SCARA Robots
Cobra 650

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

- Ethernet capability to control the robot through the familiar programming language (IEC 61131-3) of Machine Automation Controller NJ/NX/NY Series
- Good repeatability for precision assembly
- High Payload for using tools for screw-driving and adhesive application
- Minimum footprint with separate controller
- Robot with integral power and signal cables
- Reach 650 mm
- Maximum Payload 5 kg
- Weight 31 kg

Specifications

<table>
<thead>
<tr>
<th>Product name</th>
<th>Cobra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>650</td>
</tr>
<tr>
<td>Model</td>
<td>1720</td>
</tr>
<tr>
<td>Number of axes</td>
<td>4</td>
</tr>
<tr>
<td>Mounting</td>
<td>table/floor</td>
</tr>
<tr>
<td>Reach</td>
<td>650 mm</td>
</tr>
<tr>
<td>Maximum Payload</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

Repeatability

- XY: ±0.02 mm
- Z: ±0.01 mm
- Theta: ±0.005°

Joint Range

- Joint 1: ±125°
- Joint 2: ±145°
- Joint 3: 200 mm
- Joint 4: ±360°

Inertia Moment (Max.)

- Joint 4: 450 kg-cm²

Joint Speeds

- Joint 1: 450°/s
- Joint 2: 720°/s
- Joint 3: 1120 mm/s
- Joint 4: 1940°/s

Cycle times, *1 with 2.0 kg Payload

- Burst: 0.43 s
- Sustained: 0.60 s

Power Requirements

- 24 VDC: 6 A
- 200 to 240 VAC: 10 A, single-phase

Protection

- IP20

Clean Class

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Environment Requirements

- Ambient Temperature: 5 to 40°C
- Humidity Range: 35 to 90% (non-condensing)

Weight

- 31 kg

Basic configuration

- Controller: eMotionBlox-40
- On-board I/O (Input/Output): 12/8
- Conveyor tracking input: 2
- RS-232C serial communications port: 1
- Programming environment: ACE, PackXpert, ePLC
- ACE Sight: Yes
- ePLC Connect: Yes
- ePLC IO: Yes

Connectable controller *2

- eMotionBlox-40M, SmartController EX, NJ/NX/NY Series

*1. Adept cycle, in mm 25/305/25 (seconds, at 20°C ambient)
*2. Choose a controller to suit your application.
Robot Parts Code and Bundled Accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Cobra 650</th>
<th>Cobra 650 Add-On</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cobra 650</strong></td>
<td>17201-16500</td>
<td>17203-16500</td>
</tr>
<tr>
<td><strong>Overview</strong></td>
<td>Robot + Integral Power and Signal Cables + eMotionBlox-40M amplifier with fully-integrated controls</td>
<td>Robot + Integral Power and Signal Cables + eMotionBlox-40M amplifier + required connection cables</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Typical for use in single-robot system</td>
<td>Typically added to systems with an existing SmartController EX to create multi-robot systems</td>
</tr>
<tr>
<td><strong>Bundled Cable/Accessories</strong></td>
<td>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</td>
<td>• XSYSTEM cable with jumpers, 1.8 m/6 ft (13323-000)</td>
</tr>
<tr>
<td></td>
<td>• XSYS cable, 4.5 m/15 ft (11585-000)</td>
<td>• XSYS cable, 4.5 m/15 ft (11585-000)</td>
</tr>
<tr>
<td></td>
<td>• DB9 splitter (00411-000)</td>
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</tr>
<tr>
<td></td>
<td>• 1394 latch cable, 4.5 m/15 ft (13632-045)</td>
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</tr>
<tr>
<td></td>
<td>• eV+ license to connect to controller (14529-103)</td>
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</table>
Authorized Distributor:

Controllers & I/O
- Machine Automation Controllers (MAC) • Motion Controllers
- Programmable Logic Controllers (PLC) • Temperature Controllers • Remote I/O

Robotics
- Industrial Robots • Mobile Robots

Operator Interfaces
- Human Machine Interface (HMI)

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- Machine Automation Controllers (MAC) • Motion Controllers • Servo Systems
- Frequency Inverters

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- Vision Sensors & Systems • Measurement Sensors • Auto Identification Systems

Sensing
- Photoelectric Sensors • Fiber-Optic Sensors • Proximity Sensors
- Rotary Encoders • Ultrasonic Sensors

Safety
- Safety Light Curtains • Safety Laser Scanners • Programmable Safety Systems
- Safety Mats and Edges • Safety Door Switches • Emergency Stop Devices
- Safety Switches & Operator Controls • Safety Monitoring/Force-guided Relays

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- Power Supplies • Timers • Counters • Programmable Relays
- Digital Panel Meters • Monitoring Products

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- Solid State Relays

Software
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