

AC 690+ Integrator Series

AC INVERTERS 0.75kW - 1200kW



CONVERTING ■ TEXTILES ■ PAPER ■ METALS ■ PLASTICS

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

690+ AC Drive Integrator Series

THE 690+ MODULAR SYSTEM ALLOWS YOU TO TAILOR THE DRIVE TO MEET YOUR EXACT REQUIREMENTS

The 690+ series is a single range of AC drives designed to meet the requirements of all variable speed applications from simple, single motor speed control through to the most sophisticated, integrated multi-drive systems. At the heart of the 690+ is a highly advanced, 32-bit microprocessor based, motor control algorithm, to which can be added a host of control options that allow you to tailor the drive to meet your exact requirements.



YOU USE, AND PAY, ONLY FOR THE FUNCTIONS YOU NEED



ConfigEd Lite Plus

Lets you....

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

SIMPLY POWERFUL

With built-in function blocks to meet any application.

- PID Control
- Diameter Calculator
- Taper Calculator
- Torque Calculator
- Speed Demand Calculator
- Compensation Calculator
- Setpoint Summing Junction

Contains several pre-engineered applications that configure entire sections like 'Speed Winders' with one selection.

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



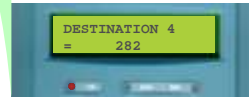
Quick set-up
Bypasses advanced features for simple applications



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

Encoder Feedback Option

The 690+ is converted from open loop control to high performance closed loop control by simply adding the plug-in encoder feedback technology box.



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
- CONTROLNET
- LONWORKS
- RS422/RS485
- EIBISYNCH
- LINK
- ETHERNET
- DEVICENET
- MODBUS RTU

System Expansion Module

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:

- 6 Configurable Digital Inputs/Outputs
- 4 High Resolution (12 bit plus sign) Analog Inputs
- 2 Encoder Inputs
- 2 High Speed Register Mark Inputs

Dual Torque Ratings

Units from 7.5kW and above can be user selected for either Constant Torque applications (with 150% overload capability) or alternatively for higher Quadratic 'Fan' Torque ratings (with 115% overload capability)

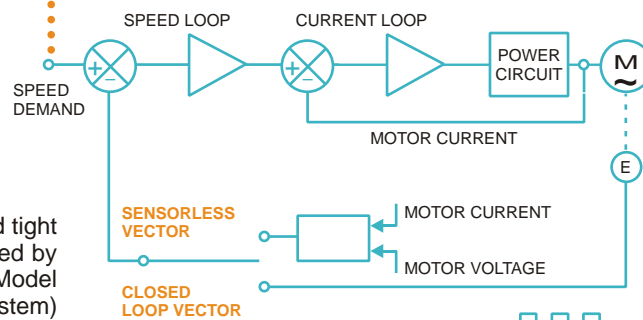
THE 690+ CAN BE USER CONFIGURED FOR 3 DIFFERENT OPERATING MODES

OPEN LOOP (volts/freq) CONTROL

This model is ideal for basic motor speed control. The quick set-up menu and plain language display ensures the quickest and easiest, trouble free start-up..

SENSORLESS VECTOR CONTROL

High starting torque and tight speed holding is provided by a sophisticated MRAS (Model Reference Adaptive System) motor control strategy. MRAS provides accurate speed simulation (without the need for any speed measuring transducer) by continually modeling the motor.



CLOSED LOOP VECTOR FEEDBACK

Full closed loop flux vector performance can be achieved with the 690+ by simply adding an encoder feedback 'technology box'. This provides 100% continuous full load standstill torque plus a highly dynamic speed loop; more than sufficient for the most demanding applications.

To achieve the ultimate performance the 690+ utilises speed and current loops in both sensorless and closed loop vector modes. In sensorless vector mode the speed feedback is derived from the highly advanced Model Reference Adaptive System (MRAS)

SPECIFICATION

RATINGS

220-240 Vac (±10%) Single or Three Phase	Constant Torque Ratings		Package Size
	Nominal Power (KW)	Output Current (A)	
690PB-0007-230-1 or 3	0.75	4.0	B
690PB-0015-230-1 or 3	1.5	7.0	B
690PB-0022-230-1 or 3	2.2	10.5	B
690PB-0040-230-3	4.0	16.5	B

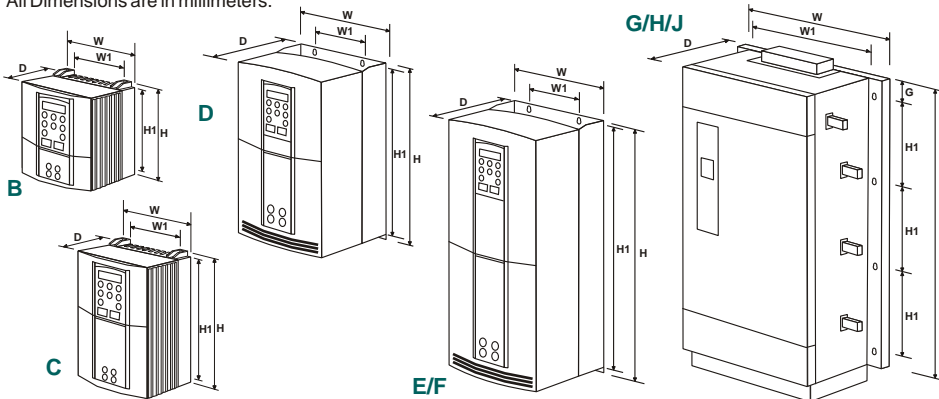
380-460 Vac (±10%) Three Phase Supplies	Constant Torque Ratings		Quadratic (Fan) Torque Ratings		Package Size
	Nominal Power (KW)	Output Current (A)	Nominal Power (KW)	Output Current (A)	
690PB-0007-400-3	0.75	2.5	-	-	B
690PB-0015-400-3	1.5	4.5	-	-	B
690PB-0022-400-3	2.2	5.5	-	-	B
690PB-0040-400-3	4.0	9.5	-	-	B
690PC-0055-400-3	5.5	12	7.5	16	C
690PC-0075-400-3	7.5	16	11	23	C
690PC-0110-400-3	11	23	15	31	C
690PD-0150-400-3	15	31	18.5	38	C
690PD-0180-400-3	18.5	38	22	45	D
690PD-0220-400-3	22	45	30	59	D
690PE-0300-400-3	30	59	37	73	D
690PE-0370-400-3	37	73	45	87	E
690PE-0450-400-3	45	87	55	105	E
690PF-0550-400-3	55	105	75	145	F
690PF-0750-400-3	75	145	90	165	F
690PF-0900-400-3	90	180	110	205	F
690PG-1100-400-3	110	216	132	260	G
690PG-1320-400-3	132	250	150	302	G
690PG-1600-400-3	160	316	200	377	G
690PG-1800-400-3	180	361	220	420	G
690PH-2000-400-3	200	375	250	480	H
690PH-2200-400-3	220	420	250	480	H
690PH-2500-400-3	250	480	300	545	H
690PH-2800-400-3	280	520	315	595	H
690PJ-3150-400-3	315	550	315	595	J

500Vac Three Phase models also available. Please contact Eurotherm for details.

DIMENSIONS

MODEL	OVERALL DIMENSIONS			FIXING CENTERS			WEIGHT (kg)
	H	W	D	H1	W1	G	
Frame B	233	171	181	223	129.5		4.3
Frame C	348	201	208	335	150.0		9.3
Frame D	453	252	245	471	150.0		17.4
Frame E	668	257	312	630	150.0		32.5
Frame F	720	257	349	700	150.0		41.0
Frame G	1042	456	465	300	420.0	16	100
Frame H	1177	572	465	300	536.0	16	125
Frame J	1288	1177	465	300	641.0	16	160

All Dimensions are in millimeters.



Overload

- Constant Torque Ratings; 150% for 60 seconds, 180% for 1 sec (Frame B), 0.5 sec (Frame C, D, E, F)
- Quadratic Torque Ratings; 115% for 10 seconds.

Output Frequency

- 0-480Hz

Ambient

- Constant Torque Ratings; 0 - 45°C (40°C with IP40 Cover)
- Quadratic Torque Ratings; 0 - 40°C (35°C with IP40 Cover)
Derate from temperatures above to 50°C max.
- Altitude up to 1000m ASL.
- Derate 1% per 100m above 1000m

Switching Frequency

- Package Size B; 3, 6 or 9kHz
- Package Size C, D, E and F; 3 or 6kHz
All with audibly silent switching frequency

Dynamic Braking

- Each drive can be fitted with an internal dynamic brake switch.
- Package Size B and C - Standard
- Package Size D, E and F - Optional

Inputs/Outputs

- Analogue Inputs (4 Total - All user configurable)
10 bit (12 bit with systems expansion module);
0-10V, 0-±10V, 0-20mA, 4-20mA.
- Analogue Outputs (3 Total - All user configurable)
10 bit (0-10V, 0-±10V, 0-20mA, 4-20mA)
- Digital Inputs (8 Total - All user configurable)
Nominal 24V dc (30V dc max.)
- Digital Outputs (3 Total - All user configurable)
Volt free relay contacts, 3A at 230Vac max.
- Reference Supplies: +10V dc, -10Vdc, +24Vdc

Optional Equipment

- Remote Mount Operator Station Kit
- Serial Communication Technology Box
 - ProfibusDP
 - Devicenet
 - Canopen
 - Link
 - Lonworks
 - EI Bisynch / Modbus / RS422 / RS485
- Encoder Feedback Technology Box
- Systems Expansion Module providing;
 - 5 Extra Digital I/O
 - 4 12 bit Analogue Inputs
 - 2 Extra Reference Encoder Inputs
 - 2 High Speed Register Mark Inputs
- EMC Compliant Filters
- IP40 (NEMA 1) Protection Covers
- IP54 Protected Modules
- Long Cable Output Chokes

Standards

The 690+ series meets the following standards when installed in accordance with the relevant product manual.

- CE Marked to EN50178 (Safety, Low Volt Directive).
- EN50081-1(1992) or -2(1994) (EMC emissions)
- EN50082-2(1995) (EMC immunity, heavy industrial)
- UL listed (to US and Canadian safety Standard UL508C)



EUROTHERM PTY. LTD.

Sydney: Ph: (02) 9838 0099 Fax: (02) 9838 9288
Melbourne: Ph: (03) 9589 9220 Fax: (03) 9548 8930
ssddrives@eurotherm.com.au



formerly EUROTHERM DRIVES

<http://www.eurotherm.com.au>

Distributed by:



Tel: 03 9764 1961
alan@dps.com.au

Fax: 03 9764 1199
<http://www.dps.com.au>