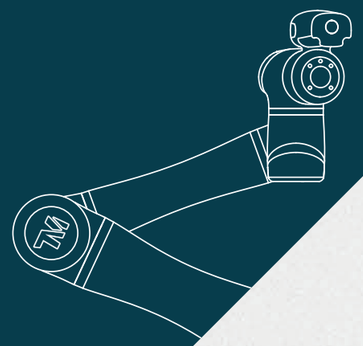

TECHMAN
ROBOT

CLOSING THE GAP™

- Solve Technical Challenges
- Overcome Integration Difficulties
- Realizing Smart Factory

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Social media

Techman Robot

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About Us

SMART SIMPLE SAFE

In the world of automation, there are still many gaps that need to be addressed with technology development and continuous innovation. From cobots to factory management software, from machine vision to AI, Techman Robot offers a variety of products and solutions that will assist you to seize the future in the era of **industrial 4.0!**

Founded in 2016, **Techman Robot** is a Taiwanese manufacturer that focuses on collaborative robots and industrial automation solutions. We are the subsidiary of the famous world-class notebook manufacturer, Quanta Computer, and are supported by its strong R&D team and massive global resources. Right now we are operating across from Asia, Australia to Europe and America. We have branches and offices in China, Korea, and the Netherlands, along with over 100 distributors all around the world. We are providing advanced automation products, solutions, and localized services including collaborative robots with built-in vision, smart factory management software, and system integration service.

Our HQ and streamlined production are all based in Hwa-Ya Technology Park of northern Taiwan, the site covers all activities including Product research, development, production, and other manufacturing functions. The whole process is verified by international standards like ISO9001, ISO14001, ISO10218-1 and ISO/TS15066. Four years after the launch of our first cobot arm TM5, we have gained the 2nd place position in global market share due to our unique product design and excellent quality. In 2019, we expanded our factory for greater capacity to keep up with the fast-growing market demand. We are also growing our R&D capability, launching a series of smart software that helps enterprises gather data from their factories and make key decisions in a more efficient way.

Up to the present, Techman Robot has obtained many patents in Taiwan, the United States, and China, with dozens more currently under review. Our industry-leading collaborative robots have also earned recognition from prestigious awards bodies including the iF Product Design Award, Red Dot Award, Golden Pin Design Award, COMPUTEX d&i Award, and Taiwan Excellence Awards. We are determined to assist business owners in breaking boundaries between technologies and realize the future of smart manufacturing.

2021 Closing the Gap

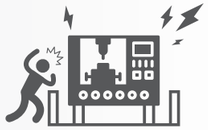
TM Global Distributors

CLOSING THE GAP™

Techman Robot is dedicated to assisting enterprises to close the gap between humans, machines and systems and keep moving toward smart manufacturing in the era of **Automation 4.0!**

Human-Machine gap caused by safety concerns

- Traditional Robot



Human-machine separation

- Techman Robot

Human-machine cooperation

Human-Machine gap caused by deploying difficulties

- Traditional Robot

Complicated coding process

- Techman Robot

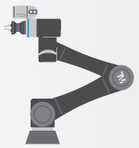
Intuitive and graphical compiling process

Human-Machine gap caused by maintenance difficulties

- Traditional Robot

High maintenance costs

- Techman Robot



Low maintenance costs

Machine-Machine gap caused by system integration difficulties

- Traditional Robot

Required large efforts and cost to integrate different equipment

- Techman Robot

Provide series of SW&HW integrated solution

Realizing Smart Manufacturing

Significant Cost Reduction

Cut Down Extra Expense & Time Consuming

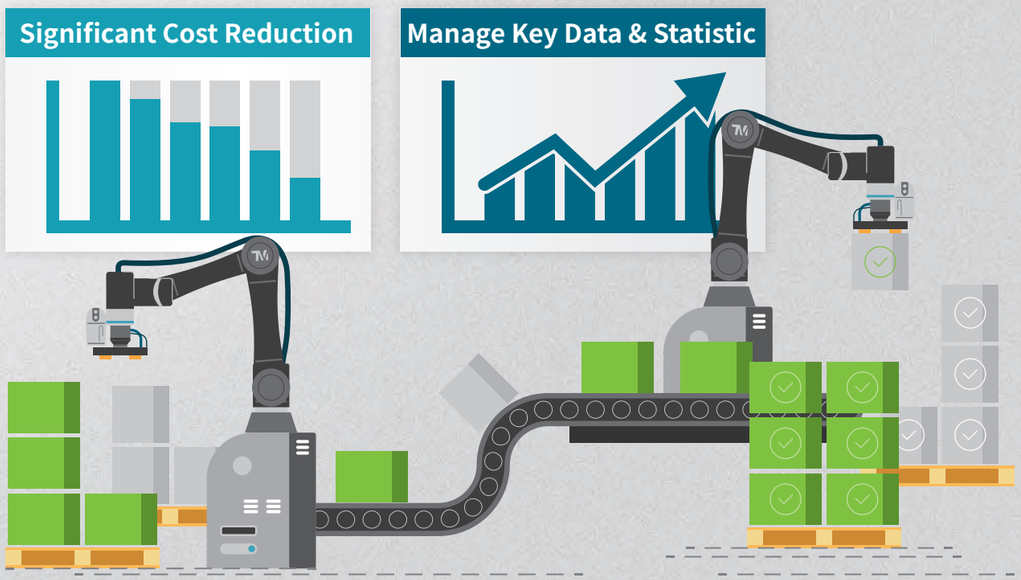
- TM Robot series are equipped with built-in vision system, they also come with TM Plug&Play™: a series of pre-verified devices, including end effectors, external cameras, force sensors, and etc. Just plug it into the cobot and you are all set, no extra expense or time needed!
- Reduce the physical demand for fixtures on the production line and adapt the trend for a low-volume and high-mixture type of production.

Less Manpower Costs at Every Stage

- TM Robot uses a graphics-based UI – TMflow™ to replace traditional coding UI. Allowing non-coding background users to learn and adapt in a short time.
- TM Robot offers a series of pre-integrated software that will reduce the difficulties for system integration and make it easier for maintenance.

Manage Key Data & Statistic

- TMmanager will help you effectively manage real-time data of all robot arms and other equipment in your factory, and optimize your management strategy & decisions with these data.

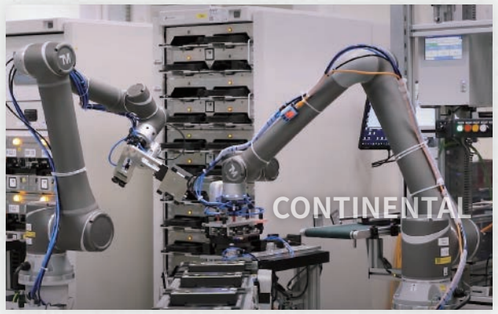


Case Study

Techman Robot offers a series of cobot and smart software that can be applied to multiple industries and applications. Besides popular industries such as semiconductor, electronics, plastic, and metal manufacturing, industries that also require high efficiency and quality such as food manufacturing, food service and other industries are also starting to join the trend of industrial automation.

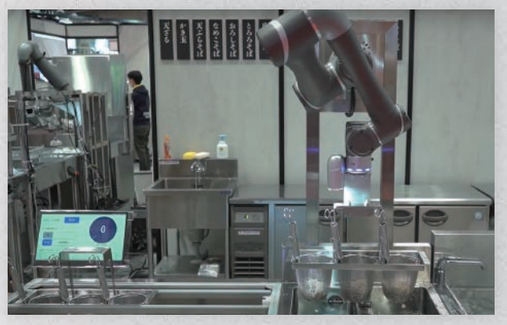
Continental

As a well-known global manufacturer of automotive parts, Continental's factory in Budapest was steadily expanding, however, it was getting more challenging to find the right manpower. See how Continental uses TM Robot to solve this issue to further enhance their productivity and efficiency.



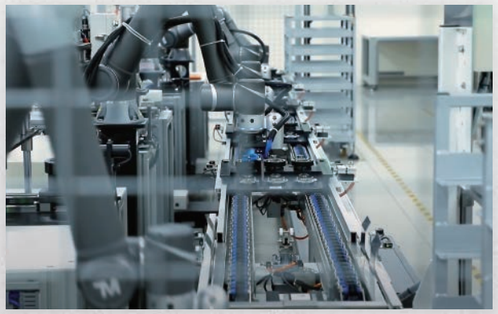
Application Examples In Japan's Food Service Business

These TM Robots can be implemented in restaurants or street stalls in Japan, work environments that don't usually come to our minds when thinking of automation and cobots, but they are a great fit for the food and service industry!



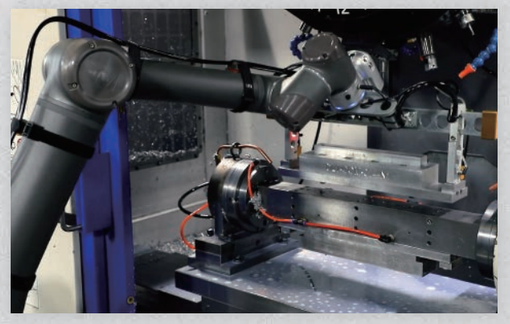
Techman Robot Factory

As a leading brand that aims to close different gaps within industrial automation, our collaborative robot production goes through an automatic production line that consists of TM Robots assembling new TM Robots.



Chuan Yang Precision Co.

Our graphical and easy-to-learn UI designed for TM Robots greatly helped staff members at Chuang Yang to quickly pick up robot control and operations in a short time. The embedded vision function of TM Robot also enhances production efficiency while maintaining consistent product quality.



TM Robot Series

SEMI S2 ISO 10218-1:2011 ISO/TS 15066:2016 CE

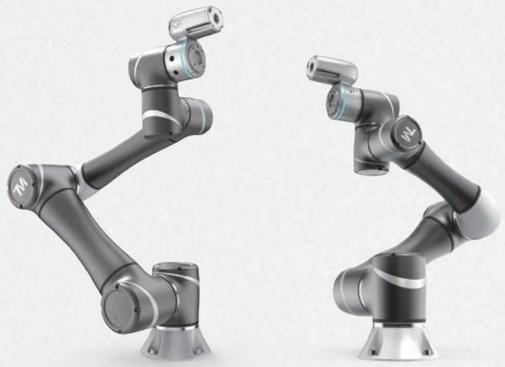
TM Robot offers cobots with different payload capacities and reaches that can satisfy the needs of different types of applications and industries.

TM5-700 / TM5-900
Regular Payload Series

TM5's built-in vision system allows the robot to identify different objects, carry out self-calibration, and perform visual tasks. And the intuitive user interface & hand-guide teaching mode significantly reduces the difficulties for users to learn how to operate.

TM5-700
- Reach: 700 mm
- Payload: 6 kg

TM5-900
- Reach: 900 mm
- Payload: 4 kg



TM5-900 TM5-700

TM5X / TM12X / TM14X
Pure Cobot Arm without Embedded Vision

TM Robot Series offers robot arms with no built-in vision for users who wants to integrate external cameras by themselves. Feel free to check on the pre-verified list of cameras from our TM Plug&Play™ series to save time on finding a compatible camera.

TM12 / TM14
Medium-Heavy Payload Series

With higher payload and reach, TM12 & TM14 are suitable for industries and applications that require robot arms to handle heavy objects. Such as metal manufacturing, automotive or panel manufacturing.

TM12
- Reach: 1300 mm
- Payload: 12 kg

TM14
- Reach: 1100 mm
- Payload: 14 kg

TM12 TM14

TM5M / TM12M / TM14M
TM Mobile Series

TM Mobile Series cobots can be integrated with almost all AGV/AMR brands on the market. With its embedded vision and TM Landmark vision function, the mobile series is extremely suitable for applications and tasks that require mobility. Such as machine tending or palletizing.

TM Robot Series

TM Robot 3S

SMART

Vision Makes our Cobot Smarter

Built-in vision system makes different task more flexible and easier. No additional vision system integration is needed!

SIMPLE

No Engineering Background Required

TM Robot uses a graphical UI and make task editing looks like drawing a process flow. No programming background required!

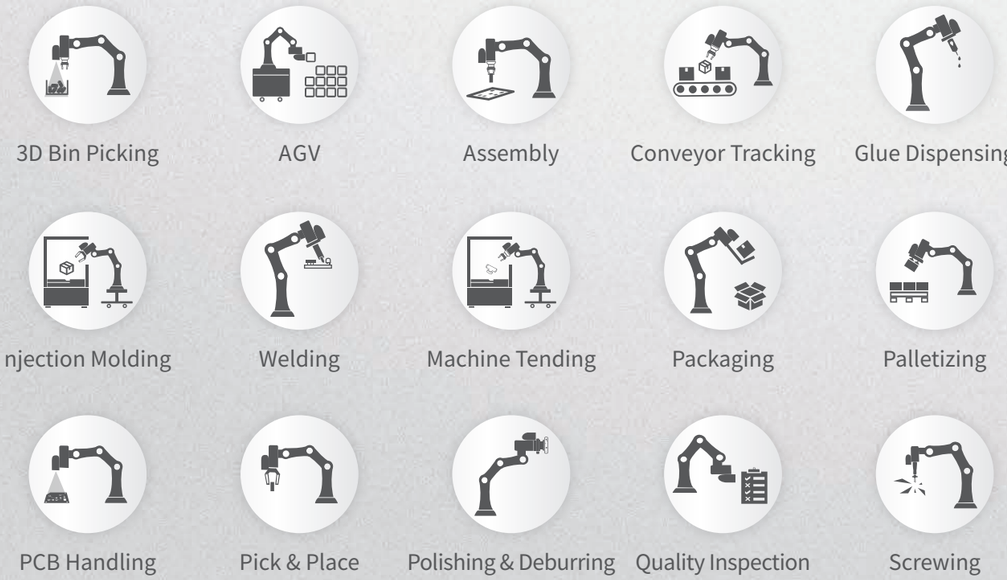
SAFE

Pressure-Free Working Environment

TM Robot meets the criteria of international safety regulations such as ISO10218-1:2011 and ISO/TS 15066:2016, providing a carefree working environment for your workers!

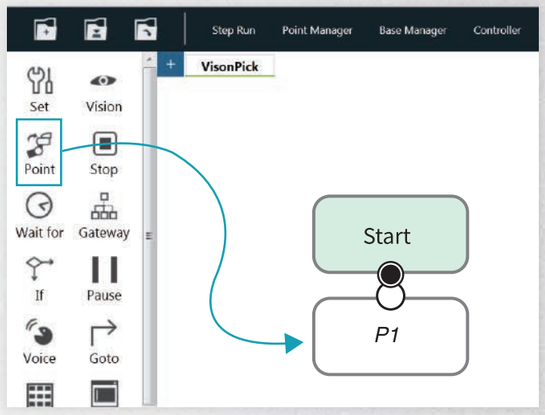
Applications

TM Robot's 3S features allow them to be easily introduced in various of application.

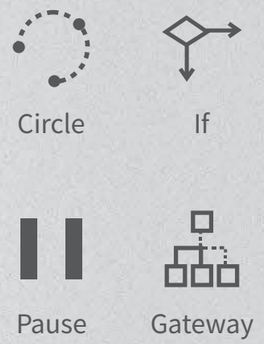


TMflow™

TMflow™ is the innovative graphical UI of TM Robot. It includes dozens of function nodes that are shown as different icons. Users can drag and combined these nodes to make a set of motion for robot arms to complete the task instead of coding.



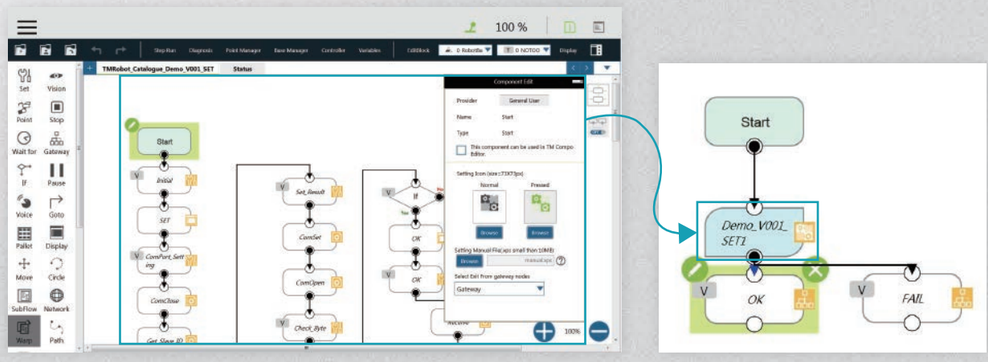
- Graphical user interface



- Using different function nodes to compile a task

TM Component Editor™

TM Component Editor™ provides developers with components compiled by TMflow™ projects as independent nodes for users to compose with other projects easily or for applications in parallel developments with simplified data density.



TMvision™

TMvision™ is TM Robot's ebbeded vision function that gives TM Robot the ability to "see" and interpret visual data into command prompts. It's one of the core features that makes TM Robot superior to traditional industrial robot.
TMvision™ includes basic functions such as visual recognition, positioning, image enhancement, barcode identification, and so on.

Main Functions

Item detection module

Supports shape-based / image-based pattern matching, position alignment, and irregular item detection to identify a certain object within the vision field. Users can also use an external image processing system to perform object detection and send the result back to TMvision™.

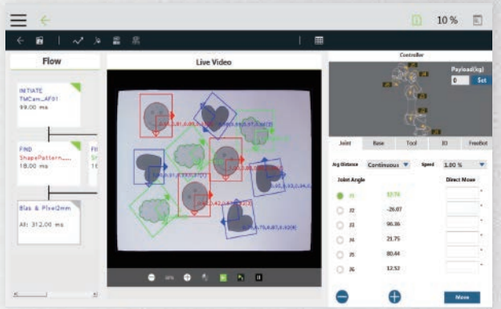
Barcode identification module

Supports barcode/QR Code/2D DataMatrix reading, color classification, and string matching. Users can also use an external system to perform classification and send the result back to TMvision™.

Image enhancement module

Supports contrast enhancement, image smoothing & thresholding, morphology, color plane extraction and image flipping.

TMvision™

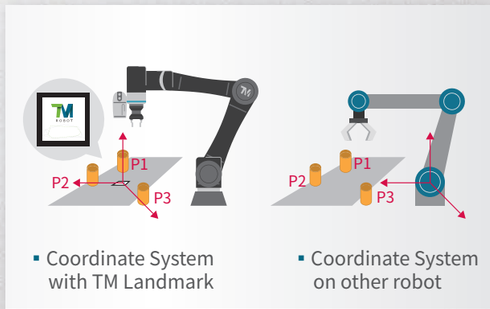


Vision Node UI

TMvision™'s vision node UI was designed to be process-oriented and easy-to-use. Users only need to follow the flow and adjust the parameters step by step, and preview the result. Then the task is ready to be deployed!

Visual Calibration

TM Calibration board can largely reduce the complexity of visual calibration process. Whether users are using EIH, ETH or Upward-looking camera, just simply place the calibration board under the camera, press the button and TMvisionTM will do all the work!



TM Landmark

General robot has the coordinate system built on its base, when the relative position between the objects and the robot changes, the robot require re-adjustment. With TM Landmark, the coordinate system is built on the landmark, the robot will only need to scan the landmark and the coordinate info can be updated without re-adjustment. This is especially recommended to robot with AGV!

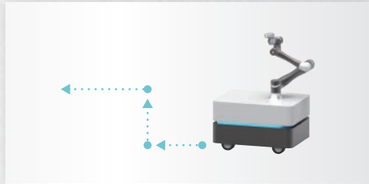
TM Robot Mobile Series

The combination of Cobot Arms + AGV/AMR has received increasing attention from factories and enterprises. The solution provides multi-function capability, flexibility, and high mobility. With TM Robot, an extra value of embedded vision is added to the solution. It will significantly reduce the calibration time needed after each movement and improve the overall utilization rate for the factory.

Product Features*

- Embedded vision and TM Landmark function can greatly reduce the calibration time
- TM5/TM12/TM14 all comes with mobile version
- DC power-supply design can be integrated with almost every AGV/AMR brand
- Provides SEMI-S2 verified version which is suitable for the semiconductor industry

AGV/AMR in Combination with TM Robot

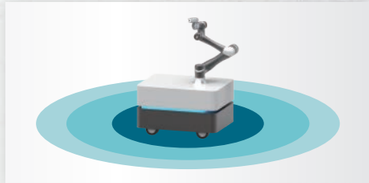


Speed Up Point Teaching and Task Editing Process

Point teaching and task editing are a lot of work to manage cobots that are constantly moving around in the factory. TM Robot's graphical UI doesn't require coding and will drastically shorten the time needed.

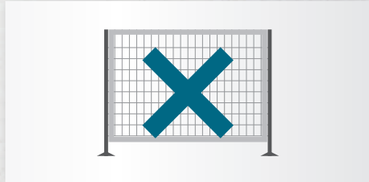
Integrates With TM Smart Software*

With TM software such as TM 3DVision™, TM AI+™ or TMmanager, users can incorporate more complicated vision applications into production or connect the AGV/AMR with factory management tools.



High Safety Working Environment

Besides setting up the working area for TM Robot, users can further set up LiDAR or sensors within the factory and set up low-speed areas and deactivate areas for the robot.



No Additional Fences

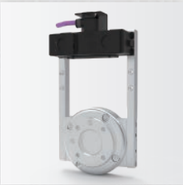
TM Robot meets the criteria of international safety regulations so thereis no need for installing additional fences. Thus, this increases your factory space utilization rate.

Optional Accessories**

- TM Landmark

- TM SSD

- TM External Power Supply



- TM Compact 3D Camera Package

* The solution only includes mobile version cobot arm.
** Please refer to Techman Robot official website for more information about the accessories.

Application Examples

- Machine Tending

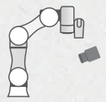
- Pick & Place (Wafer)

* Please refer to the following pages of this catalog or go to our official website to find out more about our software products.

TM Add-On Series

TM Add-On includes a series of software tools developed for TM Robot which provide access to advanced functions and allow the users to discover more application scenarios or integrate TM Robot with external systems and programs.

TMvision™ Add-On



External Vision Module (2D)

Connect an external camera to TM Robot for different vision applications such as Eye-to-Hand or Upward-looking.

TM 3DVision™

Enhance the precision and accuracy in vision tasks that involve objects with diverse forms or involve changes in height/depth.

AI Module

Enables TM Robot to perform AI classification and AI detection based on a pre-trained AI model.

Other Advanced Vision Function Module

Including OCR, identify and measure module.

TMflow™ Component Editor

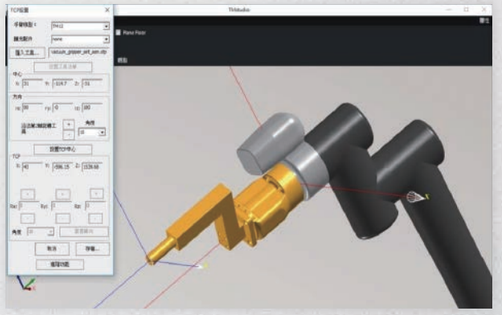
The TMflow™ Editor enables you to perform offline project editing on personal devices such as notebooks or tablets without connecting it to the cobot arm. The edited projects can be uploaded to a cobot arm control box afterward, allowing you to work with more flexibility.

TMstudio

TMstudio includes 3 different simulation tools, these tools will help users to construct an 3D environment of the workstation, and also the related equipment, cobot arm and end effectors. Users will be able to make a complete evaluation while editing a project.

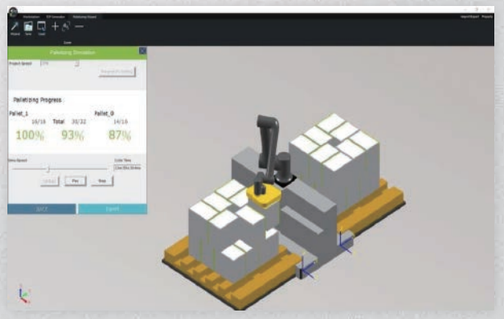
Workstation Module

The Workstation Module allows users to import 3D file of the cobot, working objects and other surrounding equipment and build a simulated workstation in advanced for evaluation.



TCP Generator

The TCP Generator allows users to create the TCP data of a certain end effector and import the data to TMflow™.
TCP data is critical when using TMvision™ or TM 3DVision™ function.



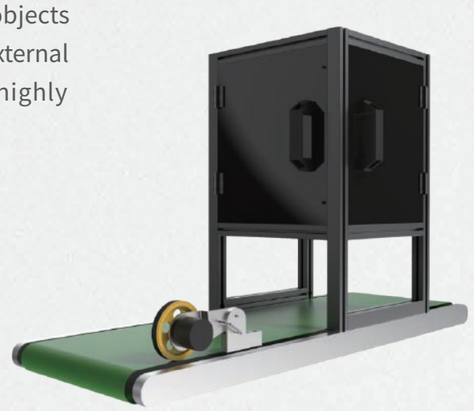
Palletizing Wizard

The Palletizing Wizard is design for palletizing application. It enables user to setup a palletizing task in a short time by setting different parameters. Such as, pallet size, box size, maximum layers, stacking directions and etc.

TM Add-On Series

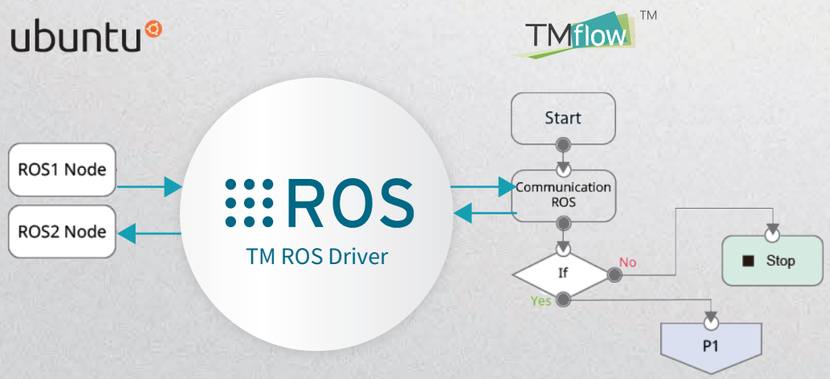
TM Conveyor Tracking

TM Conveyor Tracking can capture information about the position and orientation of objects based on TM Robot's built-in vision or external vision systems sensors and perform highly accurate dynamic conveyor tracking.



TM ROS Driver*

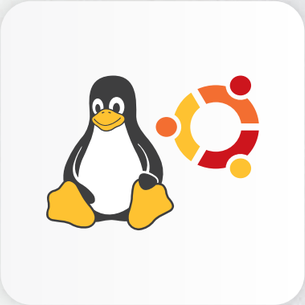
TM ROS Driver is designed for developers who want to control TM Robot with their own-developed programs. TM ROS Driver can connect TM Robot's operating software (TMflow™) with an external program and transfer the control of the robot between the two based on your need.



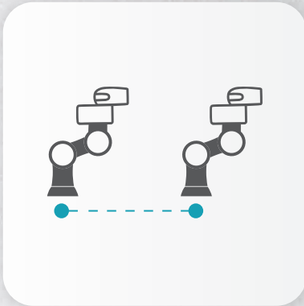
*Please visit Techman Robot official website to download TM ROS Driver

TM Robot Management API

Nowadays, businesses are introducing IoT management systems into their factories, collecting data from all equipment and devices for monitoring and analysis. Our TM Robot Management API assists system developers to integrate TM Robots into their existing system with ease. Thus, helping factory owners to enhance business value and ROI leveraging IoT.

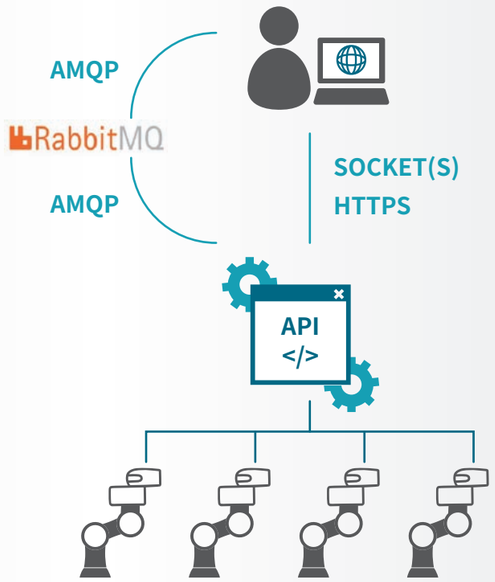


- Support platforms like Linux or Ubuntu



- Connecting multiple robot arms for IoT Management

- Quick Integration with unlimited languages



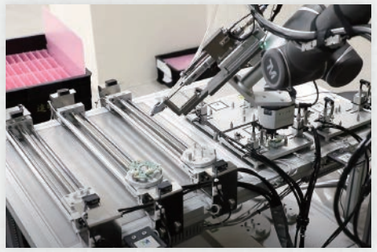
Industries Application

Pick & Place

TM Robot can independently complete pick & place applications with the aid of our built-in smart vision system. Its high flexibility in deployment schedule helps you improve your productivity across the factory.

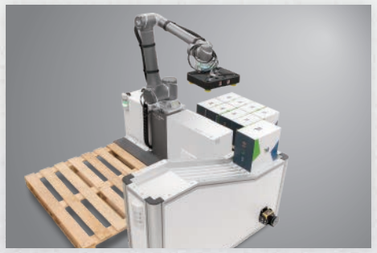
Assembly

The exclusive TM Landmark technology uses smart vision to accurately locate and assemble parts. It can also be used with TM Plug & Play™ force control sensors to help assemble more sophisticated parts and components.



Smart Palletizing

The smart vision system can accurately identify and automatically correct the location of objects and pallets. The innovative TMflow™ also provides users to do quick program editing.

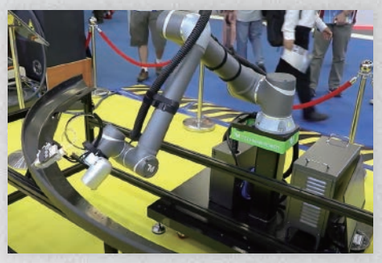


Quality Inspection

TM Robot's smart vision system can used with the optional TMvision™ function to carry out automated optical inspection, for monitoring product quality, and reduce the risk of human errors.

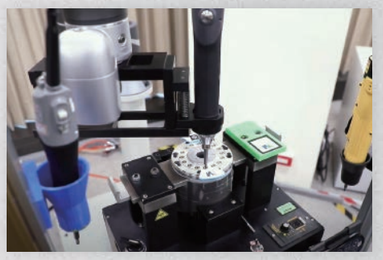
Glue Dispensing

TM Robot is a cobot that supports rapid production line re-configurations, which is especially suitable for manufacturing low-volume but high-variety production. Third-party software can also be implemented to allow gluing on curved surfaces.



Screw Driving

The built-in vision system can accurately locate every screw position, and can also be combined with force sensors to ensure the assembly of every screw and component during the production process.



Polishing & Deburring

The force sensors from TM Plug & Play™ partners can be used to control the polishing process, with third-party programming software, it can also be used operate polishing and deburring of complex curved surfaces.

Machine Tending

It is easy to teach the robot to preform visual tasks, and you can also quickly integrate robots to the material production machine. It can complete the material loading and unloading application quickly, and also have high flexibility to deploy incoming materials.

TM Operator Series

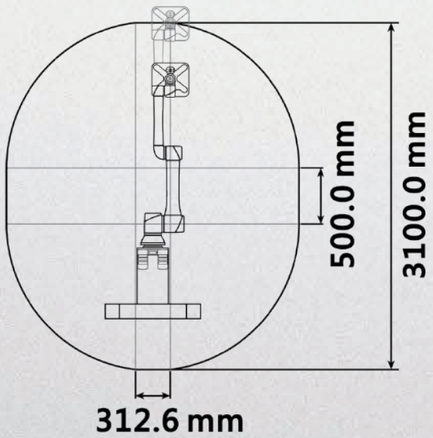
The TM Operator series offers solutions that are designed for different roles in the industrial automation chain. Whether you are a business manager that is seeking for a complete automation solution, or a system developer that wishes to build your own solution with TM Robot, you can all find the right solution here.

TM Palletizing Operator

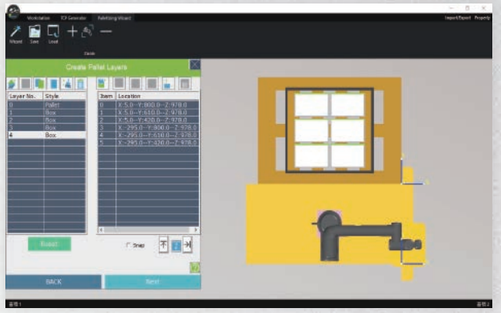
TM Palletizing Operator is a robot operator built for palletizing applications which can be installed and deployed in a short time. It contains step-by-step user software that helps you create a palletizing task by setting parameters such as palletizing modes, box & pallet size and etc. It greatly shortens the time required from a couple of months into less than an hour and it's highly recommended for warehouse or to be installed in logistic areas within different businesses.

Product Features

- Comes with embedded vision, it also supports connecting with external cameras.
- Changeable end effectors.
- Comes with a pillar, teach pendant, and indicator lights.
- Includes TMstudio Palletizing Wizard software that supports five different palletizing modes.
- 17 Certified PL=d Cell level safety functions and multiple safety certifications.



- TM Palletizing Operator working area



TM Palletizing Wizard

Our software provides a simple and intuitive interface that will guide you through a palletizing task step-by-step, and you can also preview the task result.

Integrated with TMflow™

TM Palletizing Operator is integrated with TMflow™ software, so that you can easily make detailed justifications on TMflow™, such as adjusting the pillar height, the motion of the end effectors, and etc.

Basic Specification

Specification	TM Palletizing Operator-TM12
Stack Height*	General 1200mm, Max. 1900mm
Maximum Payload**	10kg
Maximum Pallet Speed***	Up to 7 boxes/object per minute
Certification	CE, Machine Directive 2006/42/EC, ISO 12100, EN 60204-1, ISO 10218-2 (partly completed machinery), ISO 13849-1, ISO/TS 15066
Safety Functions	17 cell level safety functions with 3rd Party certification PL=d according to ISO13849-1
Teach Pendant	10.1" capacitive touch screen, with ESTOP and Enabling Switch, Cable length: 3m, 2 USB ports provided
IP Rating	IP54 for Robot Arm, IP65 for Teach Pendant, IP 32 for Gripper and rest parts
Interface	Support multiple safety inputs and safety outputs: emergency stop, safeguard pause, Safeguard Human-Machine Safety Setting
Software	Offline programming & Simulation: TMstudio Palletizing Wizard etting and Running: TM Palletizing Operator Software Packages
Eye in Hand(Built in)	1.2M/5M pixels, color camera
Eye to Hand(Optional)	Support Maximum 2 GigE cameras

*The maximum stack height indicates the use case of single-box stack within proximity. In the use case of maximum pallet size (1219mm×1016mm), it can generally reach 1,200 mm. Differences in box size, box layout and gripper might affect actual stack height.
**The payload at robot flange is 12kg.
***Depends on box weight, dimensions, surface, pallet dimensions and layouts.

TM Operator Series

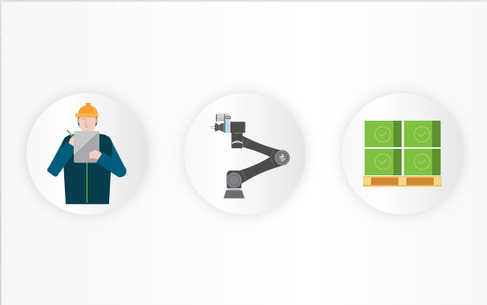
TM Palletizing Operator Kit

TM Palletizing Operator Kit is a software that aims to help users build a flexible palletizing automation solution. The palletizing area may vary in different production sites and has different layouts and spacing. The kit allows users to build a palletizing operator with *customized layout, and create a corresponded palletizing project.

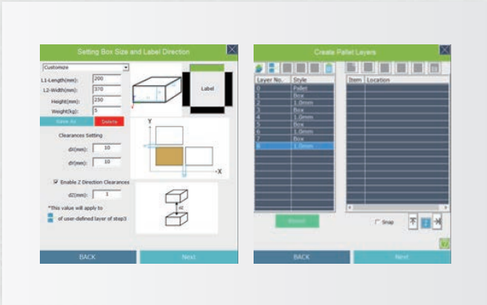
Product Features

- Integrates Techman Robot's smart software: TMflow™ and TMstudio
- Provide users the flexibility to build customized hardware layout

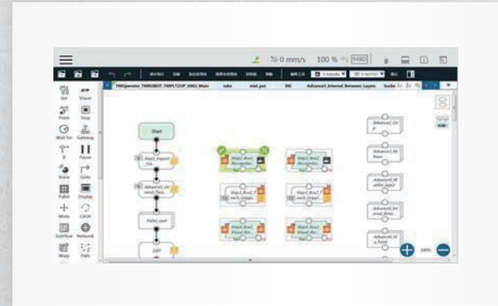
How Does It Work?



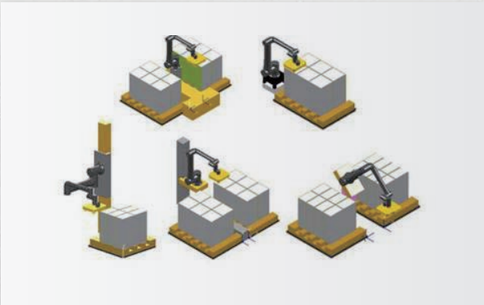
1. Users design a proper hardware layout for their palletizing operator based on their production site.



2. Setup related parameters with TMstudio Palletizing Wizard and generate a customized project file for TMflow™.



3. Adjust detail settings on TMflow™ such as the moving path of the arm, the height of the pillar, the behavior of endeffector, and etc.



4. A customized palletizing operator is completed!*

*Please refer tp TM Palletizing Operator Kit product instruction for more information on building customized layout.

Palletizing Modes for TM Palletizing Operator & TM Palletizing Operator Kit

TM Palletizing Operator and TM Palletizing Operator Kit provides five different palletizing modes:

- Palletizing same/different types of boxes

- De-palletizing same/different types of boxes

- Switching pallet

TM Palletizing Operator & TM Palletizing Kit Comparison

	TM Palletizing Operator	TM Palletizing Operator Kit
TMstudio	Yes	Yes
TMflow™	Yes	Yes
Hardware Configuration (Pillars/Power box/Indicator lights)	Included	Users prepare and install based on their needs
Suitable Users	Users who are looking for an off-the-shelf palletizing solution	Users who have integration experience and are looking for a software tool to build customized palletizing solutions

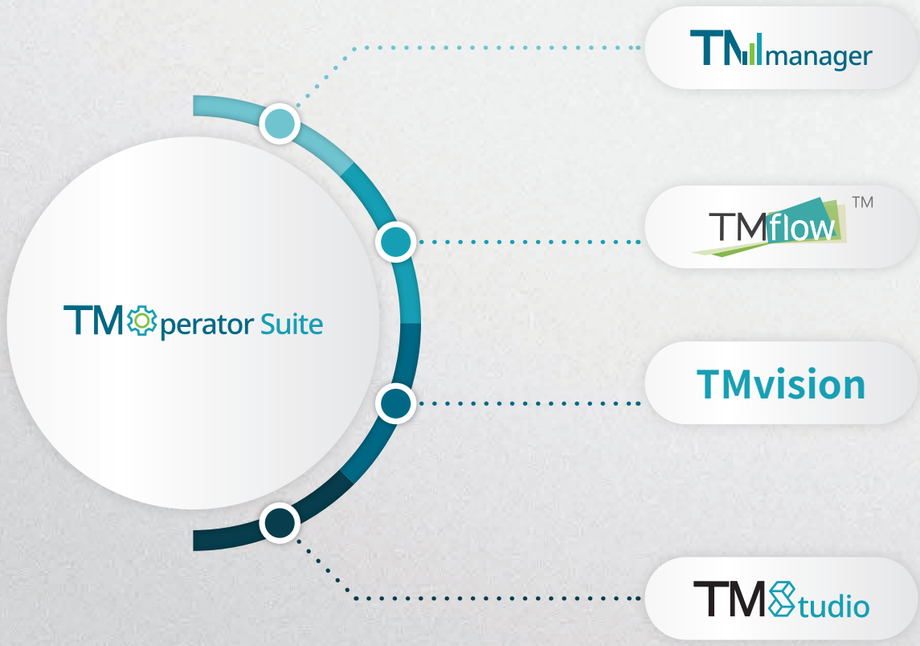
TM Operator Series

TM Operator Suite

The TM Operator Suite integrates TMflow™, TMvision™, TMstudio, and TMmanager. It will assist experienced system integrators to build robot operators for different applications, with TM Robot and their own know-how.

What You Can Achieve with TM Operator Suite:

- Combine TM Robot and user's know-how to build a flexible robot operator specialized in a certain application
- Based on different applications, build customized UI and dashboard for robot operator
- Integrate TM software function such as TMflow™ or TMvision™ into the customized UI
- Integrate machine vision and robot programming UI in a simple and easier way
- Duplicate your designed robot operator and expand your business



Robot Operator Examples

Here are some of the robot operator examples built with TM Operator Suite:

- Deburring Operator

- 3D Vision Operator

- Palletizing Operator

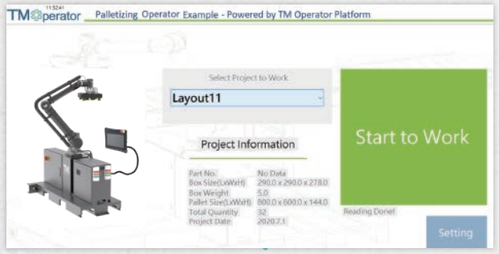
Traditional Robot Working Unit and Robot Operator Comparison

Traditional Robot Working Unit	Robot Operator
Robot arm, vision system and controlled by different HMI	TM Robot and the built-in vision systems are highly integrated and can be controlled in a single UI. Other external devices can be connected via Modbus or Socket.
Requires re-design once the application or working environment is changed	The editing and operating process of the UI can be adjusted based on actual demand
Relatively harder to integrate external resources (devices, software and etc.)	Additional software can be integrated into the existing UI (Ex: TM Palletizing Wizard)

TM Operator Series

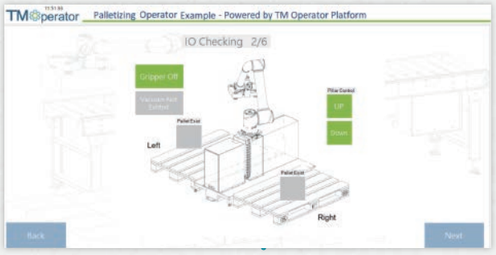
An Example of Palletizing Robot Operator built by TM Operator Suite

Build Intuitive UI with TMmanager



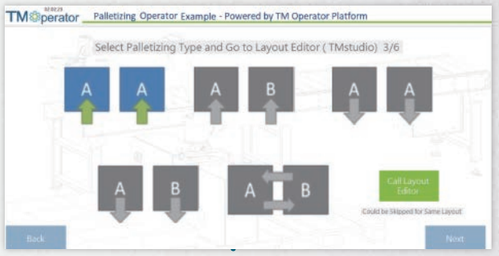
Seamlessly Integrating TMflow™/ TMvision™

Both functions can be called out in the self-built UI



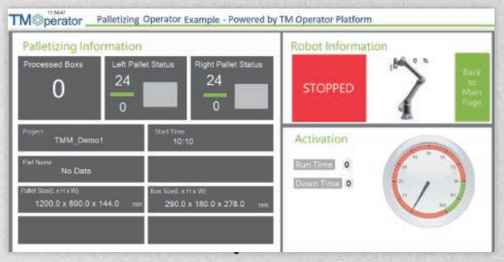
Calling Out External Software Function: TMstudio

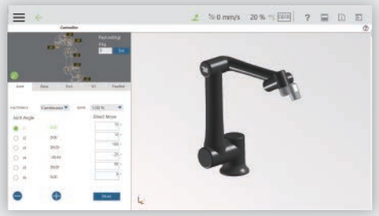
Let users set up a customized palletizing mode with TMstudio



Design Customized Dashboard to Monitor On-going Tasks

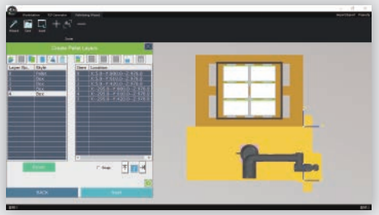
Determine which data to present on your dashboard





- TMflow™ Controller

- TMvision™ Interface



- TMstudio Palletizing Wizard

TM Smart Factory

TM Smart Factory provides a series of software solutions that help you optimize factory management and improve production performance. Factory managers can easily collect all data from robot arms, equipment, PLC, and other connected devices. These data will be stored in a centralized a database and can be used for advanced analysis and data visualization. Visualized data reports helps managers make better decisions and further improve production efficiency, product yield, and profitability.
TM Smart Factory also provide AI function that can be used to enhance the efficiency, reduce the error for robot arm or other vision applications within the factory.

TMmanager

TMmanager is a powerful software solution for equipment monitoring, data collecting & analysis, production line layout settings and managing.

Product Features

- Effort & Time Saving:

Simplified function enables line operators to easily configure production process settings independently.

- High Compatibility:

Connect with upper-level systems (MES, ERP and etc.) via MSSQL, reduce system integration difficulties.

- Real-time Monitoring:

Monitor real-time status with graphical data and dashboard.

- Smart Management:

Consolidate the management of "man", "machine", "material" and “method".

- High Flexibility:

Available for variety of production processes and activities.


Process Management


Work Order Management


Job Report Management

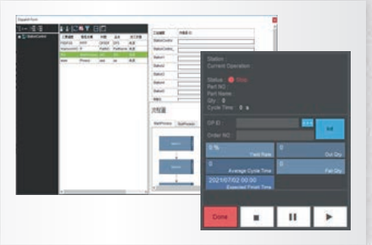

Dispatch System


SN History Search


Alarm Management

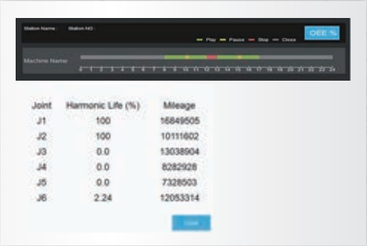

SN Management


Cutter/Jigs History



Man

- Dispatch Component: Decide work order priorities and assign operators to each work station
- Job Report Component: Automatically reports the production and capacity status



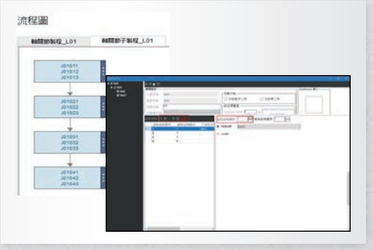
Joint	Harmonic Life (%)	Mileage
J1	100	16849505
J2	100	10111602
J3	0.0	13038904
J4	0.0	8282928
J5	0.0	7328503
J6	2.24	12053314

Machine

- Utilization Rate Component: Provide real-time and historical data
- Equipment monitoring and data collecting, all data are stored in database MSSQL
- Manage the life cycle of TM Robot

Material

- SN historical record: Records the activities of each serial number.



Method

- Graphic process flows can help users check the correctness of the flow
- Provide flexibility for users to adjust the process when there is an equipment malfunction, without affecting other on-going process

TMmanager can help you build

A smart factory that allows operators to create or adjust the shop floor control system, generate graphical data analysis reports and reduce the workload for OT & IT. Overall, it can save up to **75%** of the construction time of a factory.

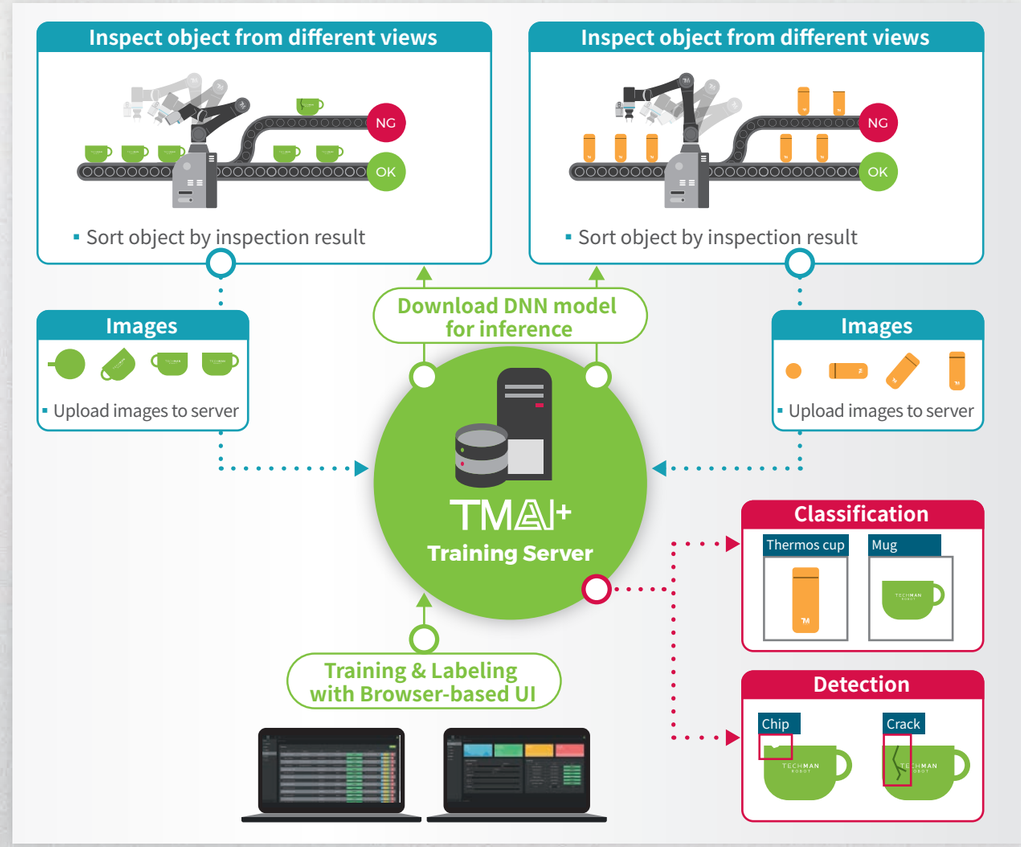
Note: OT = Operational Technologist ; IT = Information Technologist

TM Smart Factory

TM AI+™

TM AI+™ is a solution that integrates robot vision and AI. It enables the cobot to capture and accumulate vision data, then develop a model to help them execute vision tasks that are difficult to achieve with traditional robot vision. This solution can be widely used in many scenarios, especially when it comes to object classification or quality inspection.

TM AI+™ Solution Concept

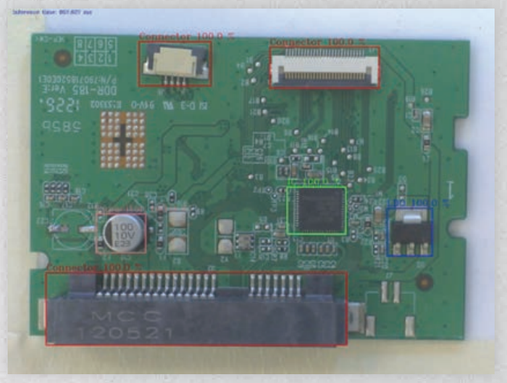


Product Feature

- A browser-based software interface that allows multiple users to access at the same time
- With TM Robot's build-in vision, the robot can directly upload image data to TM AI+™ Training Server. AI models that are finished training can be deployed to the robot
- All data are saved in local server instead of cloud, avoiding the risk of data leakage

Application Example

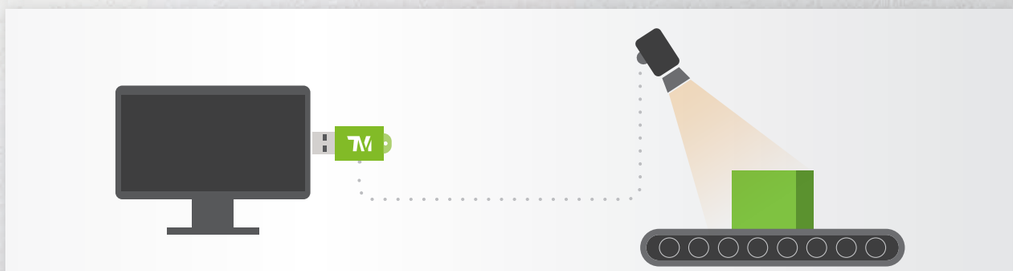
- Use AI Classification function to check the color of the wires and see if they are connected correctly



- Use AI detection function to check if the PCB lacks any component

TM SmartEdge

TM SmartEdge can further enhance the benefit brought by TMvision™ function. When the user requires multiple cameras at a certain workstation or vision function at a certain spot that is away from TM Robot, TM SmartEdge allows users to use the TMvision™ function without being limited by the location or production line configuration.



- Install the TM SmartEdge on a PC/IPC near the vision task execution spot and connect it to the camera to begin using TMvision™.

Product Features

- Same UI with TMflow™ & TMvision™, very easy to operate
- Can be combined with TM AI+™ and execute complicated vision tasks
- Techman Robot offers TM Plug&Play™ pre-verified cameras. No extra effort needed for camera integration

TM Plug&Play™ Solution

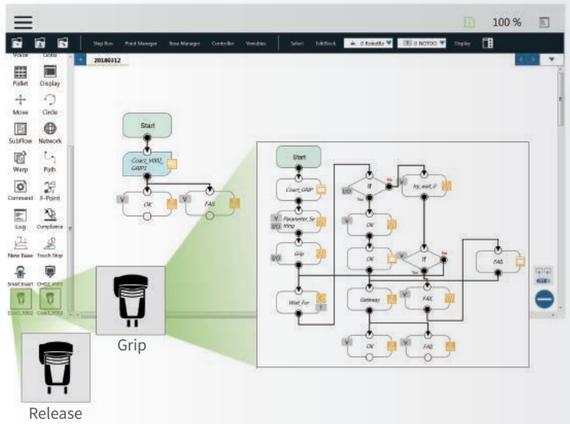
With the help of TM Plug&Play™, TM Robots can connect to multiple robotic peripheral products available on the market. TM Plug&Play™ is available as standard allowing users to easily integrate third party peripherals to the robot, considerably reducing time and cost.

Start to use within five minutes

Purchase TM Robot / Purchase TM Plug&Play™ solution → Download software package → Apply and test → Editing automation program

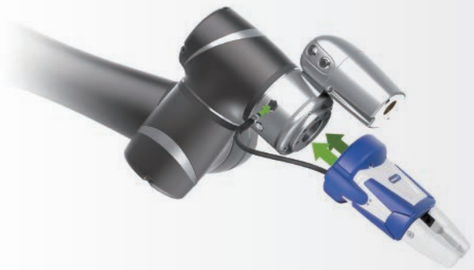
Simple, efficient, and fast production line introduction

Software package



+

Hardware package



▪ Screw Plug&Play example

TM certified, perfect integration, and usable upon installation

TM Plug&Play CERTIFIED

TM Robot works with peripheral equipment vendors to co-build a comprehensive TM Plug&Play™ eco system. Each certified TM Plug&Play™ product has been calibrated and tested by TM Robot and peripheral equipment vendors. This ensures that users receive the optimal user experience and the most reliable robot operating quality.


HIWIN SEG-24-TM


HIWIN STG-16-TM


HIWIN XEG-64-TM


OnRobot RG2-FT


OnRobot RG6


OnRobot VGC10


Robotiq Adaptive Gripper Hand-E TM-KIT


Robotiq Adaptive Gripper 2-Finger 85/140 TM Kit


Robotiq Vacuum Gripper EPick


Schmalz ECBPi TM-KIT

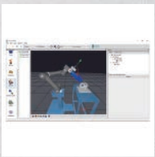

SCHUNK Co-act EGP-C for TECHMAN ROBOT


SCHUNK Gripping System for TM WSG-25


TOYO CHG2-S30-002


Zimmer HRC-03 TM-Kit


ATI 9105-TM-Axia80


AUTOMAPPPS Offline Programming Software for TM


Basler Industrial Camera


IDS Ensenso N35 3D camera


KILEWS Screw Driver Solution


Utrun PRO-Z DK Package Screw System for TM


OnRobot HEX-E / HEX-H


Robotiq FTS-300 TM-KIT


WACOH QRS-W200-K101-KIT


ADLINK EtherCAT I/O Expansion Modules


ADVANTECH Serial Device Server


ADVANTECH Modbus to PROFINET Gateways


Weidmüller u-remote


OnRobot Quick Changer


ROBOTIQ I/O Coupling


ZLÍN ROBOTICS Universal Mobile Stand


igus 3D e-chain TM Kit


Igus® 3D e-chain TM Kit – Velcro® Tape


Murrplastik FHS-C-Set


Murrplastik FHS-RS-Set


NABELL Robot Flex

More Information on www.tm-robot.com

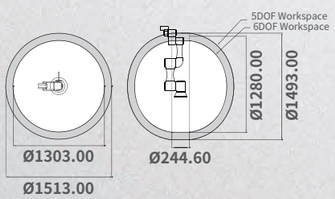
Specification

TM5-700 / TM5-900
Regular Payload Series

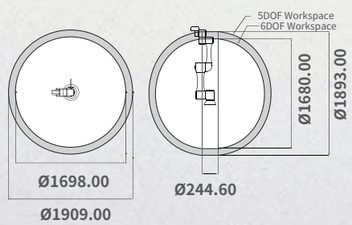
SEMI S2 ISO 10218-1:2011 ISO/TS 15066:2016 CE

Model		TM5-700	TM5-900	TM5X-700	TM5X-900	TM5M-700	TM5M-900
Weight		22.1kg	22.6kg	21.8kg	22.3kg	22.1kg	22.6kg
Maximum Payload		6kg	4kg	6kg	4kg	6kg	4kg
Reach		700mm	900mm	700mm	900mm	700mm	900mm
Joint ranges	J1,J6	+/- 270°	+/- 270°	+/- 360°	+/- 360°	+/- 270°	+/- 270°
	J2,J4,J5	+/- 180°	+/- 180°	+/- 360°	+/- 360°	+/- 180°	+/- 180°
	J3	+/- 155°					
Speed	J1,J2,J3	180°/s					
	J4,J5,J6	225°/s					
Typical Speed		1.1m/s	1.4m/s	1.1m/s	1.4m/s	1.1m/s	1.4m/s
Max. Speed		4 m/s					
Repeatability		+/- 0.05 mm					
Degrees of freedom		6 rotating joints					
I/O Ports	Control Box	Digital In: 16 Digital Out: 16 Analog In: 2 Analog Out: 1					
	Tool Conn.	Digital In: 3/4 (by Regional Model) Digital Out: 3/4 (by Regional Model) Analog In: 1 Analog Out: 0					
I/O power supply		24V 1.5A / 2.0A for control box (by Regional Model) 24V 1.5A for tool					
IP classification		IP54 (Robot Arm); IP32 (Control Box)					
Power Consumption		Typical 220 watts					
Temperature		The robot can work in a temperature range of 0-50°C					
Power supply		100-240 VAC, 50-60 Hz				24/48/22-60 VDC (by Reginal Model)	
I/O Interface		3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0, 1×VGA (by Reginal Model)					
Communication		RS232, Ethernet, Modbus TCP/RTU (master & slave), PROFINET (optional) ,EtherNet/IP (optional)					
Programming Environment		TMflow, flowchart based					
Certification		CE (by Regional Model), SEMI S2 (optional)					
Robot Vision							
Eye in Hand (Built in)		1.2M/5M pixels, color camera		N/A		1.2M/5M pixels, color camera	
Eye to Hand (Optional)		Support Maximum 2 GigE 2D cameras*					

*Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.

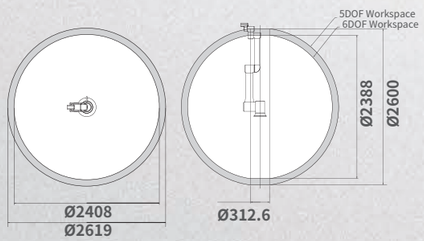


TM5-700,TM5M-700

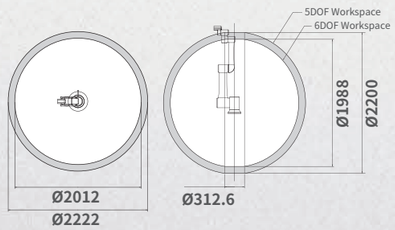


TM5-900,TM5M-900

Specification



TM12,TM12M



TM14,TM14M

TM12 / TM14

Medium-Heavy Payload Series

SEMI S2 ISO 10218-1:2011 ISO/TS 15066:2016 CE

Model		TM14	TM12	TM14X	TM12X	TM14M	TM12M
Weight		32.5kg	32.8kg	32.2kg	32.5kg	32.5kg	32.8kg
Maximum Payload		14kg	12kg	14kg	12kg	14kg	12kg
Reach		1100mm	1300mm	1100mm	1300mm	1100mm	1300mm
Joint ranges	J1,J6	+/- 270°	+/- 270°	+/- 360°	+/- 360°	+/- 270°	+/- 270°
	J2,J4,J5	+/- 180°	+/- 180°	+/- 360°	+/- 360°	+/- 180°	+/- 180°
	J3	+/- 163°	+/- 166°	+/- 163°	+/- 166°	+/- 163°	+/- 166°
Speed	J1,J2	120°/s					
	J3,J6	180°/s					
	J4,J5	150°/s	180°/s	150°/s	180°/s	150°/s	180°/s
Typical Speed		1.1m/s	1.3m/s	1.1m/s	1.3m/s	1.1m/s	1.3m/s
Max. Speed		4 m/s					
Repeatability		+/- 0.1 mm					
Degrees of freedom		6 rotating joints					
I/O Ports	Control Box	Digital In: 16 Digital Out: 16 Analog In: 2 Analog Out: 1					
	Tool Conn.	Digital In: 4 Digital Out: 4 Analog In: 1 Analog Out: 0					
I/O power supply		24V 2.0A for control box and 24V 1.5A for tool					
IP classification		IP54 (Robot Arm); IP32 (Control Box)					
Power Consumption		Typical 300 watts					
Temperature		The robot can work in a temperature range of 0-50°C					
Power supply		100-240 VAC, 50-60 Hz				22-60 VDC	
I/O Interface		3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0					
Communication		RS232, Ethernet, Modbus TCP/RTU (master & slave), PROFINET (optional), EtherNet/IP (optional)					
Programming Environment		TMflow, flowchart based					
Certification		CE, SEMI S2 (optional)					
Robot Vision							
Eye in Hand (Built in)		1.2M/5M pixels, color camera		N/A		1.2M/5M pixels, color camera	
Eye to Hand (Optional)		Support Maximum 2 GigE 2D cameras*					

*Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.