

590+ Integrator Series

DC Digital Converters

from 15 to 2700A

DESCRIPTION

The Integrator Series is a single family of both AC drives (690+) and DC drives (590+) that provides the benefits of common programming, setup and communications across both technologies. The 590+ Integrator Series highly advanced DC drive meets the demands of the most complex motor control applications. Extensive application software (including winder control as standard) together with Function Block Programming and configurable I/O creates a total drive system in a single module.



COMMON PROGRAMMING, SETUP AND COMMUNICATION PROTOCOLS WITH 690+

DRV VERSION WITH BUILT-IN CONTACTOR AND FUSES

OPEN AND CLOSED LOOP WINDER/UNWINDER CONTROL AS STANDARD

RATINGS UP TO 2700A AND SUPPLY VOLTAGE UP TO 690V

FUNCTION BLOCK PROGRAMMING

BUILT-IN FIELD REGULATOR

SPECIFICATIONS

Power Supply	110–220V (±10%) Three phase 220–500V (±10%) Three phase 500–600V (±10%) Three phase 500–690V (±10%) Three phase
Operating Temperature	0–45°C (sizes from 15 to 270A); 0–40°C (sizes ≥ 380A)
Altitude	500m ASL (Derate 1%/200m from 500m to 5000m max)
Degree of protection	IP00 (Size 1 IP20)
Overload	200% for 10 seconds, 150% for 30 seconds
Inputs/Outputs	5 Analog Inputs configurable (12 bit + sign) 3 Analog Outputs (10 bit + sign): - 1 Armature current Output (±10V or 0–10V) - 2 Configurable 9 Digital Inputs (24V, max 15mA): - 1 Program Stop - 1 Coast Stop - 1 External Alarm - 1 Start-Run - 5 Configurable 3 Digital Outputs configurable

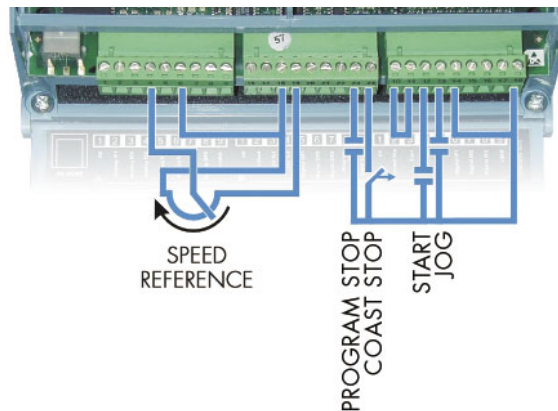
Reference supply

Digital I/O : 24Vdc (200mA)

Analog I/O : +10Vdc –10Vdc (10mA)

Auxiliary supply

110Vac ±10% (on request 220Vac ±10%)

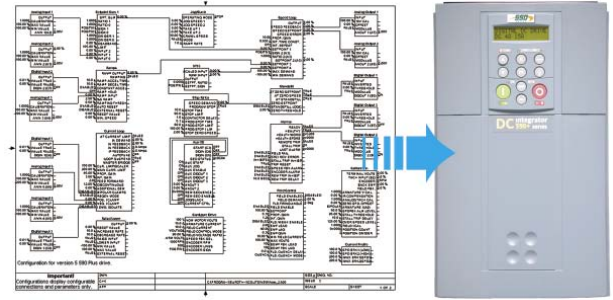


FUNCTION BLOCK PROGRAMMING

Function Block Programming provides a variety of functions:

- PID Control**
- Calculation of diameter**
- Calculation of required speed**
- Calculation of compensation**
- Calculation of taper**
- Digital ramp**
- Preset speed**

Interconnecting pre-configured functions allow complex speed control without need of external units.



DRV Version

DESCRIPTION

590+ Series introduces a new and radical approach in DC drive design: the DRV philosophy. All auxiliary power components are integrated inside each 590+ DRV unit: AC line contactor, AC line fuses, DC fuse (regenerative versions only), field fuses, optional motor blower starter and auxiliary voltage transformer. This type of construction allows great space saving inside control panels, reducing time and cost of wiring.



DRV



NO DRV

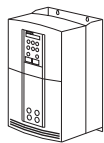


DRV

220-460 (±10%) Vac Supplies -Three Phase

Part Number		Nominal Output (HP)		DRV Output Current (Amps)	Controller Output Current (Amps)	Frame
DRV*	Controller **	230V Supply	460V Supply			
955+8R0007	-	3	7.5	15	-	1
955+8R0020		10	20	35		
955+8R0030		15	30	55		2
955+8R0040		20	40	70		
955+8R0050		25	50	90		
955+8R0060		30	60	110		
955+8R0075		40	75	125		
955+8R0100		50	100	165		
955+8R0125	590+243/500	60	125	206	243	3
955+8R0150		75	150	243		
955+8R0200-D4	590+380/500	100	200	360	380	4
955+8R0250-D4	590+500/500	125	250	425	500	
955+8R0300-D4		150	300	490		
955+8R0400-D4	590+725/500	200	400	700	725	
955+8R0500-D4	590+830/500	250	500	815	830	5
955+8R0600-D5	590+1580/500	-	600	1000	1580	
955+8R0700-D5		-	700	1200		
955+8R0800-D5		-	800	1334		
955+8R0900-D5		-	900	1500		
955+8R0600	590+1050/500	-	600	1050	1050	7a (N or R)
955+8R0900	590+1450/500	-	900	1450	1450	7b (N or R)
955+8R1000	590+2000/500	-	1000	1600	2000	
955+8R1000		-	1250	2000		
955+8R1500	590+2400/500	-	1500	2400	2400	

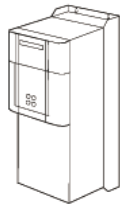
*Replace 'R' for regenerative with 'N' for non-regenerative; **Replace 590+ for regenerative with 591+ for non-regenerative
 Consult factory for 575, 660, 690 Vac part numbers and higher HP ratings.



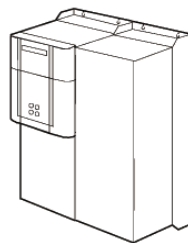
Frames 1/2



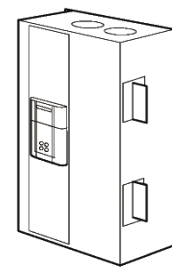
Frame 3



Frame 4



Frame 5



Frame 7

Dimensions and Weight

Frame	Controller			DRV		
	Height	Width	Depth	Height	Width	Depth
1	-	-	-	14.7 (373)	7.7 (196)	9.0 (229)
2	-	-	-	21.5 (546)		11.6 (295)
3	19.7 (500)	9.8 (250)	6.7 (170)	25.25 (641)	17 (432)	9.13 (232)
4	27.6 (700)	10.0 (253)	14.2 (358)	37.75 (946.1)	21 (533.3)	15.11 (383.7)
5		20.0 (506)	14.2 (358)	54.25 (1378)	38 (965.1)	18.47 (469.2)
7aN	37.6 (955)	33.5 (851)	16.4 (417)	68 (1727.2)	60 (1524)	16 (406.4)
7aR	55.4 (1407)	33.5 (851)	16.4 (417)	68 (1727.2)	60 (1524)	16 (406.4)
7bN	37.6 (955)	33.5 (851)	16.4 (417)	68 (1727.2)	60 (1524)	18 (457.2)
7bR	55.4 (1407)	33.5 (851)	16.4 (417)	68 (1727.2)	60 (1524)	18 (457.2)

OPTIONS

Keypad 6901

Operator Panel 6901 is designed for programming and controlling the inverter quickly and easily. Its back-lit, 32 digit alphanumeric display with ergonomic keys provides access to all functions in a logical menu.

- MOUNTING ON THE 590+ OR REMOTE PANEL MOUNTING**
- LOCAL CONTROL OF RUNNING, SPEED AND DIRECTION**
- CUSTOMIZED MENU PARAMETERS**
- PASSWORD FUNCTION LOCKOUT**
- CONFIGURE DRIVE MENU**



Multilingual

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

Fast Setup

Preloaded application macros avoid complex configurations for simple applications

Autotune

Automatic survey of motor data necessary to obtain the maximum performance

Internal Link

Interconnecting function blocks

COMMUNICATION OPTIONS

The Technology Box allows 690+ to integrate with different Fieldbus protocols.

- LINK
- DeviceNet
- ControlNet
- ProfiBus
- Ethernet
- ModBus
- ModBus Plus
- CANopen
- EI Bisynch/RS422/RS485

590+ DRV CONTROL TRANSFORMER

OPERATION WITH 208 THROUGH 500VAC SUPPLIES
MOUNTS INSIDE THE FRAME 1 AND 2 DRV'S
NOT NEEDED ON DRV'S ABOVE 100 HP (AT 500VDC)

To order: Add -CX to the 590+ DRV part number

BLOWER MOTOR STARTER

590+ DRV Blower Motor Starter option uses a manual motor circuit controller to provide motor overload and branch circuit protection for a single or three-phase AC blower motor. It mounts inside 590+ DRV DC Drives.

UL LISTING AND CSA CERTIFICATION

INSTANTANEOUS MAGNETIC SHORT-CIRCUIT PROTECTION
THERMAL OVERLOAD PROTECTION WITH ADJUSTABLE TRIP CURRENT SETTING
START/STOP-RESET SWITCHING WITH "TRIPPED" PUSHBUTTON INDICATION
NORMALLY -OPEN AUXILIARY CONTACT WIRED TO TERMINAL



Amps	Part Number	
	Frames 1 & 2	All Others
0.16-0.25	955+BMS025	955-BMS250
0.25-0.40	955+BMS040	955-BMS40
0.40-0.63	955+BMS063	955-BMS630
0.63-1.00	955+BMS100	955-BMS11
1.00-1.60	955+BMS160	955-BMS161
1.60-2.50	955+BMS250	955-BMS251
2.50-4.00	955+BMS400	955-BMS41
4.00-6.30	955+BMS630	955-BMS631

ARMATURE VOLTAGE FEEDBACK UNIT 5590

This unit provides a means of isolating and attenuating motor armature voltage to levels compatible with drive input signals to give cost effective voltage feedback. It is designed specifically for use with analog drives.

- SUITABLE FOR MOTOR VOLTAGES 100-550V**
- IR COMPENSATION UP TO 11%**
- DIN RAIL MOUNTING**
- BI-DIRECTIONAL OPERATION**
- TRIM OUTPUT POTENTIOMETER**

Description	Part Number
Armature Voltage Feedback Unit	5590

DIAGNOSTIC UNIT 5570

An easy to use hand held diagnostic unit. The 5570 can be used in conjunction with the 514C and 5401 field controller. It gives access to 27 key test points on the drives, rapidly decreasing commissioning time and simplifying troubleshooting.

- LCD AND LED READOUTS**
- ACCESS TO 27 TEST POINTS**
- OSCILLOSCOPE/RECORDER OUTPUT**

Description	Part Number
Diagnostic Unit	5570

THREE-PHASE LINE FILTER

The filter provides additional protection against spikes induced on the AC line by DC controllers on 460Vac systems. It is recommended when accessories (such as blower motors) are connected to the same main supply as the controller without isolation.

Description	Part Number
Three-Phase Line Filter	LA048357
Fuse Kit for Three-Phase Line Filter	LA353837