



**OMRON**

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OMRON™ COLLABORATIVE ROBOT

# THE OMRON™ COLLABORATIVE ROBOT

For more than 85 years, OMRON has excelled at building machines that help humans. Now we are taking that legacy one step further. Introducing the new **OMRON™ Collaborative Robot**.

Designed to work with both humans and machines, this robot is the latest in a long line of innovations in automation technology for industrial applications.

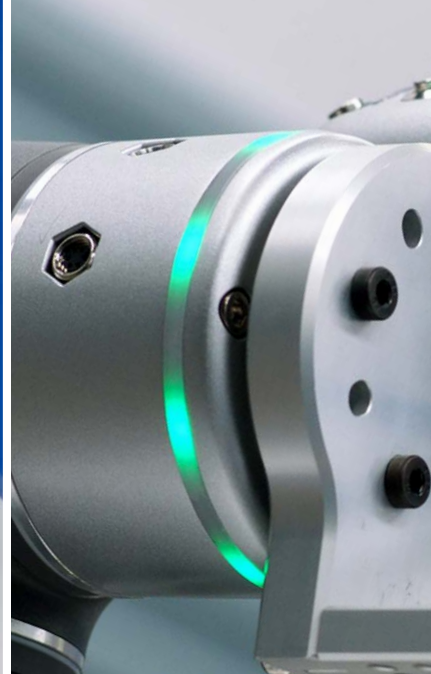
Safe and transportable, with **built-in vision**, this robot allows for **quick start-ups** and **rapid changeovers**. Its intuitive software enables the robot to be easily trained to perform almost any task wherever you may need it, freeing your workforce from repetitive tasks and increasing your productivity.

HUMAN AND MACHINE IN PERFECT HARMONY



## DISCOVER OUR KEY BENEFITS

- VERSATILE
- QUICK CHANGEOVER
- BUILT-IN VISION
- SAFE
- TRANSPORTABLE



# ADAPTABLE TO YOUR NEEDS

## Featured Industries



Semiconductor



Automotive



Cosmetics

Whether you're working in automotive, semiconductors, secondary packaging for food, or cosmetics, the OMRON TM Collaborative Robot is designed to adapt to almost any industry.

## PACKAGING, PICK AND PLACE



## ASSEMBLY



# FLEXIBLE FOR YOUR FACTORY



The OMRON™ Collaborative Robot is so versatile it can be assigned to almost any task. Respond to any manufacturing need by configuring the robot at will, maximizing your resources and increasing productivity.

## EASILY SWITCH END-EFFECTORS TO COMPLETE ANY TASK



# QUICK START-UP AND CHANGEOVER

Downtime costs money, which means you need a robot that can start fast and stay running. Our Plug and Play software enables this robot to work right out of the box. It is so intuitive it allows for quick programming during startups and changeovers, getting your production up and running as fast as possible.

Designed to recognize a reference point, the robot can be moved and perform its tasks with no additional setup.

## INTUITIVE SOFTWARE FOR EASY PROGRAMMING



PLUG AND PLAY SOFTWARE

# FASTER SET-UP WITH BUILT-IN VISION

The OMRON TM Collaborative Robot features a built-in vision system. The integrated camera localizes objects in a wide field of vision, and the image-enhancement light enables object recognition under almost any conditions. The vision system improves reliability, consistency, and high-precision placement, and includes functions such as pattern matching, barcode reading, and color classification which enable inspection, measurements and sorting with no additional cost or effort.



**IMAGE-ENHANCING LIGHT  
GUARANTEES OUTSTANDING  
OBJECT RECOGNITION**



**FIVE MEGAPIXEL CAMERA WITH EXCEPTIONAL FIELD OF VISION**



# SAFETY

Harmony between humans and machines requires the highest standards of safety. The OMRON TM Collaborative Robot is designed to promote a safer workplace.

Body Region Risk Setting X More Limit Setting X

**1. Please set body regions that could be contacted by the robot in the collaborative workspace**

Chest

Abdominal Muscles

Hand & Fingers

Thigh & Knee

Face & Head

Neck Muscle

Shoulder Joint and Muscle

Upper Arm & Elbow Joint

Lower Arm & Wrist Joint

Lower Leg

**2. Result**

When robot enters the collaborative workspace, the path motion set with 100% speed will be automatically changed into 180 mm/sec.

When robot enters the collaborative workspace, the PTP motion set with 100% speed will be automatically changed into 8.1 %.

Please check the minimum possible contact area between any equipment installed on the robot and human body is larger than 0.74 cm x cm.

**OUR SOFTWARE INTERFACE FACILITATES RISK ASSESSMENT**



# MOBILITY

# COMING SOON



**MANUAL**

**TRANSPORTABLE:** The mobility of the OMRON TM Collaborative Robot allows you to easily relocate and recommission it for any new task.



**AUTONOMOUS**

**AUTONOMOUS MOBILITY:** Combining the OMRON TM Collaborative Robot with its industry-leading mobile robots provides maximum versatility in your workspace.

# TECHNICAL DETAILS

		TM5				TM12		TM14	
		TM5-700	TM5M-700	TM5-900	TM5M-900	TM12	TM12M	TM14	TM14M
Weight (kg)		22.1		22.6		33.3		32.6	
Max Payload (kg)		6		4		12		14	
Reach (mm)		700		900		1300		1100	
Typical Speed (m/s)		1.1		1.4		1.3		1.1	
Joint Ranges	J1	±270°				±270°			
	J2, J4, J5	±180°				±180°			
	J3	±155°				±166°		±163°	
	J6	±270°				±270°			
Joint Speeds	J1, J2	180°/s				120°/s			
	J3	180°/s				180°/s			
	J4, J5	225°/s				180°/s		150°/s	
	J6	225°/s				180°/s			
Repeatability (mm)		±0.05				±0.1			
IP		IP54 (robot arm), IP32 (control box)							
Operating Temperature (°c)		0 to 50							
Power Supply		100-240 VAC, 50-60 Hz	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC
I/O Ports	CONTROL BOX								
	Digital In	16							
	Digital Out	16							
	Analog In	2							
	Analog Out	1							
	TOOL								
	Digital In	4							
	Digital Out	4							
Analog In	1								
Analog Out	0								
I/O Interface		3 X COM, 1 X HDMI, 3 X LAN, 4 X USB2.0, 2 X USB3.0							
Communication		RS232, Ethernet (master), Modbus TCP/RTU (master & slave)							
Integrated Camera		5M pixels, color (AOI tasks: 5M/1.2M; others: 1.2M)							
I/O Power Supply		24V 1.5A (control box and tool)							
Programming Environment		TMflow, flowchart based							
SEMI S2 Certified		Yes, as an option							



SEMI S2

# ORDERING INFORMATION

VISION BUTTON  
POINT BUTTON  
FREE BUTTON

GRIPPER BUTTON  
BUILT-IN VISION



PAYLOAD  
UP TO



14 kg

REACH UP TO



1300mm

## COLLABORATIVE ROBOTS

Type	Model
TM5-700	RT6-0007000
TM5-900	RT6-0009000
TM5M-700	RT6-0107000
TM5M-700 SEMI	RT6-0107010
TM5M-900	RT6-0109000
TM5M-900 SEMI	RT6-0109010
TM14	RT6-2001100
TM12	RT6-1001300
TM14M	RT6-2101100
TM14M SEMI	RT6-2101110
TM12M	RT6-1101300
TM12M SEMI	RT6-1101310

## ACCESSORIES

Type	Model
Landmark	RT6-A000008
Mobile Workstation(MWS)	RT6-A000010
Robot Stand	RT6-A000009
SSD with cable	RT6-A000012
Kit, calibration set with additional pin	RT6-A000002
Robot stick stand	RT6-A000000
Pneumatic control box	RT6-A000015

## SOFTWARE

Type	Model
USB Dongle	RT6-A000004
TMflow Editor License	RT6-S200001
TM Identify & Measure License	RT6-S100000
TM External Vision License	RT6-S100002
TM OCR License	RT6-S100003
TMflowEditor - Offline AOI	RT6-S100005



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