

Collaborative Robots

TM5

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 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.



TM5-700

TM5-900

Specification

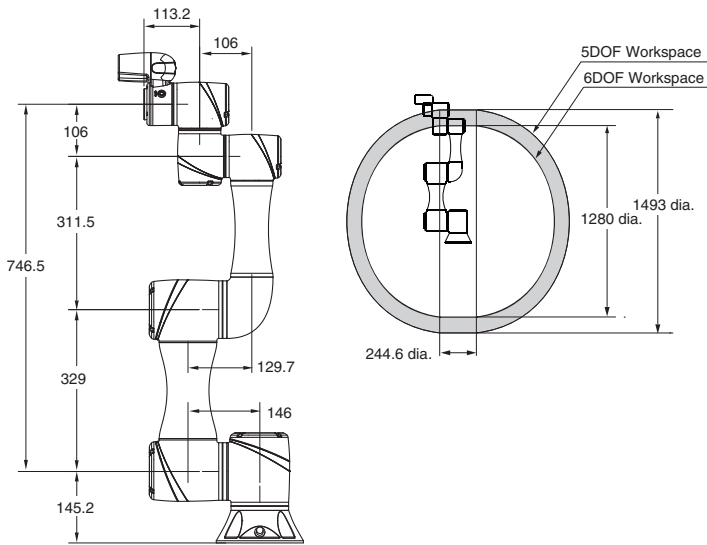
Product Name Model		TM5					
		TM5-700 RT6-0007000	TM5M-700 RT6-0107000	TM5M-700 SEMI RT6-0107010	TM5-900 RT6-0009000	TM5M-900 RT6-0109000	TM5M-900 SEMI RT6-0109010
Weight (kg)		22.1			22.6		
Max Payload (kg)		6			4		
Reach (mm)		700			900		
Typical Speed (m/s)		1.1			1.4		
Joint Range	Joint 1	±270°					
	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.

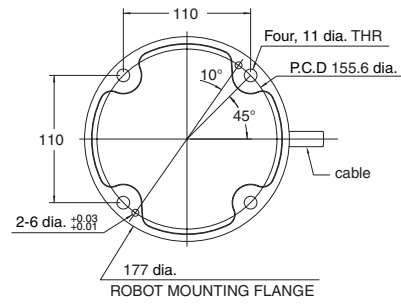
Dimensions

(Unit: mm)

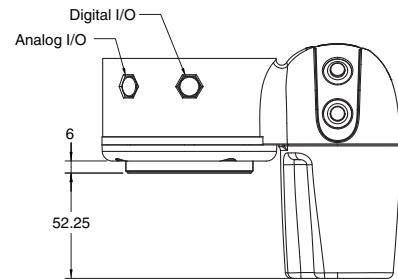
TM5-700



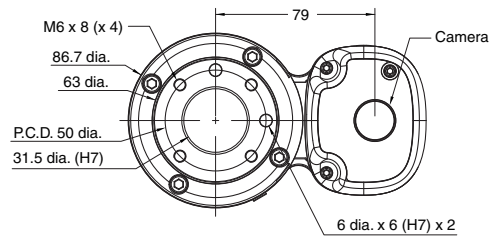
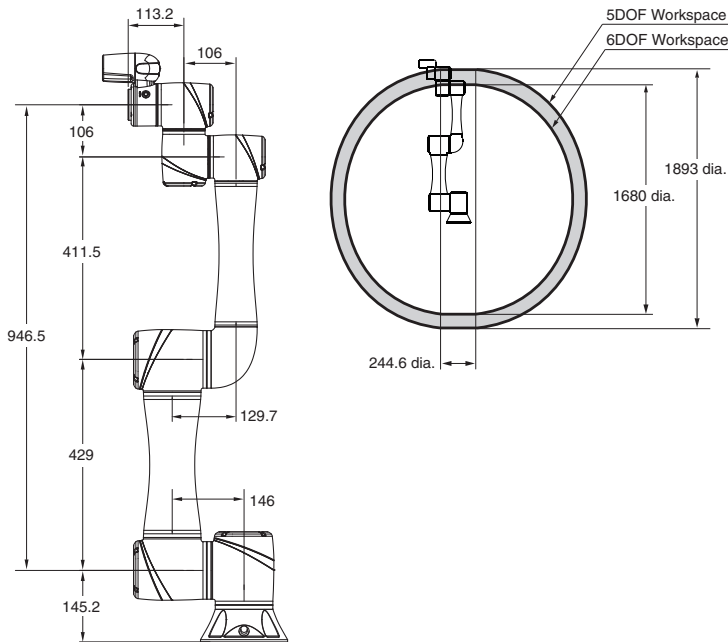
Footprint



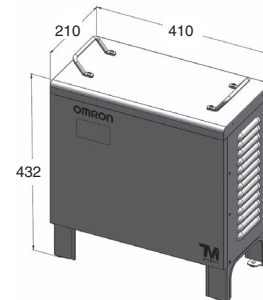
Flange



TM5-900



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	<ul style="list-style-type: none"> 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) 			<ul style="list-style-type: none"> 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.
- 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.



TM12

TM14

Specifications

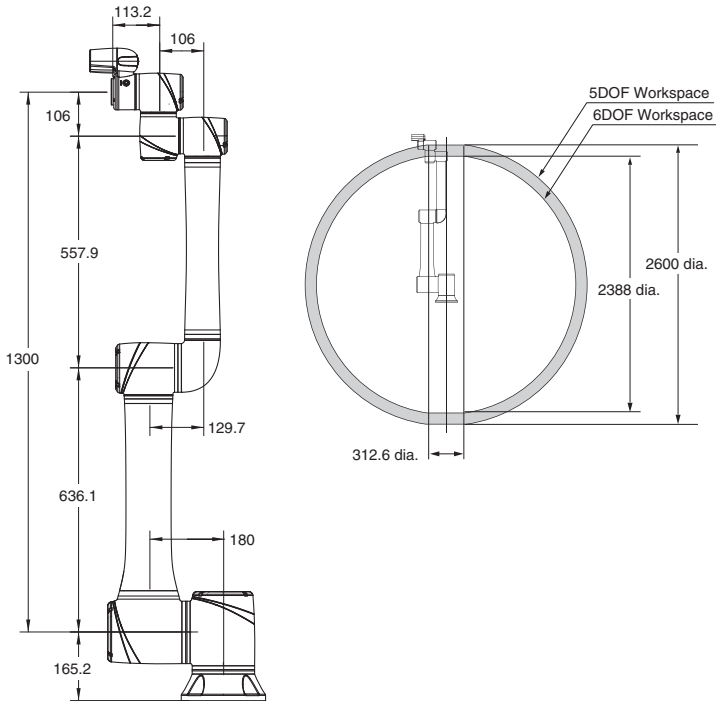
Product Name Model		TM12/14					
		TM12 RT6-1001300	TM12M RT6-1101300	TM12M SEMI RT6-1101310	TM14 RT6-2001100	TM14M RT6-2101100	TM14M SEMI RT6-2101110
Weight (kg)		33.3			32.6		
Max Payload (kg)		12			14		
Reach (mm)		1300			1100		
Typical Speed (m/s)		1.3			1.1		
Joint Range	Joint 1	±270°					
	Joint 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.

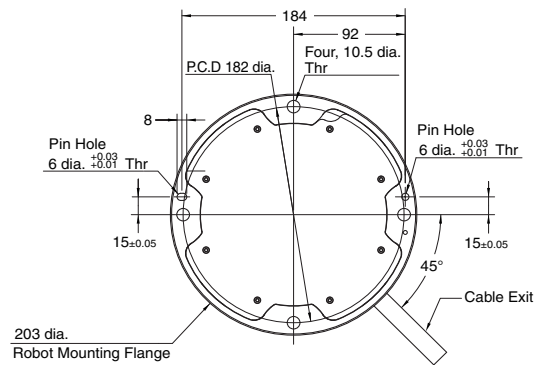
Dimensions

(Unit: mm)

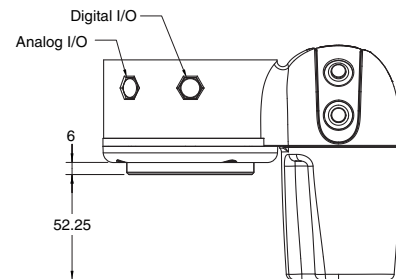
TM12



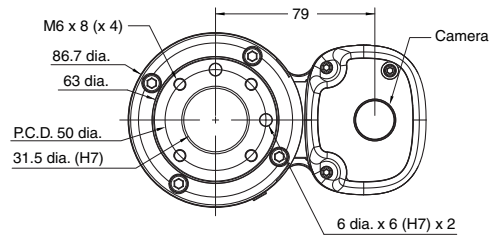
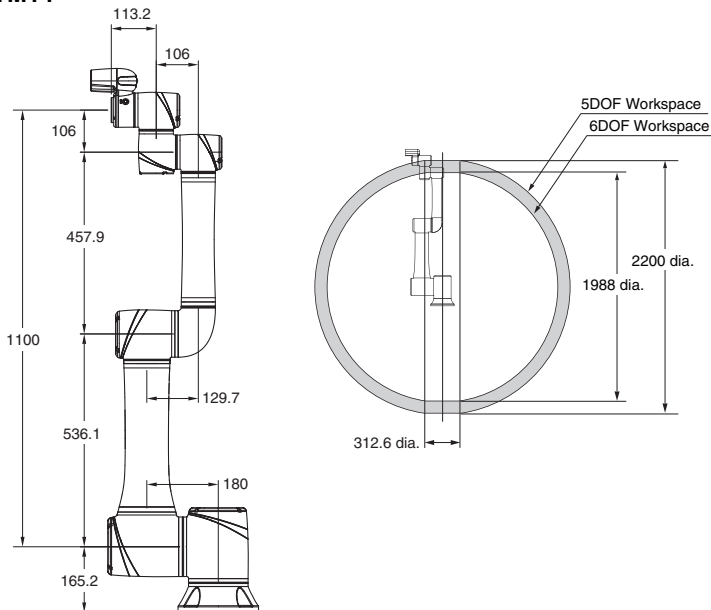
Footprint



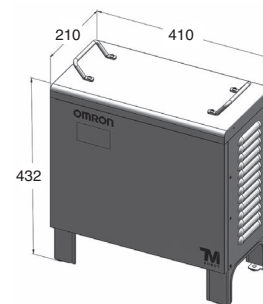
Flange



TM14



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	<ul style="list-style-type: none"> 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) 			<ul style="list-style-type: none"> 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.

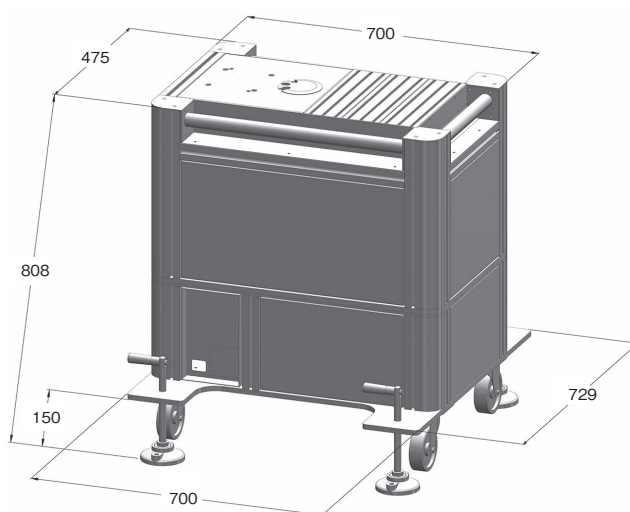
Software

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 proqraming 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

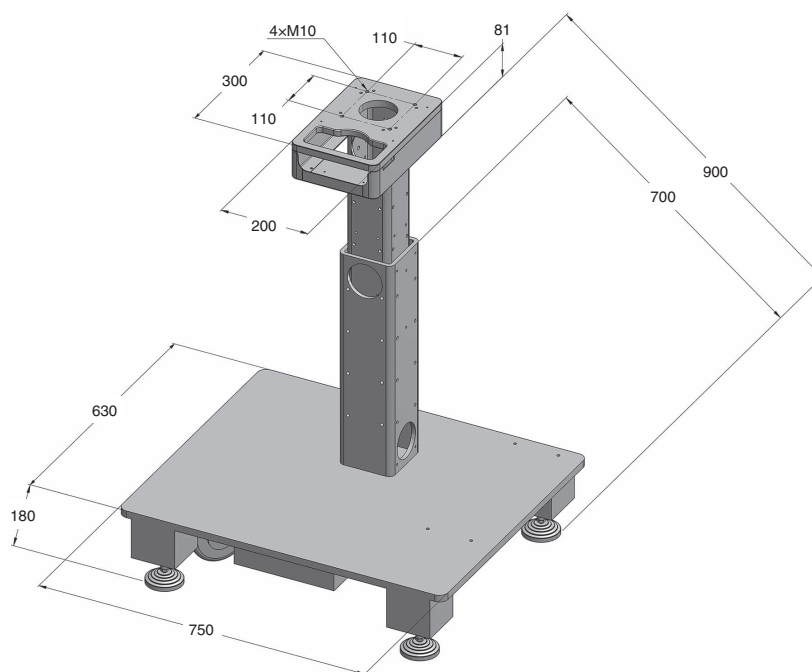
Dimensions

(Unit: mm)

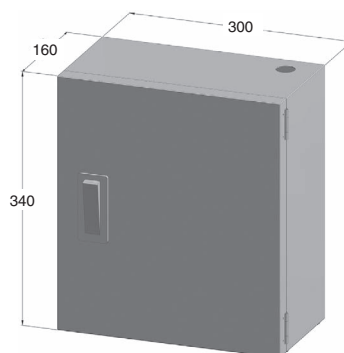
Mobile Work Station (MWS)



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
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

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

Terms and Conditions Agreement

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.

(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles - Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : <http://www.audin.fr> - Email : info@audin.fr

OMRON Corporation Industrial Automation Company

Kyoto, JAPAN

Contact: www.ia.omron.com

Regional Headquarters

OMRON EUROPE B.V.

Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ASIA PACIFIC PTE. LTD.

No. 438A Alexandra Road # 05-05/08 (Lobby 2),
Alexandra Technopark,
Singapore 119967
Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON ELECTRONICS LLC

2895 Greenspoint Parkway, Suite 200 Hoffman Estates,
IL 60169 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ADEPT TECHNOLOGIES, INC.

4550 Norris Canyon Road, Suite 150, San Ramon, CA 94583 U.S.A.
Tel: (1) 925-245-3400/Fax: (1) 925-960-0590

OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

Authorized Distributor:

© OMRON Corporation 2018-2019 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

CSM_1_2_0419

Cat. No. I837-E1-02

0419 (1018)