SSD DRIVES

formerly EUROTHERM DRIVES

DC 590+ Integrator Series

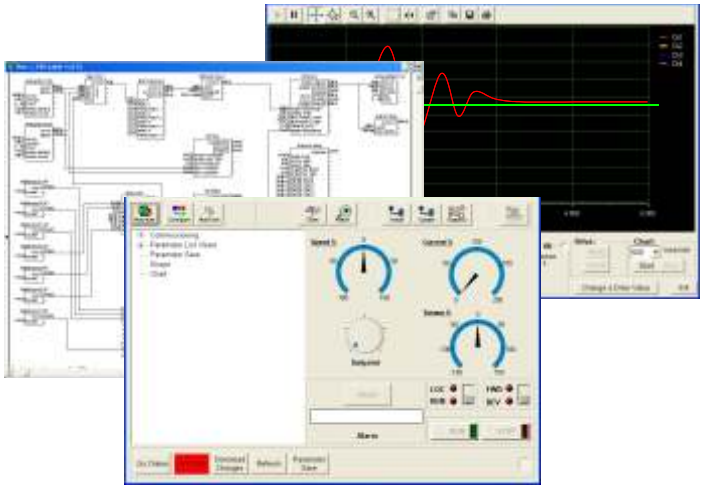
DC DRIVES 15 - 2700 AMPS

CONVERTING ■ TEXTILES ■ PAPER ■ METALS ■ PLASTICS

WIRE ■ TEST RIGS ■ CRANES ■ RUBBER ■ LIFTS ■ PRINTING

590+
DC Drive Integrator Series

Born from over 25 years experience in designing and applying DC drive technology comes the 590+ range. DC drives that more than meet the requirements of all applications, from basic single motor installations through to the most demanding multi-motor systems.



The **INTEGRATOR SERIES** is a single family of variable speed drives that includes both AC (690+ range) and DC (590+ range) drive technologies. One family that provides the benefits of common programming, set-up and communications - one family that accommodates all your variable speed drive requirements.

ConfigEd Lite Plus

Lets you....

- **Set up all parameters**
- **Autotune your application**
- **Chart key variables ON LINE!**

The 590+ further confirms SSD Drives position as the market leader in DC drive technology.

INTERFACE OPTIONS

Whatever the complexity of your control scheme, the 590+ has the interface to suit. As standard there is enough analog 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 590+ has been designed to fit seamlessly, and without compromise, into any control environment.

Analog / Digital Control

The optional add-on "systems" expansion module is available for more advanced applications and includes phase locking between drives and register control. It fits behind the main control board and provides the following functionality:

- 5 Analog Inputs (12 bit + sign)
- 3 Analog Outputs
- 9 digital Inputs
- 3 Digital outputs

Communication Options

Connect to the SSD Drives' LINK fibre optic network host of communication technology box options of the most common Fieldbus protocols, allowing seamless multi-vendor integration into networked systems.

- PROFIBUS-DP
- CANOPEN
- CONTROL NET
- LONWORKS
- EI BISYNCH
- LINK
- ETHERNET
- RS422/RS485
- MODBUS RTU
- DEVICENET

LINK - High Speed Drives Communications

LINK is the SSD Drives advanced fibre optic network for multi-drive process control systems. It allows distributed control elements including drives, operator stations and I/O modules to be interconnected into highly efficient cost effective networks. Being fiber optic based, it provides ultra high speed (3Mbaud) error free communications between each node in the system. Gateways to the principle Fieldbus protocols enable LINK to be seamlessly integrated into wider networks.

FEEDBACK OPTIONS

The 590+ has a range of interface options which are compatible with the most common feedback devices. Armature voltage feedback is standard without the need for any interface option.

- Analog Tachometer
- Encoder
- Plastic Fiber Microtach
- Glass Fiber Microtach

MAN MACHINE INTERFACE

The 690+MMI provides access to all the drives' functions in a logical and intuitive manner. The readout is bright and backlit, and displays all functions in plain language and engineering units. The MMI can be mounted on the drive itself or alternately it can be supplied loose, with a mounting kit, for mounting remotely on a panel door, for example.

Multi-lingual plain language
English • French • German • Spanish • Italian

Quick set-up
Bypasses advanced features for simple applications

Autotune
Custom tunes drive for full torque without turning motor shaft

Customized screens
Customize to display application specific engineering units

Easy Configuration
Connect any function block to any other

590+ DESIGNED FOR SYSTEMS

The 590+ is the ultimate system drive, designed to meet the exacting demands of the most complex and sophisticated multi-drive applications across a diverse range of industries. All the following functions are available as standard without the need for any additional hardware.

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

590+ DESIGNED FOR A WORLD MARKET

The 590+ is available with full application and service support in over fifty countries worldwide. So wherever you are, you can be confident of full back up and support.

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

SPECIFICATION

RATINGS

Power Configuration

590+ Four Quadrant Regenerative;
2 Fully controlled, three phase thyristor bridges
591+ Two Quadrant Non-Regenerative;
1 Fully controlled, three phase thyristor bridge

Thyristor Controlled Variable Field Supply

Armature Current Ratings (Adc)

15, 35, 40, 70, 110, 165, 180, 270, 380, 500,
725, 830, 1200, 1580, 1700, 2200, 2700A
(DRV Versions available 15 to 165A)
Overload (15 to 500A)
200% for 10 secs, 150% for 30 secs

Armature Voltage

Varmature = Vac x 1.2

AC Supply Voltage (Vac)

110 - 220V (±10%)
220 -500V (±10%)
500 -690V (±10%) (>1200A)
50/60Hz

Field Voltage

Vfield = Vac x 0.9

DIMENSIONS

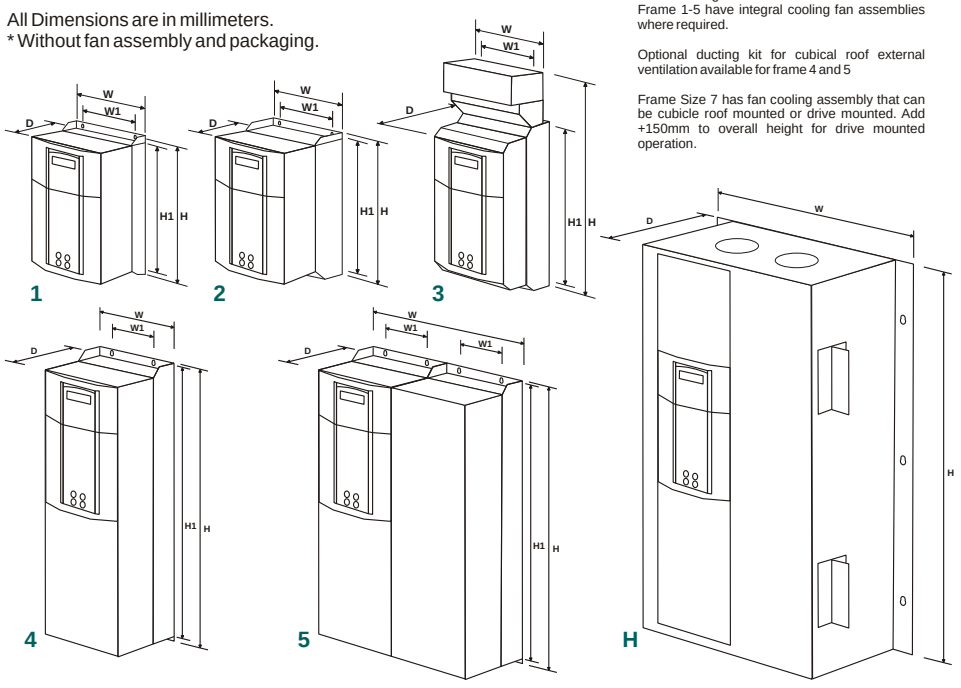
MODEL	OVERALL DIMENSIONS			WEIGHT	FRAME
Rating (A)	H	W	D	(kg)	
15 - 35	375	200	220	6.4	1
40 - 165	434	200	292	10.5	2
180	485	250	180	20.0	3
270	500	300	210	20.0	3
380 - 830	700	253	358	32	4
1580	700	506	358	90	5
1200 - 2700 Regenerative	1406	850	417	160*	H
1200 - 2700 Non-regenerative	956	850	417	160	H

All Dimensions are in millimeters.
* Without fan assembly and packaging.

590: Regenerative Drive
591: Non-Regenerative Drive
Frame 1-5 have integral cooling fan assemblies where required.

Optional ducting kit for cubical roof external ventilation available for frame 4 and 5

Frame Size 7 has fan cooling assembly that can be cubicle roof mounted or drive mounted. Add +150mm to overall height for drive mounted operation.



POWER CONFIGURATION

Power Supply

- 220-500V (±10%) three phase
  500-600V (±10%) three phase Frame 4 & 5
  500-690V (±10%) three phase Frame H

Armature Supply

- Four Quadrant, Regenerative (2 fully controlled, three phase thyristor bridges) or
- Two Quadrant, Non-regenerative (1 fully controlled, three phase thyristor bridge)

Field Supply (thyristor controlled)

- 4A for Frame 1
- 10A for Frames 2 and 3
- 30A for Frames 4 and 5
- 60A for Frame

OVERLOAD

- 200% for 10 seconds (150% for 30 seconds)

ENVIRONMENT

Ambient

- 0- 45°C (0-40°C >380A)
  Derate 1% per °C to 55°C max.

Altitude

- 500m ASL;
  Derate 1% per 200m above 500m to 5000m max

PROTECTION

- High Energy MOV's
- Inverse Time Overcurrent
- Speed Feedback Failure
- Heatsink Overtemperature
- Interline Snubber Network
- Standstill Logic

INPUTS/OUTPUTS

- **ANALOG INPUTS**
  5; 1 - Speed Demand Setpoint (±10V or 0-10V)
  4 - User Configurable ; (1 x 12 bit plus sign,
  4 x 10 bit plus sign)
- **ANALOG OUTPUTS**
  3; 1 - Armature Current Output (±10V or 0-10V)
  2 - User Configurable (10 bit)
- **DIGITAL INPUTS**
  9; Program Stop/Coast Stop/External Trip/
  Start-Run/5 User Configurable (24V, max 15mA)
- **DIGITAL OUTPUTS**
  3; User Configurable (24V (max30V) 100mA)
- **REFERENCE POWER SUPPLY OUTPUTS**
  24VDC - Digital I/O supply total
  +10VDC and -10VDC - Analog supply

Optional Equipment

- 6901 Keypad (included)
- Communication Technology Box
  ProfibusDP, Devicenet, Canopen, Link,
  Lonworks, EI Bisynch / Modbus / RS422 / RS485
- Speed Feedback Technology Box
  Analog Tachometer (included)
  Encoder Feedback

Standards

- CE Marked to EN50178 (Safety, Low Volt Directive).
- EN61800-3 (EMC)
- UL listed to US and Canadian safety standard UL508C (up to 675A) (Pending >675A)

N1981

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