

# Collaborative Robots

# TM5

## Collaborative robot for assembly, packaging, inspection and logistics

- Designed to promote a safe and harmonious workplace between humans and machines.
- Easy-to-use graphical programming environment for quick startup and operation.
- Built-in vision-based robot control enables visual servoing, inspection, and measurement operations.
- TMvision and landmark allows truly flexible, fast changeover.
- Plug & Play ecosystem provides the tools and versatility for many manufacturing needs.
- Capability to integrate with mobile robots enables fully autonomous machine tending and logistics handling applications.



## Specification

		TM5									
Product Name		TM5-700	TM5M-700	TM5M-700 SEMI	TM5X-700	TM5MX-700	TM5-900	TM5M-900	TM5M-900 SEMI	TM5X-900	TM5MX-900
Part Number		RT6-000700□	RT6-010700□	RT6-010701□	RT6-001700□	RT6-011700□	RT6-000900□	RT6-010900□	RT6-010901□	RT6-001900□	RT6-011900□
Weight (kg)		22.1			21.8		22.6			22.3	
Controller Weight (kg)		13.5	14.5	14.5	13.5	14.5	13.5	14.5	14.5	13.5	14.5
Max Payload (kg)		6					4				
Reach (mm)		700					900				
Mounting		Wall, Table, Ceiling									
Typical Speed (m/s)		1.1					1.4				
Joint Range	Joint 1	±270°			±360°		±270°			±360°	
	Joint 2, 4, 5	±180°			±360°		±180°			±360°	
	Joint 3	±155°									
	Joint 6	±270°			±360°		±270°			±360°	
Joint Speeds	Joint 1, 2, 3	180°/s									
	Joint 4, 5, 6	225°/s									
Repeatability (mm)		±0.05									
IP		IP54 (robot arm), IP32 (control box), IP40 (robot stick)									
Cleanroom Class		ISO Class 5									
Operating Temperature (°C)		0 to 50									
Power Supply		100-240 VAC, 50-60 Hz	22-60 VDC	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC
Robot Arm Cable Length		3m/12m	1.5m	1.5m	3m	1.5m	3m/12m	1.5m	1.5m	3m	1.5m
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	5M pixels, color	5M pixels, color	None	None	5M pixels, color	5M pixels, color	5M pixels, color	None	None
I/O Power Supply		24V 1.5A (control box and tool)									
Programming Environment		TMflow, flowchart based									
SEMI S2 Certified*		No	No	Yes	No	No	No	No	Yes	No	No

\* SEMI safety SEMI safety guidelines are issued by an industry association with the same name: SEMI (Semiconductor Equipment and Materials International), which is the central global network of manufacturers of micro- and nano-electronics industries.

\* SEMI S2 is the most well-known standard in semiconductor manufacturing equipment for Environmental, Health, and Safety (EHS).

# Collaborative Robots TM12/14

## Collaborative robot for assembly, packaging, inspection and logistics

- Designed to promote a safe and harmonious workplace between humans and machines.
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TM12

TM14

## Specifications

Product Name	TM12					TM14					
	TM12	TM12M	TM12M SEMI	TM12X	TM12MX	TM14	TM14M	TM14M SEMI	TM14X	TM14MX	
Part Number	RT6-100130□	RT6-110130□	RT6-110131□	RT6-101130□	RT6-111130□	RT6-200110□	RT6-210110□	RT6-210111□	RT6-201110□	RT6-211110□	
Weight (kg)	33.3			33		32.6			32.3		
Controller Weight (kg)	13.8	14.5	14.5	13.5	14.5	13.8	14.5	14.5	13.5	14.5	
Max Payload (kg)	12					14					
Reach (mm)	1300					1100					
Mounting	Wall, Table, Ceiling										
Typical Speed (m/s)	1.3					1.1					
Joint Range	Joint 1	±270°			±360°		±270°			±360°	
	Joint 2, 4, 5	±180°			±360°		±180°			±360°	
	Joint 3	±166°					±163°				
	Joint 6	±270°			±360°		±270°			±360°	
Joint Speeds	Joint 1, 2	120°/s					120°/s				
	Joint 3	180°/s					180°/s				
	Joint 4, 5	180°/s				180°/s		150°/s			
	Joint 6	180°/s					180°/s				
Repeatability (mm)	±0.1										
IP	IP54 (robot arm), IP32 (control box), IP40 (robot stick)										
Cleanroom Class	ISO Class 5										
Operating Temperature (°C)	0 to 50										
Power Supply	100-240 VAC, 50-60 Hz	22-60 VDC	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	
Robot Arm Cable Length	3m/12m	1.5m	1.5m	3m	1.5m	3m/12m	1.5m	1.5m	3m	1.5m	
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	5M pixels, color	5M pixels, color	None	None	5M pixels, color	5M pixels, color	5M pixels, color	None	None	
I/O Power Supply	24V 1.5A (control box and tool)										
Programming Environment	TMflow, flowchart based										
SEMI S2 Certified*	No	No	Yes	No	No	No	No	Yes	No	No	

\* SEMI safety SEMI safety guidelines are issued by an industry association with the same name: SEMI (Semiconductor Equipment and Materials International), which is the central global network of manufacturers of micro- and nano-electronics industries. SEMI S2 is the most well-known standard in semiconductor manufacturing equipment for Environmental, Health, and Safety (EHS).

# Ordering Information

## Model Number Legend

**RT6** - □ □ □ □ □ □ □ □  
 (1) (2) (3) (4) (5) (6) (7) (8)

No.	Item	Specifications	Symbol
(1)	Collaborative Robots - Omron Techman		
(2)	Model Type	TM5	0
		TM12	1
		TM14	2
(3)	Power Supply	AC	0
		DC	1
(4)	Vision System	Integrated Camera	0
		No Camera (X Model)	1
(5)(6)	Arm Length	700 (TM5)	70
		900 (TM5)	90
		1300 (TM12)	13
		1100 (TM14)	11
(7)	Semi	Standard	0
		Semi	1
(8)	Cable Length	Standard Length (3m/1.5m) *2	1
		Extended Length (12m) *3	2

\*1. X model refers to robot models without integrated camera system.  
 \*2. 1.5m cable is only standard on DC models. 12m cable is not available on DC models.

Type	Part Number
TM5-700	RT6-0007001
TM5-700, 12m cable	RT6-0007002
TM5X-700	RT6-0017001
TM5X-700, 12m cable	RT6-0017002
TM5M-700	RT6-0107001
TM5M-700 SEMI	RT6-0107011
TM5MX-700	RT6-0117001
TM5-900	RT6-0009001
TM5-900, 12m cable	RT6-0009002
TM5X-900	RT6-0019001
TM5X-900, 12m cable	RT6-0019002
TM5M-900	RT6-0109001
TM5M-900 SEMI	RT6-0109011
TM5MX-900	RT6-0119001
TM12	RT6-1001301
TM12, 12m cable	RT6-1001302
TM12X	RT6-1011301
TM12X, 12m cable	RT6-1011302
TM12M	RT6-1101301
TM12M SEMI	RT6-1101311
TM12MX	RT6-1111301
TM14	RT6-2001101
TM14, 12m cable	RT6-2001102
TM14X	RT6-2011101
TM14X, 12m cable	RT6-2011102
TM14M	RT6-2101101
TM14M SEMI	RT6-2101111
TM14MX	RT6-2111101

## Robot Parts Code and Bundled Accessories

Type	TM5-700					TM5-900				
Product Name	TM5-700	TM5M-700	TM5M-700 SEMI	TM5X-700	TM5MX-700	TM5-900	TM5M-900	TM5M-900 SEMI	TM5X-900	TM5MX-900
Part Number	RT6-000700□	RT6-010700□	RT6-010701□	RT6-001700□	RT6-011700□	RT6-000900□	RT6-010900□	RT6-010901□	RT6-001900□	RT6-011900□
Overview	Robot and control box with built-in vision system					Robot and control box with built-in vision system				
Purpose	Typical for use in single collaborative robot system					Typical for use in single collaborative robot system				
Bundled Accessories	<ul style="list-style-type: none"> <li>TM5-700 robot arm (1)</li> <li>Robot stick (1)</li> <li>Control box (1)</li> <li>Calibration plates (one large and one small) (not included with the X model bundles)</li> <li>IO cables (2)</li> <li>Landmark (2) (not included with the X model bundles)</li> <li>Ground wire (1)</li> <li>Conducting wire, 3 cm (2)</li> <li>Power cable for the control box (4 standard part number, 1 mobile part number)</li> <li>SEMI emergency OFF switch (SEMI model only)</li> </ul>					<ul style="list-style-type: none"> <li>TM5-900 robot arm (1)</li> <li>Robot stick (1)</li> <li>Control box (1)</li> <li>Calibration plates (one large and one small) (not included with the X model bundles)</li> <li>IO cables (2)</li> <li>Landmark (2) (not included with the X model bundles)</li> <li>Ground wire (1)</li> <li>Conducting wire, 3 cm (2)</li> <li>Power cable for the control box (4 standard part number, 1 mobile part number)</li> <li>SEMI emergency OFF switch (SEMI model only)</li> </ul>				
Type	TM12					TM14				
Product Name	TM12	TM12M	TM12M SEMI	TM12X	TM12MX	TM14	TM14M	TM14M SEMI	TM14X	TM14MX
Part Number	RT6-100130□	RT6-110130□	RT6-110131□	RT6-101130□	RT6-111130□	RT6-200110□	RT6-210110□	RT6-210111□	RT6-201110□	RT6-211110□
Overview	Robot and control box with built-in vision system					Robot and control box with built-in vision system				
Purpose	Typical for use in single collaborative robot system					Typical for use in single collaborative robot system				
Bundled Accessories	<ul style="list-style-type: none"> <li>TM12 robot arm (1)</li> <li>Robot stick (1)</li> <li>Control box (1)</li> <li>Calibration plates (one large and one small) (not included with the X model bundles)</li> <li>IO cables (2)</li> <li>Landmark (2) (not included with the X model bundles)</li> <li>Ground wire (1)</li> <li>Conducting wire, 3 cm (2)</li> <li>Power cable for the control box (4 standard part number, 1 mobile part number)</li> <li>SEMI emergency OFF switch (SEMI model only)</li> </ul>					<ul style="list-style-type: none"> <li>TM14 robot arm (1)</li> <li>Robot stick (1)</li> <li>Control box (1)</li> <li>Calibration plates (one large and one small) (not included with the X model bundles)</li> <li>IO cables (2)</li> <li>Landmark (2) (not included with the X model bundles)</li> <li>Ground wire (1)</li> <li>Conducting wire, 3 cm (2)</li> <li>Power cable for the control box (4 standard part number, 1 mobile part number)</li> <li>SEMI emergency OFF switch (SEMI model only)</li> </ul>				

# Accessories & Software

## Accessories

Appearance	Product Name	Description	Remarks	Part Number
	Landmark	Robot positioning tool as a reference to the environment.	2 included with purchase of a robot.	RT6-A000008
	Mobile Workstation (MWS)	MWS is a convenient tool for users to mount the robot arm on work surface, and store the control box safely within. Users can move the MWS with the robot to different work cells easily.	Compatible with OMRON TM5 only.	RT6-A000010
	Robot stand	Similar to MWS, the robot stand can be moved with the robot to different work stations easily.	Height adjustable. Compatible with OMRON TM5 only.	RT6-A000009
	SSD with cable	128 GB solid state hard drive.	SATA cable included. Recommended for external cameras image logging.	RT6-A000012
	Kit, calibration set with additional pin	Toolkit for teaching a precise tool center point (TCP) that can be used for manual workspace calibration within TMvision	Required for TCP and manual vision calibration	RT6-A000002
	Robot stick stand	Mounting fixture for the robot stick.	Can be used on desktops, walls, and MWS.	RT6-A000000
	Pneumatic control box	Controls the inputs and outputs and monitors air pressure for Kilews screw driving applications.	Compatible with Kilews screw driving solution kit only. Recommended to attach to the robot stand.	RT6-A000015
	Robotiq Adaptive Gripper 2-Finger 85/140 for OMRON TM robot	A 2-finger adaptive gripper that can adapt to parts of various shapes and sizes. Comes in two stroke options – 85mm and 140mm.	Each kit includes: - End effector coupling kit - 10-meter communication cable - RS485 to RS232 converter - RS485 to USB converter - Screw kit - Quick start guide	85 kit: AGC-OMRON-KIT-85 140 kit: AGC-OMRON-KIT-140
	Robotiq Hand-E gripper for OMRON TM robot	A 2-finger parallel gripper with an IP67 rating. 50mm stroke.	Each kit includes: - Fingertip starting kit - End effector coupling kit - 10-meter communication cable - RS485 to RS232 converter - RS485 to USB converter - Screw kit - Quick start guide	HND-OMRON-KIT
	Robotiq EPick for Omron TM robot	A vacuum gripper that uses an integrated vacuum generator.  Each kit includes: -Basic gripper unit -End effector coupling kit -10-meter communicable cable -RS485 to RS232 converter -RS485 to USB converter -Quick start guide -Vacuum cup(s): 1.5 bellows, 55mm diameter	1 vacuum cup	VAC-OMRON-EPICK-KIT1
			A suction system for 2 cups	VAC-OMRON-EPICK-KIT2
			A suction system for 4 cups	VAC-OMRON-EPICK-KIT4

Appearance	Product Name	Description	Remarks	Part Number
	Robotiq AirPick for Omron TM robot	A vacuum gripper that uses an external pneumatic supply.  Each kit includes: -Basic gripper unit -Tubing 8mm-8m -End effector coupling kit -RS485 to RS232 converter -RS485 to USB converter -Quick start guide -Vacuum cup(s): 1.5 bellows, 55mm diameter	1 vacuum cup	VAC-OMRON-AIRPICK-KIT1
			A suction system for 2 cups	VAC-OMRON-AIRPICK-KIT2
			A suction system for 4 cups	VA-OMRON-AIRPICK-KIT4
	Robotiq I/O Coupling	Component that connects the Robotiq adaptive/vacuum gripper to the wrist of the OMRON TM robot to eliminate the need for an external serial communication cable.	Each kit includes: - I/O Coupling - Screw kit - Micro-USB to USB cable - 16G USB Stick	IO-CPL-OMRON-KIT
	Robotiq Dual-Grip Adapter Plate	Adapter plate and mounting screws to mount two grippers onto the OMRON TM robot.		AGC-APL-159-002
	Robotiq 2F-85 Dual kit for OMRON Robots	Kit that enables dual gripper setting.	Each kit includes: - Chosen gripper x 2 - Mechanical coupling x 2 - USB to RS485 Adapter - Communication Cable - M12 5 Pins Splitter - Dual-Grip Adapter Plate - Screw kit x 2	OMRON-DUAL-AGC-85
	Robotiq 2F-140 Dual kit for OMRON Robots			OMRON-DUAL-AGC-140
	Robotiq HAND-E Dual kit for OMRON Robots			OMRON-DUAL-HND
	Robotiq Force sensor FT-300	Six-axis force/torque sensor with RS485 Serial Communication.	Each kit includes: - Coupling - RS485 to RS232 converter - Power and communication cable with USB adapter - Screw kit	FTS-300-OMRON-KIT
	Basler GigE Camera	External camera for eye-to-hand robot applications. Maximum 2 external cameras per robot.	Monochrome, 640 x 480, 120 fps, CCD (1/4-inch equivalent)	24114-100
			Color, 640 x 480, 120 fps, CCD (1/4-inch equivalent)	24114-101
			Monochrome, 1296 x 996, 30 fps, CCD (1/3-inch equivalent)	24114-200
			Color, 1296 x 996, 30 fps, CCD (1/3-inch equivalent)	24114-201
			Monochrome, 1600 x 1200, 60 fps, CMOS (1/1.8-inch equivalent)	24114-250
			Monochrome, 2048 x 2048, 25 fps, CMOS (1-inch equivalent)	24114-300

## Software

Product Name	Add-On Product Names	Part Number	Add-On Part Numbers	Remarks
USB Dongle	-	RT6-A000004	-	Required for all extra software licenses.
TMflow	-	N/A, Free Download	-	Software required to control the cobot.
	TM Identify & Measure	-	RT6-S100000	License, add-on to TMflow. Includes: identification of pose variation, specific color area size, subtract reference image, line/circle burr, counting and gauge.
	TM External Vision	-	RT6-S100002	License, add-on to TMflow. Required when using eye-to-hand cameras.
	TM OCR	-	RT6-S100003	License, add-on to TMflow. Includes: Text OCR and Number OCR.
TMflow Editor	-	RT6-S200001	-	License, provides a convenient way to open and edit project offline.
	TMflow Editor - Offline AOI	-	RT6-S100005	License, add-on to TMflow Editor. Enables TMflow Editor to offline edit a TMflow project that includes AOI vision.

## Recommended Plug & Play Hardware

Category	Appearance	Company	Product Name	Manufacturer SKU Number*	Description
Grippers		OnRobot	RG2 Gripper	102012	Electric 2-finger gripper. Each kit includes: - RG2 Gripper - Fingertip adapters (pre-mounted) - Integrated Quick Changer (tool side) - Torx key
			RG6 Gripper	102021	Electric 2-finger gripper with larger stroke. Each kit includes: - RG2 Gripper - Fingertip adapters (pre-mounted) - Integrated Quick Changer (tool side) - Torx key
			VG10 Electric Vacuum Gripper	101661	Flexible and adjustable electrical vacuum gripper. Each kit includes: - VG10 Gripper - d30mm suction cups x 16 (pre-mounted) - Integrated Quick Changer (tool side) - d40mm suction cups x4 - d15mm suction cups x4 - Blind screws x16 - Positioning arrows - Torx key
			Gecko Gripper	102215	Gripper that uses van der Waals force to pick up flat and porous objects without compressed air. Each kit includes: - Gecko Gripper - Gecko Pads x4 (pre-mounted) - Integrated Quick Changer (tool side) - Spare Gecko Pads x8 - Pad removal tools
			Quick Changer-robot side	102037	Manual tool changer to attach on the robot's end-of-arm. Either the Quick Changer (robot side) or the Dual Quick Changer must be purchased for use of all OnRobot grippers. Each kit includes: - Quick Changer robot side - Screws - Torx key
			Quick Changer- tool side	102014	Manual tool changer to attach on the tool side. (All OnRobot grippers have this option integrated, so this is only necessary when user is developing own tool.)
			Quick Changer Kit	102277	Each kit includes: - Quick Changer (robot side)x1 - Quick Changer (tool side)x2 - Torx key - Screws and pins
			Dual Quick Changer	101788	Manual tool changer to attach on the robot's end-of-arm for dual gripper configuration. Either the Quick Changer (robot side) or the Dual Quick Changer must be purchased for use of all OnRobot grippers. Each kit includes: - Dual Quick Changer - Screws - Torx key
			OMRON TM Robot Kit	102359	This kit must be purchased for the use of OnRobot grippers on OMRON TM collaborative robot. Each kit includes: - Compute Box - Power supply - Adapter plate (included in all kits but only necessary for VG10 and Gecko grippers) - USB stick with software components and User Manual - Device cable 5m - UTP cable 0.5m - I/O cable 0.3m - Cable management hook/loop

Category	Appearance	Company	Product Name	Manufacturer SKU Number*	Description
Grippers		Schmalz	ROB-SET ECBPi OMRON	10.03.01.00544	Complete vacuum gripper for collaborative robots. Each kit includes: - Vacuum generator (ECBPi) - End-effector coupling kit - Connection cable - Mounting flange - Flat suction cup - Bellows suction cup - Bolts and t-nuts - Operating instructions
			ROB-SET FXCB OMRON	10.01.43.00120	Area gripper equipped with integrated pneumatic vacuum generation. (Needs external air supply.) Each kit includes: - Pneumatic area gripper (FXCB) - Connection cable - Mounting flange - Bolts and t-nuts - Operating instructions
		Schunk	Co-act EGP-C 40 N-N-TMID	1374363	Electric 2-finger parallel gripper certified for collaborative operation with actuation via 24 V and digital I/O. Each kit includes: - Co-act EGP-C gripper - Assembly and Operating Manual - Accessory pack
			Co-act AUB EGP 40/12 Co-act AUB EGP 40/24 Co-act AUB-F EGP 40/xx	1401285 1401286 1409839	Gripping fingers for Co-act EGP-C.
3D Bin Picking		Pick-it	Pick-it M	PI-M-2.0	Plug & Play 3D camera and software for picking objects sized 50x50x10mm or larger. Each kit includes: - Pre-calibrated 3D camera - Pick-it software - Industrial processor - 3G dongle to connect directly to Pick-it support - Calibration plate and ROI box teaching markers - All connection cables (plug & play) - Quick start guide
			Pick-it M-HD	PI-M-HD	Plug & Play 3D camera and software for picking objects sized 10x10x5mm or larger. Each kit includes: - Pre-calibrated 3D camera - Pick-it software - Industrial processor - 3G dongle to connect directly to Pick-it support - Calibration plate and ROI box teaching markers - All connection cables (plug & play) - Quick start guide
Screw Driving		Kilews	Screw Driving Solution Kit	TM-BN512LAD-□.□	Kilews screwdriver kit and pneumatic control box. Each kit includes: -Screwdriver SKD-BN512LM -Power control Box SKP-32BC-60W -Flange E31700-3 -Air Nozzle KS-TM-B500-□0 -Singal Box KL-SCBSN

\* Manufacturer SKU numbers are 3rd party part numbers, not OMRON part numbers.

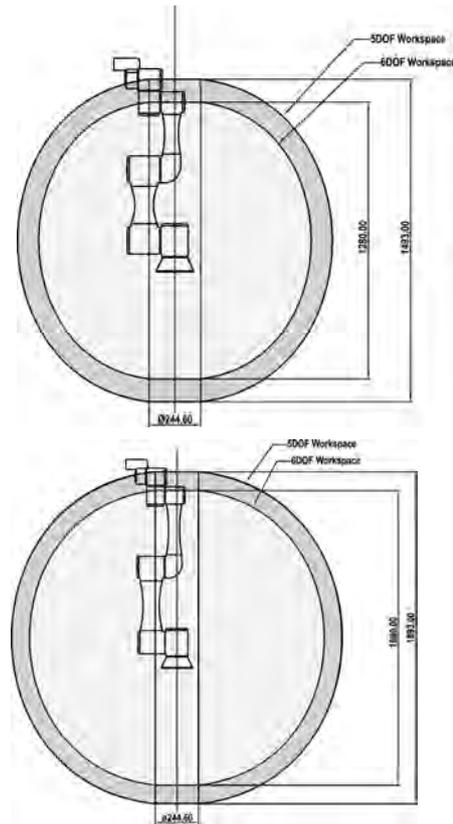
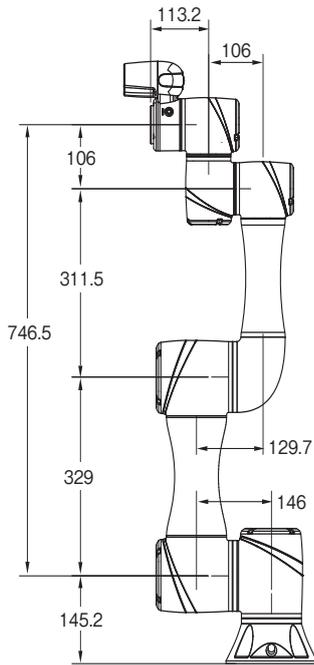
Category	Appearance	Company	Product Name	Manufacturer SKU Number*	Description
Vision		Basler	GigE camera, color, 5MP, CMOS 1/2.5", 14 fps	acA2500-14gc, Rolling Shutter	External camera for eye-to-hand robot applications. Maximum 2 external cameras per robot.
			GigE camera, mono, 5MP, CMOS 1/2.5", 14 fps	acA2500-14gm, Rolling Shutter	
			GigE camera, color, 5MP, CMOS 1", 21fps	acA2500-20gc, Global Shutter	
			GigE camera, mono, 5MP, CMOS 1", 21 fps	acA2500-20gm, Global Shutter	
			GigE camera, color, 5MP, CMOS 2/3", 23fps	acA2440-20gc, Global Shutter	
			GigE camera, mono, 5MP, CMOS 2/3", 23 fps	acA2440-20gm, Global Shutter	
			GigE, camera, color, 10MP, CMOS 1/2.3", 10 fps	acA3800-10gc, Rolling Shutter	
			GigE, camera, mono, 10MP, CMOS 1/2.3", 10 fps	acA3800-10gm, Rolling Shutter	
			GigE, camera, color, 12.2 MP, CMOS 1/1.7", 8 fps	acA4024-8gc, Rolling Shutter	
GigE, camera, mono, 12.2 MP, CMOS 1/1.7", 8 fps	acA4024-8gm, Rolling Shutter				
Force sensor		ATI	Axia80	9105-TM-Axia80	Six-axis force/torque sensor with EtherCAT communication. Each kit includes: - Interface plate - Power and Ethernet cable - Digital delivery of calibration documents and user manual
Connectivity		ADLINK	EtherCAT I/O Expansion Modules KIT	EPS - 9905+6000+2032+1132	A Kit that includes: chassis w/ EtherCAT ports and voltage input, 32-channel digital output module, 32-channel digital input module.
			EtherCAT I/O Expansion Modules (DO Module)	EPS-2032	32-channel digital output module.
			EtherCAT I/O Expansion Modules (DI Module)	EPS-1132	32-channel digital input module.
		Advantech	Serial Device Server EKI-1524-CE	EKI-1524-CE	External device with serial ports that communicates with the robot via TCP/IP.
			Modbus to PROFINET Gateways	EKI-1242IPNMS	A gateway to transform Omron TM cobot's Modbus to PROFINET, whereby Omron TM cobot as slave could communicate with PROFINET master devices.
Cable Management		Murrplastik	FHS-C-SET TM5 (TM5-700 & TM5-900)	83693500	Cable management dress pack. Each kit includes: Conduit (Cable routing hose, Length:2m, Interior diameter: ~21mm) 4x Attachment straps 2x End plugs Cable insertion tool Installation instructions
			FHS-C-SET TM12 / TM14 (TM12 & TM14)	83693501	
			FHS-RS-SET TM5 (TM5-700 & TM5-900)	83693506	Cable management dress pack. Each kit includes: Conduit (Cable routing hose, Length:2m, Interior diameter: ~21mm) 2x Conduit clamps Self-retracting hose guide (2x Ball joint fixing, Ball joint strain relief, Feedback system, System holder) Tool-end clamp End sleeve Cable puller Installation instructions
			FHS-RS-SET TM12 / TM14 (TM12 & TM14)	83693507	

\* Manufacturer SKU numbers are 3rd party part numbers, not OMRON part numbers.

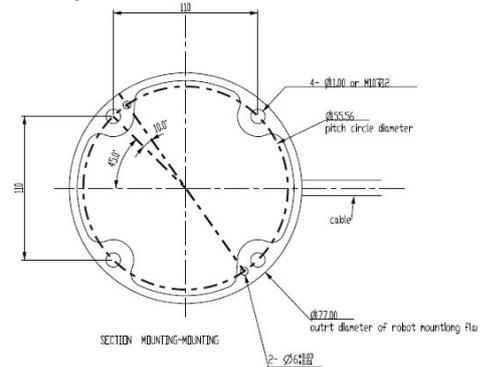
# Dimensions

(Unit: mm)

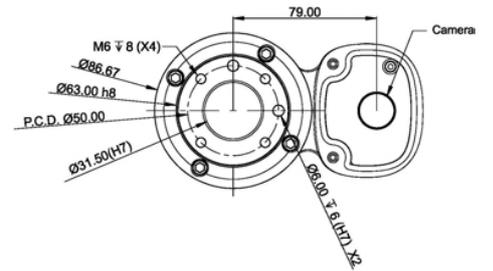
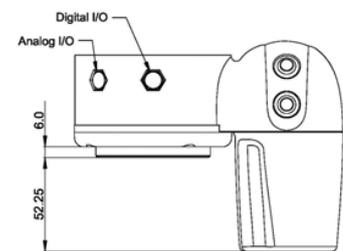
## TM5-700



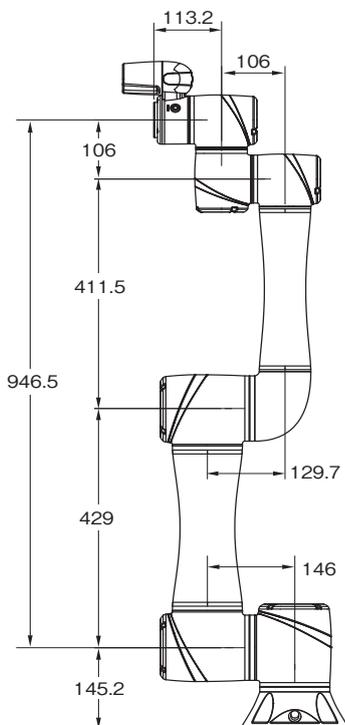
## Footprint



## Flange



## TM5-900



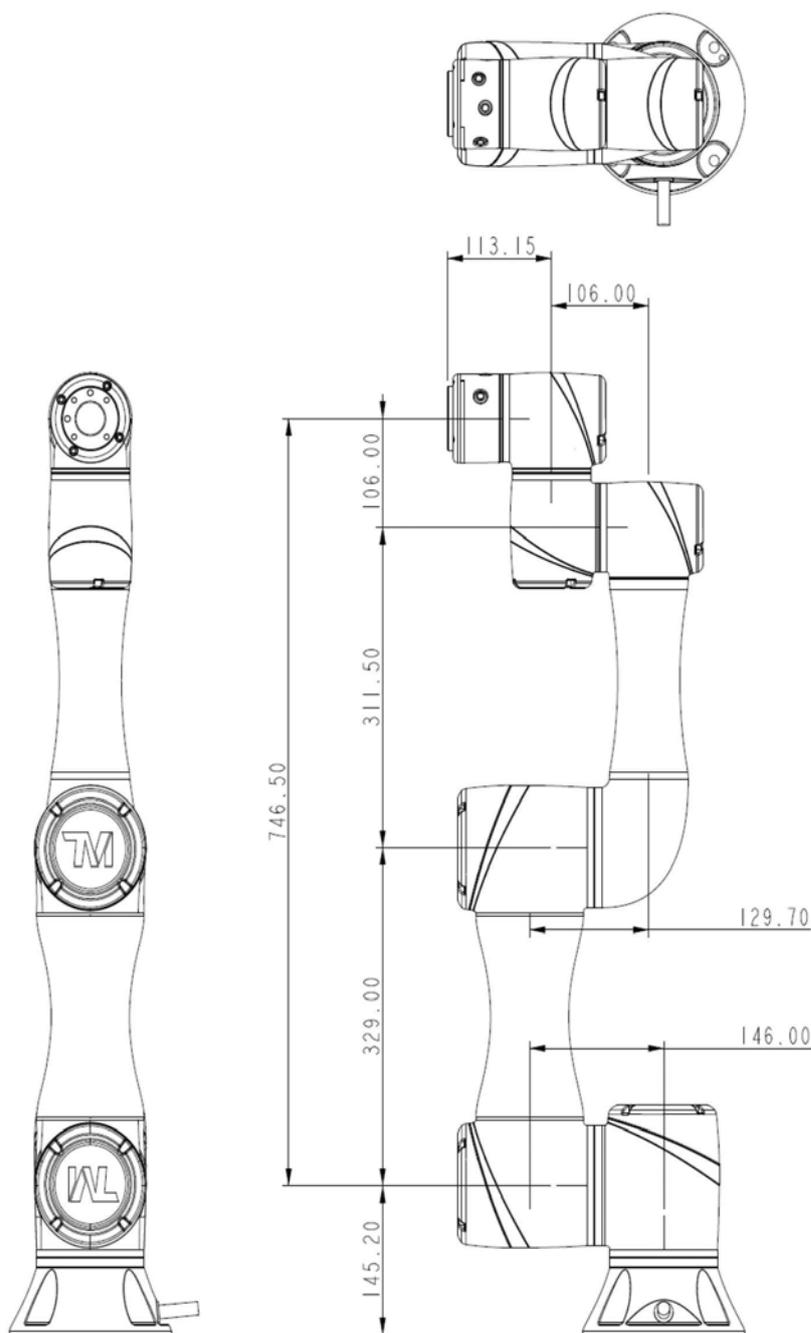
## Control Box



# Dimensions

(Unit: mm)

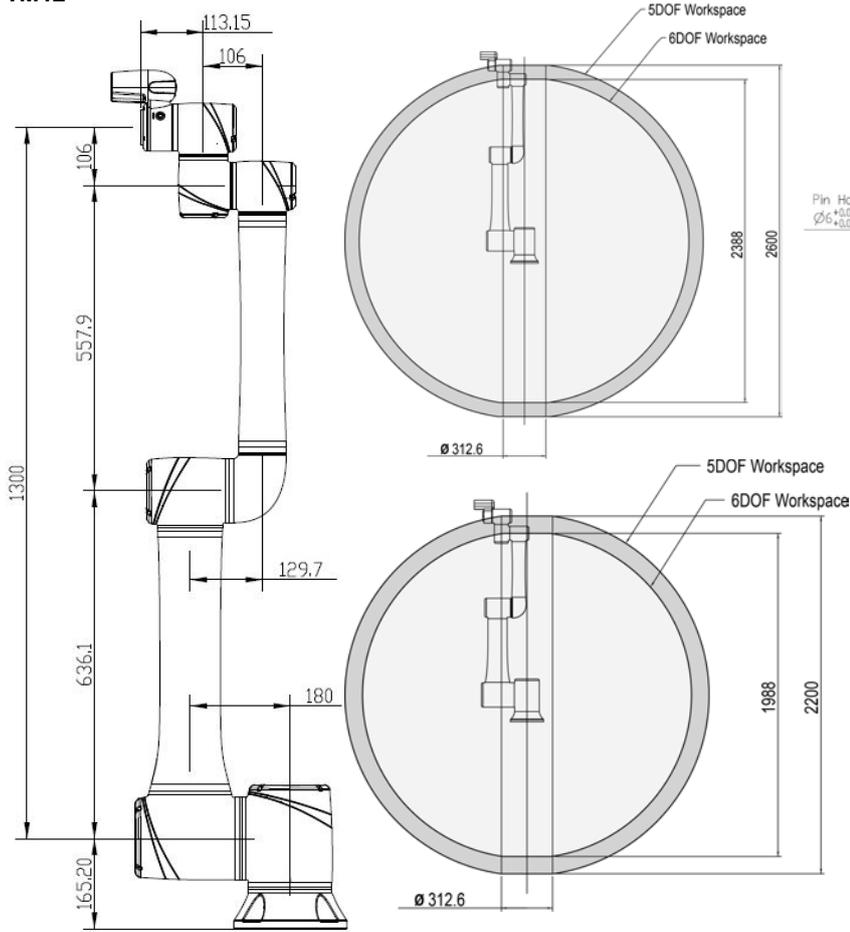
Dimension of TM5X-700



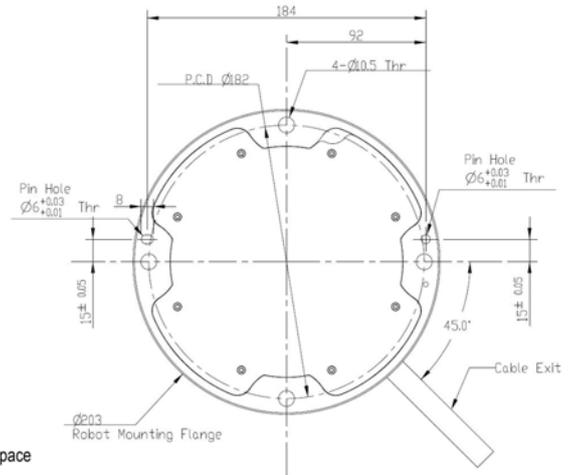
# Dimensions

(Unit: mm)

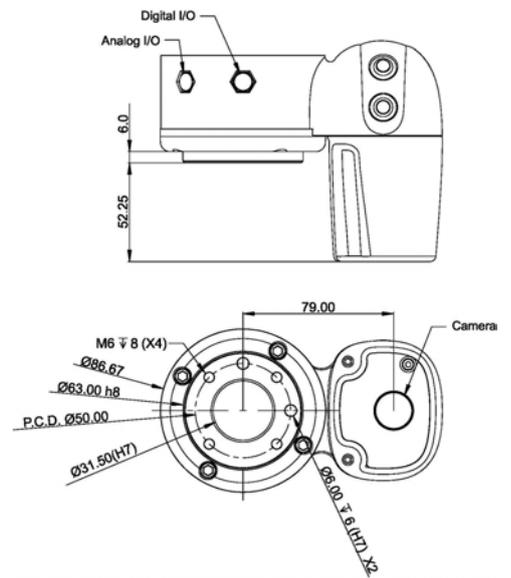
## TM12



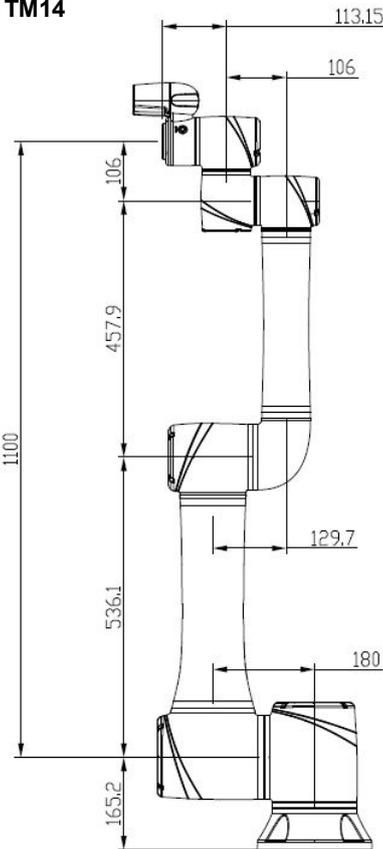
## Footprint



## Flange



## TM14



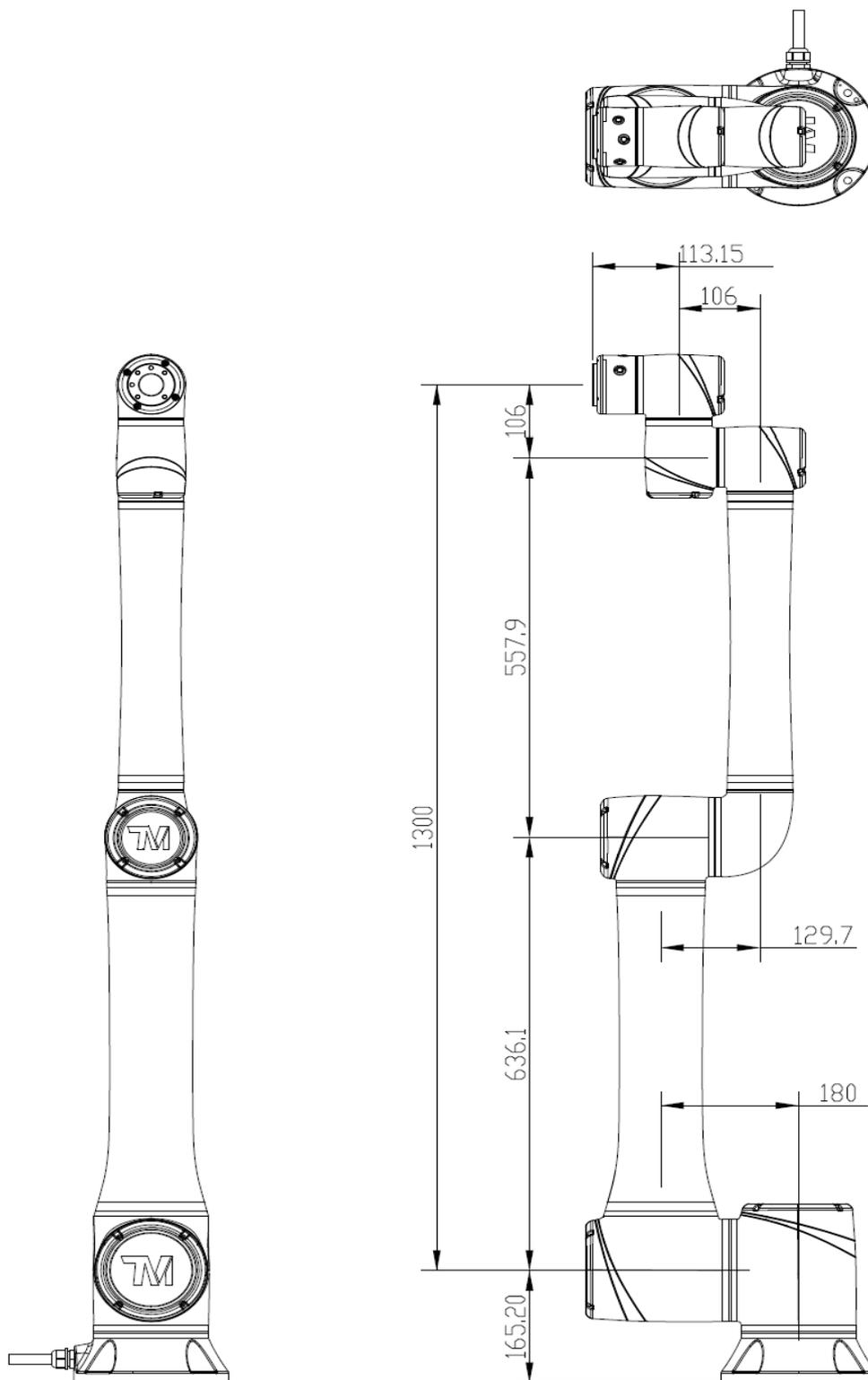
## Control Box



# Dimensions

(Unit: mm)

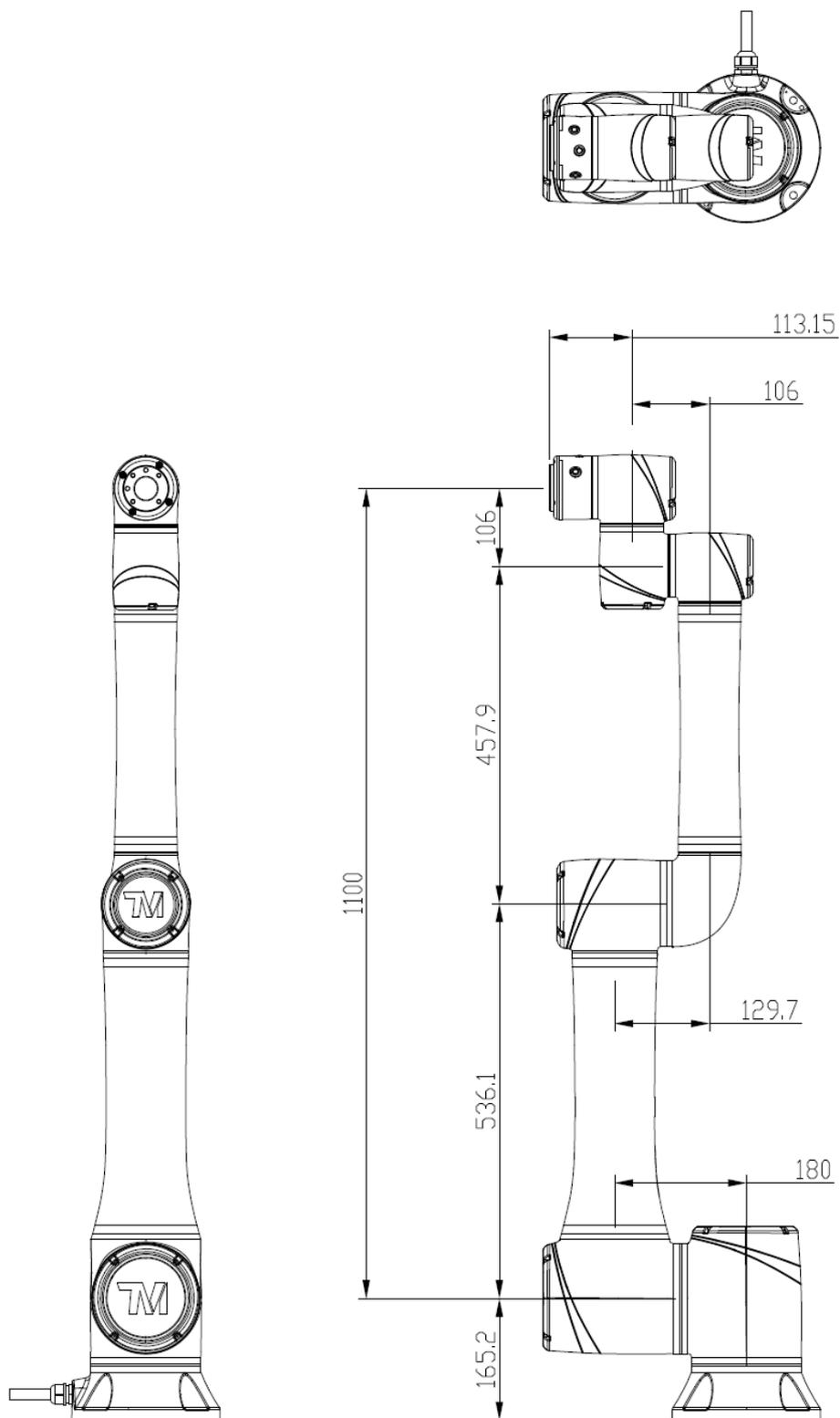
Dimension of TM12X



# Dimensions

(Unit: mm)

Dimension of TM14X



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