

Intelligent Parker Amplifier

Ethernet Servo Drive/Controller



IPA: Versatile Motion Capabilities

The new Intelligent Parker Amplifier or IPA, is a 1.5 axis servo drive/controller based on the ACR control platform. Available in two power levels, 400W and 1500W, the IPA can drive a wide range of rotary and linear motors and supports a number of industry standard feedback protocols.

The IPA provides a dual port Ethernet interface which gives the machine builder the flexibility needed to create cost effective motion control solutions. The IPA operates as a fully programmable stand-alone motion controller with on-board I/O and virtual axis capability or can be integrated into a PLC or PC-based machine control solution. Software tools are included to optimize motion performance and efficiently monitor and manage the application.

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Specifications

Part Number	IPA04-HC	IPA15-HC
Rated Motor Power	400 W	1500 W
Peak Motor Power	1200 W	4500 W
Continuous Current	3	6.3
Peak Current	9	18.9
Size	3.0" W x 7.0" H x 5.3" D	3.4" W x 7.0" H x 5.3" D
Drive Input Voltage	100-240 VAC Single Phase	
Control Input Voltage	100-240 VAC Single Phase	
Logic Keep Alive	24 VDC (optional)	
Servo Update	62.5 m seconds	
Digital Inputs	7 programmable inputs, 5-24 VDC (3 high-speed 1us capture, 4 standard)	
Digital Outputs	4 programmable outputs, 5-24 VDC	
Analog Inputs	2 @ 12-bit resolution	
Power Stage Enable	2 redundant inputs for torque disable	
Primary Encoder	Incremental encoder, EnDat 2.2 absolute encoder	
Secondary Encoder Input	Incremental encoder, 1.6 MHz, differential, A, B signals	
Communications	100 Base-T, Dual RJ-45 connectors, Supports TCP/UDP and EtherNet/IP	
Development Software	ACR-View 6.4 and higher	
API	Libraries for C++,C#, VB.net, etc	
Programming Language	AcroBASIC with 1Mb of user memory	
Standards	UL Recognized 508c, CE (LVD), CE (EMC), RoHS EtherNet/IP Conformance Tested	
Environmental	0-45 C , 0-95% Humidity	

Ordering Information

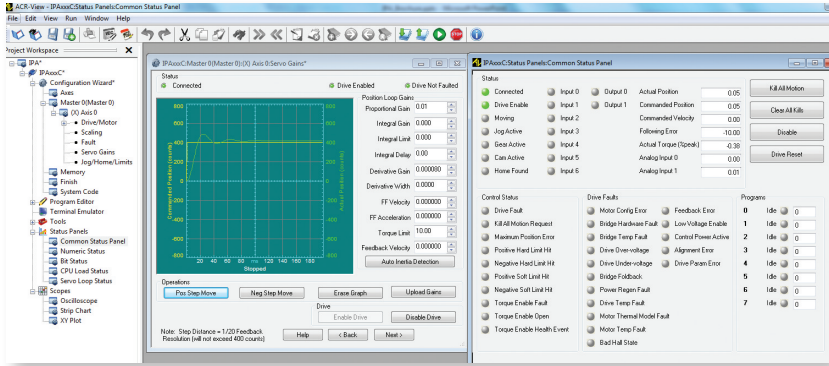
Part Number	Description
IPA04-HC	400W Servo Drive Controller
IPA15-HC	1500W Servo Drive Controller
Optional Accessories:	
VM25-MC-02	25-pin breakout board for Drive I/O connector, includes 2 ft cable
VM15-MC-02	15-pin breakout board for feedback connector, includes 2 ft cable for flying lead encoders
PS-60W	24VDC, 60W power supply

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IPA Servo Drive/Controller

Motion

The IPA is built on the proven and powerful AcroBASIC programming language used in the Parker ACR family of motion controllers. Project development is managed with the ACR-View development software that provides the user with the tools to program, commission, tune and debug applications. Motion and machine control features include:



- **Multitasking of up to 16 different tasks**
- **Incremental, absolute and continuous moves**
- **Trapezoidal and S-Curves profiles**
- **High speed (1 ms) position captures**
- **Registration moves**
- **Electronic gearing and camming**

Visualization

Combined with Parker's Interact Xpress HMI platform the IPA becomes an affordable machine solution. Xpress supports connections to multiple IPA and other PLCs at the same time, with an easy to use development environment and award winning graphics.



User Interface

Part Number	Description
XPR206VT-2P3	6" VGA Display with Interact Xpress pre-installed
XPR208VT-2P3	8" VGA Display with Interact Xpress pre-installed
XPR210VT-2P3	10" VGA Display with Interact Xpress pre-installed

Communications

EtherNet/IP gives IPA users a popular connectivity option to PLCs for easy integration of servo motion in larger machine control application.

The IPA is an EtherNet/IP adapter device supporting both I/O and

Explicit Messaging. Add-On Instructions are available for seamless integration with Logix controllers.

Users can also take full advantage of the IPA programming language and to create complex, custom routines called by the PLC.

EtherNet/IP™

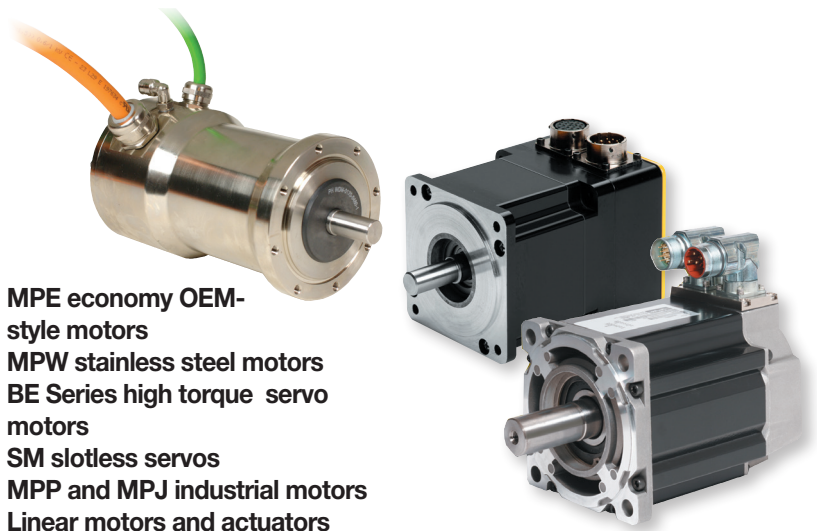
Add-On Instructions include:

- **Homing**
- **Servo on/off**
- **Absolute/relative moves**
- **Jogging**
- **Run program**
- **Fault reset**
- **Gearing**

Performance

At the core of the IPA is outstanding servo performance for the most demanding applications. The IPA can be paired with wide range of Parker rotary and linear servo motors, utilizing cost effective incremental encoders or absolute feedback devices based on high speed serial protocols. Recommend motors include:

- MPE economy OEM-style motors
- MPW stainless steel motors
- BE Series high torque servo motors
- SM slotless servos
- MPP and MPJ industrial motors
- Linear motors and actuators



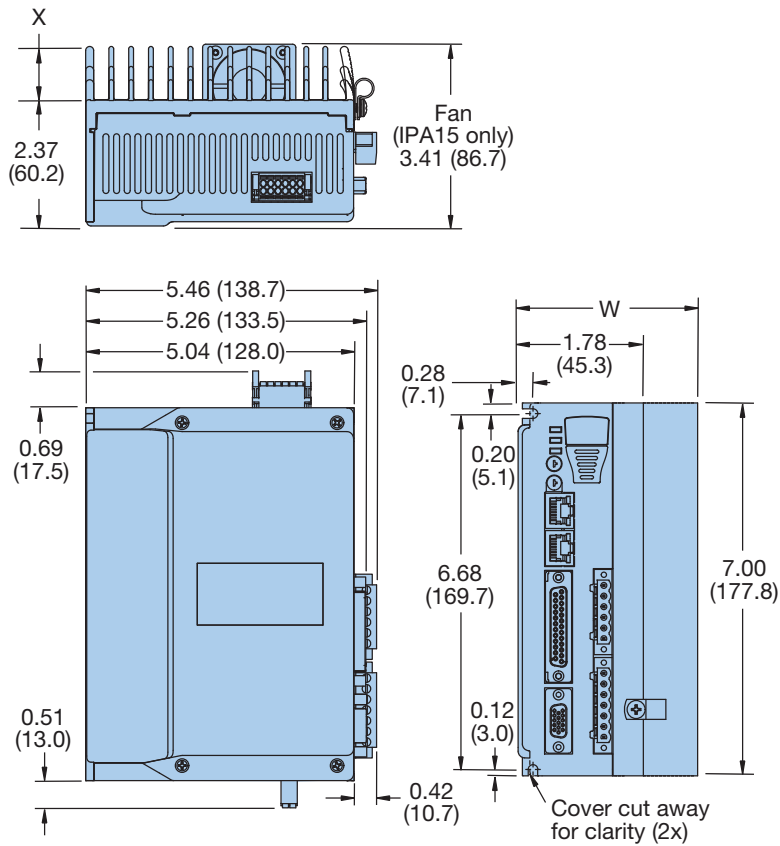
Motor Specifications

Motor Model Number	Drive	Stall Torque Continuous		Peak Torque		Rated Speed rpm	Rated Torque		Rated Shaft Output Power kW
		Nm	in-lb	Nm	in-lb		Nm	in-lb	
BE231DJ-NPSN	IPA04-HC	0.67	5.9	2.03	18.0	4965	0.62	5.5	325
BE233DJ-NPSN	IPA04-HC	1.45	12.8	4.38	38.8	2740	1.36	12.1	390
BE341FJ-NPSN	IPA15-HC	1.69	14.9	5.09	45.0	4965	1.44	12.8	750
BE342HJ-NPSN	IPA15-HC	2.85	25.2	8.57	75.9	4965	2.34	20.7	1215
BE344JJ-NPSN	IPA15-HC	4.78	42.3	14.41	127.5	2980	4.33	38.3	1350
MPE0402A4E-KC1N	IPA04-HC	0.31	2.8	0.73	6.5	3974	0.26	2.3	110
MPE0601A4E-KC1N	IPA04-HC	0.72	6.4	1.90	16.8	3974	0.67	6.0	280
MPE0602A4E-KC1N	IPA04-HC	1.33	11.8	3.64	32.2	3003	1.24	11.0	390
MPE0802A4E-KC1N	IPA15-HC	1.87	16.6	5.23	46.3	3974	1.65	14.6	685
MPE0803A4E-KC1N	IPA15-HC	2.56	22.7	7.39	65.4	3974	2.14	18.9	890
MPP0921B1E-KPSN	IPA04-HC	1.55	13.7	4.32	38.2	2614	1.41	12.5	390
MPP0923D1E-KPSN	IPA15-HC	3.50	31.0	9.85	87.2	4288	3.22	28.5	1440
MPP1002D1E-KPSN	IPA15-HC	3.65	32.3	10.15	89.8	3903	3.53	31.2	1440
MPP1003C1E-KPSN	IPA15-HC	5.26	46.5	14.75	130.5	2700	5.15	45.5	1450

Motor Connection

Motor Family	Connector Type	Motor Cable	Connectorized Feedback Cable	
			Incremental Encoder	EnDat Absolute Encoder
MPE	C1	71-030630-XX	71-030631-XX	N/A
BE MPP MPP SM	PS PS (High-Flex)	P-1A1-XX (0-6A) P-3B1-XX (>6 amps)	F-1A1-XX	F-1A2-XX
		PH-1A1-XX (0-6A) PH-3B1-XX (>6 amps)	FH-1A1-XX	FH-1A2-XX

Dimensions



Dimensions - in (mm)

	Overall Width W	Fin Height X	Overall Depth w/Cables
IPA04-HC	3.00 (76.1)	0.63 (15.9)	7.8 (198)
IPA15-HC	3.41 (86.7)	1.00 (25.4)	7.8 (198)



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