Omron Adept eCobra 600

eCobra
Pro

eCobra
Standard

eCobra
Lite

eCobra is the newest family of 4-axis SCARA robots from Omron Adept. The eCobra 600 features a 600-mm reach, and is available in three performance tiers – eCobra Lite, eCobra Standard, and eCobra Pro – each designed to address different application complexity and throughput requirements. With all controls fully embedded into the robot, eCobra robots offer a compact system footprint, saving valuable floor space while minimizing installation costs and complexity. Adept eCobra robots provide maximum value by ensuring users only pay for the level of performance their application needs. All eCobra 600 robots share a common hardware platform, with performance and price determined by a software license. This unique family ensures that users receive the highest quality, most durable robots at every performance level.

Product Features

- All amplifiers and controls are fully embedded into the robot

- Three performance levels (Lite, Standard, and Pro) based on a common hardware platform

- Upgrade performance with a software license download

- Advanced features such as direct PLC programming are included in Standard and Pro performance tiers

- Adept ACE™ software manages robots, conveyors, feeders, and device I/O assignment through a single user-friendly PC-based interface

Product Benefits

-> Maximize valuable floor space and reduce installation costs (cables, control cabinets, labor, etc.)

-> Maximize value by only paying for the performance required for the application, without sacrificing hardware quality

-> Extend robot life with easy re-deployment for any application with a simple software upgrade

-> Minimize training and deployment time using familiar ladder logic programming languages of existing PLC (IEC 61131-3)

-> Minimize system deployment and testing time; no lengthy overly complicated programming. Includes a powerful 3D emulator that allows complete system configuration and testing in a virtual environment

Specifications

Reach	600 mm
Payload Max.	5.5 kg
Adept Cycle (in mm 25/305/25)	
See Table on Back	
Downward Push Force (No Load) 30 kgf – maximum	
Moment of Inertia	
Joint 4 (max)	450 kg-cm^2 (150 lb-in^2)
Joint Ranges	
Joint 1	± 105°
Joint 2	± 157.5°
Joint 3	210 mm
Joint 4	± 360°
Joint Speeds	
Joint 1	386°/sec
Joint 2	720°/sec
Joint 3	1100 mm/sec
Joint 4	1200°/sec
Robot Brakes	
Joints 1, 2, and 4	Dynamic
Joint 3	Electric
Repeatability	
XY	± 0.017 mm
Z	± 0.003 mm
Theta	± 0.019°
Pass-Through Connections	
Electrical	24 (12 twisted pairs)
Pneumatic	6 mm (x2) 4 mm (x3)
DeviceNet	1
Digital I/O Channels	
eAIB:	12 inputs, 8 outputs
Optional Solenoid	4 outputs
Weight	41 kg
Environmental Requirements	
Ambient Temperature	5 - 40 °C
Humidity Range	5 - 90 % (non-condensing)
Power Requirements	
24 VDC : 6 A	
200 - 240 V AC : 10 A, single-phase	
CE Compliant	

OMRON ADEPT eCOBRA 600

The Adept eCobra 600 system includes the following:

- Adept eCobra 600 robot with eAIB (Amplifiers in Base)
- Software performance license for Lite, Standard, or Pro configuration
- Front panel with E-Stop and cabling
- Adept ACE ™ software – an integrated, point-and-click development environment for Adept's entire product portfolio of robots and controls
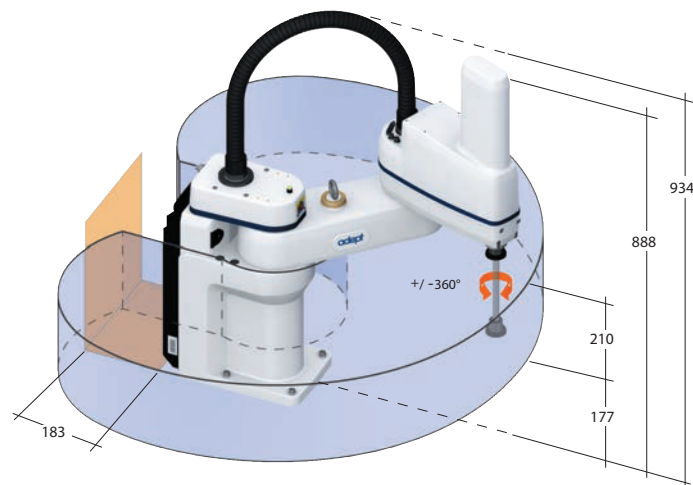
Options and Peripherals:

- SmartVision MX industrial PC with AdeptSight™ vision guidance software
- GigE Power over Ethernet and USB 3.0 cameras
- Cleanroom ISO 4 (class 10) option
- Enhanced dust/water protection (IP65)
- T20 manual control pendant
- SmartController EX

eCobra License Features:

Feature	Performance Tier eCobra Lite	Performance Tier eCobra Standard	Performance Tier eCobra Pro	External Controller
Price (call for details)	Low	Reduced	Full	Optional
Adept cycle (25-305-25mm) time with 2 kg paylod at 20 °C (s)	0.66 Burst 0.66 Sustained	0.55 Burst 0.55 sustained	0.39 Burst 0.45 Sustained	Tier Dependent
Adeptsight Vision support	No	Yes	Yes	Yes
Maximum I/O (Input/Output) supported	12/12	44/44	76/76	999/999
Standard Integrated I/O (Input/Output)	12/12	12/12	12/12	12/8 additional
Optional I/O Blox supported (8/8 each)	0	4	8	Tier Dependent
Optional sDIO support (32/32 each - firewire)	No	No	No	16
Support for DeviceNet	No	No	No	Yes
Warranty (parts/labor)	2/1 yr	2/1 yr	2/1 yr	2/1 yr
CPU performance available	mid	mid	mid	high
Number of user tasks supported	28	28	28	28
Maximum number of Adept robots	1	1	1	4
Maximum number of axes controlled	4	4	4	24
Programming interface	Ethernet	Ethernet	Ethernet	Ethernet
Communication interface	No	No	Ethernet	Ethernet
Control Environment	Adept ACE	Adept ACE Adept PackXpert PLC	Adept ACE Adept PackXpert PLC	Adept ACE Adept PackXpert PLC
Application Programming Interface (API)		ePLC .NET	ePLC .NET	ePLC .NET
Force sensing support		Yes	Yes	Tier Dependent
Active RS232 Serial Communication Ports		1	1	3
ePLC connect (direct IEC 61131-3 programming with existing PLC)		Yes	Yes	Tier Dependent
ePLC I/O (program in eV+, but exchange registers with PLC)			Yes	Yes
Conveyor tracking			Yes	Tier Dependent
Vision on the fly			Yes	Tier Dependent
Active conveyor tracking belt inputs			2	4 additional
Active RS-422/485 serial ports				1

Dimensions: Adept eCobra 600 (mm)

934
888
210
177
183
+/ –360°
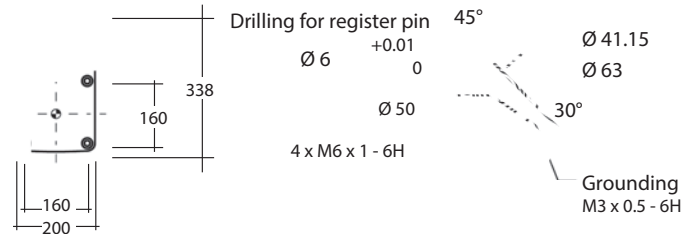
Work Envelope: Radius 600 mm
Inner Limit: Radius 163 mm
Height: 210 mm

Required clearance to open eAIB Chassis

Dimensions: Footprint & Flange (mm)

Drilling for register pin
Ø 6 +0.01 / 0
Ø 50
4 x M6 x 1 - 6H
338
160
160
200

45°
Ø 41.15
Ø 63
30°
Grounding
M3 x 0.5 - 6H

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