

Innovation Matrix

Product Catalog

Introducing



Bridging the Pacific with Automation Technology

Adept Cobra™ PLC Robot



The Adept Cobra Programmable Logic Controller (PLC) Robot is a high-performance 4-axis SCARA robot with a PLC Client. All system configuration, initialization and programming is performed directly from the customer-supplied PLC.

ROBOT HARDWARE

The Adept Cobra PLC robots are 4-axis SCARA robots available in two sizes, the Adept Cobra PLC600 robot and the Adept Cobra PLC800 robot.

PLC Client Hardware

The Adept PLC Client provides direct connectivity to the PLC.

PLC Compatibility

Allen-Bradley DF1 Protocol

The Adept Cobra PLC robot is directly compatible with the Allen-Bradley DF1 protocol.

SOFTWARE

Real-Time Operating System

The Adept Cobra PLC robot includes a real-time operating system to ensure reliability and a high level of safety.

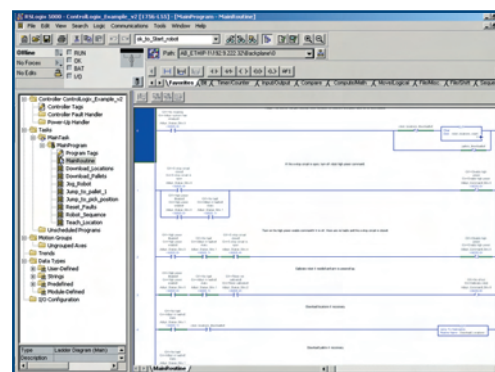
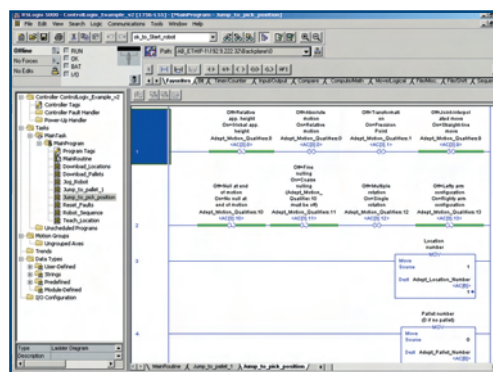
PLC Client Software

The software provides seamless connectivity with the customer-supplied PLC.

The PLC client is pre-configured and ready for operation.

Key Software Features

- Automatic startup
- Straight-line and joint motion
- Programmable speed and acceleration
- All application programs and robot data are stored on the PLC



Easy to install, program and operate!

All application programs and locations are defined and reside within the user's PLC. The PLC client retrieves this data and commands the robot to move. It's as simple as that. Customers new to robotics can now easily install, program, operate and support high-performance robots.

Target Applications

- Pick-and-Place
 - Multiple pick-and-place locations supported
 - Flexible drop-off or reject locations
- Part Transfer
- Screwdriving

Program directly from PLC in the PLC native language

Functionality provided includes:

- Initialization
- Programming
- Defining robot locations and pallets
- Jog control
- Tool I/O control
- Status functions

Low purchase price and low support costs!

The familiar environment of the PLC, combined with its attractive price, makes this one of the most cost-effective robots in the industry.

Adept Cobra™ PLC Robot

Adept Cobra PLC Mechanical Specifications

	PLC 600 Robot	PLC 800 Robot
Reach	600 mm (23.6 in)	800 mm (31.5 in)
Payload		
Rated	2.0 kg (4.4 lb)	2.0 kg (4.4 lb)
Max	5.5 kg (12.1 lb)	5.5 kg (12.1 lb)
Max Jt 4 Inertia	450 kg-cm ² (150 lb-in ²)	450 kg-cm ² (150 lb-in ²)
Joint Range of Motion		
Joint 1	±105°	±105°
Joint 2	±150°	±157.5°
Joint 3	210 mm (8.3 in)	200 mm (7.87 in)
Joint 4	±360°	±360°
Repeatability		
XY	±0.017 (±0.0008 in)	±0.017 (±0.0008 in)
Z	±0.003 mm (±0.0004 in)	±0.003 mm (±0.0004 in)
Theta	±0.019°	±0.019°
Joint Speed (maximum)		
Joint 1	±386°/sec	±386°/sec
Joint 2	±720°/sec	±720°/sec
Joint 3	1100 mm/sec (43 in/sec)	1100 mm/sec (43 in/sec)
Joint 4	1200°/sec	1200°/sec
Encoder type	Absolute	Absolute
Robot Brakes		
Joints 1, 2 and 4	Dynamic	Dynamic
Joint 3	Electric	Electric

PLC Client Specifications

Safety	<ul style="list-style-type: none"> Dual-Channel E-Stop connectivity Meets CE Category-1 safety requirements Front Panel (included) has E-Stop switch
Communications	DF1 via RS-232

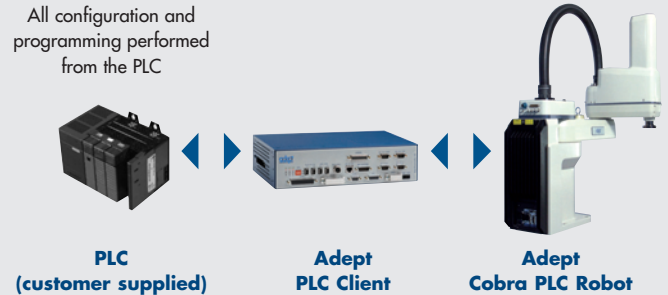
Environmental and Electrical Specifications

PLC Client Power (customer supplied)	24VDC ±10%, 5A
Robot Power (customer supplied)	220 VAC single phase (10A) 24 VDC (5A)
Operating Temperature	5°C - 40°C (41°F - 104°F)
Relative Humidity	5 to 90%, non-condensing

Support for the following PLC models

Allen Bradley SLC, MicroLogix, and ControlLogix product lines.

All configuration and programming performed from the PLC



It's as simple as 1, 2, 3!

1. Specify motion parameters

Integer Register (for robot position)			
1	2	3	4
Motion Speed	Accel Rate	Location Number	Motion Qualifiers

2. Command the robot to move

Command Bits					
0	1	2	3	4	
Value 0	Power OFF	Reset	Home	Stop	Move
Value 1	Power ON				

3. Check status

Status Bits						
0	1	2	3	4	5	6
Value 0	Power OFF	No Fault	Uncalibrate	Not Ready	No E-Stop	Complete
Value 1	Power ON	Fault	Calibrated	Ready	E-Stop	Executing
						Moving In-position

Not all functions are shown. Actual programming may vary. Contact Adept Applications Support for details.

Downloads

Download CAD files from www.adept.com using the following download IDs:

- Adept Cobra PLC600 500007
- Adept Cobra PLC800 500008

For More Information

Call (763) 682-9548 or (800) 226-6385.

The Adept Cobra PLC robot is available by ordering the following part numbers:

- Adept Cobra PLC600 Robot 03254-000
- Adept Cobra PLC800 Robot 03255-000



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