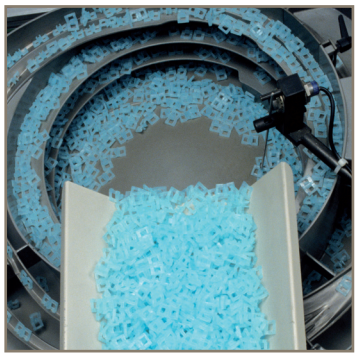
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



DC590+ Integrator Series 2

DC Drives 15A – 2700A

Parker SSD DRIVES

ENGINEERING YOUR SUCCESS.

DC590+ DC Drive Integrator Series 2

DC Drives 15A – 2700A

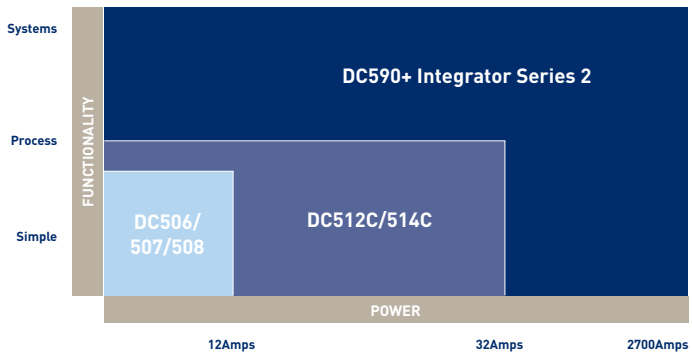
Product Overview

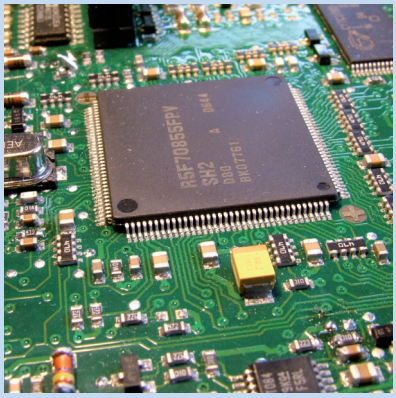
The DC590+ Integrator Series 2 sees the next step in the development of DC drive technology, derived from over 30 years experience in designing DC drives. With its innovative 32-bit control architecture, the DC590+ has the flexibility and functionality to more than meet the requirements of all applications, from basic motor installations through to the most demanding multi-motor systems.

The DC590+ is also available as a “ready to install” drive package called the DRV. This is a single integrated module that includes all the associated power components within the package. This innovative approach radically reduces design time, panel space, wiring time and cost. The DRV concept is unique and comes from the experience gained from thousands of successful applications across a diverse range of industries.

As part of the full DC drives product range, the DC590+ further confirms Parker SSD Drives’ position as the market leader in DC drive technology.

Product Overview Chart





Advanced Control Architecture

Benefitting from the improved performance of a 32-bit RISC processor, the DC590+ Integrator Series 2 delivers enhanced functionality and increased flexibility, making it suitable for use in a wider range of more complex applications.

- Faster drive response
- Greater control capabilities
- Increased maths and logic function blocks
- Enhanced diagnostic and programming functionality
- Common programming tools with rest of drives platform

Next Generation Technology

Building upon the highly successful DC590+ drive used in thousands of applications world-wide, the DC590+ Integrator Series 2 drive takes DC motor control to the next level. With its state-of-the-art advanced 32-bit control architecture, the DC590+ drive delivers highly functional and flexible control suited to a whole host of industrial applications.

Providing control for some of the most demanding motor control applications, Parker's DC experience and technologies are some of the most advanced in the industrial marketplace. With drives from 1 Amp through to 2700 Amps, Parker can provide the optimum solution to suit any application.

Typical Applications

- **Converting machinery**
- **Plastics and rubber processing machinery**
- **Wire and cable**
- **Material handling systems**
- **Automotive**

Function Block Programming

Function Block Programming is a tremendously flexible control structure that allows an almost infinite combination of user functions to be realised with ease. Each control function (an input, output, process PID for example) is represented as a software block that can be freely interconnected to all other blocks to provide any desired action.

The drive is despatched with the function blocks pre-configured as a standard DC drive so you can operate it straight from the box without further adjustments. Alternatively you can pick pre-defined Macros or even create your own control strategy, often alleviating the need for an external PLC and therefore reducing cost.

Feedback Options

The DC590+ has a range of interface options which are compatible with the most common feedback devices enabling simple motor control through to the most sophisticated multi-motor system. Armature voltage feedback is standard without the need for any interface option.

- **Analogue tachogenerator**
- **Encoder**
- **Optical fibre microtech encoder**

Interface Options

Designed with connectivity in mind, the DC590+ has a number of communications and I/O options that allow the drive to take control of the application, or be integrated into a larger system. When combined with function programming, custom functions and control can be easily created offering the user a highly flexible and versatile platform for DC motor control.

Programming/ Operator Controls

Featuring an intuitive menu structure, the ergonomically designed operator panel allows quick and easy access to all parameters and functions of the drive via a bright, easy to read backlit display and tactile keypad. Additionally, it provides local control of start/stop, speed demand and rotation direction to greatly assist with machine commissioning.

- **Multi-Lingual alpha-numeric display**
- **Customised parameter values and legends**
- **On drive or remote mounting**
- **Local control of start/stop, speed and direction**
- **Quick set-up menu**

Connectivity

Whatever the complexity of your control scheme, the DC590+ has the interface to suit. As standard there's enough analogue and digital I/O for the most complex applications. Alternatively, add the relevant 'technology box' for immediate access to serial communications and Fieldbus networks. The DC590+ has been designed to fit seamlessly, and without compromise, into any control environment.

Analogue/Digital Control

- **5 Analogue Inputs (12bit + sign)**
- **3 Analogue Outputs**
- **9 Digital Inputs**
- **3 Digital Outputs**

Serial Communications and Fieldbus Options

- **Profibus**
- **Canopen**
- **Lonworks**
- **RS422/RS485**
- **Controlnet**
- **Ei Bisynch**
- **Link**
- **Devicenet**
- **Modbus**
- **Ethernet**

6901 Programming/ Operator Controls

DRV - Packaged DC Drive Technology

The DC590+ is available in either module, or alternatively 'DRV' format.

The DRV version is a self-contained packaged drive that includes all the peripheral power components associated with a DC drive system, integrally fitted within the footprint area of the drive.

DRV includes

- AC line contactor
- AC line fuses
- DC fuse (regenerative version)
- Control/field fuses
- Motor blower starter (option)
- Auxiliary control transformer (option)

Saving You

- Design time
- Panel space
- Component mounting and wiring
- Component sourcing
- Time and cost

DC590+ Designed for Systems

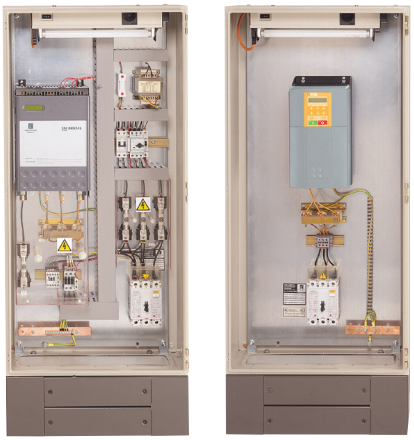
The DC590+ is the ultimate system drive, designed to meet the exacting demands of the most complex and sophisticated multi-drive applications across a diverse range of industries. All the following functions are available as standard without the need for any additional hardware.

- Function Block Programming
- Software Configurable I/O
- High Resolution (12 bit) Analogue Inputs
- Winder Control
  - Open loop with inertia compensation
  - Closed loop speed or current
  - Loadcell/dancer process PID
- Maths Functions
- Logic Functions
- Controlled Field Supply
- 'S' Ramp and Digital Ramp

DC590+ Designed For A World Market

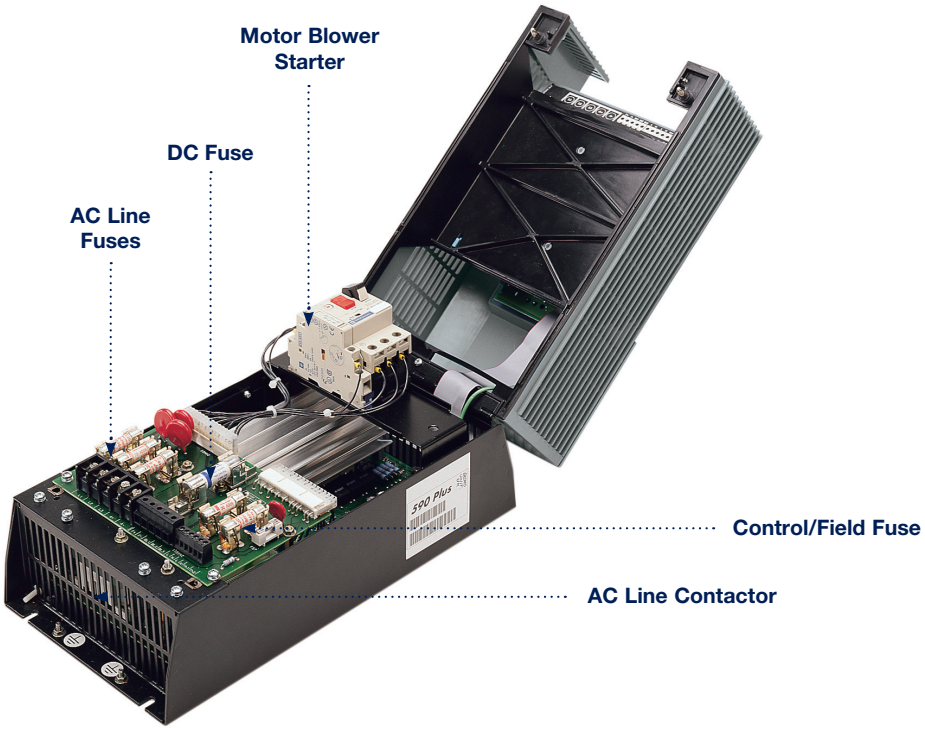
The DC590+ is available with full application and service support in over fifty countries worldwide. So wherever you are, you can be confident of full back up and support.

- Support in over 50 countries
- Input voltage ranges from 220-690V
- CE marked
- UL and c-UL listed
- 50/60Hz



Traditional DC Drive Section

590+ DRV Equilvalent Illustrating Panel Space Saving



Specification

Ratings Power Configuration
DC590+ Four Quadrant Regenerative;
2 Fully Controlled Three Phase Thyristor Bridges
DC591+ Two Quadrant Non-Regenerative;
1 Fully Controlled Three Phase Thyristor Bridge

Thyristor Controlled Variable Field Supply

Field Current (Adc)
4A Frame 1
10A Frame 2 and 3
30A Frame 4 and 5
60A Frame H and 6

Field Voltage (Vdc)
Vfield (max)=Vac x 0.9

Armature Current Ratings (Adc)
15, 35, 40,70,110,165, 180, 270, 380, 500, 725, 830, 1050, 1250, 1450, 1580, 1600, 1950, 2000, 2400A
(DRV versions available to 165A)
Overload 200% for 10 secs, 150% for 30 secs
Higher ratings with reduced overloads available
Please refer to manual

Armature Voltage (Vdc)
Varmature (max)=Vac x 1.2

AC Supply Voltage (Vac)
110 - 220V (±10%)
220 - 500V (±10%)
500 - 600V (±10%) Frame 4 and 5 only
500 - 690V (±10%) Frame H only
380 - 600V (±10%) Frame 6
380 - 690V (±10%) Frame 6
50/60Hz Three Phase

Environment
Ambient Operating Temperature
0-45°C Frame 1 and 2
0-45°C Frame 3
0-40°C Frame 4, 5, H and 6
Derate 1% per °C above ambient to 55°C max

Operating Altitude
Up to 500m ASL
Derate 1% per 200m above 500m to 5000m max

Protection
High Energy MOV's
Heatsink Overtemperature
Instantaneous Overcurrent
Thyristor Trigger Failure
Inverse Time Overcurrent
Interline Snubber Network
Field Failure
Zero Speed Detection
Speed Feedback Failure
Standstill Logic
Motor Overtemperature
Stall Protection

Inputs/Outputs
Analogue Inputs (5 Total - 12 bit plus sign)
1 – Speed Demand Setpoint (--10/0/+10V)
4 – Configurable

Analogue Outputs (3 Total - 10 bit)
1 – Armature Current Output (--10/0/+10V or 0 - 10V)
2 – Configurable

Digital Inputs (9 Total - 24V dc max)
1 – Program Stop
1 – Coast Stop
1 – External Trip
1 – Start/Run
1 – Isolated Thermistor Input
5 – Configurable

Digital Outputs (3 Total - 24V(max 30V) 100mA)
Short circuit protected
3 – Configurable

Reference Supplies
1 – +10V dc
1 – -10V dc
1 – +24V dc

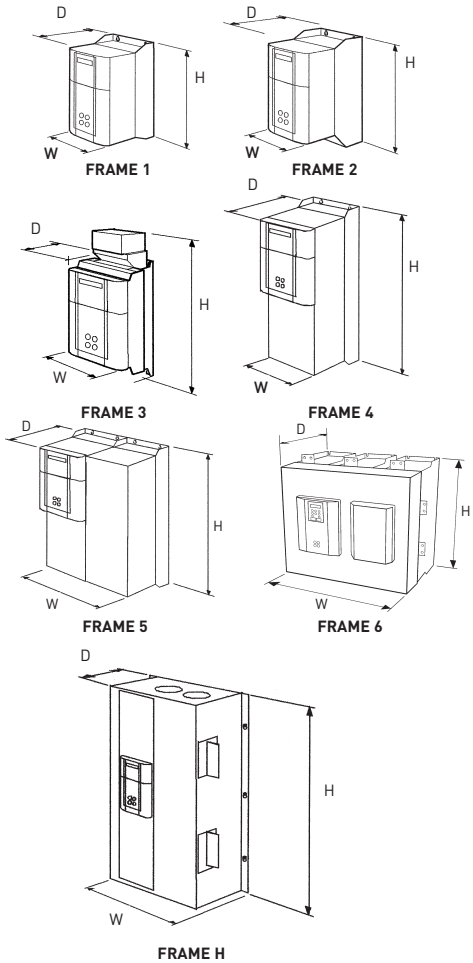
Optional Equipment
(6901) Operator/Programming Controller
Feedback Boards
- Tachogenerator
- Encoder
- Optical Fibre Microtach Encoder

Serial Communication Technology Box
- Profibus
- Devicenet
- Controlnet
- Ethernet
- Canopen
- EI Bisynch/Modbus/RS422/RS485

Standards
- The DC590+ series meets the following standards when installed in accordance with the relevant product manual.
- CE Marked to EN50178 (Safety, Low Voltage Directive).
- CE Marked to EN61800-3 (EMC Directive).
- UL listed to US safety standard UL508C.
- cUL listed to Canadian standard C22.2 #14.

Valid at time of print

DC590+ = Regenerative Drive
DC591+ = Non-Regenerative Drive
Frame 1-5 have integral cooling fan assemblies where required



Optional ducting kit for cubicle roof external ventilation available for frame 4 and 5.
* Frame Size H has fan cooling assembly that can be cubicle roof mounted or drive mounted. Add +150mm to overall height for drive mounted option.

Dimensions

Product Code	Rating (A)	Frame Size	Dimensions		
			H	W	D
590(1)P-**2150...	15	1	375	200	220
590(1)P-**2350...	35	1	375	200	220
955(N)R-532150...	15	1	375	200	220
955(N)R-532350...	35	1	375	200	220
590(1)P-**2400...	40	2	434	200	292
590(1)P-**2700...	70	2	434	200	292
590(1)P-**3110...	100	2	434	200	292
590(1)P-**3165...	165	2	434	200	292
590(1)DRV-**532400...	40	2	546	200	292
590(1)DRV-**532700...	70	2	546	200	292
590(1)DRV-**533110...	110	2	546	200	292
590(1)DRV-**533165...	165	2	546	200	292
590(1)P-**3180...	180	3	485	250	234
590(1)P-**3270...	270	3	485	250	234
590(1)P-**3380...	380	4	700	253	358
590(1)P-**3500...	500	4	700	253	358
590(1)P-**3725...	725	4	700	253	358
590(1)P-**3830...	830	4	700	253	358
590(1)P-**4158...	1580	5	700	506	358
590P-534120...	1200	H	1406*	850	417
590P-534170...	1700	H	1406*	850	417
590P-534220...	2200	H	1406*	850	417
590P-534270...	2700	H	1406*	850	417
591P-534120...	1200	H	956*	850	417
591P-534170...	1700	H	956*	850	417
591P-534220...	2200	H	956*	850	417
591P-534270...	2700	H	956*	850	417
590(1)P-5(7)34125...	1250	6	715	686	497
590(1)P-5(7)34160...	1600	6	715	686	497
590(1)P-5(7)34195...	1850/1950	6	715	686	497

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Your local authorised Parker distributor

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