

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE 90-30 SERIES PLC

IC693ALG392C

8-CHANNEL ANALOG OUTPUT MODULE

Used with the applicable Series 90-30 analog I/O configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

Calculating Power Supply Loading

The load placed on a power supply in a Series 90-30 PLC baseplate is the sum of the internal and external loads placed on it by all of the hardware components in the baseplate (backplane, modules, etc.), as well as external loads connected to the Isolated + 24 VDC supply. Use of the Isolated +24 Volt power supply output is optional; however, this output can be used to drive a limited number of input devices. The maximum total power output rating of the Power Supplies is 30 watts; however, the individual +5VDC outputs can be rated for either 15 or 30 Watts, depending on the Power Supply catalog number. See Table 12-1, "Power Supply Feature Comparison Table," for details.

Load Requirements for Hardware Components

The following table shows the DC load required by each module and hardware component. All ratings are in milliamps (except where noted). Input and Output module current ratings are with all inputs or outputs on. Three voltages are listed in the table:

- +5 VDC provides primary power to operate most internal circuits
- +24 VDC Relay Power provides power for circuits that drive the relays on Relay modules
- +24 VDC Isolated provides power to operate a number of input circuits (input modules only), and any external circuits connected to the 24 VDC Output terminals on the power supply terminal strip.

Note that the figures listed in the following table are maximum (worst case) requirements, not typical requirements.

Table 12-3. Load Requirements (in milliamps)

Catalog Number	Description	+5 VDC	+24 VDC Relay Power	+24 VDC Isolated
AD693SLP300	State Logic Processor Module	425	–	–
IC693ACC300	Input Simulator, 8/16 Points	120	–	–
IC693ACC307	Expansion Bus Termination Plug	72	–	–
IC690ACC900	RS-422/RS-485 to RS-232 Converter	170	–	–
IC690ACC901	RS-422 (SNP) to RS-232, Miniconverter Kit (Version A) (version B, or later)	150 100	– –	– –
IC693ADC311	Alphanumeric Display Coprocessor Module	400	–	–
IC693ALG220	Analog Input, Voltage, 4 Channel	27	–	98
IC693ALG221	Analog Input, Current, 4 Channel	25	–	100
IC693ALG222	Analog Input, Voltage, High Density (16 Channel)	112	–	41
IC693ALG223	Analog Input, Current, High Density (16 Channel)	120	–	–
IC693ALG390	Analog Output, Voltage, 2 Channel	32	–	120
IC693ALG391	Analog Output, Current, 2 Channel	30	–	215
IC693ALG392	Analog Current/Voltage Output, 8 Channel	110	–	–
IC693ALG442	Analog Current/Voltage Combination 4 Ch In/2 Ch Out	95	–	129
IC693APU300	High Speed Counter	250	–	–
IC693APU301	Motion Mate APM300, 1-Axis	800	–	–
IC693APU302	Motion Mate APM300, 2-Axis	800	–	–
IC693APU305	I/O Processor Module	360	–	–

Catalog Number	Description	+5 VDC	+24 VDC Relay Power	+24 VDC Isolated
IC693BEM320	I/O Link Interface Module (slave)	205	–	–
IC693BEM321	I/O Link Interface Master Module (w/o optical adapter) (with Optical Adapter)	415 615	–	–
IC693BEM330	FIP Remote I/O Scanner	609	–	–
IC693BEM331	Genius Bus Controller	300	–	–
IC693BEM340	FIP Bus Controller (maximum) (typical)	1.2A 800		
IC693CHS391	10-slot Modular CPU Baseplate	250	–	–
IC693CHS392	10-slot Expansion Baseplate	150	–	–
IC693CHS393	10-slot Remote Baseplate	460	–	–
IC693CHS397	5-slot Modular CPU Baseplate	270	–	–
IC693CHS398	5-slot Expansion Baseplate	170	–	–
IC693CHS399	5-slot Remote Baseplate	480	–	–
IC693CMM301	Genius Communications Module	200	–	–
IC693CMM302	Enhanced Genius Communications Module	300	–	–
IC693CMM311	Communications Control Module	400	–	–
IC693CMM321	Ethernet Interface Module	750	–	–
IC693CPU311	Series 90-30 5-Slot Embedded CPU Baseplate	410	–	–
IC693CPU313	Series 90-30 5-Slot Embedded CPU Baseplate	430	–	–
IC693CPU323	Series 90-30 10-Slot Embedded CPU Baseplate	430	–	–
IC693CPU331	CPU (Model 331)	350	–	–
IC693CPU340	CPU (Model 340)	490	–	–
IC693CPU341	CPU (Model 341)	490	–	–
IC693CPU350	CPU (Model 350)	670 **		
IC693CPU351	CPU (Model 351)	890 **		
IC693CPU352	CPU (Model 352)	910 **		
IC693CPU360	CPU (Model 360)	670 **		
IC693CPU363	CPU (Model 363)	890 **		
IC693CPU364	CPU (Model 364)	1.51A **		
IC693CSE313	State Logic CPU, 5-slot baseplate	430	–	–
IC693CSE323	State Logic CPU, 10-slot baseplate	430	–	–
IC693CSE340	State Logic CPU Module	490	–	–
IC693DSM302/314	Motion Mate DSM302 or DSM314 Module	800 1300 with external encoder	–	–
IC693MAR590	120 VAC Input, relay Output, 8 In/8 Out	80	70	–
IC693MDL230	120 VAC Isolated, 8 Point Input	60	–	–
IC693MDL231	240 VAC Isolated, 8 Point Input	60	–	–
IC693MDL240	120 VAC, 16 Point Input	90	–	–
IC693MDL241	24 VAC/DC Pos/Neg logic, 16 Point	80	–	125
IC693MDL310	120 VAC, 0.5A, 12 Point Output	210	–	–
IC693MDL330	120/240 VAC, 1A, 8 Point Output	160	–	–
IC693MDL340	120 VAC, 0.5A, 16 Point Output	315	–	–
IC693MDL390	120/240 VAC Isolated, 2A, 5 Point Output	110	–	–
IC693MDL630	24 VDC Positive Logic, 8 Point Input	2.5	–	60
IC693MDL632	125 VDC Pos/Neg Logic, 8 Point Input	40	–	–
IC693MDL633	24 VDC Negative Logic, 8 Point Input	5	–	60
IC693MDL634	24 VDC Pos/Neg Logic, 8 Point Input	80	–	125
IC693MDL640	24 VDC Positive Logic, 16 Point Input	5	–	120
IC693MDL641	24 VDC Negative Logic, 16 Point Input	5	–	120

Catalog Number	Description	+5 VDC	+24 VDC Relay Power	+24 VDC Isolated
IC693MDL643	24 VDC Positive Logic, FAST, 16 Point Input	5	–	120
IC693MDL644	24 VDC Negative Logic, FAST, 16 Point Input	5	–	120
IC693MDL645	24 VDC Pos/Neg Logic, 16 Point Input	80	–	125
IC693MDL646	24 VDC Pos/Neg Logic, FAST, 16 Point Input	80	–	125
IC693MDL652	24 VDC Pos/Neg Logic 32 Point Input	5	–	–
IC693MDL653	24 VDC Pos/Neg Logic, FAST, 32 Point Input	5	–	–
IC693MDL654	5/12 VDC (TTL) Pos/Neg Logic, 32 Point	195/440*	–	–
IC693MDL655	24 VDC Pos/Neg, 32 Point Input	195	–	224
IC693MDL730	12/24 VDC Positive Logic, 2A, 8 Point Output	55	–	–
IC693MDL731	12/24 VDC Negative Logic, 2A, 8 Point Output	55	–	–
IC693MDL732	12/24 VDC Positive Logic, 0.5A, 8 Point Output	50	–	–
IC693MDL733	12/24 VDC Negative Logic, 0.5A, 8 Point Output	50	–	–
IC693MDL734	125 VDC Pos/Neg Logic, 6 Point Output	90	–	–
IC693MDL740	12/24 VDC Positive Logic, 0.5A, 16 Point Output	110	–	–
IC693MDL741	12/24 VDC Negative Logic, 0.5A, 16 Point Output	110	–	–
IC693MDL742	12/24 VDC Pos. Logic ESCP, 1A, 16 Point Output	130	–	–
IC693MDL750	12/24 VDC Negative Logic, 32 Point Output	21	–	–
IC693MDL751	12/24 VDC Positive Logic, 32 Point Output	21	–	–
IC693MDL752	5/24 VDC (TTL) Negative Logic, 0.5A, 32 Point	260	–	–
IC693MDL753	12/24 VDC Positive Logic, 0.5A, 32 Point Output	260	–	–
IC693MDL930	Relay, N.O., 4A Isolated, 8 Point Output	6	70	–
IC693MDL931	Relay, N.C. and Form C, 8A Isolated, 8 Point Out	6	110	–
IC693MDL940	Relay, N.O., 2A, 16 Point Output	7	135	–
IC693MDR390	24 VDC Input, Relay Output, 8 In/8 Out	80	70	–
IC693PCM300	Programmable Coprocessor Module, 65K	425	–	–
IC693PCM301	Programmable Coprocessor Module, 85K	425	–	–
IC693PCM311	Programmable Coprocessor Module, 380K	400	–	–
IC693PRG300	Hand-Held Programmer	170	–	–
IC693PTM100	Power Transducer Module	400		
IC693TCM302	Temperature Control Module	150	–	–

* Refer to module specifications in GFK-0898, Series 90-30 I/O Module Specifications Manual for more details.

** Note that the model 350-364 CPUs do not support the A version (IC690ACC901A) of the Miniconverter.

Power Supply Loading Calculation Examples

Following are examples of calculations for determining the total load placed on a Series 90-30 PLC power supply by the Series 90-30 PLC hardware. All current figures are expressed in milliamps. Note that although each output is rated at 15 or 20 watts (with the exception that the +5 VDC output for the High Capacity power supply is rated at 30 watts), the total combined output can be no more than 30 watts. The power required by external circuits connected to the 24 VDC OUTPUT terminals on the power supply terminal strip should be added to the calculation.