

## Mid-size SCARA robot for precision machining, assembly, and material handling

- EtherCAT connectivity to the Omron NJ501-R controller and programming through the familiar IEC 61131-3 programming language or scripting (eV+)
- High repeatability suitable for material handling and precision assembly
- High payload for screw-driving tools
- Amplifier and controller built into the robot simplifies integration
- Choose the right robot for you application from two different types
- Reach 600 mm
- Maximum payload 5.5 kg
- Weight 41 kg



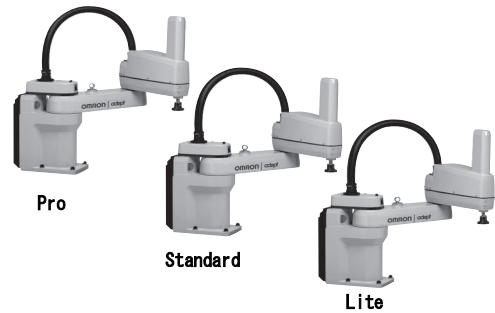
## Specifications

Product name		eCobra			
		600 Standard		600 Pro	
		Standard	Cleanroom	Standard	Cleanroom
Part Number		RL4-1166000	RL4-1166010	RL4-2166000	RL4-2166010
Number of axes		4			
Mounting		table/floor			
Reach		600 mm			
Maximum Payload		5.5 kg			
Repeatability	XY	±0.017 mm			
	Z	±0.003 mm			
	Theta	±0.019°			
Joint Range	Joint 1	±105°			
	Joint 2	±157.5°			
	Joint 3	210 mm			
	Joint 4	±360°			
Inertia Moment (Max.)	Joint 4	450 kg-cm <sup>2</sup>			
Joint Speeds	Joint 1	386°/s			
	Joint 2	720°/s			
	Joint 3	1100 mm/s			
	Joint 4	1200°/s			
Power Requirements		24 VDC: 6 A 200 to 240 VAC: 10 A, single-phase			
Protection		IP20			
Clean Class		---	Class 10	---	Class 10
Environment Requirements	Ambient Temperature	5 to 40°C			
	Humidity Range	5 to 90% (non-condensing)			
Weight		41 kg			
Basic configuration	Controller	iCS-ECAT			
	On-board I/O (Input/Output)	12/8, 4 Solenoid Output			
	Conveyor tracking input	No		2	
	RS-232C serial communications port	1			
	Programming environment	Sysmac Studio 64-bit			
	ACE Sight	Yes			
	ePLC Connect	No			
ePLC I/O	No		No		
Connectable controller		Omron NJ501-R Series			

# eCobra 600 Lite/Standard/Pro

## Mid-size SCARA robot for precision machining, assembly, and material handling

- Ethernet capability to control the robot through the familiar programming language (IEC 61131-3) of Machine Automation Controller NJ/NX/NY Series
- High repeatability suitable for material handling and precision assembly
- High payload for screw-driving tools
- Amplifier and controller built into the robot reduces the number of cables
- Choose the right robot for you application from three different types
- Reach 600 mm
- Maximum payload 5.5 kg
- Weight 41 kg



## Specifications

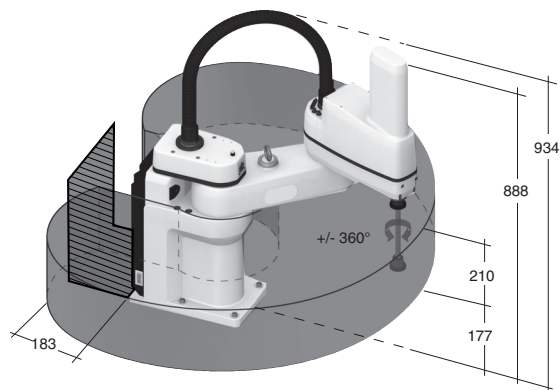
Product name		eCobra					
		600					
		600 Lite		600 Standard		600 Pro	
Type		Standard	Cleanroom	Standard	Cleanroom	Standard	Cleanroom
Cleanroom							
Part Number		17010-16000	17010-16010	1711[-]-16000	1711[-]-16010	1721[-]-16000	1721[-]-16010
Number of axes		4					
Mounting		table/floor					
Reach		600 mm					
Maximum Payload		5.5 kg					
Repeatability	XY	±0.017 mm					
	Z	±0.003 mm					
	Theta	±0.019°					
Joint Range	Joint 1	±105°					
	Joint 2	±157.5°					
	Joint 3	210 mm					
	Joint 4	±360°					
Inertia Moment (Max.)	Joint 4	450 kg-cm <sup>2</sup>					
Joint Speeds	Joint 1	386°/s					
	Joint 2	720°/s					
	Joint 3	1100 mm/s					
	Joint 4	1200°/s					
Cycle times *1 (Payload 2.0 kg)	Burst	0.66 s		0.55 s		0.39 s	
	Sustained	0.66 s		0.55 s		0.45 s	
Power Requirements		24 VDC: 6 A 200 to 240 VAC: 10 A, single-phase					
Protection		IP20					
Clean Class		---	Class 10	---	Class 10	---	Class 10
Environment Requirements	Ambient Temperature	5 to 40°C					
	Humidity Range	5 to 90% (non-condensing)					
Weight		41 kg					
Basic configuration	Controller	eAIB					
	On-board I/O (Input/Output)	12/8, 4 Solenoid Output					
	Conveyor tracking input	No				2	
	RS-232C serial communications port	No		1			
	Programming environment	ACE		ACE, PackXpert, ePLC			
	ACE Sight	No *2		Yes			
	ePLC Connect	No		Yes			
	ePLC I/O		No			Yes	
Connectable controller *3		No		SmartController EX, NJ/NX/NY Series *4			

\*1. Adept cycle, in mm 25/305/25 (seconds, at 20°C ambient)  
 \*2. The SmartVision MX cannot be used with the Lite type.  
 \*3. Choose a controller to suit your application.  
 \*4. The robot version 2.3.C or later is required to connect with the NJ/NX/NY Series.

# Dimensions

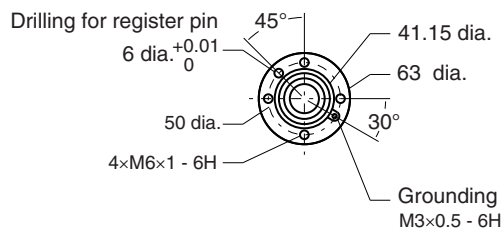
(Unit: mm)

## eCobra 600

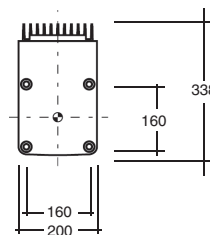


- Work Envelope: Radius 600 mm  
Inner Limit: Radius 163 mm  
Height: 210 mm
- ▨ Required clearance to open eAIB Chassis

### Flange



### Footprint



### Front panel



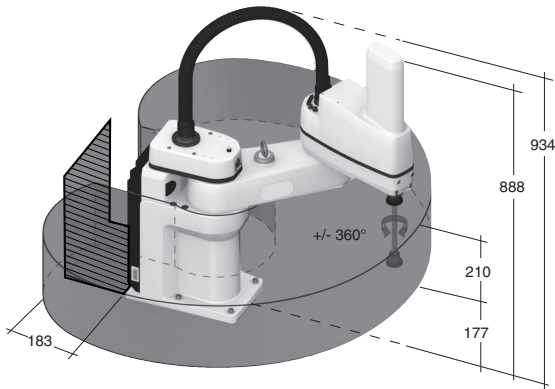
## Robot Parts Code and Bundled Accessories

Type	eCobra	
	Standard	Cleanroom
<b>Cleanroom</b>		
<b>eCobra 600 Standard</b>	RL4-1166000	RL4-1166010
<b>eCobra 600 Pro</b>	RL4-2166000	RL4-2166010
<b>Overview</b>	Robot + iCS-ECAT	
<b>Purpose</b>	To be used in conjunction with NJ501-R controller, which can connect up to 8 robots via EtherCAT	
<b>Bundled Accessories</b>	<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers, and Ethernet Management port, 1,8 m/6 ft (13323-100)</li> <li>• Front panel kit (92546-10358)</li> </ul>	

# Dimensions

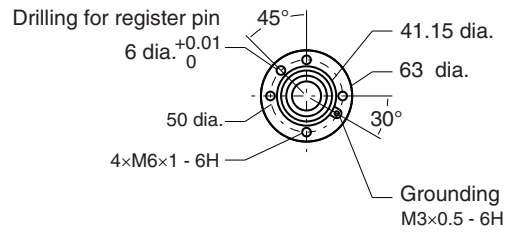
(Unit: mm)

## eCobra 600

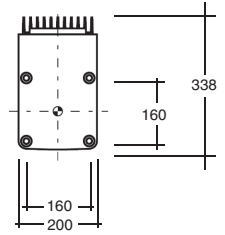


- Work Envelope: Radius 600 mm  
Inner Limit: Radius 163 mm  
Height: 210 mm
- ▨ Required clearance to open eAIB Chassis

### Flange



### Footprint



### Front panel



## Robot Parts Code and Bundled Accessories

Type	eCobra		eCobra Add-On		
	Cleanroom	Standard	Cleanroom	Standard	Cleanroom
<b>eCobra 600 Lite</b>		17010-16000	17010-16010	---	---
<b>eCobra 600 Standard</b>		17111-16000	17111-16010	17113-16000	17113-16010
<b>eCobra 600 Pro</b>		17211-16000	17211-16010	17213-16000	17213-16010
<b>Overview</b>	Robot + eAIB with fully integrated controls		Robot + eAIB with required connection cables		
<b>Purpose</b>	Typical for use in single robot system		Typically added to systems with an existing SmartController EX to create multi-robot systems		
<b>Bundled Accessories</b>	<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</li> <li>• Front panel kit (92546-10358)</li> </ul>		<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</li> <li>• XSYS cable, 4.5 m/15 ft (11585-000)</li> <li>• DB9 splitter (00411-000)</li> <li>• 1394 latch cable, 4.5 m/15 ft (13632-045)</li> <li>• eV+ license to connect to controller (14529-103)</li> </ul>		

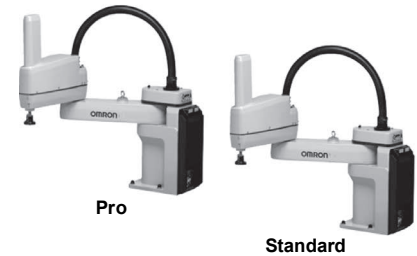
# SCARA Robots

# eCobra 800

EtherCAT (NJ501-R) version

## Large SCARA robot for precision machining, assembly, and material handling

- EtherCAT connectivity to the Omron NJ501-R controller and programming through the familiar IEC 61131-3 programming language or scripting (eV+)
- Reach is extended to 800 mm without compromising repeatability
- High payload for screw-driving tools
- The amplifier and controller built into the robot reduces simplifies integration
- Choose the right robot for you application from two different types
- Reach 800 mm
- Maximum payload 5.5 kg
- Weight 43 kg

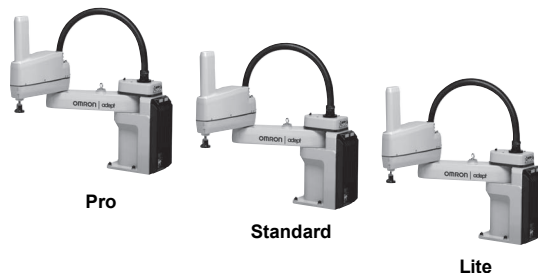


## Specifications

Product name		eCobra					
		800					
		800 Standard			800 Pro		
Type		Standard	Cleanroom	IP65	Standard	Cleanroom	IP65
Cleanroom/IP		RL4-1168000	RL4-1168010	RL4-1168030	RL4-2168000	RL4-2168010	RL4-2168030
Part Number		RL4-1168000	RL4-1168010	RL4-1168030	RL4-2168000	RL4-2168010	RL4-2168030
Number of axes		4					
Mounting		table/floor					
Reach		800 mm					
Maximum Payload		5.5 kg					
Repeatability	XY	±0.017 mm					
	Z	±0.003 mm					
	Theta	±0.019°					
Joint Range	Joint 1	±105°					
	Joint 2	±157.5°					
	Joint 3	210 mm					
	Joint 4	±360°					
Inertia Moment (Max.)	Joint 4	450 kg-cm <sup>2</sup>					
Joint Speeds	Joint 1	386°/s					
	Joint 2	720°/s					
	Joint 3	1100 mm/s					
	Joint 4	1200°/s					
Power Requirements		24 VDC: 6 A 200 to 240 VAC: 10 A, single-phase					
Protection		IP20	IP20	IP65	IP20	IP20	IP65
Clean Class		---	Class 10	---	---	Class 10	---
Environment Requirements	Ambient Temperature	5 to 40°C					
	Humidity Range	5 to 90% (non-condensing)					
Weight		43 kg					
Basic configuration	Controller	ICS-ECAT					
	On-board I/O (Input/Output)	12/8, 4 Solenoid Output					
	Conveyor tracking input	No			2		
	RS-232C serial communications port	1					
	Programming environment	Sysmac Studio 64-bit					
	ACE Sight	Yes					
	ePLC Connect	No					
	ePLC I/O	No					
Connectable controller		Omron NJ501-R Series					

# eCobra 800 Lite/Standard/Pro

## Large SCARA robot for precision machining, assembly, and material handling



- Ethernet capability to control the robot through the familiar programming language (IEC 61131-3) of Machine Automation Controller NJ/NX/NY Series
- Reach is extended to 800 mm without compromising repeatability
- High payload for screw-driving tools
- The amplifier and controller built into the robot reduces the number of cables
- Choose the right robot for you application from three different types
- Reach 800 mm
- Maximum payload 5.5 kg
- Weight 43 kg

## Specifications

Product name		eCobra								
		800								
		800 Lite			800 Standard			800 Pro		
Size		Standard	Cleanroom	IP65	Standard	Cleanroom	IP65	Standard	Cleanroom	IP65
Type										
Cleanroom/IP										
Part Number		17010-18000	17010-18010	17010-18030	1711[ ]-18000	1711[ ]-18010	1711[ ]-18030	1721[ ]-18000	1721[ ]-18010	1721[ ]-18030
Number of axes		4								
Mounting		table/floor								
Reach		800 mm								
Maximum Payload		5.5 kg								
Repeatability	XY	±0.017 mm								
	Z	±0.003 mm								
	Theta	±0.019°								
Joint Range	Joint 1	±105°								
	Joint 2	±157.5°								
	Joint 3	210 mm								
	Joint 4	±360°								
Inertia Moment (Max.)	Joint 4	450 kg-cm <sup>2</sup>								
Joint Speeds	Joint 1	386°/s								
	Joint 2	720°/s								
	Joint 3	1100 mm/s								
	Joint 4	1200°/s								
Cycle times (Payload 2.0 kg)	Burst *1	0.73 s			0.62 s			0.44 s		
	Sustained *1	0.73 s			0.62 s			0.54 s		
Power Requirements		24 VDC: 6 A 200 to 240 VAC: 10 A, single-phase								
Protection		IP20	IP20	IP65	IP20	IP20	IP65	IP20	IP20	IP65
Clean Class		---	Class 10	---	---	Class 10	---	---	Class 10	---
Environment Requirements	Ambient Temperature	5 to 40°C								
	Humidity Range	5 to 90% (non-condensing)								
Weight		43 kg								
Basic configuration	Controller	eAIB								
	On-board I/O (Input/Output)	12/8, 4 Solenoid Output								
	Conveyor tracking input	No						2		
	RS-232C serial communications port	No			1					
	Programming environment	ACE			ACE, PackXpert, ePLC					
	ACE Sight	No *2			Yes					
	ePLC Connect	No			Yes					
ePLC I/O	No						Yes			
Connectable controller *3		No			SmartController EX, NJ/NX/NY Series *4					

\*1. Adept cycle, in mm 25/305/25 (seconds, at 20°C ambient)

\*2. The SmartVision MX cannot be used with the Lite type.

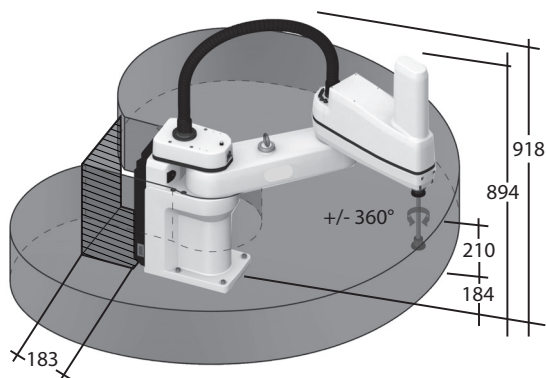
\*3. Choose a controller to suit your application.

\*4. The robot version 2.3.C or later is required to connect with the NJ/NX/NY Series.

# Dimensions

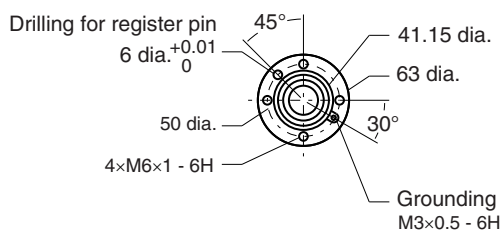
(Unit: mm)

## eCobra 800

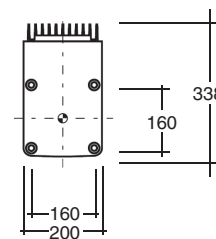


- Work Envelope: Radius 800 mm  
Inner Limit: Radius 164 mm  
Height: 210 mm
- Required clearance to open iCS-ECAT Chassis

### Tool Flange



### Footprint



### Front panel



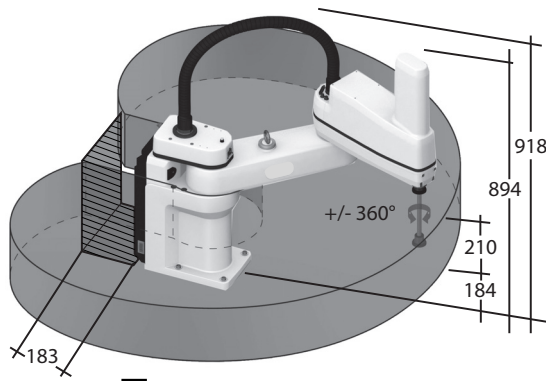
## Robot Parts Code and Bundled Accessories

Type	eCobra		
	Cleanroom/IP	Standard	Cleanroom
eCobra 800 Standard	RL4-1168000	RL4-1168010	RL4-1168030
eCobra 800 Pro	RL4-2168000	RL4-2168010	RL4-2168030
Overview	Robot + iCS-ECAT		
Purpose	To be used in conjunction with NJ501-R controller, which can connect up to 8 robots via EtherCAT		
Bundled Accessories	<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers and Ethernet Management port, 1,8 m/6 ft (13323-100)</li> <li>• Front panel kit (92546-10358)</li> </ul>		

# Dimensions

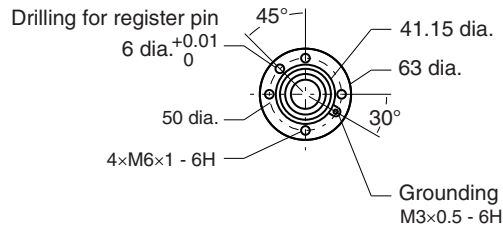
(Unit: mm)

## eCobra 800

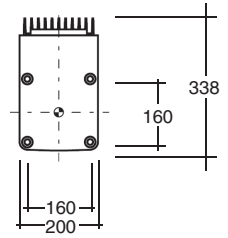


- Work Envelope: Radius 800 mm  
Inner Limit: Radius 164 mm  
Height: 210 mm
- Required clearance to open iCS-ECAT Chassis

### Flange



### Footprint



### Front panel



## Robot Parts Code and Bundled Accessories

Type	eCobra			eCobra Add-On			
	Cleanroom/IP	Standard	Cleanroom	IP65	Standard	Cleanroom	IP65
eCobra 800 Lite	17010-18000	17010-18010	17010-18030	---	---	---	---
eCobra 800 Standard	17111-18000	17111-18010	17111-18030	17113-18000	17113-18010	17113-18030	17113-18030
eCobra 800 Pro	17211-18000	17211-18010	17211-18030	17213-18000	17213-18010	17213-18030	17213-18030
Overview	Robot + eAIB with fully integrated controls			Robot + eAIB with required connection cables			
Purpose	Typical for use in single robot system			Typically added to systems with an existing SmartController EX to create multi-robot systems			
Bundled Accessories	<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</li> <li>• Front panel kit (92546-10358)</li> </ul>		<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</li> <li>• Front panel kit (92546-10358)</li> <li>• Cable Seal Kit (04813-000)</li> </ul>	<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</li> <li>• XSYS cable, 4.5 m/15 ft (11585-000)</li> <li>• DB9 splitter (00411-000)</li> <li>• 1394 latch cable, 4.5 m/15 ft (13632-045)</li> <li>• eV+ license to connect to controller (14529-103)</li> </ul>	<ul style="list-style-type: none"> <li>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</li> <li>• XSYS cable, 4.5 m/15 ft (11585-000)</li> <li>• DB9 splitter (00411-000)</li> <li>• 1394 latch cable, 4.5 m/15 ft (13632-045)</li> <li>• eV+ license to connect to controller (14529-103)</li> <li>• Cable Seal Kit (04813-000)</li> </ul>		



**OMRON AUTOMATION AMERICAS HEADQUARTERS** • Chicago, IL USA • 847.843.7900 • 800.556.6766 • automation.omron.com

**OMRON CANADA, INC. • HEAD OFFICE**

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • automation.omron.com

**OMRON ELECTRONICS DE MEXICO • HEAD OFFICE**

Ciudad de México • 52.55.5901.4300 • 01.800.386.6766 • mela@omron.com

**OMRON ELECTRONICS DE MEXICO • SALES OFFICE**

San Pedro Garza García, N.L. • 81.12.53.7392 • 01.800.386.6766 • mela@omron.com

**OMRON ELECTRONICS DE MEXICO • SALES OFFICE**

Eugenio Garza Sada, León, Gto • 01.800.386.6766 • mela@omron.com

**OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE**

São Paulo, SP, Brasil • 55 11 5171-8920 • automation.omron.com

**OMRON ARGENTINA • SALES OFFICE**

Buenos Aires, Argentina • +54.11.4521.8630 • +54.11.4523.8483  
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