New Product

Collaborative Robots
TM5

Collaborative robot for assembly, packaging, inspection and logistics

TM5-700 TM5-900

- Built-in vision-based robot control enables visual servoing, inspection, and measurement.
- TMvision and landmark allows truly flexible and fast changeover.
- Easy-to-use graphical programming environment for quick startup.
- Plug & Play ecosystem makes it versatile for many manufacturing needs.
- Designed to promote a safer workplace with harmony between humans and machines.
- Integration with mobile robots provides fully autonomous logistics handling for a conveyor-less system.

Specification

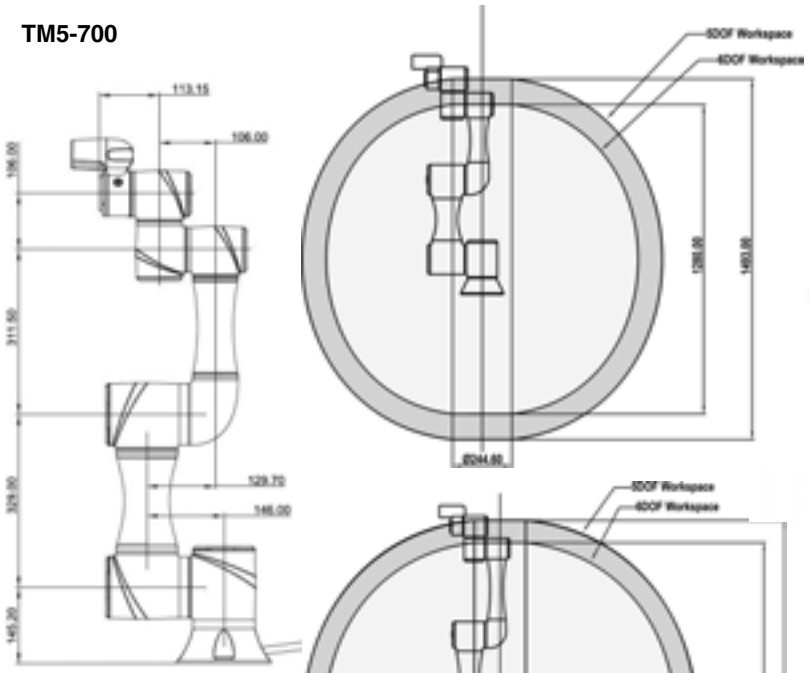
		TM5					
Product Name		**TM5-700**	**TM5M-700**	**TM5M-700 SEMI**	**TM5-900**	**TM5M-900**	**TM5M-900 SEMI**
Model		**RT6-0007000**	**RT6-0107000**	**RT6-0107010**	**RT6-0009000**	**RT6-0109000**	**RT6-0109010**
Weight (kg)		22.1			22.6		
Max Payload (kg)		6			4		
Reach (mm)		700			900		
Typical Speed (m/s)		1.1			1.4		
Joint Range	**Joint 1**	±270°					
	Joint 2, 4, 5	±180°					
	Joint 3	±155°					
	Joint 6	±270°					
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)					
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	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		No	No	Yes	No	No	Yes

*Manufactured by Techman Robot Inc.

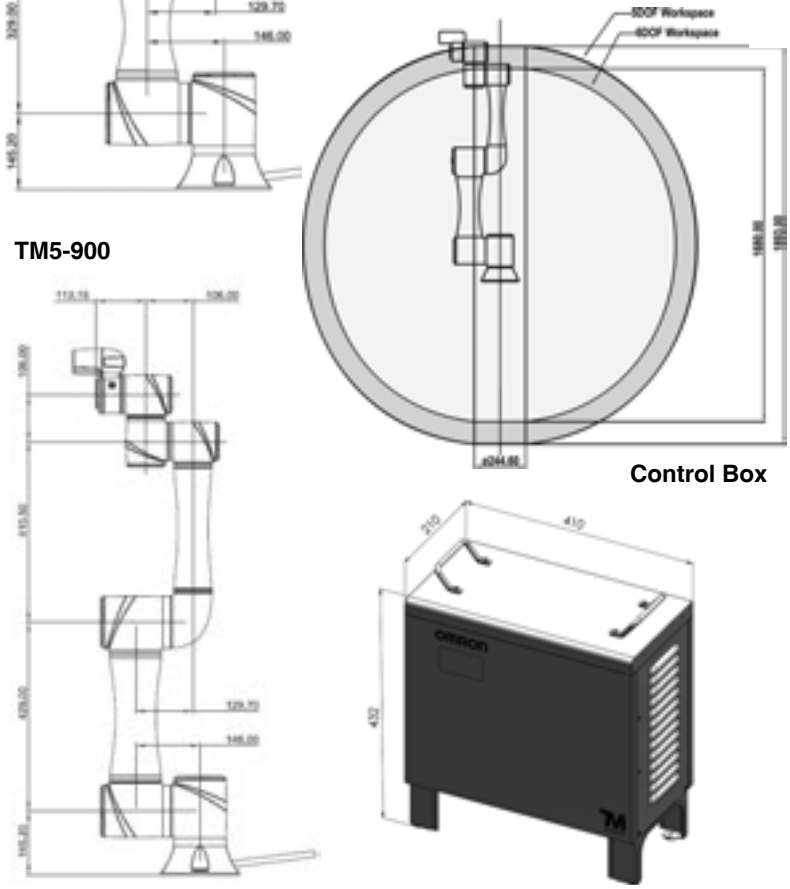
Dimensions

(Unit: mm)

TM5-700



TM5-900



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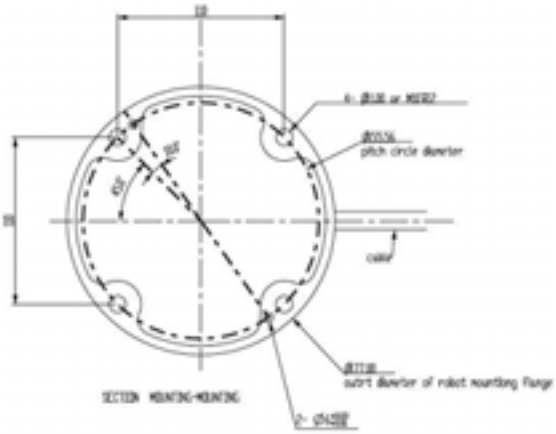
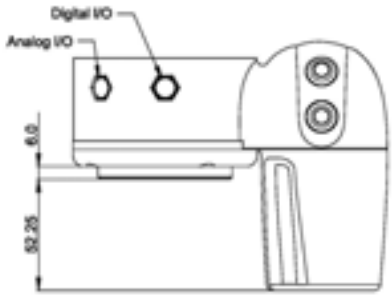
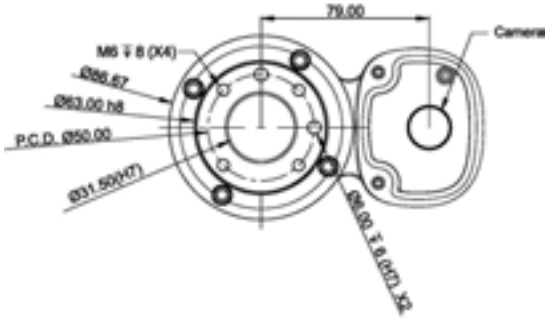


Flange



Control Box



Robot Parts Code and Bundled Accessories

Type	TM5-700			TM5-900		
Product Name	**TM5-700**	**TM5M-700**	**TM5M-700 SEMI**	**TM5-900**	**TM5M-900**	**TM5M-900 SEMI**
Model	**RT6-0007000**	**RT6-0107000**	**RT6-0107010**	**RT6-0009000**	**RT6-0109000**	**RT6-0109010**
Overview	Robot with built-in vision system and control box			Robot with built-in vision system and control box		
Purpose	Typical for use in programming environment			Typical for use in programming environment		
Bundled Accessories	• TM5-700 robot arm (1) • Control box (1) • Calibration plates (one large and one small) • IO cables (2) • TM landmark (2) • Ground wire (1) • Power cable for the control box (4 standard model, 1 mobile model) • SEMI emergency OFF switch (SEMI model only)			• TM5-900 robot arm (1) • Control box (1) • Calibration plates (one large and one small) • IO cables (2) • TM landmark (2) • Ground wire (1) • Power cable for the control box (4 standard model, 1 mobile model) • SEMI emergency OFF switch (SEMI model only)		

Collaborative Robots

TM12/14

Collaborative robot for assembly, packaging, inspection and logistics

- Built-in vision-based robot control enables visual servoing, inspection, and measurement.
- TMvision and landmark allows truly flexible, fast changeover.
- Easy-to-use graphical programming environment for quick startup.
- Plug & Play ecosystem makes it versatile for many manufacturing needs.
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TM12 TM14

Specifications

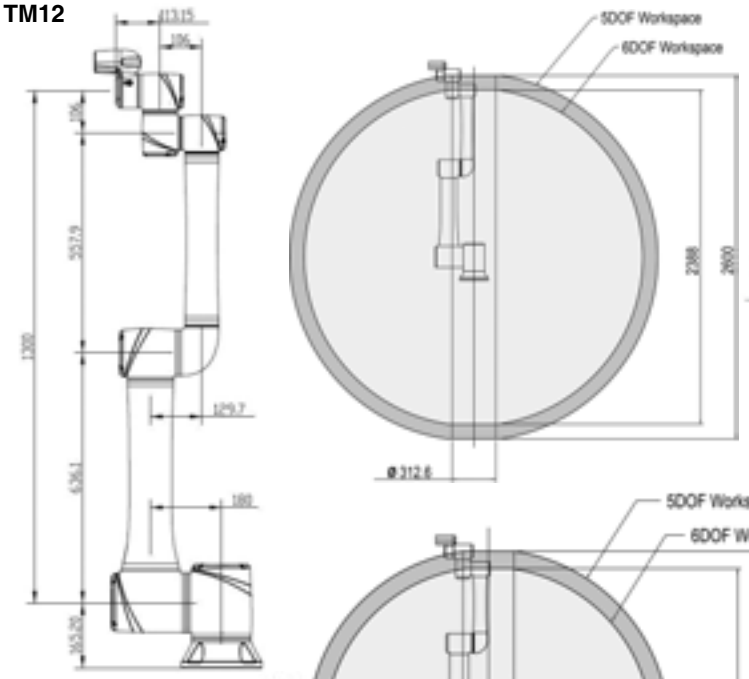
		TM12/14					
Product Name		**TM12**	**TM12M**	**TM12M SEMI**	**TM14**	**TM14M**	**TM14M SEMI**
Model		**RT6-1001300**	**RT6-1101300**	**RT6-1101310**	**RT6-2001100**	**RT6-2101100**	**RT6-2101110**
Weight (kg)		33.3			32.6		
Max Payload (kg)		12			14		
Reach (mm)		1300			1100		
Typical Speed (m/s)		1.3			1.1		
Joint Range	**Joint 1**	±270°					
	Joint 2, 4, 5	±180°					
	Joint 3	±166°			±163°		
	Joint 6	±270°					
Joint Speeds	**Joint 1, 2**	120°/s					
	Joint 3	180°/s					
	Joint 4, 5	180°/s			150°/s		
	Joint 6	180°/s					
Repeatability (mm)		±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	22-60 VDC	100-240 VAC, 50-60 Hz	22-60 VDC	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		No	No	Yes	No	No	Yes

*Manufactured by Techman Robot Inc.

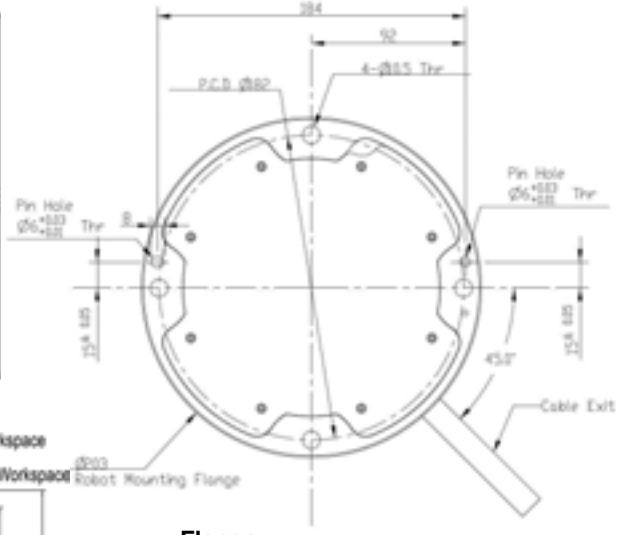
Dimensions

(Unit: mm)

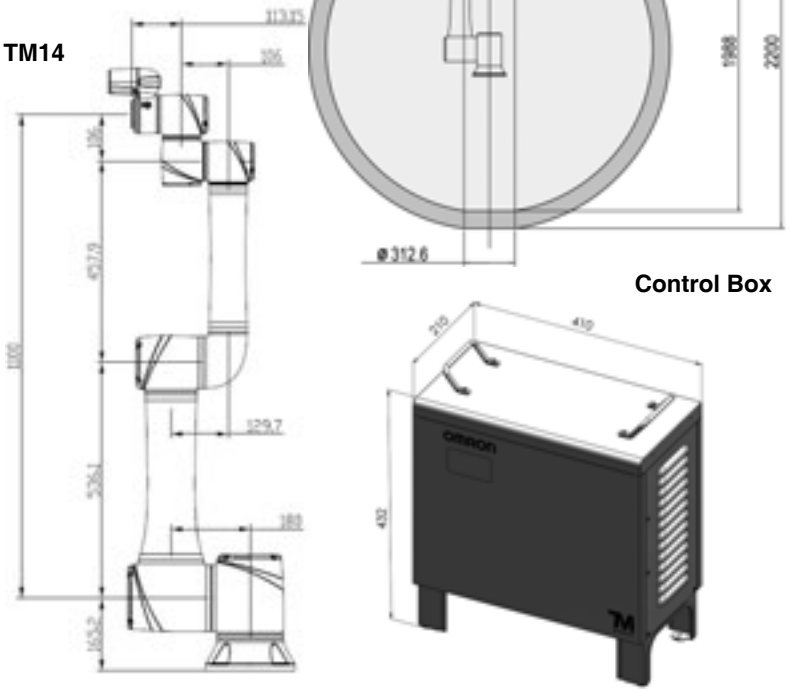
TM12



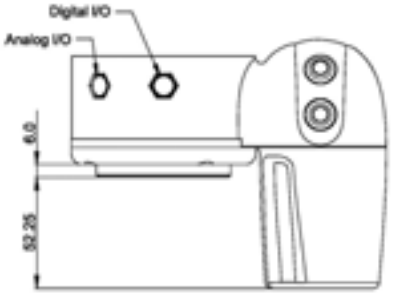
Footprint



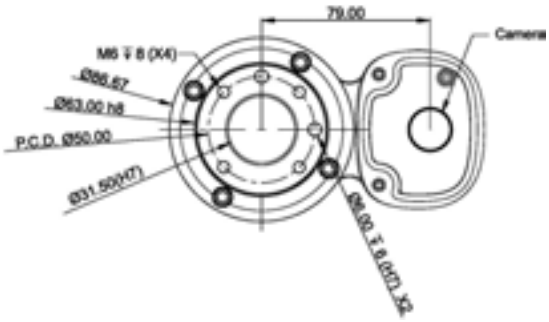
TM14



Flange



Control Box



Robot Parts Code and Bundled Accessories

Type	TM12			TM14		
Product Name	**TM12**	**TM12M**	**TM12M SEMI**	**TM14**	**TM14M**	**TM14M SEMI**
Model	**RT6-1001300**	**RT6-1101300**	**RT6-1101310**	**RT6-2001100**	**RT6-2101100**	**RT6-2101110**
Overview	Robot with built-in vision system and control box			Robot with built-in vision system and control box		
Purpose	Typical for use in programming environment			Typical for use in programming environment		
Bundled Accessories	• TM12 robot arm (1) • Control box (1) • Calibration plates (one large and one small) • IO cables (2) • TM landmark (2) • Ground wire (1) • Power cable for the control box (4 standard model, 1 mobile model) • SEMI emergency OFF switch (SEMI model only)			• TM14 robot arm (1) • Control box (1) • Calibration plates (one large and one small) • IO cables (2) • TM landmark (2) • Ground wire (1) • Power cable for the control box (4 standard model, 1 mobile model) • SEMI emergency OFF switch (SEMI model only)		

Accessories & Software

Accessories

Appearance	Product Name	Remarks	Model
	Landmark	After moved the robot, read the mark and play the program.	RT6-A000008
	Mobile Workstation (MWS)	Robot stand for OMRON TM5.	RT6-A000010
	Robot stand	Robot stand for OMRON TM5. Height adjustable.	RT6-A000009
	SSD with cable	128 GB. SATA cable. Required for external cameras image logging.	RT6-A000012
	Kit, calibration set with additional pin	Required for TCP and manual vision calibration.	RT6-A000002
	Robot stick stand	Stand for Robot stick.	RT6-A000000
	Pneumatic control box	Compatible with KILEWS screw driving solution kit.	RT6-A000015

Recommended Plug & Play Hardware

Appearance	Category	Product Name	Recommended manufacturer	Model
	Grippers	Robotiq Adaptive Gripper 2-Finger 85 TM Kit Robotiq Adaptive Gripper 2-Finger 140 TM Kit	ROBOTIQ	85 kit: AGC-OMRON-KIT-85 140 kit: AGC-OMRON-KIT-140
		Robotiq Hand-E	ROBOTIQ	HND-OMRON-KIT
		Schunk Co-act EGP for OMRON TM robot	SCHUNK	Schunk Co-act EGP for OMRON TM robot (ID:1325501) *
	Screw Driving	KILEWS Screw Driving Solution	KILEWS	SKD-BN512LM
	Vision	Basler industrial camera	BASLER	acA2500-14gc acA2500-14gm
	Force Sensor	ATI Axia80	ATI	9105-TM-Axia80
		Robotiq FT-300	ROBOTIQ	FTS-300-OMRON-KIT

* Grippers only.
Note: For recommended hardware, please contact the product dealer.

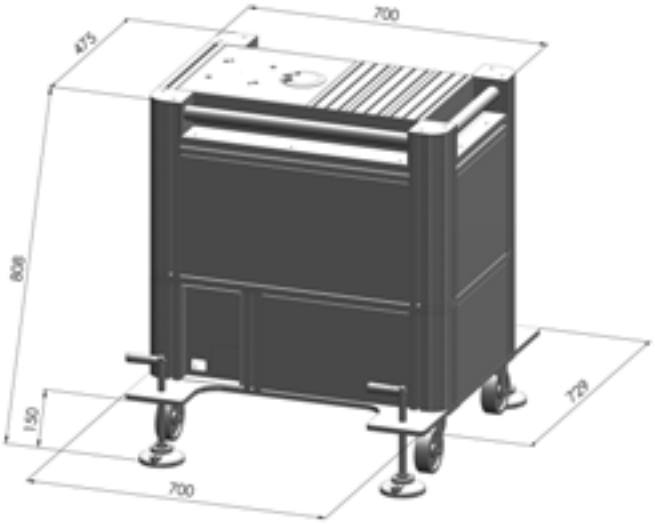
Software

Model Number	Product Name	Add-On Model Numbers	Add-On Product Names	Remarks
RT6-A000004	USB Dongle	-		Required for all extra software licenses
-	TMflow	-		SoftWare for Robot programing Free download
-		RT6-S100000	TM Identify & Measure	License, add-on to TMflow
-		RT6-S100002	TM External Vision	License, add-on to TMflow
-		RT6-S100003	TM OCR	License, add-on to TMflow
RT6-S200001	TMflow Editor License	-		
-		RT6-S100005	TMflow Editor - Offline AOI	License, add-on to TMflow Editor

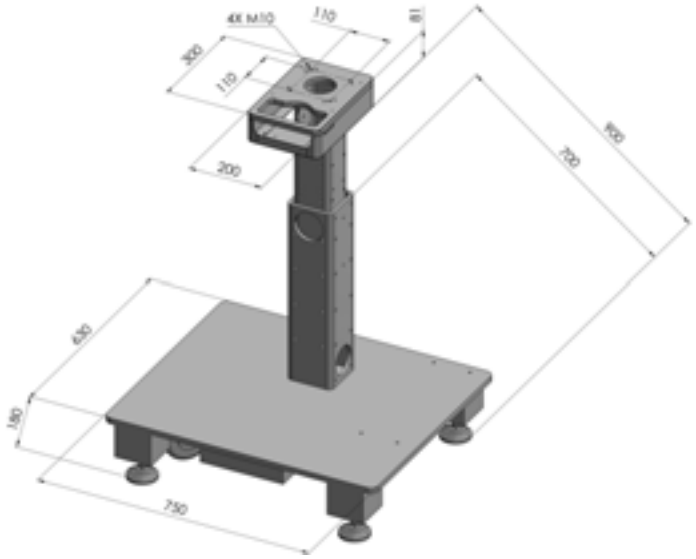
Dimensions

(Unit: mm)

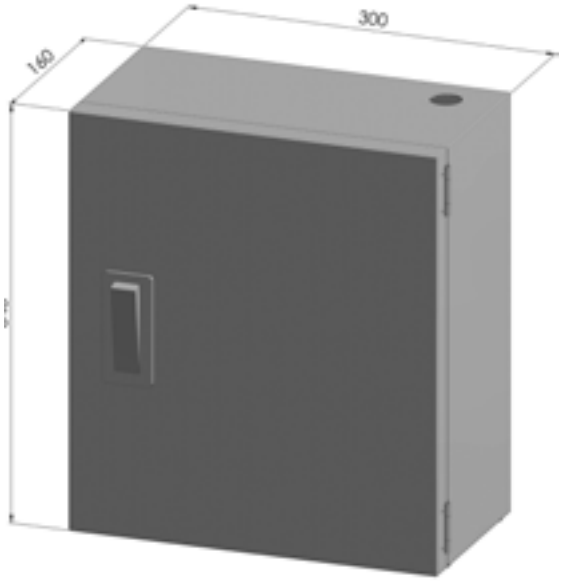
Mobile Work Station (MWS)



Robot Stand



Pneumatic Control Box



Model Number Structure

Model Number Legend

RT6 - 0 0 0 7 0 0 0
(1) (2) (3) (4) (5) (6) (7) (8)

No.	Item	Symbol	Specifications
(1)	Collaborative Robots - Techman		
(2)	Model Type	0	TM5
		1	TM12
		2	TM14
(3)	Mount Type	0	Standard
		1	Mobile
(4)	Eye in Hand	0	Standard
(5)(6)	Arm Length	70	700 (TM5)
		90	900 (TM5)
		13	1300 (TM12)
		11	1100 (TM14)
(7)	Semi	0	Standard
		1	Semi
(8)	Options	0	Standard

Note: The purpose of this model number structure is to provide understanding of the meaning of specifications from the model number. Models are not available for all combinations of code numbers.

Ordering Information

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**
Preumatic 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**

Related Manuals

Manual No.	English Title
I623	TM5 Regular Payload Series Hardware Installation Manual
I624	TM12 & TM14 Medium & Heavy Payload Series Hardware Installation Manual
I625	Safety Manual
I626	Software Manual TMflow
I627	Software Manual TMvision
I628	TM Mobile Work Station Manual
I629	TM Robot Stand Manual
I630	Pneumatic Control Box Manual

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1018 (1018)