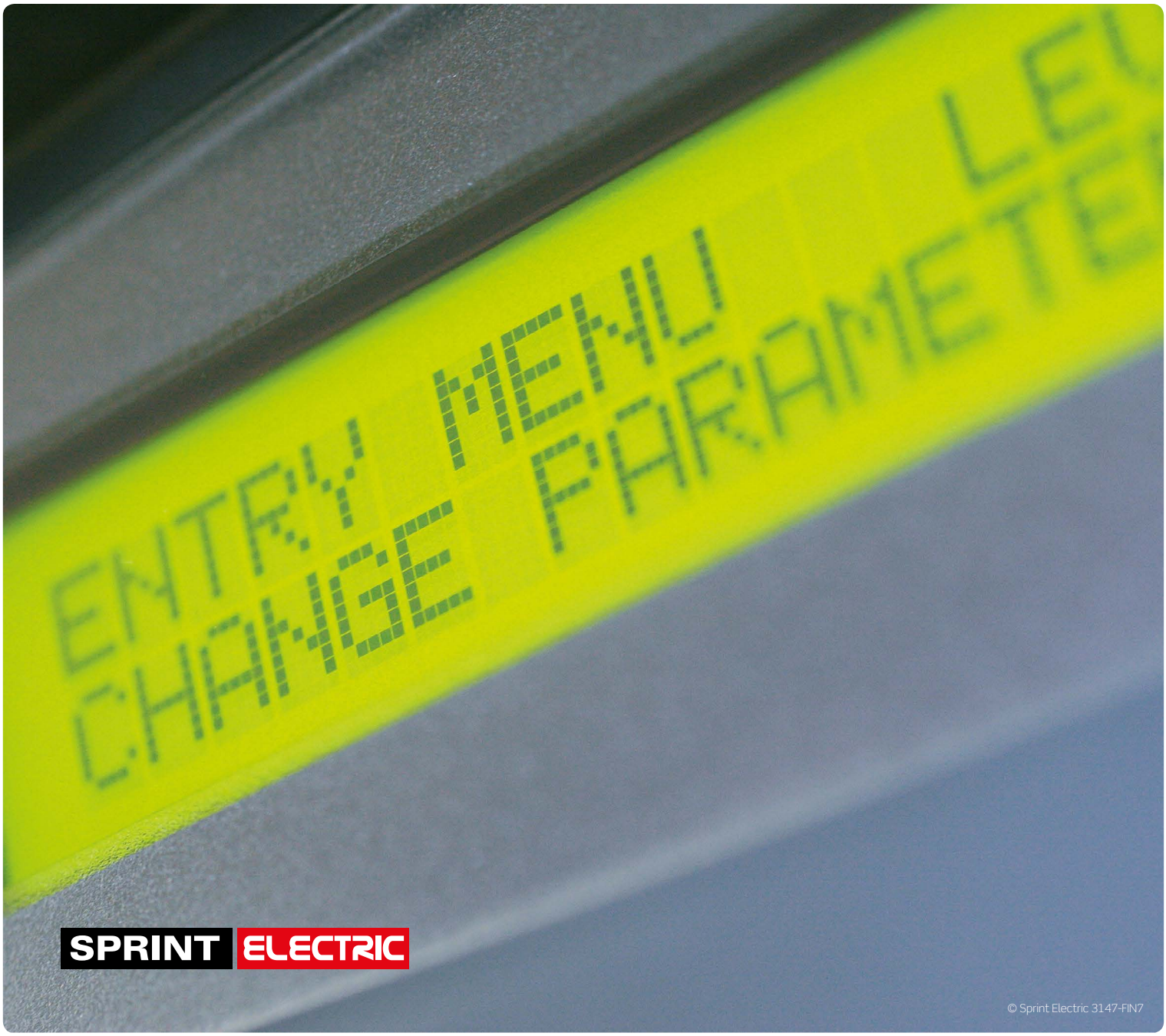
Profibus card	Profibus card
Devicenet card	Devicenet card
Mounting board for fieldbus cards	LA103690
Daisy chain mtg board for Profibus/Devicenet	LA103001
Additional Drive to PC comms cable	LA102595
Drive to drive cable FCC68/FCC68	LA102596
Venting kit for PL/X 275 - 440	LA103392
Venting kit for PL/X 520 - 980	LA103402

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

Find out more:
www.sprint-electric.com

Sprint Electric Ltd.
Peregrine House, Ford Lane
Ford, Arundel, West Sussex
BN18 0DF United Kingdom

Tel: +44 (0)1243 558080
Fax: +44 (0)1243 558099
Email: info@sprint-electric.com



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