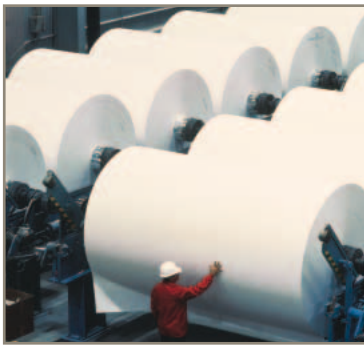
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding


# Analogue DC Drives

506/507/508, 512C and 514C Series



Parker

ENGINEERING YOUR SUCCESS.

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- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
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## Analogue DC Drives

# Parker Hannifin

## The global leader in motion and control technologies

### A world class player on a local stage

**Global Product Design**

Parker Hannifin has more than 40 years experience in the design and manufacturing of drives, controls, motors and mechanical products. With dedicated global product development teams, Parker draws on industry-leading technological leadership and experience from engineering teams in Europe, North America and Asia.

**Local Application Expertise**

Parker has local engineering resources committed to adapting and applying our current products and technologies to best fit our customers' needs.

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Offenburg, Germany
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Parker provides sales assistance and local technical support through a network of dedicated sales teams and authorized technical distributors throughout Europe.

For contact information, please refer to the Sales Offices on the back cover of this document or visit www.parker.com

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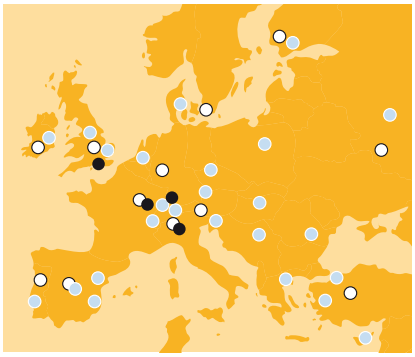


Electromechanical Manufacturing
Parker Sales Offices
Distributors


Dijon, France

# Analogue DC Drives

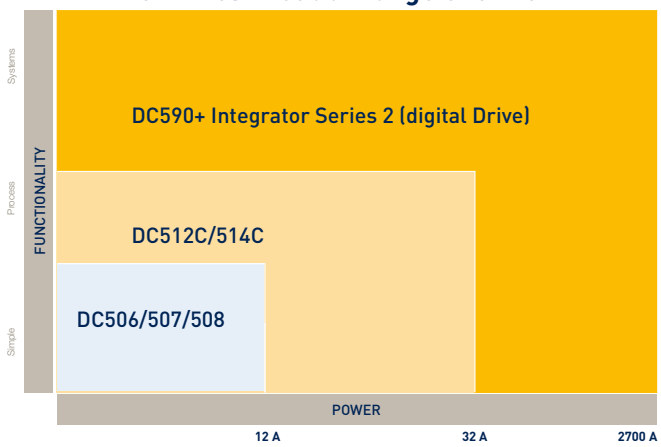
**Up to 9 kW**

## Overview

### Global DC Drive Solutions to Maximise Flexibility and Increase performance

With more than 30 years of worldwide application experience, Parker assists its customers in improving productivity and reducing energy consumption with a comprehensive, robust range of DC drives and drive systems. Parker DC drive products are sold, supported and serviced worldwide, with solutions from simple speed control to complex multi-motor coordinated process control.

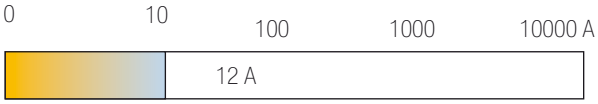
**DC Drives Product Range Overview**




### Single Phase Analogue Non-Isolated Converter: 506/507/508

Economical, compact torque and speed control of permanent magnet or shunt wound DC motors. Selectable between 110 VAC or 230 VAC single phase supply. Tachometer or armature voltage feedback, 3, 6, or 12 A armature options.
Typical applications include:

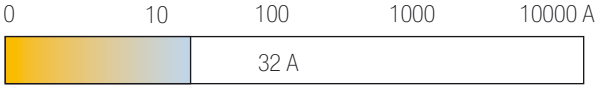
- Conveyors, basic speed control
- Packaging machinery




### Single Phase Two Quadrant Analogue Isolated Converter: 512C

The 512C provides effective torque and speed control of permanent magnet or wound field DC motors. Extremely linear speed and current loops in an isolated package, ideal for single or multiple motor applications up to 32 A, 9 kW.
Typical applications include:

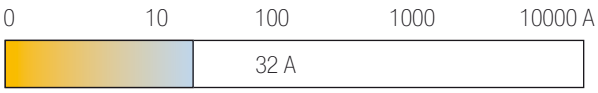
- Centrifugal fans and pumps
- Extruders and mixers
- Small paper converting machines


### Single Phase Four Quadrant Analogue Isolated Converter: 514C

The 514C offers full four quadrant regenerative control of permanent magnet or wound field DC motors. Ideal for applications requiring accurate or rapid deceleration of high inertia loads. Effective for single or multiple motor applications to 32 A, 9 kW.
Typical applications include:

- Machine tool spindles
- Wire drawing machines
- Winders/Reelers

# Analogue DC Drives - 506/507/508 Series

**Up to 2 kW**

## Description

The 506, 507 and 508 series drives break new ground in cost-effective DC motor control. Available in 3, 6 or 12 A armature ratings, the feature packed minimum footprint design is ideal for speed or torque control of permanent magnet or shunt wound DC motors fed from single phase supplies.

**Typical applications include:**

- Conveyors, Basic speed control
- Packaging machinery

### Features

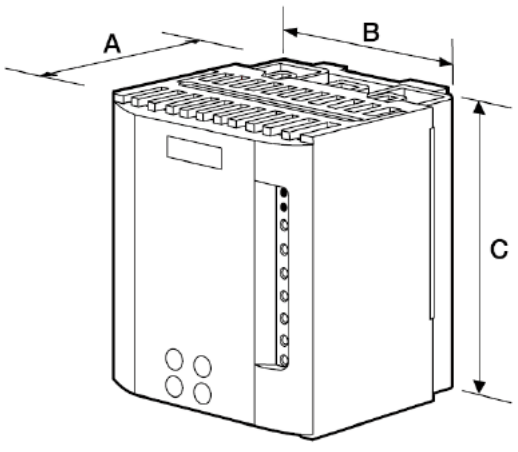
- Low cost high featured design
- IP20 protected covers
- Compact footprint and DIN rail mounting
- Selectable 110 VAC or 230 VAC supply
- Selectable tacho or armature voltage feedback

### Standards

- CE Marked to EN50178 (Safety, Low Voltage Directive)
- CE Marked to EN61800-3 (EMC Directive) with external filter
- NRTL Listed to US Standard UL508C
- NRTL listed to Canadian standard C22.2#14

### Dimensions

| Type | A | B | C | Weight [kg] |
|---|---|---|---|---|
| **506** | 80 | 105 | 140 | 0.59 |
| **507** | 80 | 105 | 140 | 0.59 |
| **508** | 90 | 105 | 140 | 0.70 |




Dimensions [mm]


### Technical Characteristics - Overview

| | |
|---|---|
| **Supply voltage** | 110...120 VAC, or 220...240 VAC ±10 % single phase 50...60 Hz ±5 % |
| **Ambient** | 0...45 °C, Altitude 1000 m |
| **Installation/diagnostics** | |
| **Environment** | IP20 Protection |
| **Mounting** | DIN rail |
| **Control** | Speed or torque |
| **Output** | 2 A VDC field control |
| **Detection** | 15 s stall detect |
| **Protection** | Electronic overcurrent protection |
| **Signal** | Drive healthy and zero speed |
| **Inputs** | Main and trim setpoint inputs |
| **Ramps** | Independent acceleration and deceleration ramps |
| **Diagnostics** | Via LED |
| **Potentiometer adjustments** | |
| **Speed** | maximum / minimum |
| **Current limit** | |
| **Speed stability** | |
| **Time** | acceleration (1...15 s)<br>deceleration (1...15 s) |
| **IR compensation** | |
| **Switch selectable** | |
| **Supply voltage** | 110/120 VAC or 220/240 VAC |
| **Speed Feedback** | Tachogenerator / armature voltage feedback |
| **Calibration** | Speed and Current |

| Order Code | Armature Current [ADC] | Supply Voltage [VAC] | Armature Voltage [VDC] | Field Voltage [VDC] |
|---|---|---|---|---|
| **506-00-20-00** | 0...3 | 110...120 | 90 | 100 |
| | 0...3 | 220...240 | 180 | 210 |
| **507-00-20-00** | 0...6 | 110...120 | 90 | 100 |
| | 0...6 | 220...240 | 180 | 210 |
| **508-00-20-00** | 0...12 | 110...120 | 90 | 100 |
| | 0...12 | 220...240 | 180 | 210 |

# Analogue DC Drives - 512C Series

**Up to 9 kW**

## Description

Isolated control circuitry, a host of user facilities and extremely linear control loop make the 512C ideal for single motor or multi-drive low power applications. Designed for use on single phase supplies, the 512C is suitable for controlling permanent magnet or field wound DC motors in speed or torque control.

**Typical applications include:**

- Centrifugal fans and pumps
- Extruders and mixers
- Small paper converting machines

## Features

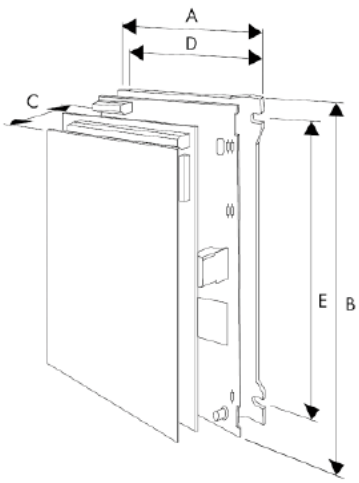
- Fully isolated control circuits
- 110 V ... 415 V supply selection by jumpers
- CE marked and EMC compliant
- Multiple input speed and current setpoints
- Zero speed and drive healthy outputs
- Extremely linear control loops

### Standards

- CE Marked to EN50178 (Safety, Low Voltage Directive)
- CE Marked to EN61800-3 (EMC Directive) with external filter
- NRTL Listed to US Standard UL508C
- NRTL listed to Canadian standard C22.2#14

## Dimensions

| Type | A | B | C | D | E | Weight [kg] |
|---|---|---|---|---|---|---|
| 512C-04, -08 or -16 | 160 | 240 | 85 | 148 | 210 | 1.5/1.6/1.6 |
| 512C-32 | 160 | 240 | 123 | 148 | 210 | 2.9 |




Dimensions [mm]


## Technical Characteristics - Overview

| | |
|---|---|
| **Supply Voltage** | 110...115 V, 220...240 V or 380...415 V ±10 %; 50...60 Hz ±5 %; single phase; selection by switch |
| **Ambient** | 0...40°C, Altitude max 1000 m |
| **Overload** | 150 % for 60 s |
| **Installation/diagnostics** | |
| **Voltage selection** | Jumper selection of supply voltage |
| **Control** | Speed or torque |
| **Output** | 3A DC field control |
| **Diagnostics** | Power on, stall detect and overcurrent LEDs |
| **Protection** | Electronic overcurrent protection |
| **Speed output** | Buffered 10 V, 10 mA |
| **Current output** | Buffered 7.5 V, 10 mA |
| **Ramp output** | Buffered (master/slave) |
| **Reference supply** | 10 Vcc (10 mA) |
| **Inputs** | Total setpoint Off |
| **Drive Outputs** | Drive Healthy |
| **Output speed / setpoint** | Zero Speed / zero setpoint |
| **Potentiometer adjustments** | |
| **Speed** | maximum / minimum |
| **Current Limit** | |
| **Speed stability** | |
| **Time** | acceleration (1...15 s)<br>deceleration (1...15 s) |
| **IR Compensation** | |

| Supply Voltage [VAC] | Armature Voltage [VDC] | Field Voltage [VDC] |
|---|---|---|
| 110 | 90 | 100 |
| 240 | 180 | 210 |
| 415 | 320 | 360 |

| Order Code | Armature Current [ADC] |
|---|---|
| 512C-04-00-00 | 4 |
| 512C-08-00-00 | 8 |
| 512C-16-00-00 | 16 |
| 512C-32-00-00 | 32 |

# Analogue DC Drives - 514C Series

**Up to 9 kW**

## Description

The regenerative 514C DC thyristor drive offers full four quadrant control of DC motors from single phase supplies. As such it is ideal for applications involving overhauling loads or where rapid and accurate deceleration is required. Together with the non-regenerative 512C they offer the perfect solution for lower power single motor and multi-drive applications.

**Typical applications include:**

- Machine tool spindles
- Wire drawing machines
- Winders/Reelers


## Features

- Four quadrant regenerative control
- 110...500 VAC AC supply selection by jumpers
- CE marked and EMC compliant
- AC power contactor logic and supply
- Many system features
- Extremely linear control loops

### User Facilities

- Four quafrant regenerative control
- Seperate AC auxiliary supply
- AC supply contactor logic
- Torque or speed control
- Three setpoint and torque limit inputs
- Buffered analogue current output (10 V, 10 mA)
- +10 V and -10 V analogue reference supplies
- +24 V digital reference supply
- Drive healthy output
- Buffered speed & ramp output (10 V, 10 mA)
- Buffered total setpoint output (10 V, 10 mA)
- Zero speed / zero setpoint output

### Potentiometer Adjustments

- Maximum speed / Current limit
- Acceleration time and Deceleration time (0...40 s)
- IR Compensation
- Speed loop gain - proportional and integral
- Current gain - proportional and integral
- Zero speed offset or threshold

## Standards

- CE Marked to EN50178 (Safety, Low Voltage Directive)
- CE Marked to EN61800-3 (EMC Directive) with external filter
- NRTL Listed to US Standard UL508C
- NRTL listed to Canadian standard C22.2#14

## Technical Characteristics - Overview

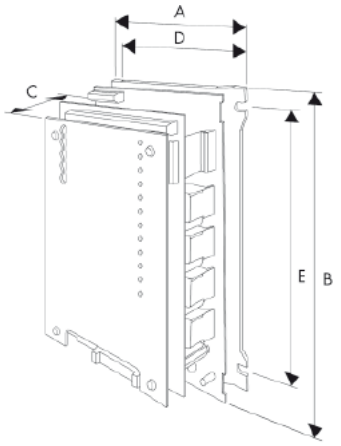
| | |
|---|---|
| **Supply voltage** | 110...500 V +10 % user selectable |
| **Auxiliary supply** | 110/120 or 220/240 V +10 % user selectable<br>Sinlge phase 50...60 Hz +10 % |
| **Ambient** | 0...40 °C - Altitude: up to 1000 m without derating |
| **Overload** | 150 % for 60 s |

| Supply Voltage [VAC] | Armature Voltage [VDC] | Field Voltage [VDC] |
|---|---|---|
| 110 | 80 | 100 |
| 240 | 180 | 210 |
| 415-500 | 320 | 360 |

| Order Code | Armature Current [ADC] |
|---|---|
| **514C-04-00-00** | 4 |
| **514C-08-00-00** | 8 |
| **514C-16-00-00** | 16 |
| **514C-32-00-00** | 32 |

## Dimensions

| Type | A | B | C | D | E | Weight [kg] |
|---|---|---|---|---|---|---|
| **514C-04, -08** | 160 | 240 | 90 | 148 | 210 | 1.6 |
| **514C-16, -32** | 160 | 240 | 130 | 148 | 210 | 3.0 |




Dimensions [mm]

# Parker's Motion & Control Technologies

**At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374**

## Aerospace

### Key Markets

Aftermarket services
Commercial transports
Engines
General & business aviation
Helicopters
Launch vehicles
Military aircraft
Missiles
Power generation
Regional transports
Unmanned aerial vehicles

### Key Products

Control systems & actuation products
Engine systems & components
Fluid conveyance systems & components
Fluid metering, delivery & atomization devices
Fuel systems & components
Fuel tank inerting systems
Hydraulic systems & components
Thermal management
Wheels & brakes

## Climate Control

### Key Markets

Agriculture
Air conditioning
Construction Machinery
Food & beverage
Industrial machinery
Life sciences
Oil & gas
Precision cooling
Process
Refrigeration
Transportation

### Key Products

Accumulators
Advanced actuators
$CO_2$ controls
Electronic controllers
Filter driers
Hand shut-off valves
Heat exchangers
Hose & fittings
Pressure regulating valves
Refrigerant distributors
Safety relief valves
Smart pumps
Solenoid valves
Thermostatic expansion valves

## Electromechanical

### Key Markets

Aerospace
Factory automation
Life science & medical
Machine tools
Packaging machinery
Paper machinery
Plastics machinery & converting
Primary metals
Semiconductor & electronics
Textile
Wire & cable

### Key Products

AC/DC drives & systems
Electric actuators, gantry robots & slides
Electrohydrostatic actuation systems
Electromechanical actuation systems
Human machine interface
Linear motors
Stepper motors, servo motors, drives & controls
Structural extrusions

## Filtration

### Key Markets

Aerospace
Food & beverage
Industrial plant & equipment
Life sciences
Marine
Mobile equipment
Oil & gas
Power generation & renewable energy
Process
Transportation
Water Purification

### Key Products

Analytical gas generators
Compressed air filters & dryers
Engine air, coolant, fuel & oil filtration systems
Fluid condition monitoring systems
Hydraulic & lubrication filters
Hydrogen, nitrogen & zero air generators
Instrumentation filters
Membrane & fiber filters
Microfiltration
Sterile air filtration
Water desalination & purification filters & systems

## Fluid & Gas Handling

### Key Markets

Aerial lift
Agriculture
Bulk chemical handling
Construction machinery
Food & beverage
Fuel & gas delivery
Industrial machinery
Life sciences
Marine
Mining
Mobile
Oil & gas
Renewable energy
Transportation

### Key Products

Check valves
Connectors for low pressure fluid conveyance
Deep sea umbilicals
Diagnostic equipment
Hose couplings
Industrial hose
Mooring systems & power cables
PTFE hose & tubing
Quick couplings
Rubber & thermoplastic hose
Tube fittings & adapters
Tubing & plastic fittings

## Hydraulics

### Key Markets

Aerial lift
Agriculture
Alternative energy
Construction machinery
Forestry
Industrial machinery
Machine tools
Marine
Material handling
Mining
Oil & gas
Power generation
Refuse vehicles
Renewable energy
Truck hydraulics
Turf equipment

### Key Products

Accumulators
Cartridge valves
Electrohydraulic actuators
Human machine interfaces
Hybrid drives
Hydraulic cylinders
Hydraulic motors & pumps
Hydraulic systems
Hydraulic valves & controls
Hydrostatic steering
Integrated hydraulic circuits
Power take-offs
Power units
Rotary actuators
Sensors

## Pneumatics

### Key Markets

Aerospace
Conveyor & material handling
Factory automation
Life science & medical
Machine tools
Packaging machinery
Transportation & automotive

### Key Products

Air preparation
Brass fittings & valves
Manifolds
Pneumatic accessories
Pneumatic actuators & grippers
Pneumatic valves & controls
Quick disconnects
Rotary actuators
Rubber & thermoplastic hose & couplings
Structural extrusions
Thermoplastic tubing & fittings
Vacuum generators, cups & sensors

## Process Control

### Key Markets

Alternative fuels
Biopharmaceuticals
Chemical & refining
Food & beverage
Marine & shipbuilding
Medical & dental
Microelectronics
Nuclear Power
Offshore oil exploration
Oil & gas
Pharmaceuticals
Power generation
Pulp & paper
Steel
Water/wastewater

### Key Products

Analytical Instruments
Analytical sample conditioning products & systems
Chemical injection fittings & valves
Fluoropolymer chemical delivery fittings, valves & pumps
High purity gas delivery fittings, valves, regulators & digital flow controllers
Industrial mass flow meters/ controllers
Permanent no-weld tube fittings
Precision industrial regulators & flow controllers
Process control double block & bleeds
Process control fittings, valves, regulators & manifold valves

## Sealing & Shielding

### Key Markets

Aerospace
Chemical processing
Consumer
Fluid power
General industrial
Information technology
Life sciences
Microelectronics
Military
Oil & gas
Power generation
Renewable energy
Telecommunications
Transportation

### Key Products

Dynamic seals
Elastomeric o-rings
Electro-medical instrument design & assembly
EMI shielding
Extruded & precision-cut, fabricated elastomeric seals
High temperature metal seals
Homogeneous & inserted elastomeric shapes
Medical device fabrication & assembly
Metal & plastic retained composite seals
Shielded optical windows
Silicone tubing & extrusions
Thermal management
Vibration dampening

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192-302010N1 January 2014

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**US Product Information Centre**
**Toll-free number: 1-800-27 27 537**
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