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Standalone Control

The ACR9000 is Parker's premier standalone motion controller. The ACR9000 is capable of controlling up to 8 axes of motion and is software configurable for servo or stepper control per axis. The Ethernet connectivity option provides the ideal solution for connecting to PCs in applications requiring high-speed data transfer. The ACR9000 also has an expansion I/O port option for connecting to the Parker I/O family of remote I/O products. All Parker ACR controllers use the same system software and programming language; this assures users complete flexibility in upgrading their hardware while maintaining their investment in program development.

The ACR9000 is the solution for standalone applications requiring industry-leading performance in an affordable and easy-to-use package.

ACR9000 Features

- Up to 8 axes of servo or stepper control
- 150 MFLOPS, 32-bit floating-point DSP
- Up to 10 encoder inputs at 20 MHz
- 10/100 Ethernet
- RS-232/RS-485 communication
- Expansion I/O port option for connection to Parker I/O family
  - Up to 512 discrete inputs
  - Up to 512 discrete outputs
  - Up to 32 analog inputs
  - Up to 32 analog outputs
- 24 VDC optically isolated onboard inputs
  - 20 on 2- to 4-axes configurations
  - 40 on 6- to 8-axes configurations
- 24 VDC optically isolated onboard outputs
  - 4 on 2- to 4-axes configurations
  - 8 on 6- to 8-axes configurations
- 120/240 VAC power input
- CE (EMC & LVD), UL, cUL approval

ACR9000 Ordering

9000 ☐ ☐ ☐

P0 - RS232/485 (Base)
P1 - RS232/485 Ethernet
P2 - RS232/485 with expansion I/O port
P3 - All of the above

U2 - 2 Axes, 3 Encoder Inputs
U4 - 4 Axes, 5 Encoder Inputs
U6 - 6 Axes, 8 Encoder Inputs
U8 - 8 Axes, 10 Encoder Inputs

M0 - No options

Example: 9000P2U4M0
• 4-axes controller with RS232/485 and Expansion I/O port

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ACR9000 Specifications

	Value
Hardware	
Axes/controller	2-8 axes
PC-Bus interface	NA (Standalone only)
Standalone option	Yes
Processor	32-bit floating-point DSP @150 MFLOPS / 75 MHz
Trajectory calculation	64-bit precision
User memory	1 MB
System memory	1 MB
Firmware	Flash-based
Flash memory	8 MB
Size	3.58" W x 10.5" H x 5.3" D (2-4 axes), 5.0" W x 10.5" H x 5.3" D (6-8 axes)
Operating system	Multi-tasking RTOS
Performance	
Multi-tasking	8 coordinated systems, motion/PLC programs
Trajectory update	Every 100-500 usec
Servo update	25 usec/axis
Ladder Logic PLC	100-500 usec scan time
Interpolation	Linear, circular, sinusoidal, helical and elliptical, splines, NURBS, 3D arcs
Servo loop	PID, velocity feedforward, acceleration feedforward notch, LoPass filtering
Position regulation	Hardware, < 1usec
Communications	
PC bus	NA
Standard interface	1 serial port (RS232 and/or RS422)
Optional interface	10/100baseT Ethernet, expansion I/O port
Inputs	
Encoder input	Up to 10 at 20 MHz post-quadrature maximum
Optional onboard analog input	Up to 8 (12- or 16-bit resolution)
Command Signal	
Analog outputs	Up to 8 (16-bit precision)
Stepper outputs	Up to 8 @1 MHz maximum
Digital Onboard I/O	20, 24 VDC optically isolated onboard inputs for 2 to 4 axes 40, 24 VDC optically isolated onboard inputs for 6 to 8 axes 4, 24 VDC optically isolated onboard outputs for 2 to 4 axes 8, 24 VDC optically isolated onboard outputs for 6 to 8 axes
Software Support	
Language interface	Visual Basic, Visual C++, C++
Program tools	ACR-VIEW Motion/PLC Program
Operating system	Windows® NT, 98, 2000, XP
Additional firmware highlights	Triggered floating point electronic GEARING Triggered segmented electronic CAM On-the-fly position and velocity matching Ladder Logic PLC Interruptible moves Either analog or digital feedback for position or velocity loops Dual-encoder feedback Data teach and learn functions Parameter-based with over 15,000 addressable pre-defined hardware registers Sinusoidal commutation NURBS and splines 3D arcs Automatic tangential tool operation

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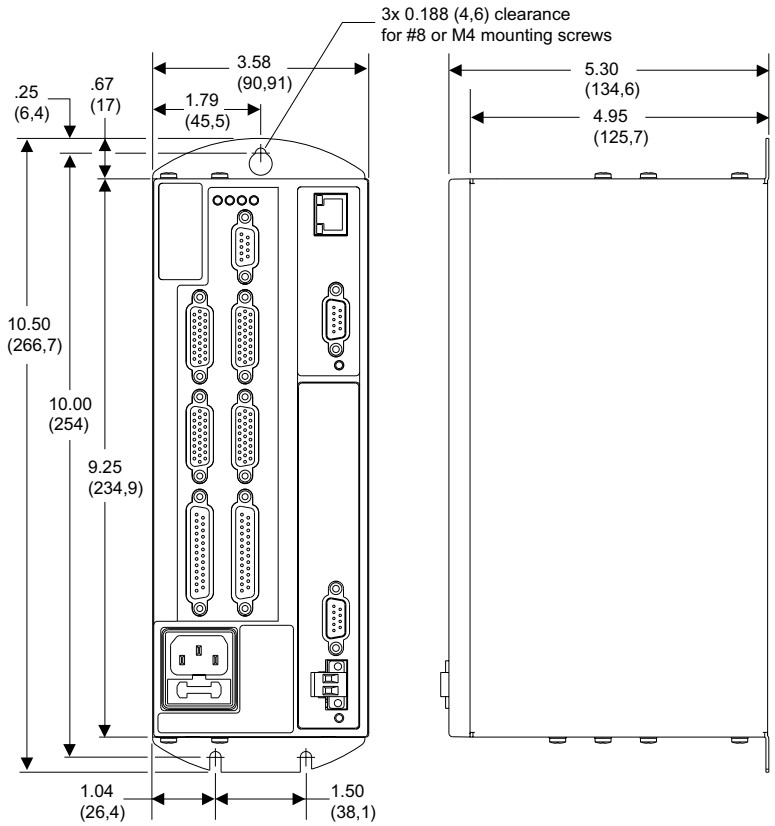
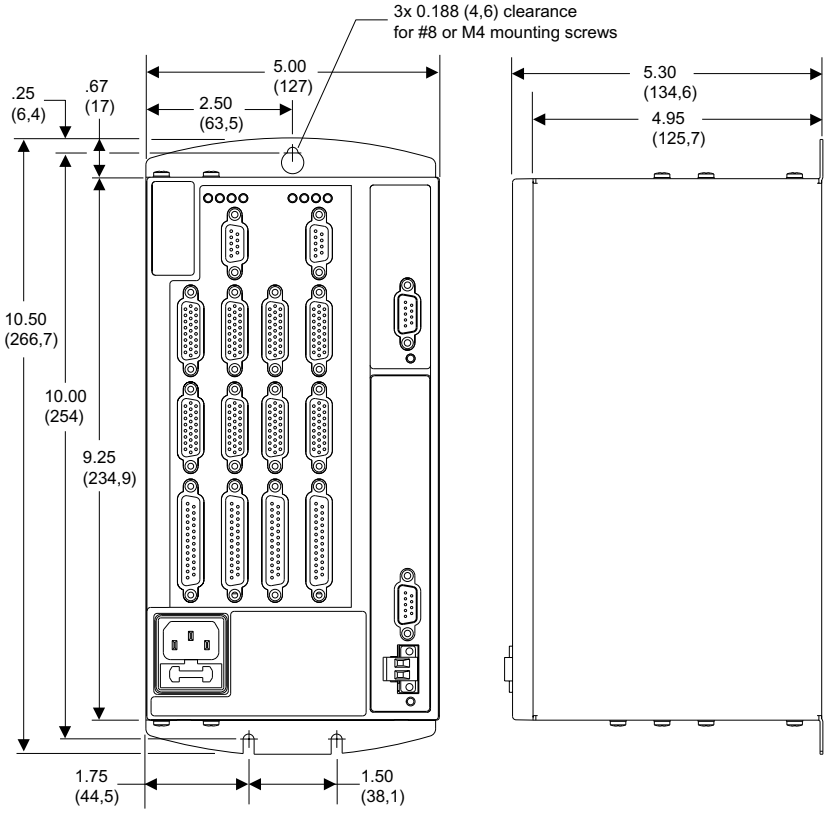
Dimensional Drawings

2 to 4 Axes



6 to 8 Axes



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ACR9000 Accessories

Part Number	Product Description
Drive Command Cables*	
71-021599-XX	ACR-to-Aries command cable (analog only)
71-021110-XX	ACR-to-ViX command cable
71-021108-XX	ACR-to-Compax3 command cable (analog only)
71-023715-XX	ACR-to-Dynaserv G3 without Extra I/O
71-025064-XX	ACR-to-Dynaserv G3 with Extra I/O
71-021112-XX	ACR-to-Gemini command cable (analog only)
71-022316-XX	ACR-to-Gemini command cable (step & direction only)
71-021113-XX	ACR-to-stepper cable (25 pin stepper connector)
71-022344-XX	26-pin flying lead cable
*-XX	Cables offered in 4' (-04) or -10' (-10) lengths, e.g., 71-021599-04
Expansion I/O Cable	
71-022338-02	2' Expansion I/O cable (9-pin D-sub to flying lead)
71-022338-04	4' Expansion I/O cable (9-pin D-sub to flying lead)
Communication Cable	
71-016939-10	10' RS-232 communication cable
Breakout Module	
VM25	25-pin screw terminal breakout board for onboard I/O connector and Limit/Home connector (1required for each connector) DIN rail mount (2' cable included)
VM26	26-pin screw terminal breakout board for axes connectors, DIN rail mount (2' cable included)
AC Power Adapter	
43-011905-01	240 VAC Power plug adapter
Power Supply	
PS-60W	24 VDC, 60 Watt power supply for I/O and enable
Parker I/O System (Expansion I/O)	
PIO-337	PIO Bus coupler, CANopen standard
PIO-347	PIO Bus coupler, CANopen econo
PIO-430	PIO 24 VDC digital input module, 8 channel
PIO-402	PIO 24 VDC digital input module, 4 channel
PIO-400	PIO 24 VDC digital input module, 2 channel
PIO-530	PIO 24 VDC digital output module, 8 channel, 0.5 Amp
PIO-504	PIO 24 VDC digital output module, 4 channel, 0.5 Amp
PIO-501	PIO 24 VDC digital output module, 2 channel, 0.5 Amp
PIO-468	PIO 0-10 VDC analog input module, 4 channel
PIO-480	PIO 0-20 mA analog output module, 2 channel, differential isolated
PIO-550	PIO 0-10 VDC analog output module, 2 channel
PIO-552	PIO 0-20 mA analog input module, 2 channel
PIO-600	PIO end module

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