

# DC Drives - Integrator Series

DC590+ Series 2

1A – 2700A

## Description

The DC590+ Integrator Series 2 DC drive is the latest development of the range which also includes the AC690+ AC drives. It benefits from 30 years experience of designing and manufacturing drives for process line control with dedicated function blocks which simplify the implementation of applications such as sectional drive reels, winder control etc. The function block capabilities offer unparalleled

flexibility in both new installations and retrofit applications. A number of common fieldbus communications options enable connectivity to a wide range of popular control networks allowing the DC590+ to be integrated in larger control 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 associated power

components within the package. This innovative approach radically reduces design time, panel space, wiring time and cost. In addition the DRV minimises the risk of error associated with installing the drive. The DRV concept is unique and comes from the experience gained from thousands of successful applications across a diverse range of industries.



**Common programming, set-up and communications platform with AC690+ AC Integrator Series**

**Ratings up to 2700A and supply voltages to 660V**

**Internal controlled field supply**

**Function blocks programming, including open and closed-loop winder control as standard**

**DRV option with built-in contactor, fuses and blower starter**

## 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) EN61800-3 (EMC Directive) with integral filters. External supply capacitors are required up to 110A for compliance.

- Supply Voltage 220-500V as standard
- CE marked
- UL and cUL approved up to 830A



# DC Drives - Integrator Series

DC590+ Series 2

1A – 2700A

## 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.

## 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    | • Ei Bisynch |
| • Canopen     | • Link       |
| • Lonworks    | • Devicenet  |
| • RS422/RS485 | • Modbus     |
| • Controlnet  | • Ethernet   |



6901 Programming/  
Operator Controls

# DC Drives - Integrator Series

DC590+ Series 2

## Technical Specifications



|                                 |                                                                                                                                                                                    |                                                    |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Power configuration             | DC590+ 4 quadrant regenerative;<br>2 fully controlled 3 phase thyristor bridges                                                                                                    |                                                    |
|                                 | DC591+ 2 quadrant; 1 fully<br>controlled 3 phase thyristor bridge                                                                                                                  |                                                    |
| Armature rating (Adc)           | Frame 1                                                                                                                                                                            | 15, 35A                                            |
|                                 | Frame 2                                                                                                                                                                            | 40, 70, 110, 165A                                  |
|                                 | Frame 3                                                                                                                                                                            | 180, 270A                                          |
|                                 | Frame 4                                                                                                                                                                            | 380, 500, 725, 830A                                |
|                                 | Frame 5                                                                                                                                                                            | 1580A                                              |
|                                 | Frame 6                                                                                                                                                                            | 1250, 1600, 1950A                                  |
|                                 | Frame H                                                                                                                                                                            | 1200, 1700, 2200, 2700A                            |
|                                 | DRV versions are only available in<br>Frame sizes 1 and 2                                                                                                                          |                                                    |
| Overload                        | 15- 450A; 200% for 10 seconds<br>150% for 30 seconds - from 700A<br>: several overload choices are<br>available                                                                    |                                                    |
| Supply voltage (Vac)<br>50/60Hz | 220-500V (±10%) Frame 1-5<br>110-220V (±10%) Option Frame 1-5<br>500-600V (±10%) Option Frame 4-5<br>380-600V (±10%) Frame 6<br>380-690V (±10%) Frame 6<br>500-690V (±10%) Frame H |                                                    |
| Field current max               | 4A Frame 1                                                                                                                                                                         | 30A Frame 4 and 5<br>10A Frame 2 and 3 60A Frame H |
| Field voltage max               | Vfield = Vac x 0.82                                                                                                                                                                |                                                    |
| Operating Environment           |                                                                                                                                                                                    |                                                    |
| Operating temperature           | 0-45°C (15-165A)<br>0-35°C (180-270A)<br>0-40°C (current ≥1200A)<br>derate by 1%/°C up to 55°C max                                                                                 |                                                    |
| Altitude                        | 500m above sea level<br>Derate by 1%/200m above 500m to<br>5000m max                                                                                                               |                                                    |

# DC Drives - Integrator Series

## DC590+ Series 2

### Features and Benefits

#### Easy to use operator controls

- Detailed diagnostics
- Multi-language display

#### Advanced autotuning

#### Standard open fieldbuses



#### Configurable input-output terminal blocks

- 5 analogue inputs
- 3 analogue outputs
- 9 digital inputs
- 3 digital outputs



#### Macro function blocks

- Open-loop winder control
- winder control - loadcell/dancer
- Section control
- Maths functions
- Embedded controller functions



#### Rapid Commissioning, optimal control performance and easy maintenance

With its self-tuning algorithm, the DC590+ can be configured and commissioned within minutes, without turning the motor and without the need for high levels of engineering know-how

The operator interface allows easy monitoring of machine operation and simplifies maintenance.

#### Easy integration into existing control networks

The DC590+ has a wide choice of common industry fieldbus communication options allowing seamless integration into existing factory control networks

#### Interfacing with existing external control equipment (Dancer, gauge, etc...)

A number of input / output options gives the DC590+ the flexibility needed for integration into any variable speed system. Combined with its embedded automation functions, its input-output configurations can in many instances remove the need for an external PLC.

#### Years of applications expertise at your service

The DC590+ macro function blocks are the result of over 30 years of experience gained by Parker SSD of installing drives in variable speed and sectional drive systems. This unique application experience is included in the drive in the form of dedicated function blocks at no extra cost, thereby reducing the design costs of your machinery.



#### Worldwide product support

The DC590+ DC Drive 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.

# DC Drives - Integrator Series

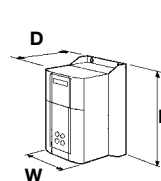
DC590+ Series 2

## Technical Specifications

|                           |                                                                                                                                                                                                                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Protection</b>         | High energy MOV's<br>Heatsink overtemperature<br>Instantaneous overcurrent<br>Thyristor trigger failure<br>Inverse time overcurrent<br>Interline snubber network<br>Field Failure<br>Zero speed detection<br>Speed feedback failure<br>Stall protection<br>Motor overtemperature<br>Stall protection |
| <b>Inputs/Outputs</b>     |                                                                                                                                                                                                                                                                                                      |
| <b>Analogue inputs</b>    | (5 Total - 1 x 12 bit plus sign,<br>4 x 10 bit plus sign)<br>1 - Speed demand setpoint<br>(-10/0/+10V)<br>4 - Configurable                                                                                                                                                                           |
| <b>Analogue outputs</b>   | (3 Total - 10 bit)<br>1 - Armature current output<br>(-10/0/+10V or 0-10V)<br>2 - Configurable                                                                                                                                                                                                       |
| <b>Digital inputs</b>     | (9 Total - 24V, max 15mA)<br>1 - Program stop<br>1 - Coast stop<br>1 - External stop<br>1 - Start/Run<br>5 - Configurable                                                                                                                                                                            |
| <b>Digital outputs</b>    | (3 Total - 24V(max 30V) 100mA)<br>3 - Configurable                                                                                                                                                                                                                                                   |
| <b>Reference Supplies</b> | 1 - +10V dc<br>1 - -10V dc<br>1 - +24V dc                                                                                                                                                                                                                                                            |

## Dimensions

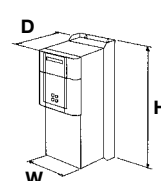
| Current (A) | Frame | Dimensions (mm) |      |     | Weight (kg) |
|-------------|-------|-----------------|------|-----|-------------|
|             |       | W               | H    | D   |             |
| 15/35       | 1     | 200             | 375  | 220 | 6.4         |
| 40/165      | 2     | 200             | 546  | 292 | 10.5        |
| 180/270     | 3     | 250             | 485  | 234 | 20          |
| 380/500     | 4     | 253             | 700  | 358 | 32          |
| 725/830     |       |                 |      |     | 44          |
| 1580        | 5     | 506             | 700  | 358 | 90          |
| 1250/1950   | 6 2Q  | 686             | 715  | 378 | 95          |
|             | 6 4Q  |                 |      |     | 110         |
| 1200/1700   | H 2Q  | 850             | 1406 | 417 | 270         |
| 2200/2700   | H 4Q  | 850             | 956  | 417 | 160         |



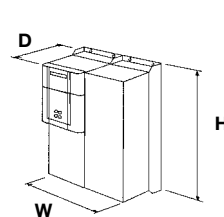
Frame 1/2



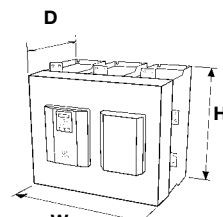
Frame 3



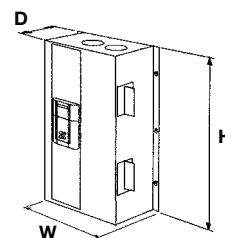
Frame 4



Frame 5



Frame 6



Frame H

# DC Drives - Integrator Series

590DRV Series - Ready to install

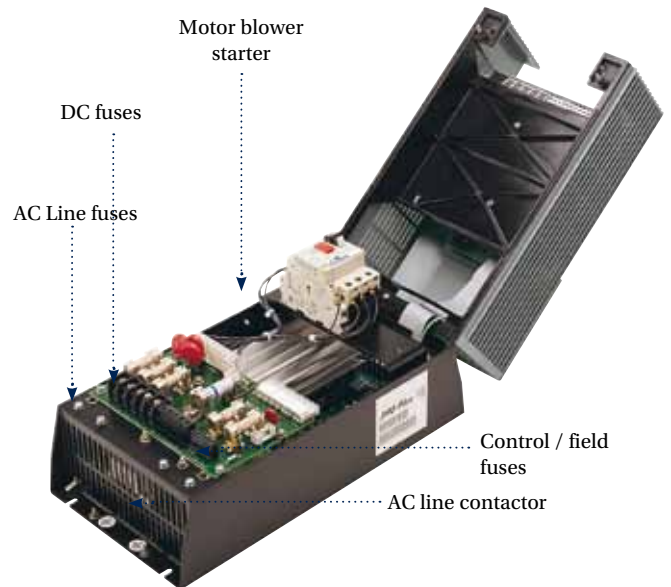
1A - 165A

## The 590DRV is a ready to install version of the DC590+ DC Drive.

The DC590+ is available in either module, or alternatively “DRV” format up to 165A. The DRV includes all the peripheral power components associated with a DC drive system integrally fitted within the footprint of the drive. DRV options include the following integrally mounted within the drive:

- AC line contactor
- AC line fuses
- DC fuse (4 Quadrant regenerative version)
- Control / field fuses
- Motor blower starter

All of these options can be supplied pre-wired within the drive.



## Advantages

- Simplified panel design
- Reduced component mounting and wiring
- Reduced design time
- Reduction of purchasing costs of individual components



Traditional DC drive section



DC590+ DRV equivalent  
illustrating panel space saving

# DC590+ External Stack Controller

DC598+, DC599+ Series

## The economical solution for retrofit applications

When upgrading machines equipped with older high power DC drives, the most cost-effective and quickest way is often to reuse the existing thyristor power stack, which in most cases will be in perfect working order.

To preserve your investment, Parker SSD Drives has developed a DC598+ / DC599+ power stack controller offer specially aimed at retrofit applications and based on the DC590+ controller.

Available in 2 versions, the DC599+ two quadrant non-regenerative and DC598+ four quadrant full-regenerative versions, can be used to drive the power stacks of existing DC drives manufactured by Parker SSD or other manufacturers, delivering the benefits of the recent technological innovations of the DC590+ Series 2 drive.

The DC598+ and DC599+ offer the ability to upgrade your equipment quickly and easily and integrates with your existing control equipment or SCADA package.

The DC598+ and DC599+ retrofit solutions are recommended for currents above 800A.



## Benefits

**Reuse existing DC power stacks**

**Connectivity over standard common fieldbuses  
(Including Profibus, Ethernet, Devicenet, CANopen)**

**Easy to use operator interface**

**Flexible common Integrator Series programming environment.**

**Suitable for currents up to 2700A**

# DC590+ External Stack Controller

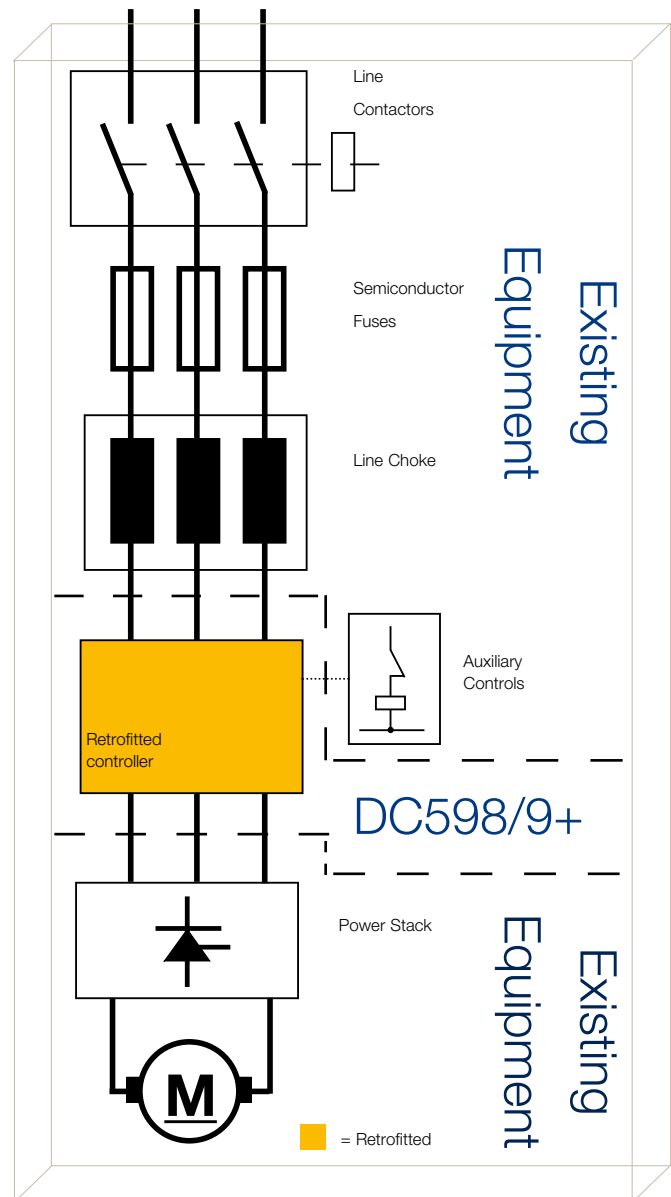
DC598+, DC599+ Series

The DC598/9+ external stack controllers provide the following:

- Thyristor firing signals
- Thyristor firing pulse transformers
- AC current transformer feedback rectification and scaling
- Armature voltage feedback interface
- Coding and phase rotation interface
- Mains present monitoring
- Heatsink over-temperature input
- Field power modules and input/output terminals
- Field current monitoring and scaling
- All standard DC590+ I/O terminals

## Technical Specifications

|                          |                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply Voltage           | 110-240Vac $\pm 10\%$ 3ph coding or 1ph power<br>220-500Vac $\pm 10\%$ 3ph coding or 1ph power<br>380-690Vac $\pm 10\%$ 3ph coding or 1ph power        |
| Supply Frequency         | 50/60Hz $\pm 10\%$                                                                                                                                     |
| Output Field Current     | 60A DC naturally cooled - 120A DC force cooled<br>(1 x Field Current DC value) Amps 1ph. AC<br>Nominal 3ph AC                                          |
| Field Output Voltage     | (0.9 x 1ph Supply Voltage) V DC                                                                                                                        |
| Total Losses             | (3 x idc out) Watts.                                                                                                                                   |
| Auxiliary Supply         | 110-240Vac $\pm 10\%$ 1ph - Naturally cooled<br>110-120Vac $\pm 10\%$ 1ph - Force cooled 115V fan<br>220-240Vac $\pm 10\%$ 1ph - Force cooled 230V fan |
| Auxiliary Supply Current | SMPS Quiescent Current = 500mA 115Vac or<br>250mA 230Vac ie 50VA.<br>Fan current - 270mA @ 115Vac or 135mA @<br>230Vac                                 |
| Auxiliary Supply Fuse    | 3 Amps                                                                                                                                                 |
| Operating Temp.          | 0 to +45°C                                                                                                                                             |
| Storage Temp.            | -25 to +55°C                                                                                                                                           |
| Shipping Temp.           | -25 to +70°C                                                                                                                                           |
| Enclosure Rating         | IP20                                                                                                                                                   |
| Altitude Rating          | Maximum Altitude 500m<br>De-rate the output at 1% per 200 meters                                                                                       |
| Humidity                 | Maximum 85% relative humidity at 45% non-<br>condensing                                                                                                |
| Atmosphere               | Non flammable, non-corrosive and dust free                                                                                                             |
| Climatic                 | Class 3k3 as defined by EN60721-3-3 (1995)                                                                                                             |



## Standards

The DC598+ and DC599+ external stack controllers meet the requirements of EN50178 when mounted in an enclosure and also UL508C.

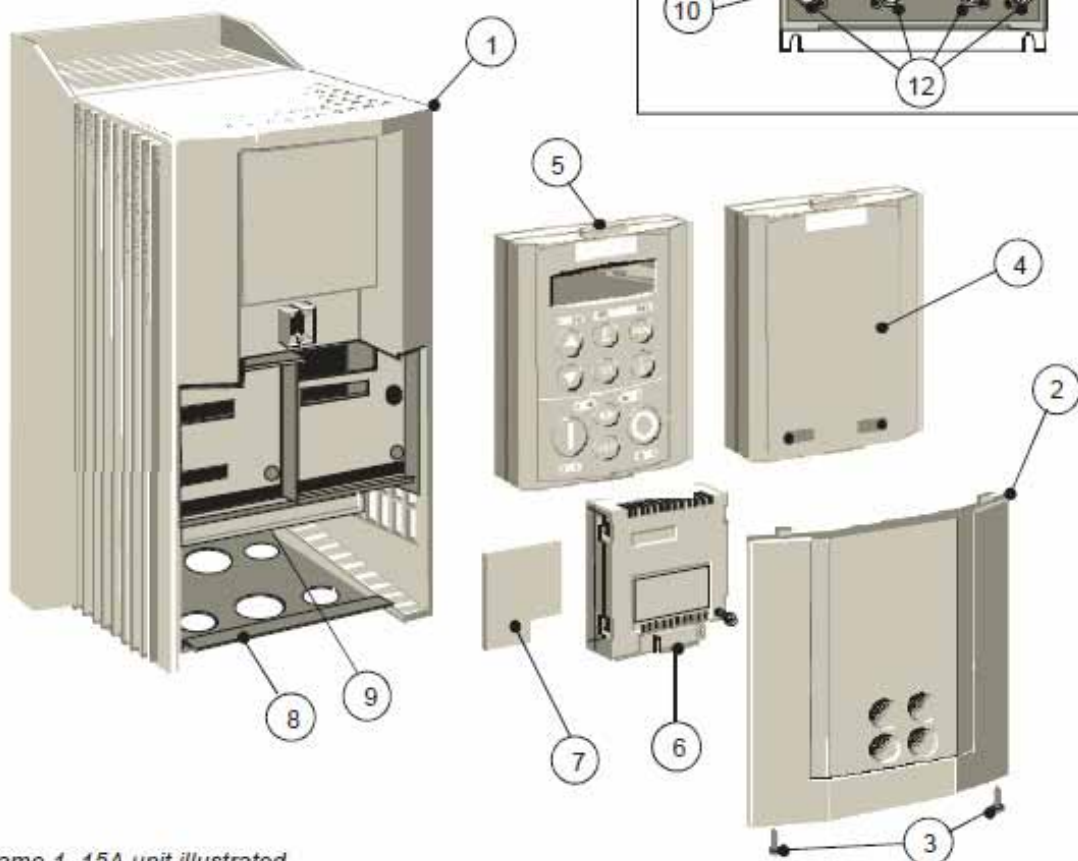
It is designed to meet Overvoltage category III and Pollution Degree 2

# DC Drives - Integrator Series

## DC590+ Integrator Series 2

### Overview of Frames 1,2 and 3

|    |                                                                       |
|----|-----------------------------------------------------------------------|
| 1  | Main drive assembly                                                   |
| 2  | Terminal cover                                                        |
| 3  | Terminal cover retaining screws                                       |
| 4  | Blank cover                                                           |
| 5  | 6901 keypad (optional)                                                |
| 6  | COMMS technology box (optional)                                       |
| 7  | Speed feedback technology card (optional)                             |
| 8  | Gland plate                                                           |
| 9  | Power terminal shield                                                 |
| 10 | Power terminals                                                       |
| 11 | Control terminals                                                     |
| 12 | Earthing points                                                       |
| 13 | Keypad port                                                           |
| 14 | RS232 programming port                                                |
| 15 | Auxiliary power, external contactor and isolated thermistor terminals |



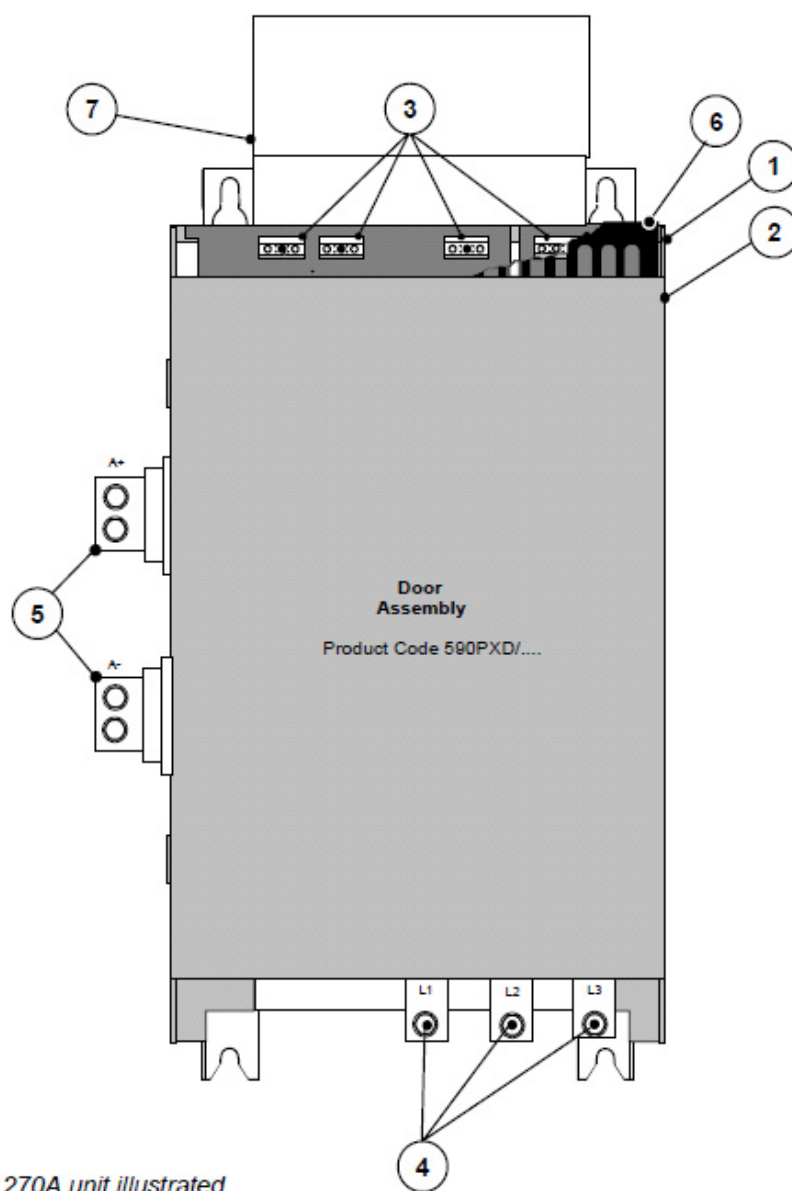
Frame 1, 15A unit illustrated

# DC Drives - Integrator Series

DC590+ Integrator Series 2

## Overview of Frame 3

|   |                                 |
|---|---------------------------------|
| 1 | Main drive assembly             |
| 2 | Door assembly                   |
| 3 | Field wiring terminals          |
| 4 | Busbars - main power input      |
| 5 | Busbars - main power output     |
| 6 | IP20 Top cover                  |
| 7 | IP20 Fan housing (where fitted) |



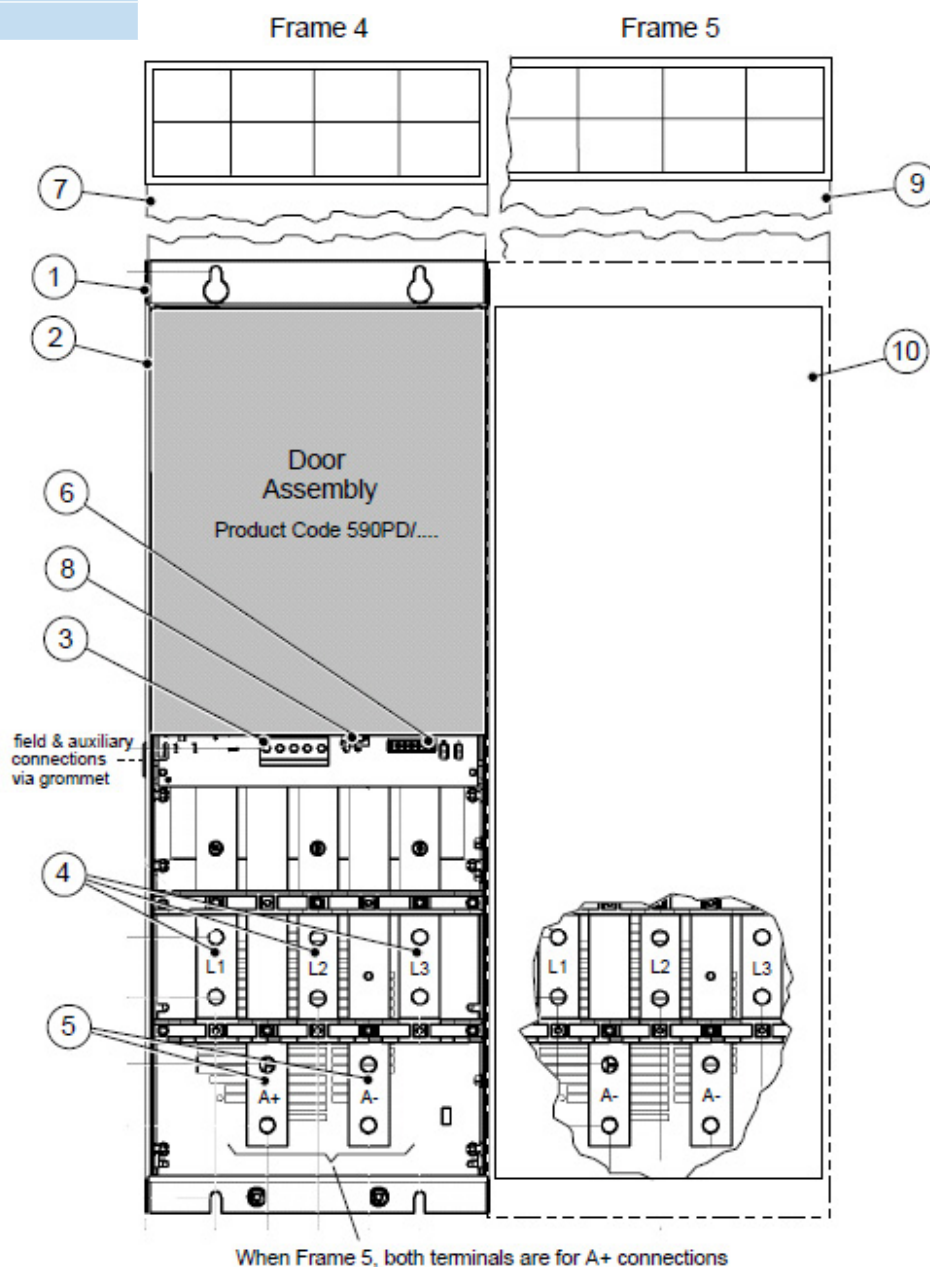
270A unit illustrated

# DC Drives - Integrator Series

## DC590+ Integrator Series 2

### Overview of Frames 4 and 5

|    |                                                            |
|----|------------------------------------------------------------|
| 1  | Main drive assembly                                        |
| 2  | Standard door assembly                                     |
| 3  | Motor field terminals                                      |
| 4  | Busbars - main power input                                 |
| 5  | Busbars - main power output                                |
| 6  | Auxiliary supply, contactor and motor thermistor terminals |
| 7  | Frame 4 external vent (where fitted)                       |
| 8  | Contactor control select                                   |
| 9  | Frame 5 External vent (where fitted)                       |
| 10 | Terminal cover (frame 5)                                   |

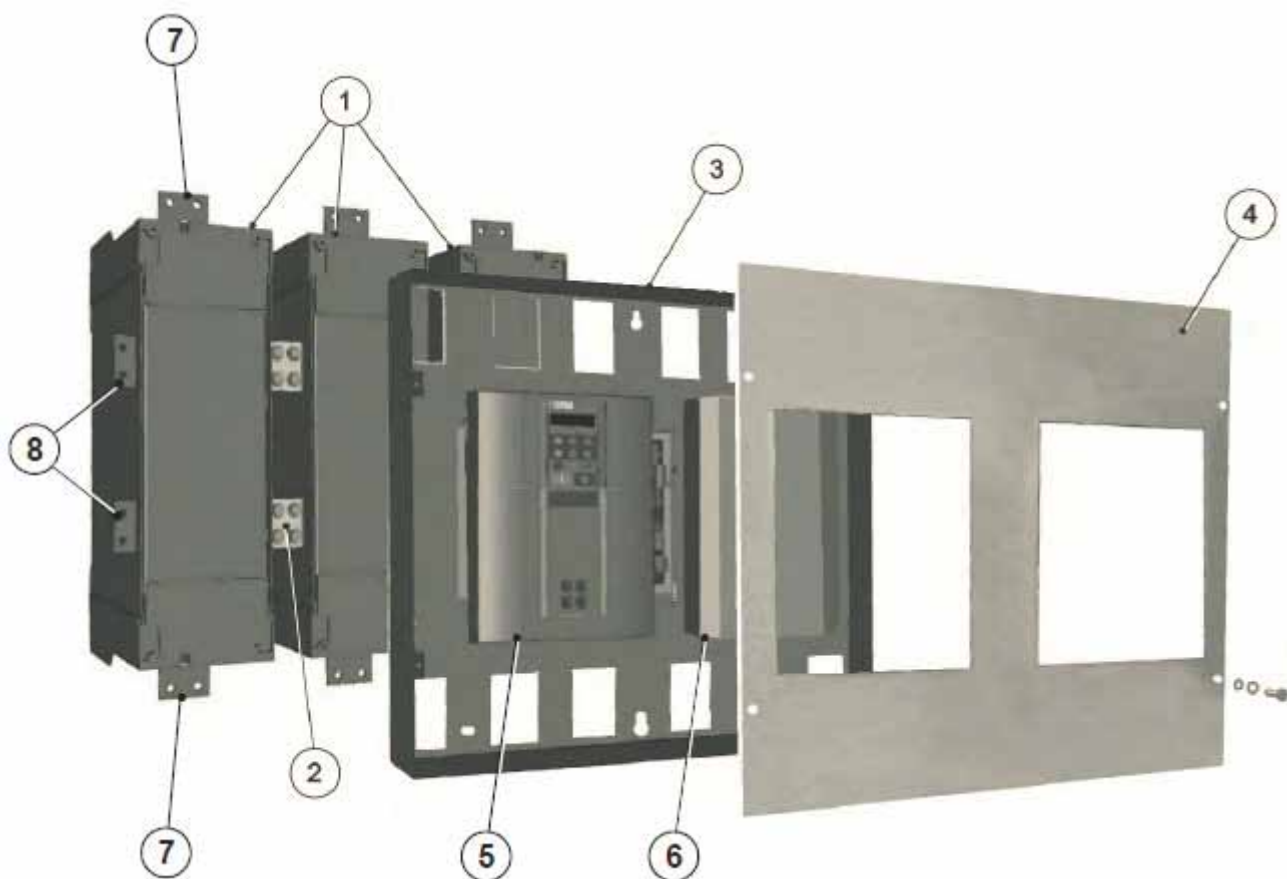


# DC Drives - Integrator Series

## DC590+ Integrator Series 2

### Overview of Frame 6

|   |                               |
|---|-------------------------------|
| 1 | Phase assemblies - L1, L2, L3 |
| 2 | Fishplate                     |
| 3 | Control panel assembly        |
| 4 | Front cover                   |
| 5 | Standard door assembly        |
| 6 | Field controller              |
| 7 | Busbars - main power input    |
| 8 | Busbars - main power output   |



# DC Drives - Integrator Series

DC590+/DC591+ and DRV Series

## Electrical characteristics



### DC590+/DC591+ DC Drives

| Voltage     | Output current (A)               |                                       | Field current max (A) | Frame | New order code (1) | Old reference (1) |
|-------------|----------------------------------|---------------------------------------|-----------------------|-------|--------------------|-------------------|
|             | Continuous 100% without overload | Overload 150% x 30sec<br>200% x 10sec |                       |       |                    |                   |
| 110V - 220V | 15                               | 15                                    | 4                     | 1     | 590P-2321501...    | 590P-0015-...     |
|             | 35                               | 35                                    | 4                     | 1     | 590P-2323501...    | 590P-0035-...     |
|             | 40                               | 40                                    | 10                    | 2     | 590P-2324002...    | 590P-0040-...     |
|             | 70                               | 70                                    | 10                    | 2     | 590P-2327002...    | 590P-0070-...     |
|             | 110                              | 110                                   | 10                    | 2     | 590P-2331102...    | 590P-0110-...     |
|             | 165                              | 165                                   | 10                    | 2     | 590P-2331652...    | 590P-0165-...     |
|             | 180                              | 180                                   | 10                    | 3     | 590P-2331803...    | 590P-0180-...     |
|             | 270                              | 270                                   | 10                    | 3     | 590P-2332703...    | 590P-0270-...     |
|             | 420                              | 380                                   | 30                    | 4     | 590P-2333804...    | 590P-0380-...     |
|             | 550                              | 500                                   | 30                    | 4     | 590P-2335004...    | 590P-0500-...     |
|             | 800                              | 725                                   | 30                    | 4     | 590P-2337254...    | 590P-0725-...     |
|             | 910                              | 830                                   | 30                    | 4     | 590P-2338304...    | 590P-0830-...     |
|             | 1740                             | 1580                                  | 30                    | 5     | 590P-2341585...    | 590P-1580-...     |
| 220V - 500V | 15                               | 15                                    | 4                     | 1     | 590P-5321501...    | 590P-0015-...     |
|             | 35                               | 35                                    | 4                     | 1     | 590P-5323501...    | 590P-0035-...     |
|             | 40                               | 40                                    | 10                    | 2     | 590P-5324002...    | 590P-0040-...     |
|             | 70                               | 70                                    | 10                    | 2     | 590P-5327002...    | 590P-0070-...     |
|             | 110                              | 110                                   | 10                    | 2     | 590P-5331102...    | 590P-0110-...     |
|             | 165                              | 165                                   | 10                    | 2     | 590P-5331652...    | 590P-0165-...     |
|             | 180                              | 180                                   | 10                    | 3     | 590P-5331803...    | 590P-0180-...     |
|             | 270                              | 270                                   | 10                    | 3     | 590P-5332703...    | 590P-0270-...     |
|             | 420                              | 380                                   | 30                    | 4     | 590P-5333804...    | 590P-0380-...     |
|             | 550                              | 500                                   | 30                    | 4     | 590P-5335004...    | 590P-0500-...     |
|             | 800                              | 725                                   | 30                    | 4     | 590P-5337254...    | 590P-0725-...     |
|             | 910                              | 830                                   | 30                    | 4     | 590P-5338304...    | 590P-0830-...     |
|             | 1200                             | 1050                                  | 60                    | H     | 590P-534120H...    | 590P-1200-...     |
|             | 1350                             | 1250                                  | 60                    | 6     | 590P-5341256...    |                   |
|             | 1700                             | 1450                                  | 60                    | H     | 590P-534170H...    | 590P-1700-...     |
|             | 1740                             | 1580                                  | 30                    | 5     | 590P-5341585...    | 590P-1580-...     |
|             | 1750                             | 1600                                  | 60                    | 6     | 590P-5341606...    |                   |
|             | 2150                             | 1950                                  | 60                    | 6     | 590P-5341956...    |                   |
|             | 2200                             | 2000                                  | 60                    | H     | 590P-534220H...    | 590P-2200-...     |
|             | 2700                             | 2400                                  | 60                    | H     | 590P-534270H...    | 590P-2700-...     |

(1) The references are for 4Q drives

For 2Q drives, replace "590P" for "591P" and "955R" for "955N" respectively

# DC Drives - Integrator Series

DC590+/DC591+ and DRV Series

## Electrical characteristics



### DC590+/DC591+ DC Drives

| Voltage     | Output current (A)               |                                       | Field current max (A) | Frame | New order code (1) | Old reference (1) |
|-------------|----------------------------------|---------------------------------------|-----------------------|-------|--------------------|-------------------|
|             | Continuous 100% without overload | Overload 150% x 30sec<br>200% x 10sec |                       |       |                    |                   |
| 500V - 600V | 420                              | 380                                   | 30                    | 4     | 590P-6333804...    | 590P-0380-...     |
|             | 550                              | 500                                   | 30                    | 4     | 590P-6335004...    | 590P-0500-...     |
|             | 800                              | 725                                   | 30                    | 4     | 590P-6337254...    | 590P-0725-...     |
|             | 910                              | 830                                   | 30                    | 4     | 590P-6338304...    | 590P-0830-...     |
|             | 1740                             | 1580                                  | 30                    | 5     | 590P-6341585...    | 590P-1580-...     |
| 500V - 690V | 1200                             | 1050                                  | 60                    | H     | 590P-734120H...    | 590P-1200-...     |
|             | 1350                             | 1250                                  | 60                    | 6     | 590P-7341256...    |                   |
|             | 1700                             | 1450                                  | 60                    | H     | 590P-734170H...    | 590P-1700-...     |
|             | 1750                             | 1600                                  | 60                    | 6     | 590P-7341606...    |                   |
|             | 1950                             | 1850                                  | 60                    | 6     | 590P-7341956...    |                   |
|             | 2200                             | 2000                                  | 60                    | H     | 590P-734220H...    | 590P-2200-...     |
|             | 2700                             | 2400                                  | 60                    | H     | 590P-734270H...    | 590P-2700-...     |

### DRV Drives

| Voltage     | Output current (A)               |                                       | Field current max (A) | Frame | New order code (1) | Old reference (1)     |
|-------------|----------------------------------|---------------------------------------|-----------------------|-------|--------------------|-----------------------|
|             | Continuous 100% without overload | Overload 150% x 30sec<br>200% x 10sec |                       |       |                    |                       |
| 220V - 500V | 15                               | 15                                    | 4                     | 1     | 955R-5321501...    | 590P-0015-500-011-DRV |
|             | 35                               | 35                                    | 4                     | 1     | 955R-5323501...    | 590P-0035-500-011-DRV |
|             | 40                               | 40                                    | 10                    | 2     | 955R-5324002...    | 590P-0040-500-011-DRV |
|             | 70                               | 70                                    | 10                    | 2     | 955R-5327002...    | 590P-0070-500-011-DRV |
|             | 110                              | 110                                   | 10                    | 2     | 955R-5331102...    | 590P-0110-500-011-DRV |
|             | 165                              | 165                                   | 10                    | 2     | 955R-5331652...    | 590P-0165-500-011-DRV |

(1) The references are for 4Q drives

For 2Q drives, replace "590P" for "591P" and "955R" for "955N" respectively

# Selection and Order Codes

## DC590+ Integrator Series 2, 110V -500V 3 phase

| DC590+ Integrator Series 2, 110V -500V 3 phase |                                                                  |                    | Block 1 | Block 2 |    |      | Block 3 |   | Block 4 |   |    |   |   |   |   |   |
|------------------------------------------------|------------------------------------------------------------------|--------------------|---------|---------|----|------|---------|---|---------|---|----|---|---|---|---|---|
| Example ▶                                      |                                                                  |                    | 590P    | -       | 23 | 2150 | 1       | 0 | -       | P | 00 | - | U | 0 | A | 0 |
| Product Family                                 | DC590+ Series DC Digital Drive - 4 quadrant regenerative         |                    | 590P    |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | DC591+ Series DC Digital Drive - 2 quadrant non-regenerative     |                    | 591P    |         |    |      |         |   |         |   |    |   |   |   |   |   |
| Supply Voltage                                 |                                                                  | Output current (A) | Frame   |         |    |      |         |   |         |   |    |   |   |   |   |   |
| Current / Power Rating                         | 110-220V 3 phase                                                 |                    |         | 23      |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 15                 | 1       |         |    | 2150 | 1       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 35                 | 1       |         |    | 2350 | 1       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 40                 | 2       |         |    | 2400 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 70                 | 2       |         |    | 2700 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 110                | 2       |         |    | 3110 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 165                | 2       |         |    | 3165 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 180                | 3       |         |    | 3180 | 3       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 270                | 3       |         |    | 3270 | 3       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 380                | 4       |         |    | 3380 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 500                | 4       |         |    | 3500 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 725                | 4       |         |    | 3725 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 830                | 4       |         |    | 3830 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 1580               | 5       |         |    | 4158 | 5       |   |         |   |    |   |   |   |   |   |
|                                                | 220-500V 3 phase                                                 |                    |         | 53      |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 15                 | 1       |         |    | 2150 | 1       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 35                 | 1       |         |    | 2350 | 1       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 40                 | 2       |         |    | 2400 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 70                 | 2       |         |    | 2700 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 110                | 2       |         |    | 3110 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 165                | 2       |         |    | 3165 | 2       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 180                | 3       |         |    | 3180 | 3       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 270                | 3       |         |    | 3270 | 3       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 380                | 4       |         |    | 3380 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 500                | 4       |         |    | 3500 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 725                | 4       |         |    | 3725 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 830                | 4       |         |    | 3830 | 4       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 1580               | 5       |         |    | 4158 | 5       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 1250               | 6       |         |    | 4125 | 6       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 1600               | 6       |         |    | 4160 | 6       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 1950               | 6       |         |    | 4195 | 6       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 1200               | H       |         |    | 4120 | H       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 1700               | H       |         |    | 4170 | H       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 2200               | H       |         |    | 4220 | H       |   |         |   |    |   |   |   |   |   |
|                                                |                                                                  | 2700               | H       |         |    | 4270 | H       |   |         |   |    |   |   |   |   |   |
| Auxiliary Supply                               | Universal 115V-230V 1ph (Frames 1, 2, 6 & H)                     |                    |         |         |    | 0    |         |   |         |   |    |   |   |   |   |   |
|                                                | 115V 1ph (Frames 3 - 5)                                          |                    |         |         |    | 1    |         |   |         |   |    |   |   |   |   |   |
|                                                | 230V 1ph (Frames 3 - 5)                                          |                    |         |         |    | 2    |         |   |         |   |    |   |   |   |   |   |
| Mounting                                       | Panel mounting                                                   |                    |         |         |    | P    |         |   |         |   |    |   |   |   |   |   |
|                                                | Panel mounting + Airflow kit (option on Frames 4 & 5 only)       |                    |         |         |    | A    |         |   |         |   |    |   |   |   |   |   |
| Special Options                                | None                                                             |                    |         |         |    | 00   |         |   |         |   |    |   |   |   |   |   |
|                                                | Documented special options (01-99) (refer to local sales office) |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
| Languages                                      | English (50/60Hz)                                                |                    |         |         |    |      |         |   |         |   | U  |   |   |   |   |   |
|                                                | German                                                           |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Spanish                                                          |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | French                                                           |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Italian                                                          |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
| Keypad                                         | None                                                             |                    |         |         |    |      |         |   |         |   | 0  |   |   |   |   |   |
|                                                | 6901 keypad fitted                                               |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
| Speed Feedback                                 | Analogue tachometer                                              |                    |         |         |    |      |         |   |         |   | A  |   |   |   |   |   |
|                                                | Glass fibreoptic encoder                                         |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Plastic fibreoptic encoder                                       |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Armature voltage                                                 |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Wire-ended encoder                                               |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
| Communications                                 | None                                                             |                    |         |         |    |      |         |   |         |   | 0  |   |   |   |   |   |
|                                                | ControlNet                                                       |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | DeviceNet                                                        |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Ethernet                                                         |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Link                                                             |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | ModBus +                                                         |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | CanOpen                                                          |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | Profibus                                                         |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |
|                                                | RS485/RS422                                                      |                    |         |         |    |      |         |   |         |   |    |   |   |   |   |   |

# Selection and Order Codes

DC590+ Integrator Series 2, 110V -500V 3 phase



## 500V-690V 3 phase

| 500V-690V 3 phase       |                                                                  | Block 1                                      |   |       | Block 2 |    |      | Block 3 |   |    | Block 4 |   |   |   |   |
|-------------------------|------------------------------------------------------------------|----------------------------------------------|---|-------|---------|----|------|---------|---|----|---------|---|---|---|---|
| Example ▶               |                                                                  | 590P                                         | - | 63    | 3380    | 4  | 2    | -       | P | 00 | -       | U | 0 | A | 0 |
| Product Family          | DC590+ Series DC Digital Drive - 4 quadrant regenerative         | 590P                                         |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | DC591+ Series DC Digital Drive - 2 quadrant non-regenerative     | 591P                                         |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Supply voltage                                                   | Output current (A)                           |   | Frame |         |    |      |         |   |    |         |   |   |   |   |
| Current / Power Rating  | 500-600V 3ph                                                     |                                              |   |       |         | 63 |      |         |   |    |         |   |   |   |   |
|                         |                                                                  | 380                                          |   | 4     |         |    | 3380 | 4       |   |    |         |   |   |   |   |
|                         |                                                                  | 500                                          |   | 4     |         |    | 3500 | 4       |   |    |         |   |   |   |   |
|                         |                                                                  | 725                                          |   | 4     |         |    | 3725 | 4       |   |    |         |   |   |   |   |
|                         |                                                                  | 830                                          |   | 4     |         |    | 3830 | 4       |   |    |         |   |   |   |   |
|                         |                                                                  | 1580                                         |   | 5     |         |    | 4158 | 5       |   |    |         |   |   |   |   |
|                         | 500-690V 3ph                                                     |                                              |   |       |         | 73 |      |         |   |    |         |   |   |   |   |
|                         |                                                                  | 1250                                         |   | 6     |         |    | 4125 | 6       |   |    |         |   |   |   |   |
|                         |                                                                  | 1600                                         |   | 6     |         |    | 4160 | 6       |   |    |         |   |   |   |   |
|                         |                                                                  | 1950                                         |   | 6     |         |    | 4195 | 6       |   |    |         |   |   |   |   |
|                         |                                                                  | 1200                                         |   | H     |         |    | 4120 | H       |   |    |         |   |   |   |   |
|                         |                                                                  | 1700                                         |   | H     |         |    | 4170 | H       |   |    |         |   |   |   |   |
|                         |                                                                  | 2200                                         |   | H     |         |    | 4220 | H       |   |    |         |   |   |   |   |
|                         |                                                                  | 2700                                         |   | H     |         |    | 4270 | H       |   |    |         |   |   |   |   |
|                         | Auxiliary Supply                                                 | Universal 115V-230V 1ph (Frames 1, 2, 6 & H) |   |       |         |    |      |         | 0 |    |         |   |   |   |   |
| 115V 1ph (Frames 3 - 5) |                                                                  |                                              |   |       |         |    |      | 1       |   |    |         |   |   |   |   |
| 230V 1ph (Frames 3 - 5) |                                                                  |                                              |   |       |         |    |      | 2       |   |    |         |   |   |   |   |
| Mounting                | Panel mounting                                                   |                                              |   |       |         |    |      |         | P |    |         |   |   |   |   |
|                         | Panel mounting+ Airflow kit (option sur Frames 4 & 5 only)       |                                              |   |       |         |    |      |         | A |    |         |   |   |   |   |
| Special Options         | None                                                             |                                              |   |       |         |    |      |         |   | 00 |         |   |   |   |   |
|                         | Documented special options (01-99) (refer to local sales office) |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
| Languages               | English (50/60Hz)                                                |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | German                                                           |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Spanish                                                          |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | French                                                           |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Italian                                                          |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
| Clavier                 | None                                                             |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | 6901 keypad fitted                                               |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
| Retour vitesse          | Analogue tacho                                                   |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Glass fibreoptic encoder                                         |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Plastic fibreoptic encoder                                       |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Armature voltage                                                 |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
| Communications          | Wire-ended encoder                                               |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | None                                                             |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | ControlNet                                                       |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | DeviceNet                                                        |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Ethernet                                                         |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Link                                                             |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | ModBus +                                                         |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | CanOpen                                                          |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | Profibus                                                         |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |
|                         | RS485/RS422                                                      |                                              |   |       |         |    |      |         |   |    |         |   |   |   |   |

# Selection and Order Codes

## DC590+ Integrator Series 2, Frame 6



### DC590+ Series - Frame 6 Phase Assembly

|                                |                                                                                                                                | Block 1            |   | Block 2    |          | Block 3 |      |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------|---|------------|----------|---------|------|
| Example ▶                      |                                                                                                                                | 590PL              | - | 53         | 4125 6 0 | -       | P 00 |
| Product Family                 | DC590+ Series DC Digital Drive - 4Q regenerative phase limb<br>DC591+ Series DC Digital Drive - 2Q non-regenerative phase limb | 590PL<br>591PL     |   |            |          |         |      |
|                                | Supply voltage                                                                                                                 | Output current (A) |   | Frame Size |          |         |      |
| Ratio<br>courant/<br>puissance | 220-500V 3ph                                                                                                                   |                    |   | 53         |          |         |      |
|                                |                                                                                                                                | 1250               | 6 |            | 4125 6   |         |      |
|                                |                                                                                                                                | 1600               | 6 |            | 4160 6   |         |      |
|                                |                                                                                                                                | 1950               | 6 |            | 4195 6   |         |      |
|                                | 500-690V 3ph                                                                                                                   |                    |   | 73         |          |         |      |
|                                |                                                                                                                                | 1250               | 6 |            | 4125 6   |         |      |
| Auxiliary Supply               | None                                                                                                                           | 1600               | 6 |            | 4160 6   |         |      |
|                                |                                                                                                                                | 1850               | 6 |            | 4185 6   |         |      |
|                                |                                                                                                                                |                    |   |            |          | 0       |      |
| Mounting                       | Panel mounting                                                                                                                 |                    |   |            |          |         | P    |
| Special options                | None                                                                                                                           |                    |   |            |          |         | 00   |
|                                | Documented special options (01-99) (refer to local sales office)                                                               |                    |   |            |          |         |      |

### DC590+ Series - Frame 6 Control Phase Assembly

|                            |                                                                  | Block 1    |   | Block 2 |          | Block 3 |      | Block 4               |
|----------------------------|------------------------------------------------------------------|------------|---|---------|----------|---------|------|-----------------------|
| Example ▶                  |                                                                  | 590PG      | - | 53      | 0000 6 0 | -       | P 00 | - U 4                 |
| Product Family             | SC590+ Series DC Digital Drive - Frame 6 Gantry                  | 590P       |   |         |          |         |      |                       |
|                            | Supply voltage                                                   | Frame Size |   |         |          |         |      |                       |
| Current / Power<br>Ratings | 220-500V 3ph                                                     |            |   | 53      |          |         |      |                       |
|                            |                                                                  | 6          |   |         | 0000 6   |         |      |                       |
|                            | 500-690V 3ph                                                     |            |   | 73      |          |         |      |                       |
| Auxiliary Supply           | Universal 115V-230V 1ph                                          | 6          |   |         | 0000 6   |         |      |                       |
|                            |                                                                  |            |   |         |          | 0       |      |                       |
| Mounting                   | Panel mounting                                                   |            |   |         |          |         | P    |                       |
| Special Options            | None                                                             |            |   |         |          |         | 00   |                       |
|                            | Documented special options (01-99) (refer to local sales office) |            |   |         |          |         |      |                       |
| Languages                  | English (50/60Hz)<br>German<br>Spanish<br>French<br>Italian      |            |   |         |          |         |      | U<br>D<br>E<br>F<br>I |
| Keypad                     | 6901 keypad installed                                            |            |   |         |          |         |      | 4                     |

# Selection and Order Codes

## DC590PX+ Integrator Series 2



|                         |                                                                  | Block 1            |   | Block 2    |      | Block 3 |   | Block 4 |                |
|-------------------------|------------------------------------------------------------------|--------------------|---|------------|------|---------|---|---------|----------------|
| Example ▶               |                                                                  | 590PX              | - | 23         | 2350 | 1       | 0 | -       | P 00 - U 0 A 0 |
| Product family          | DC590PX Series DC Digital Drive - regenerative                   | 590PX              |   |            |      |         |   |         |                |
|                         | DC591PX Series DC Digital Drive - non-regenerative               | 591PX              |   |            |      |         |   |         |                |
| Supply voltage          |                                                                  | Output current (A) |   | Frame Size |      |         |   |         |                |
| Current / Power Ratings | 110-220V 3ph                                                     |                    |   | 23         |      |         |   |         |                |
|                         |                                                                  | 35                 | 1 | 2350       |      | 1       |   |         |                |
|                         |                                                                  | 70                 | 1 | 2700       |      | 1       |   |         |                |
|                         |                                                                  | 110                | 1 | 3110       |      | 1       |   |         |                |
|                         |                                                                  | 150                | 1 | 3150       |      | 1       |   |         |                |
|                         | 220-500V 3ph                                                     |                    |   | 53         |      |         |   |         |                |
|                         |                                                                  | 35                 | 1 | 2350       |      | 1       |   |         |                |
|                         |                                                                  | 70                 | 1 | 2700       |      | 1       |   |         |                |
|                         |                                                                  | 110                | 1 | 3110       |      | 1       |   |         |                |
|                         |                                                                  | 150                | 1 | 3150       |      | 1       |   |         |                |
| Auxiliary Supply        | Universal 115V-230V 1ph (35/70 Amp ratings only)                 |                    |   |            |      | 0       |   |         |                |
|                         | 115V 1ph (110/150 Amp ratings only)                              |                    |   |            |      | 1       |   |         |                |
|                         | 230V 1ph (10/150 Amp ratings only)                               |                    |   |            |      | 2       |   |         |                |
| Mounting                | Panel mounting                                                   |                    |   |            |      | P       |   |         |                |
| Special Options         | None                                                             |                    |   |            |      | 00      |   |         |                |
|                         | Documented special options (01-99) (refer to local sales office) |                    |   |            |      |         |   |         |                |
| Languages               | English (50/60Hz)                                                |                    |   |            |      |         |   | U       |                |
|                         | German                                                           |                    |   |            |      |         |   | D       |                |
|                         | Spanish                                                          |                    |   |            |      |         |   | E       |                |
|                         | French                                                           |                    |   |            |      |         |   | F       |                |
|                         | Italian                                                          |                    |   |            |      |         |   | I       |                |
| Keypad                  | None                                                             |                    |   |            |      |         |   | 0       |                |
|                         | 6901 keypad installed                                            |                    |   |            |      |         |   | 4       |                |
| Speed Feedback          | Analogue tachometer                                              |                    |   |            |      |         |   | A       |                |
|                         | Glass fibreoptic encoder                                         |                    |   |            |      |         |   | G       |                |
|                         | Plastic fibreoptic encoder                                       |                    |   |            |      |         |   | P       |                |
|                         | Armature voltage                                                 |                    |   |            |      |         |   | V       |                |
|                         | Wire-ended encoder                                               |                    |   |            |      |         |   | W       |                |
| Communications          | None                                                             |                    |   |            |      |         |   | 0       |                |
|                         | ControlNet                                                       |                    |   |            |      |         |   | C       |                |
|                         | DeviceNet                                                        |                    |   |            |      |         |   | D       |                |
|                         | Ethernet                                                         |                    |   |            |      |         |   | E       |                |
|                         | Link                                                             |                    |   |            |      |         |   | L       |                |
|                         | ModBus +                                                         |                    |   |            |      |         |   | M       |                |
|                         | CanOpen                                                          |                    |   |            |      |         |   | N       |                |
|                         | Profibus                                                         |                    |   |            |      |         |   | P       |                |
|                         | RS485/RS422                                                      |                    |   |            |      |         |   | R       |                |

# Selection and Order Codes

DRV Ready to Install DC Drive



|                               |                                                                  | Block 1 |                    | Block 2 |            | Block 3 |   | Block 4 |                   |    |
|-------------------------------|------------------------------------------------------------------|---------|--------------------|---------|------------|---------|---|---------|-------------------|----|
| Example ▶                     |                                                                  | 955R    | -                  | 53      | 2150       | 1       | 1 | -       | P 00 - U 0 A 0 00 |    |
| Product Family                | DC590+ DRV Series DC Digital Drive - regenerative                | 955R    |                    |         |            |         |   |         |                   |    |
|                               | DC590+ DRV Series DC Digital Drive - non-regenerative            | 955N    |                    |         |            |         |   |         |                   |    |
|                               | Supply voltage                                                   | kW      | Output Current (A) | HP      | Frame Size |         |   |         |                   |    |
| Current / Power Ratings       | 500V 3ph                                                         |         |                    |         | 53         |         |   |         |                   |    |
|                               |                                                                  | 7       | 15                 | 7.5     | 1          | 2150    | 1 |         |                   |    |
|                               |                                                                  | 15      | 35                 | 20      | 1          | 2350    | 1 |         |                   |    |
|                               |                                                                  | 18      | 40                 | 25      | 2          | 2400    | 2 |         |                   |    |
|                               |                                                                  | 22      | 55                 | 30      | 2          | 2550    | 2 |         |                   |    |
|                               |                                                                  | 30      | 70                 | 40      | 2          | 2700    | 2 |         |                   |    |
|                               |                                                                  | 37      | 90                 | 50      | 2          | 2900    | 2 |         |                   |    |
|                               |                                                                  | 45      | 110                | 60      | 2          | 3110    | 2 |         |                   |    |
|                               |                                                                  | 55      | 125                | 75      | 2          | 3125    | 2 |         |                   |    |
| Auxiliary Supply              | 115V 1ph                                                         | 75      | 165                | 100     | 2          | 3165    | 2 | 1       |                   |    |
|                               | 230V 1ph                                                         |         |                    |         |            |         |   | 2       |                   |    |
| Mounting                      | Panel mounting (Frames 1 & 2)                                    |         |                    |         |            |         |   | P       |                   |    |
| Special Options               | None                                                             |         |                    |         |            |         |   |         | 00                |    |
|                               | Documented special options (01-99) (refer to local sales office) |         |                    |         |            |         |   |         |                   |    |
| Languages                     | English (50/60Hz)                                                |         |                    |         |            |         |   |         | U                 |    |
|                               | German                                                           |         |                    |         |            |         |   |         | D                 |    |
|                               | Spanish                                                          |         |                    |         |            |         |   |         | E                 |    |
|                               | French                                                           |         |                    |         |            |         |   |         | F                 |    |
|                               | Italian                                                          |         |                    |         |            |         |   |         | I                 |    |
| Keypad                        | None                                                             |         |                    |         |            |         |   |         |                   | 0  |
|                               | 6901 keypad installed                                            |         |                    |         |            |         |   |         |                   | 4  |
| Speed Feedback                | Analogue tachometer                                              |         |                    |         |            |         |   |         |                   | A  |
|                               | Glass fibreoptic encoder                                         |         |                    |         |            |         |   |         |                   | G  |
|                               | Plastic fibreoptic encoder                                       |         |                    |         |            |         |   |         |                   | P  |
| Communications                | Armature voltage                                                 |         |                    |         |            |         |   |         |                   | V  |
|                               | Wire-ended encoder                                               |         |                    |         |            |         |   |         |                   | W  |
|                               | None                                                             |         |                    |         |            |         |   |         |                   | 0  |
|                               | ControlNet                                                       |         |                    |         |            |         |   |         |                   | C  |
|                               | DeviceNet                                                        |         |                    |         |            |         |   |         |                   | D  |
|                               | Ethernet                                                         |         |                    |         |            |         |   |         |                   | E  |
|                               | Link                                                             |         |                    |         |            |         |   |         |                   | L  |
|                               | ModBus +                                                         |         |                    |         |            |         |   |         |                   | M  |
|                               | CanOpen                                                          |         |                    |         |            |         |   |         |                   | N  |
| Profibus                      |                                                                  |         |                    |         |            |         |   |         | P                 |    |
|                               | RS485/RS422                                                      |         |                    |         |            |         |   |         |                   | R  |
| Motor Blower Current Overload | No blower overload                                               |         |                    |         |            |         |   |         |                   | 00 |
|                               | 0.10 - 0.16A                                                     |         |                    |         |            |         |   |         |                   | 01 |
|                               | 0.16 - 0.25A                                                     |         |                    |         |            |         |   |         |                   | 02 |
|                               | 0.25 - 0.4A                                                      |         |                    |         |            |         |   |         |                   | 04 |
|                               | 0.4 - 0.63A                                                      |         |                    |         |            |         |   |         |                   | 06 |
|                               | 0.63 - 1.0A                                                      |         |                    |         |            |         |   |         |                   | 10 |
|                               | 1.0 - 1.6A                                                       |         |                    |         |            |         |   |         |                   | 16 |
|                               | 1.6 - 2.5A                                                       |         |                    |         |            |         |   |         |                   | 25 |
|                               | 2.5 - 4.0A                                                       |         |                    |         |            |         |   |         |                   | 40 |
|                               | 4.0 - 6.3A                                                       |         |                    |         |            |         |   |         |                   | 63 |

# Selection and Order Codes

## DC590+ Series 2 External Stack Controllers



|                         |                                                                  | Block 1            |   |            | Block 2 |      |   | Block 3 |   |   | Block 4 |   |                                      |   |   |   |  |
|-------------------------|------------------------------------------------------------------|--------------------|---|------------|---------|------|---|---------|---|---|---------|---|--------------------------------------|---|---|---|--|
| Example ▶               |                                                                  | 598P               | - | 23         | 2600    | 1    | 0 | -       | A | P | 00      | - | U                                    | 0 | A | 0 |  |
| Product family          | DC598+ External Stack Controller - 2Q non-regenerative           | 598P               |   |            |         |      |   |         |   |   |         |   |                                      |   |   |   |  |
|                         | DC599+ External Stack Controller - 4Q Regenerative               | 599P               |   |            |         |      |   |         |   |   |         |   |                                      |   |   |   |  |
| Current / Power Ratings | Supply Voltage                                                   | Output current (A) |   | Frame Size |         |      |   |         |   |   |         |   |                                      |   |   |   |  |
|                         | 110-220V 3ph                                                     |                    |   | 23         |         |      |   |         |   |   |         |   |                                      |   |   |   |  |
|                         |                                                                  | 60                 |   | 1          |         | 2600 | 1 |         |   |   |         |   |                                      |   |   |   |  |
|                         |                                                                  | 120                |   | 1          |         | 3120 | 1 |         |   |   |         |   |                                      |   |   |   |  |
|                         | 220-500V 3ph                                                     |                    |   | 53         |         |      |   |         |   |   |         |   |                                      |   |   |   |  |
|                         |                                                                  | 60                 |   | 1          |         | 2600 | 1 |         |   |   |         |   |                                      |   |   |   |  |
|                         |                                                                  | 120                |   | 1          |         | 3120 | 1 |         |   |   |         |   |                                      |   |   |   |  |
|                         | 500-690V 3ph                                                     |                    |   | 73         |         |      |   |         |   |   |         |   |                                      |   |   |   |  |
|                         |                                                                  | 60                 |   | 1          |         | 2600 | 1 |         |   |   |         |   |                                      |   |   |   |  |
|                         |                                                                  | 120                |   | 1          |         | 3120 | 1 |         |   |   |         |   |                                      |   |   |   |  |
| Auxiliary Supply        | Universal 115V-230V 1ph (60 Amp rating only)                     |                    |   |            |         |      | 0 |         |   |   |         |   |                                      |   |   |   |  |
|                         | 115V 1ph (120 Amp rating only)                                   |                    |   |            |         |      | 1 |         |   |   |         |   |                                      |   |   |   |  |
|                         | 230V 1ph (120 Amp rating only)                                   |                    |   |            |         |      | 2 |         |   |   |         |   |                                      |   |   |   |  |
| Trigger Option          | Amplifiers                                                       |                    |   |            |         |      |   |         | A |   |         |   |                                      |   |   |   |  |
|                         | Trigger                                                          |                    |   |            |         |      |   |         | T |   |         |   |                                      |   |   |   |  |
| Mounting                | Panel mounting                                                   |                    |   |            |         |      |   |         |   | P |         |   |                                      |   |   |   |  |
| Special Options         | None                                                             |                    |   |            |         |      |   |         |   |   | 00      |   |                                      |   |   |   |  |
|                         | Documented special options (01-99) (refer to local sales office) |                    |   |            |         |      |   |         |   |   |         |   |                                      |   |   |   |  |
| Languages               | English (50/60Hz)                                                |                    |   |            |         |      |   |         |   |   |         | U | D<br>E<br>F<br>I                     |   |   |   |  |
|                         | German                                                           |                    |   |            |         |      |   |         |   |   |         | D |                                      |   |   |   |  |
|                         | Spanish                                                          |                    |   |            |         |      |   |         |   |   |         | E |                                      |   |   |   |  |
|                         | French                                                           |                    |   |            |         |      |   |         |   |   |         | F |                                      |   |   |   |  |
|                         | Italian                                                          |                    |   |            |         |      |   |         |   |   |         | I |                                      |   |   |   |  |
| Keypad                  | None                                                             |                    |   |            |         |      |   |         |   |   |         | 0 | 4                                    |   |   |   |  |
|                         | 6901 keypad installed                                            |                    |   |            |         |      |   |         |   |   |         | 4 |                                      |   |   |   |  |
| Speed Feedback          | Analogue tacho                                                   |                    |   |            |         |      |   |         |   |   |         | A | G<br>P<br>V<br>W                     |   |   |   |  |
|                         | Glass fibreoptic encoder                                         |                    |   |            |         |      |   |         |   |   |         | G |                                      |   |   |   |  |
|                         | Plastic fibreoptic encoder                                       |                    |   |            |         |      |   |         |   |   |         | P |                                      |   |   |   |  |
|                         | Armature voltage                                                 |                    |   |            |         |      |   |         |   |   |         | V |                                      |   |   |   |  |
|                         | Wire-ended encoder                                               |                    |   |            |         |      |   |         |   |   |         | W |                                      |   |   |   |  |
| Communications          | None                                                             |                    |   |            |         |      |   |         |   |   |         | 0 | C<br>D<br>E<br>L<br>M<br>N<br>P<br>R |   |   |   |  |
|                         | ControlNet                                                       |                    |   |            |         |      |   |         |   |   |         | C |                                      |   |   |   |  |
|                         | DeviceNet                                                        |                    |   |            |         |      |   |         |   |   |         | D |                                      |   |   |   |  |
|                         | Ethernet                                                         |                    |   |            |         |      |   |         |   |   |         | E |                                      |   |   |   |  |
|                         | Link                                                             |                    |   |            |         |      |   |         |   |   |         | L |                                      |   |   |   |  |
|                         | ModBus +                                                         |                    |   |            |         |      |   |         |   |   |         | M |                                      |   |   |   |  |
|                         | CanOpen                                                          |                    |   |            |         |      |   |         |   |   |         | N |                                      |   |   |   |  |
|                         | Profibus                                                         |                    |   |            |         |      |   |         |   |   |         | P |                                      |   |   |   |  |
|                         | RS485/RS422                                                      |                    |   |            |         |      |   |         |   |   |         | R |                                      |   |   |   |  |

# Accessories and Options

## DC590+ Integrator Series 2 DC Drives



| Options                |                                                                    | Fitting  | Order Reference | Page |
|------------------------|--------------------------------------------------------------------|----------|-----------------|------|
| Operator Keypad        |                                                                    |          |                 |      |
| 1                      | DC590+ keypad (removable)                                          | Option   | 6901-00-G       | 33   |
|                        | Advanced operator keypadd (removeable)                             | Option   | 6911-01-00-G    |      |
|                        | Remote mounting kit                                                | Option   | 6052/00         |      |
| 2 Communication Cards  |                                                                    |          |                 |      |
|                        | Ethernet Modbus/TCP and Ethernet IP                                | Option   | 6055-ETH-00     | 31   |
|                        | ControlNet                                                         | Option   | 6055-CNET-00    |      |
|                        | Modbus Plus                                                        | Option   | 6055-MBP-00     |      |
|                        | DeviceNet                                                          | Option   | 6055-DNET-00    |      |
|                        | RS485 / Modbus                                                     | Option   | 6055-EI00-00    |      |
|                        | Profibus-DP                                                        | Option   | 6055-PROF-00    |      |
|                        | CANopen DS402                                                      | Option   | 6055-CAN-00     |      |
|                        | LonWorks                                                           | Option   | 6055-LON-00     |      |
|                        | Link                                                               | Option   | 6055-LINK-00    |      |
| 3 Speed Feedback Cards |                                                                    |          |                 |      |
|                        | Wire-ended encoder Card                                            | Option   | AH387775U001    | 32   |
|                        | Analogue Tacho                                                     | Option   | AH385870U001    |      |
|                        | Glass fibreoptic Microtach encoder                                 | Option   | AH386025U001    |      |
|                        | Plastic fibreoptic Microtach encoder                               | Option   | AH386025U00     |      |
| 4 Drive Doors          |                                                                    |          |                 |      |
|                        | Door for frames 3 & H (with additional motor thermistor terminals) | Standard | 590PXD-0010-UK  |      |
|                        | Door for Frames 4 & 5                                              | Standard | 590PD-0010-UK   |      |
| Accessories            |                                                                    |          |                 |      |
|                        | DC Line Chokes                                                     |          |                 | 41   |
|                        | HMI touchscreen displays 3 to 15"                                  |          |                 | 34   |
|                        | DSI programming software                                           |          |                 | 38   |
|                        | DSE programming software                                           |          |                 | 48   |
|                        | Microtach encoder                                                  |          |                 | 47   |
| Motors                 |                                                                    |          |                 |      |
|                        | DC motors                                                          |          |                 | 42   |



# Accessories and Options

## DC590+ Integrator Series 2 DC Drives Communication Cards



The communication cards allow the DC590+ to be connected to the most common industry standard fieldbuses.

## Features

- Communication cards can be factory fitted or purchased separately for fitting on-site
- Dimensions H x W D: 127mm x 76.2mm x 25.4mm
- LED indication of network and card status

### Ethernet Communications Interface

Order Code: 6055-ETH-00

|                     |                                            |
|---------------------|--------------------------------------------|
| Supported Protocols | Modbus/TCP and Ethernet IP                 |
| Communication Speed | 10/100M bits/s                             |
| Station Address     | Selectable via switch or Internet Explorer |
| Suitable for        | DC590+ version 7.1+                        |

### ControlNet Communications Interface

Order Code: 6055-CNET-00

|                    |                         |
|--------------------|-------------------------|
| Supported Messages | Polled I/O              |
| Station Address    | Selectable via software |
| Suitable for       | DC590+ version 5.17+    |

### Devicenet Communications Interface

Order Code: 6055-DNET-00

|                     |                                              |
|---------------------|----------------------------------------------|
| Supported Protocols | DeviceNet Drive Profile – Group 2 slave only |
| Station Address     | DeviceNet Drive Profile – Group 2 slave only |
| Suitable for        | DC590+ version 5.x+                          |

### Modbus Plus Communications Interface

Order Code: 6055-MBP-00

|                     |                         |
|---------------------|-------------------------|
| Supported Protocols | Modbus Plus             |
| Cabling             | RS485 2 or 4 wire       |
| Communication Speed | 1 M bits/s              |
| Station Address     | Selectable via software |
| Suitable for        | DC590+ version 7.1+     |

### CANopen Communications Interface

Order Code: 6055-CAN-00

|                     |                                                  |
|---------------------|--------------------------------------------------|
| Profile             | DS402                                            |
| Supported Messages  | SDO, PDO, NMT, SYNC                              |
| Communication Speed | 20K, 50K, 125K, 250K, 500K, 1M bits/s selectable |
| Station Address     | Selectable via Switch                            |
| Suitable for        | DC590+ version 5.x+                              |

### Profibus-DP Communications Interface

Order Code: 6055-PROF-00

|                     |                         |
|---------------------|-------------------------|
| Supported Protocols | Profibus-DP             |
| Communication Speed | Automatically detected  |
| Station Address     | Selectable via software |
| Suitable for        | DC590+ version 5.x+     |

### RS485/Modbus Communications Interface

Order Code: 6055-EI-00

|                     |                              |
|---------------------|------------------------------|
| Supported Protocols | Modbus RTU, EI Bisynch ASCII |
| Cabling             | RS485 2 or 4 wire            |
| Communication Speed | 300 to 115200 bits/s         |
| Station Address     | Selectable via software      |
| Suitable for        | DC590+ version 5.17+         |

# Accessories and Options

## DC590+ Integrator Series 2 DC Drives

### Encoder feedback card

#### Description

The encoder feedback card allows an incremental encoder to be fitted to the drive to provide accurate measurement of motor speed. The card also provides the encoder power supply.

#### Specifications

|                              |                                       |
|------------------------------|---------------------------------------|
| Maximum input frequency      | 100KHz                                |
| Receiver current consumption | 10mA per channel                      |
| Input format                 | 2 channel differential and quadrature |
| Differential input voltage   | Minimum 3.5V                          |
| Encoder power output         | +5V to 24V adjustable (AH387775U001)  |
| Power supply rating          | 2W maximum                            |
| Power supply load            | 1.4 x output power                    |
| Terminal size                | 16 AWG maximum                        |
| Tightening torque            | 0.4Nm                                 |

#### Order Codes

| Order Code   | Description                      |
|--------------|----------------------------------|
| AH387775U001 | Encoder Card - Adjustable supply |
| AH387775U005 | Encoder Card +5Vdc               |
| AH387775U012 | Encoder Card +12Vdc              |
| AH387775U015 | Encoder Card +15Vdc              |
| AH387775U024 | Encoder Card +24Vcc              |

# Accessories and Options

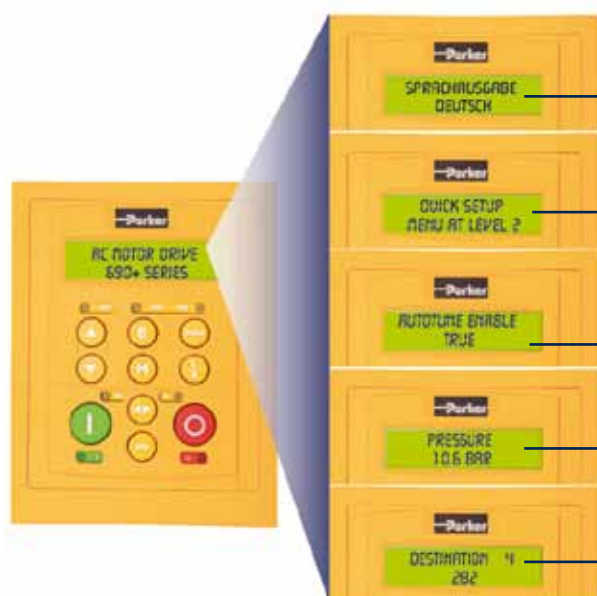
## DC590+ Integrator Series 2 DC Drives

### Operator Keypads

#### Standard operator keypad 6901-00-G

##### Features

- Local motor control : start, speed, direction, diagnostics
- Operator menus and parameter configuration
- Quick setup menu
- Password protection for parameter configuration



##### Multilingual

English · French · German · Italian · Portuguese · Swedish · Polish

##### Quick setup menu

Intuitive menus allowing easy and quick setup of the drive

##### Auto-tuning

Automatic tuning of motor parameters ensures maximum dynamic motor performance

##### Diagnostics messages

Display input and output parameters as well as drive operating units

##### Drive configuration

#### Advanced operator keypad 6911-01-00-G

##### Features

- 128 x 64 pixels semi-graphical resolution
- RS232 and RS485 ports
- Recording of parameters to keypad and restore to drive (Memory card 256Mb to 2Gb)



# Accessories and Options

DC590+ Integrator Series 2 DC Drives

Drive System Explorer Lite (DSE Lite) Software

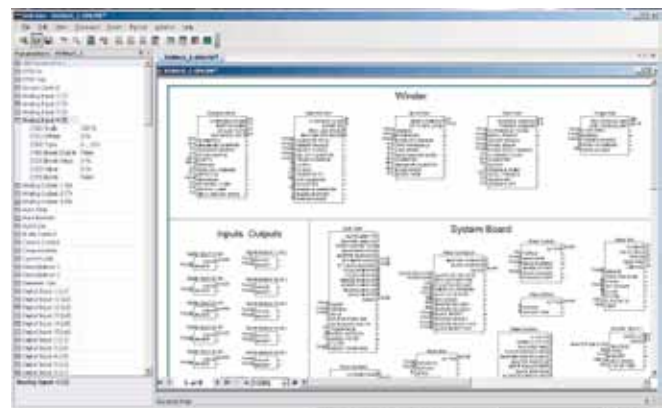
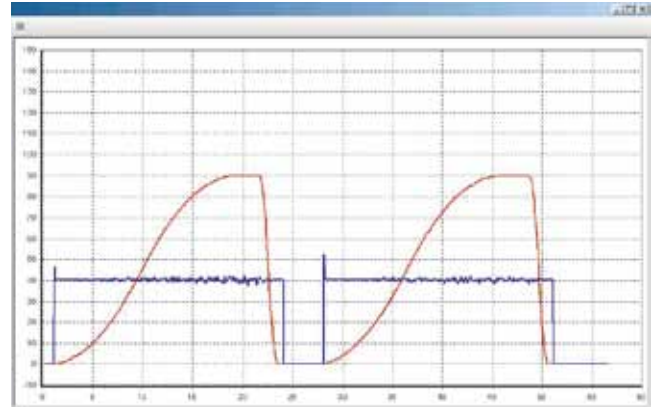
## Description

DSE LITE software is an easy to use configuration, commissioning and monitoring tool with graphical interface for the Parker SSD Drives range of AC and DC drives.

While the drive is in running mode the oscilloscope function allows “on-line” monitoring of selected parameters and the recording of trends.

DSE LITE, allows the user to create, parameterize and configure user defined applications thanks to function blocks dedicated to speed control, Winder, PID, Diameter calculator, Shaftless...

DSE LITE is downloadable from our website.  
[www.parker.com](http://www.parker.com)



# Accessories and Options

DC590+ Integrator Series 2 DC Drives  
TS8000 Series Touchscreens



## Description

TS8000 is a high performance HMI touchscreen range with powerful features that would normally only be found in PC-based displays.

The TS8000 is able to communicate with many different pieces of hardware through its 10/100Base-T Ethernet port.

Furthermore a USB programming port allows programs to be downloaded, or access to trending and data logging, while data can be collected and stored on a standard CompactFlash card, freeing up internal memory.

## Technical specifications

|                       |                                                                                                                                                                                                                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply          | 24Vdc $\pm$ 20%                                                                                                                                                                                                                                                                                           |
| Operating Temperature | 0-50°C                                                                                                                                                                                                                                                                                                    |
| Relative Humidity     | 80% non-condensing                                                                                                                                                                                                                                                                                        |
| Altitude              | 2000 m                                                                                                                                                                                                                                                                                                    |
| Enclosure             | IP66 / Nema 4                                                                                                                                                                                                                                                                                             |
| Keypads               | <b>TS8003 :</b><br>. 8 user assignable keys<br>. 5 navigation keys<br>. 12 numeric keys<br>. 7 dedicated keys<br><br><b>TS8006 :</b> 5 keys for on screen menus<br><b>TS8008 :</b> 7 keys for on screen menus<br><b>TS8010 :</b> 8 keys for on screen menus<br><b>TS8015 :</b> 9 keys for on screen menus |
| Memory                | CompactFlash slot                                                                                                                                                                                                                                                                                         |
| Communication Ports   | <b>Programming :</b><br>USB 1.1 - connector type B<br>RS232 - via RJ12<br><br><b>Communication :</b><br>. RS232 - via RJ12<br>. RS485 - via RJ45<br>. Ethernet 10/100 Base T - connector RJ45                                                                                                             |

**Multi-lingual graphical interface**

**Built-in symbol library of common objects**

**Built-in web server**

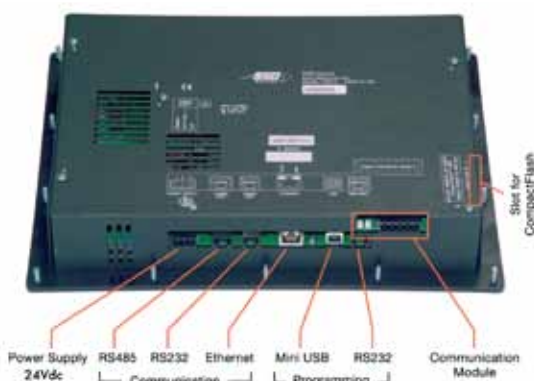
**CompactFlash support**

**Integrated automatic multiple protocol conversion**

**Free programming software**

## HMI Specifications

| Model  | Screen    | Colour     | Number of Pixels |
|--------|-----------|------------|------------------|
| TS8003 | 32"/FSTN  | 2          | 128 x 64         |
| TS8006 | 5.7"/TFT  | 256 QVGA   | 320 x 240        |
| TS8008 | 7.7"/DSTN | 256 VGA    | 640 x 480        |
| TS8010 | 10.4"/TFT |            |                  |
| TS8015 | 15"/TFT   | 32,000 XGA | 1024 x 768       |



# Accessories and Options

## DC590+ Integrator Series 2 DC Drives

## TS8000 Communications Cards



### Description

The TS8000 communication cards allow connection and integration of the TS800 into many popular fieldbus communication networks.

### Features

|                       |                                                            |
|-----------------------|------------------------------------------------------------|
| Configuration         | by means of DSI8000 configuration software                 |
| Power Supply          | Connection by pluggable 3-pin terminals                    |
| Operating Temperature | 0 to 50°C                                                  |
| Storage Temperature   | -20 to 80°C                                                |
| Humidity              | 80% max. relative humidity (non-condensing) from 0 to 50°C |
| Altitude              | 2000 metres Max.                                           |

#### CANopen Communications Interface

Order Code: 8000-CB-00

|                     |                                                           |
|---------------------|-----------------------------------------------------------|
| Supported Protocols | • CANopen SDO Master                                      |
| Communication Speed | • Selectable by software up to 1 Mbits/s                  |
| Communication       | • With Drive System Explorer software using RTNX protocol |
| Suitable for drives | • AC890 version 3.2+                                      |

#### DeviceNet Communications Interface

Order Code: 8000-DN-00

|                     |                                            |
|---------------------|--------------------------------------------|
| Supported Protocols | • DeviceNet – Slave Group 2 only           |
| Communication Speed | • Selectable by software up to 500 kbits/s |

#### Firewire Communications Interface

Order Code: 8000-FA-00

This card allows data exchange between the TS8000 and an AC890 fitted with an 8903-FA-00 Interface

|                     |                                            |
|---------------------|--------------------------------------------|
| Communication Ports | Port A : IEEE 1394A<br>Port B : IEEE 1394B |
|---------------------|--------------------------------------------|

Note : The TS8000 must use a Class 2 or SELV rated power supply

#### Link Communications Interface

Order Code: 8000-LB-00

|                     |            |
|---------------------|------------|
| Supported Protocols | LINK       |
| Communication Speed | 2.7Mbits/s |

Allows data exchange between TS8000 and SSD LINK fibre optic network

#### Profibus-DP Communications Interface

Order Code: 8000-PB-00

|                     |                  |
|---------------------|------------------|
| Supported Protocols | EN50 170, 1      |
| Communication Speed | Up to 12 Mbits/s |

# EMC Filters

## for DC Drives

### Description

A range of custom designed optional EMC (Electromagnetic Compatibility) filters are available for use with Parker SSD Drives product range.

They are used to help achieve conformance with the EMC directive BS EN 61800-3:2004 - "Adjustable speed electrical power drive systems - Part 3".

Installation of the drive must be in accordance with the installation guidelines in the product manual. The filters comply with the relevant standards as outlined in the following table.

**1<sup>st</sup> Environment** : Drives directly connected without intermediate transformers to a low voltage (<100V rms) supply network that is part of a network that also supplies buildings used for domestic purposes.

**2<sup>nd</sup> Environment** : Establishments where there is no direct connection to a low voltage supply network that also supplies buildings used for domestic purpose.

**TN Earthing** = Grounded neutral AC supply <460V ac

**IT Earthing** = Ungrounded neutral AC supply <500V ac

**Ext. Filter** = External filter

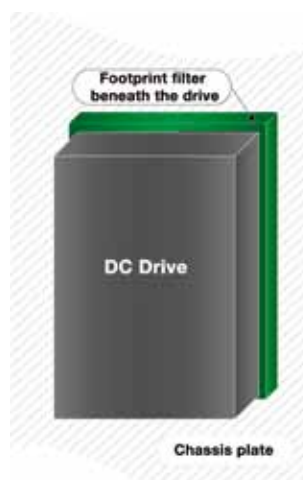
**Ext. Filter FP** = Footprint external filter

### EMC Filters

| DC Drives   | Frame   | Current   | 2 <sup>nd</sup> Environment (Industrial) | 1 <sup>st</sup> Environment (Domestic) |
|-------------|---------|-----------|------------------------------------------|----------------------------------------|
| 506,507,508 |         |           | External FP Filter C0389115              | External FP Filter C0389115            |
| 512,514C    |         | 4, 8, 16A | External FP Filter C0389113              | External FP Filter C0389113            |
|             |         | 32A       | External FP Filter C0389114              | External FP Filter C0389114            |
| DC590+      | 1       | 15A       | Standard with input capacitors           | External Filter CO467844U015           |
|             |         | 35,40A    | Standard with input capacitors           | External Filter CO467844U040           |
|             | 2       | 70A       | Standard with input capacitors           | External Filter CO467844U070           |
|             |         | 110A      | Standard with input capacitors           | External Filter CO467844U110           |
|             |         | 165A      | Standard                                 | External Filter CO467844U165           |
|             | 3       | 180A      | Standard                                 | External Filter CO467844U180           |
|             |         | 270A      | Standard                                 | External Filter CO467844U340           |
|             | 4, 5, H |           | Standard                                 | Refer to your local sales office       |

Wall Mounting : Use the mounting kits below

| Filter       | Mounting Kit |
|--------------|--------------|
| CO467842U020 | BA467840U020 |
| CO467842U044 | BA467840U044 |
| CO467842U084 | BA467840U084 |
| CO467842U105 | BA467840U105 |



Drive mounted on an external footprint filter