

The future is here.

AI COBOT

- Robotic arm
- + Native AI engine
- + Vision system

May

The smart way to connect www.maytec.de



What is an Al Cobot?

Al Cobot is a collaborative robot that seamlessly blends three technological domains together - AI, Vision, and Cobot. This integration effectively combines the functions of a ,brain,' ,eyes,' and ,hands,' enabling the cobot to perform visual tasks, making judgments, and executing actions much like a human. Automating processes not only saves time and resources but also promotes effective human-robot collaboration, enhancing overall production quality, and adds a significant value to your factory.

Fifteen years ago, collaborative robots introduced the concept of humans and robots working together. Today, the new generation of AI collaborative robots has turned the dream of having intelligent and reliable partners into a reality.

Industry Applications

Al Cobot from MayTec offers exceptional performance and compatibility. Equipped with a built-in vision system, it enables the robot to perceive its surroundings. Its AI brain also translates image data into precise commands for tasks such as positioning and detection, seamlessly integrating with the robot arm to execute tasks efficiently. In the era of AI, AI Cobot from MayTec is the best choice to for realizing smart factories.







AI COBOT SOFTWARE





TMflow™ Additional software functions

· TMcraft

 TMvision[™] TM3Dvision[™]



TM AI+[™] Training Server

TM Image Manager



TM AI+[™] AOIEdge

TMstudio Pro







AI Vision Operating Architecture

The graphical interface of TM AI Cobot's integrated vision system eliminates the need for programming and enables a seamless process from image collection and annotation to training and deployment. It serves as an ideal solution for small and medium-sized enterprises (SMEs) lacking an AI or software division. Throughout production, AI Cobot accumulates valuable production history data, empowering companies to track, analyze, and integrate this information to proactively prevent defects, enhance quality, and reduce costs.



AI All-in-one solutions



CAPTURE & IDENTIFICATION

MT AI Cobot TM AI+[™] AOI Edge · Built-in AI vision robot arm · Easy to integrate robot arm and vision

NEURAL NETWORK MODEL TRAINING

TM AI+[™] Training Server

- · AI model training software
- · Easy to learn and simple to operate

IMAGE STORAGE & RETRIEVAL

- **TM Image Manager**
- · AOI image management software
- · Backup all AOI inspection images and establish product traceability

Application Examples





Checking if the tires are wrapped with PE film.



Classification

Defects

Inspection

Sorting different materials for wooden furniture





Counting/ Detection

Counting the amount of the object in the tray.



Scratches/ Cuts/ **Dents Inspection**

AI OCR

Checking scratches on DRAM gold fingers.



Label text reading.

4







Identifying objects with damage on the edge.









Checking if all wires are connected correctly.



Recognition of pizza flavor and crust.



Checking if there are metal scrap on the surface.



Objects detection and 3D positioning.



Checking the dents on metal parts.



Label text reading.

MayTec Al Cobot S series





PAYLOAD

REACH

Cycle time 25% faster!

· The joint speed of the 6th axis is increased from 225 °/s to 450 °/s

· Improves the cycle time for customer's production line and reduces it by 25%*



The best cobot repeatability of 0.03 mm!

· Repeatability of TM5S/TM7S/TM12S/TM14S: 0.03mm, maximum 70% improvement!*



TUV NORD CE

TMflow

Brand New Robot Stick – A Teach Pendant With TM Screen

- RESET button, making it safer to operate
- teach pendant

Up to 31 PL=d, Cat.3 Safety Functions certified by TÜV

- and regional safety certification of CE, UL & CSA
- of safety control configuration

TMflow[™]2 series: Safe, simple and smarter

- gap between integration and your application



Even better! Control box upgrades to IP54

· Control box is IP54 rated for harsh environments applications

- · Match to most major players and better wiring space
- · The dimension shrinks compared to previous generation

25 kg	30 kg	PAYLOAD
1902 mm	1702 mm	REACH

· The newly designed Robot Stick with a 3-position Enabling Switch and a In addition to using it alone to control the robot simply, if you combine the Robot Stick with the TM Screen (with TM Pen), you can teach, debug and control through the

· Totally 31 safety function PL d, Cat.3 certified according to ISO 13849-1 by TÜV! · Numbers of safety functions passed international safety certification ISO 10218-1, Enables easy safety assessments with flexible safety functions that lower the cost

· Innovative graphical user interface with more exclusive software · Includes multiple functional interfaces that are easier to use and bridge the



MT series without integrated vision (X)

MT-20SX / MT-25SX / MT-30SX

TM Plug & Play[™] series to save time



MT mobile series (M)

MT-5SM / MT-6SM / MT-7SM / MT-12SM / MT-14SM / MT-20SM / MT-25SM / MT-30SM

The MT mobile series cobots can be integrated with almost all AGV/AMR brands on the market.

With integrated image processing and the TM Landmark image processing function, the mobile series is ideal for applications and tasks that require mobility. Such as machine loading or palletizing.

Labeling

Assembly

Injection molding

Dispensing





TMflow[™]

More Freedom to Program the Cobot

TMflow[™] is a user-friendly software that allows you to create and edit robot tasks through a graphical interface using a series of function nodes, making it easy for first-time users to learn our flow-based programming without any robotics experience.

If you prefer non-graphical programming, experience a more flexible way to program by using the new Script Node and Script Project. The Script feature allows experienced engineers to program with complex logic, and freely edit robot tasks by compiling codes. Embrace the method that suits you best and enjoy coding with unparalleled freedom!



Flow-based UI



Script for Complex Logical Programming

Built-in vision application



Built-in vision with one-click positioning



Left: Coordinate System with TM Landmark Right: Coordinate System on other robot

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!

TMcraft – Create Personalized Interface with TMcraft for 2nd Development

TMcraft is a new architecture that allows you to create your own customized UI or background program and embed it onto TMflowTM, our cobot programming software. It offers the freedom to develop third-party plug-and-play applications using C# and WPF development. Additionally, a wizard is available to facilitate the development of high-level applications, such as welding, palletizing, and sanding, making it easier to customize and create the applications you need.



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!



Developers can develop nodes in their own environment

	+ •	demo	
Metion Logic Process Information Communication Force-Related Components Welding Weld		Min Min Min Min Min Min Min Min Min Min Min Min Min Min Min Min	
	×		- 100% ÷

Embed into TMflow[™] using third-party plugins

TMvision[™] – A perfect integration of cobot and machine vision

- · Hand and eye integration for time/labor-saving solution
- Powerful vision function: The combination of traditional machine vision and Al vision offers the user a comprehensive vision function including vision positioning, measurement, defect inspection, OCR and barcode reading
- Easily manage both robot arm and vision functions within a single software, eliminating the need to learn two separate programs and concerns about system compatibility or interface issues



TM built-in vision, integrated in one system



	MT AI Cobot with built-in vision	Robot arm + External vision
Camera	All-in-one	Requires additional mechanism for integration
Camera signal cable and power cord	Internally routed cables	Externally routed cables can lead to problems like tangled or pulled cables or dust resulted from friction
Vision recognition system	5M color camera, auto focus, built-in light source, various applications	Complicated configuration of lens, camera, light source and software
Vision and Robot Programming	Integrated in one software TMflow [™] for easy programming	Need to handle the communication interface of 2 different software
Charge	The cost of the robot arm includes the vision system	Additional charge of vision software/ hardware is required

TM 3DVision[™] – A plug-and-play 3D vision solution requires no additional software/hardware integration

When incoming materials are stacked or arranged in different configurations, the positioning function may become ineffective or less accurate due to the limitations of a standard robot's 2D vision, which cannot capture 3D coordinates. To overcome this challenge, Techman Robot has introduced TM 3DVision[™], a 3D machine vision solution with paried designated Plug&Play 3D camera, designed to expand the range of items recognizable by the vision system and enhance the precision of both vision-based positioning and arm movement.



Traditional Solution

Requires more time and labor costs to integrate robot arm, 3D camera, and software from different brands

Features

- · The integration of 3D software and TMflow[™] interface achieves high integration and easy operation.
- \cdot No additional vision controller is required. No need for complicated system handshaking settings.
- · Can be used with the collision check function and prevent any potential collision risks. This is highly recommended for the Random Bin Picking applications.



Picking up scattered materials



All-In-one Solution Significantly reduces integration costs and efforts, maintenance and accountability issues

e achieves high integration and easy operation. for complicated system handshaking settings. revent any potential collision risks. This is highly ons.





TM Al+[™] Training Server

Completely integrate hands, eyes and brain in automation field

TM AI+[™] Trainer is a software tool that will help you manage image data, set up Al training parameters, and train Al models. The Al solution can help you train a model that fits your needs effortlessly. This AI model can be applied to both the robot arm and machine vision, thus forming a powerful

combination of the arm (cobot), eye (machine vision), and brain (AI). Easy and simple UI helps the user to rapidly and conveniently introduce AI vision technology to production.

Al incorporating vision system can effectively eliminate quality issues resulted from fatigue or human error.

Features

- · A graphical interface that is easy to learn.
- Designed as a browser-based software that you can log in anywhere with a web browser.
- All image data used for AI model training is stored in a local database to ensure enterprise classified data is secure.
- Powerful AI Vision technology with capabilities including anomaly detection, classification, object detection, and semantic segmentation.

4 steps for easy AI model training





· Take multiple photos of the object and upload them to TM AI+[™] Trainer



- TM AI+[™] Trainer
- · Select the type of vision task: Classification, Detection, Segmentation, Anomaly Detection
- · Label the uploaded image samples
- · Configure training parameters and begin training
- · Evaluate the training outcome

Import AI model

- Download the trained AI model from the TM AI+[™] Trainer to TM Robot or external camera
- Begin Al inference



TM Image Manager

Comprehensive quality traceability for your product

After an enterprise sells its product to customers, they often must deal with customer feedback or complaints. Therefore, companies need to establish a comprehensive quality traceability system.

help you effectively manage the quality inspection records of each product. resume can be improved and the potential cost of after-sales service activities can be reduced.

Features

- · Browser-based interface for intuitive and easy operation.
- · Manage inspection images and results through the database to address the needs of backup and search.
- . The user can filter the images of quality inspection by different conditions, like time, work order, barcode, etc. at any time.
- · Help inspectors to compare the images of inspection and standard item to effectively reduce the probability of misjudgement.
- The user can plan and design inspection configuration to perform real-time monitoring on inspection position, result and progress.



Configuration inspection and progress review Backup and search of inspection history

- TM Image Manager is a software tool that is highly compatible with the vision function of TM AI Cobot. It can
- The inspector can monitor the inspection progress in real time and the results are automatically recorded as image data. This data can be reviewed at any time to increase inspection accuracy. Furthermore, a quality

Support human double-check interface

TM AI+[™] AOI Edge



Eyes in Every Corner: Seamless Vision Integration for Full Factory Coverage

Are you facing challenges to set up pure visual working areas in your factory? Or do you need multiple cameras within a single visual working zone? TM AI+ AOI Edge is an innovative software solution designed to enhance the visual capabilities of workstations by integrating advanced vision functions.

Features

- · Easy integration of TM AI+TM to improve the precision and width of AOI inspection.
- · Support TM Plug&PlayTM camera to save the time of camera integration.
- · User-friendly TMflowTM interface is easy to master. No need for experienced workers to learn new software.
- · TM AI+[™] AOI Edgecan be installed on any personal/industrial computer at production lines. After connecting the computer to external camera, the user can perform vision tasks like item recognition, image enhancement and measurement through TMvision[™].





TMstudio Pro

TMstudio Pro is an offline programming simulation software for MT AI Cobot, which allow users to create scenes for multi-robot arm simulation without a robotic arm.





- - · Collision detection and correct your solution
 - Estimate the robot's precise cycle time

Features



Validation

Detect collision and check robot reach of the design.



Time saving

Design your robot usage quickly and easily without setting up robot workstations in real world.



Reliable planning

Program your system with very accurate cycle time.

Increase revenue

Present solutions to end customers and increase sales success.





1. Build up TM Robot's automation working cell in a virtual scene

- · Import CAD instead of setting up in real
- · Generate a path for the robot from CAD
- · Multi-Robot in the same virtual scene

2. Program TM Robot's project and simulate in a virtual scene

- · Program the same way as on the robot
- · Import or export between TMstudio Pro and TM Robot
- · Test your Custom Node in the virtual scene

3. Simulate your automation solution and do early troubleshooting

- · Visualize the robot's reach in a virtual scene

TM Plug&Play[™] Solution

All leading robot peripherals work together with Techman Robot and have jointly developed TM Plug&Play[™], a suite that integrates related software and hardware.

All software and hardware are tested and verified so that the user can download the software package and apply it to the hardware they have purchased. This can significantly reduce the time and labor costs required to manufacture hardware and program for automation.

Start to use within 5 minutes



Simple, efficient, and fast production line introduction





Plug&Play: TM certified, perfect integration, and usable upon installation

TM AI Cobot works with peripheral equipment vendors to create a comprehensive TM Plug&Play[™] ecosystem. Each certified TM Plug&Play[™] product has been calibrated and tested by Techman Robot and peripheral equipment vendors. This ensures users benefit from an optimal experience and highly reliable robot performance, while significantly reducing the time and labor costs associated with hardware production and automation programming.









Advantech AIR-3002022 -TMAI+ Trainer

ARS Automation FlexiBowl[®] Kit for TM

ASPINA ARH350A Kit for TM







COBOTRACKS Linear Motion Plug&Play for MT

DH-Robotics Adaptive Gripper DH-3 TM Kit

EWELLIX LIFTKIT-TM







HIWIN Electric Gripper X-series IDS Ensenso N36/N46 3D camera

Igus® 3De-chain TM Kit-PMATubes







NABELL Robot Flex

NITTOSEIKO Pick and Drive System PD400TM

em Sander







Robotic

Adaptive Gripper,

2-Finger-85/140-TM-Kit

RoboDK Simulation and Offline Programming Software for TM

Robotiq FTS-300-TM-KIT

τονο

CHY2B-S80







SMC Magnet Gripper Unit for Collaborative Robots

Weiss Robotics GRIPKIT-CR-PRO-L

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ATI 9105-TM-Axia80



FerRobotics ACF-K Active Contact Flange-Kit



KILEWS Screw Driver Solution



OnRobot 2FG7



Schmal: FXCB



Zimmer HRC-03TM-Kit



Basler Industrial Camera



Flir Industrial Camera



Mindman All-in-One Gripper for TM Robot (3-Finger)



OnRobot Screwdriver



SCHUNK Changing by SCHUNK - Plug&Work Portfolio Techman Robot



ZLÍN ROBOTICS Universal Mobile Stand



CKD RCKL/RHLF/RLSH -TM Gripper



Gimatic KIT-TM-J



Murrplastik FHS-SH-Set



Pickit Pickit 3D Vision Solution



SCHUNK Collaborative gripping EGP-C



More information www.maytec.de

<u>ЛТ-</u>	S	1							
Mo	odel	MT-5S	MT-6S	MT-7S	MT-12S	MT-14S	MT-20S	MT-25S	MT-30S
We	eight	23,9 kg	35,5 kg	22,9 kg	33,3 kg	33 kg	33,3 kg	81,6 kg	80,6 kg
Maximur	n Payload	5 kg	6 kg	7 kg	12 kg	14 kg	20 kg	25 kg	30 kg
Re	ach	946 mm	1800 mm	758 mm	1300 mm	1100 mm	1300 mm	1902 mm	1702 mm
_Joint	J1, J2, J4, J5, J6				+/- 3	860 °			
Ranges	J3	+/- 158 °	+/- 166 °	+/- 152 °	+/- 162 °	+/- 159 °	+/- 162 °	+/- 166 °	+/- 170 °
	J1	210 %	130 %	210 %	130	°/c	130 °/s	100) °/c
	J2	210 /5	130 /5	210 /5	130	1 15	95 °/s) /5
Speed	J3			210 °/s			125 °/s	130) °/s
opeeu	J4			225 °/c			160 °/s	195	ō °/s
	J5			225 75			190 °/s	210) °/s
	J6			450) °/s			225	ō °/s
Max.	Speed			4,5	m/s			5,2	m/s
Repea	atability			+/- 0,03 mm				+/- 0,05 mm	
Degree C	of Freedom				6 rotatir	ng joints			
	Control Box	Digital In: 16 / Digital Out: 16							
1/0	Control Box	Analog In: 2 / Analog Out: 2							
1/0	Tool Conn	Digital In: 3 / Digital Out: 3							
			DO_0 (DO-0/AI) / D	0_1 (DO-1/F	IS-485-) / DC	D_2 (DO-2/R	S-485+)	
I/O Pow	er Supply		24V 2.0A for control box, 24V 1.5A for tool						
IP Clas	sification			IP65 (F	Robot Arm)*(1	; IP54 (Cont	rol Box)		
Typical Powe	r Consumption	240 Watt	400 Watt	240 Watt		400 Watt		600	Watt
Temp	erature	0-50 °C							
Clear	nliness	ISO Class 3							
Power	Supply	100~240 VAC, 50~60 HZ 200~24 50~6				40 VAC, 60 HZ			
I/O In	terface	2 x COM, 1 x HDMI, 3 x LAN, 2 x USB 2.0, 4 x USB 3.0							
		RS-232/ RS-422/ RS-485, Ethernet, Modbus TCP/RTU (master & slave)							
Communication		Optionally support specified network card of PROFINET,							
Programming	g Environment	TMflow (flowchart based), TMscript (script based), TMcraft (developer based)							
Certif	ication	TÜV certificated ISO 13849-1, ISO 10218-1, ISO/TS 15066 SGS certificated UL1740, CAN/CSA Z424-14 (R2019) SGS certificated UL1740, CAN/CSA Z424-14 (R2019)							

	AI & Robot Vision
AI Function	Classification, Object Detection, Segmentation, Anomaly Detection, AI OCR
Application	Positioning, 1D/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check
Positioning Accuracy	2D Positioning: 0.1 mm TM Landmark 3D Positioning (Working Point away from Landmark 100/200/300 mm): 0.10/ 0.20/ 0.33 mm* ⁽³⁾
Eye in Hand (Built in)	Auto-focused color camera with 5M resolution, Working distance 100 mm $\sim \infty$
Eye to Hand (Optional)	Support Maximum 2× GigE 2D cameras or 1× GigE 2D Camera + 1× 3D Camera*(4)

⁽¹⁾ IP65 robot arm will be available in 2025/Q3
^(a) Please contact sales/agent for detailed specifications.
^(a) The data in this table are measured by TM laboratory and the working distance is 100mm. It should be noted that in practical applications, the relevant values may be different due to factors such as the on-site ambient light source, object characteristics, and vision programming methods that will affect the change in accuracy.
^(a) Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.

MT_SX

Ma	odel	MT-5SX	MT-6SX	MT-7SX	MT-12SX	MT-14SX	MT-20SX	MT-25SX	MT-30SX
We	eight	23,6 kg	35,2 kg	22,6 kg	33 kg	32,7 kg	33 kg	81,3 kg	80,3 kg
Maximur	n Payload	5 kg	6 kg	7 kg	12 kg	14 kg	20 kg	25 kg	30 kg
Re	ach	946 mm	1800 mm	758 mm	1300 mm	1100 mm	1300 mm	1902 mm	1702 mm
Gelenk-	J1, J2, J4, J5, J6		+/- 360 °						
Ranges iche	J3	+/- 158 °	+/- 166 °	+/- 152 °	+/- 162 °	+/- 159 °	162 °/s	+/- 166 °	+/- 170 °
	J1	010.%	130 °/s	010.%	100		130 °/s	100	9/2
	J2	210 75	130 °/s	210 75	130	-75	95 °/s	100	-75
Speed	J3			210 °/s			125 °/s	130	°/s
Opeed	J4			225 °/s			160 °/s	195	°/s
	J5			223 73			190 °/s	210	°/s
	J6			450) °/s			225	°/s
Max.	Speed			4,5	m/s			5.2 m/s	
Repea	atability	+/- 0,03 mm	+/- 0,05 mm		+/- 0,03 mm			+/- 0,05 mm	
Degree C	of Freedom				6 rotatir	ng joints			
	Control Box		Digital In: 16 / Digital Out: 16						
1/0		Analog In: 2 / Analog Out: 2							
	Tool Conn.	Digital In: 3 / Digital Out: 3							
			DO_0 (DO-0/AI) / D	0_1 (DO-1/F	IS-485-) / DC	D_2 (DO-2/R	S-485+)	
I/O Pow	er Supply			24V 2.0/	A for control I	oox, 24V 1.5	A for tool		
IP Clas	sification		IP65 (Robot Arm)*(1); IP54 (Control Box)				rol Box)		
Typical Powe	r Consumption	240 Watt	400 Watt	240 Watt		400 Watt		600	Watt
Temp	erature				0-50	O°C			
Clear	nliness	ISO Class 3							
Power	Supply	100~240 VAC, 50~60 HZ 200~240 VAC, 50~60 HZ							
I/O In	terface	2 x COM, 1 x HDMI, 3 x LAN, 2 x USB 2.0, 4 x USB 3.0							
Commu	Communication		RS-232/ RS-422/ RS-485, Ethernet, Modbus TCP/RTU (master & slave)						
			Optionally support specified network card of PROFINET, EtherNet/IP, EtherCAT, CC-Link(optional)* ⁽²⁾						
Programming	Programming Environment		TMflow (flowchart based), TMscript (script based), TMcraft (developer based)						
Certif	ication	TUV certificated ISO 13849-1, ISO 10218-1, ISO/TS 15066 SGS certificated UL1740, CAN/CSA Z424-14 (R2019) SGS certificated UI 1740, CAN/CSA Z424-14 (R2019)							

AI Function	
Application	
Positioning Accuracy	
Eye in Hand (Built in)	
Eye to Hand (Optional)	Support Ma 1× GigE 2I

⁽¹⁾ IP65 robot arm will be available in 2025/Q3 ⁽²⁾ Please contact sales/agent for detailed specifications.

N/A

aximum 2× GigE 2D cameras or 2D Camera + 1× 3D Camera*(4)

		MT-5SM	MT-6SM	MT-7SM	MT-12SM	MT-14SM	MT-20SM	MT-25SM	MT-30SI
We	eight	23,9 kg	35,5 kg	22,9 kg	33,3 kg	33 kg	33,3 kg	81,3 kg	80,6 kg
Maximun	n Payload	5 kg	6 kg	7 kg	12 kg	14 kg	20 kg	25 kg	30 kg
Re	ach	946 mm	1800 mm	758 mm	1300 mm	1100 mm	1300 mm	1902 mm	1702 mr
Gelenk-	J1, J2, J4, J5, J6				+/- 3	360 °]		
Ranges iche	J3	+/- 158 °	+/- 166 °	+/- 152 °	+/- 162 °	+/- 159 °	162 °/s	+/- 166 °	+/- 170
	J1	210.%	120.%	210.%	120) °/o	130 °/s	100	\ ⁰ /2
	J2	210 75	130 78	210 78	130) ⁻ /S	95 °/s) -/S
Greed	J3			210 °/s			125 °/s	130) °/s
Speed	J4			005 %/5			160 °/s	195	ö ⁰/s
	J5			225 7/5			190 °/s	210) °/s
	J6			450) °/s			225	o °∕s
Max.	Speed			4,5	m/s			5.2 m/s	
Repea	atability	+/- 0,03 mm	+/- 0,05 mm		+/- 0,03 mm	l		+/- 0,05 mm	
Degree O	f Freedom			1	6 rotatir	ng joints	1		
		Digital In: 16 / Digital Out: 16							
Control Box		Analog In: 2 / Analog Out: 2							
1/0		Digital In: 3 / Digital Out: 3							
	Tool Conn.		DO_0 (DO-0/AI) / DO_1 (DO-1/RS-485-) / DO_2 (DO-2/RS-485+)						
I/O Powe	er Supply	24V 2.0A for control box, 24V 1.5A for tool							
IP Class	sification	IP65 (Robot Arm)*(1)							
Typical Power	r Consumption	240 Watt	400 Watt	240 Watt		400 Watt		600	Watt
Tempe	erature			1	0-50	0 °C		1	
Clear	leanliness ISO Class 3								
Power	Power Supply 24~60 VDC			48~60	VDC				
I/O Int	2 x COM, 1 x HDMI, 3 x LAN, 2 x USB 2.0, 4 x USB 3.0								
		RS-232/ RS-422/ RS-485, Ethernet, Modbus TCP/RTU (master & slave)							
Commu	inication	Optionally support specified network card of PROFINET, EtherNet/IP. EtherCAT_CC_Link(ontional)* ⁽²⁾							
Programming	g Environment	TMflow (flowchart based), TMscript (script based), TMcraft (developer based)					i)		
Certif	ication		TÜV S	certificated GS certificat	ISO 13849-1 ed UL1740, (, ISO 10218 CAN/CSA Z4 CAN/CSA 743	-1, ISO/TS 1 24-14 (R201	5066 9)	

	AI & Robot Vision
AI Function	Classification, Object Detection, Segmentation, Anomaly Detection, AI OCR
Application	Positioning, 1D/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check
Positioning Accuracy	2D Positioning: 0.1 mm TM Landmark 3D Positioning (Working Point away from Landmark 100/200/300 mm): 0.10/ 0.20/ 0.33 mm* ⁽³⁾
Eye in Hand (Built in)	Auto-focused color camera with 5M resolution, Working distance 100 mm $\sim \infty$
Eye to Hand (Optional)	Support Maximum 2× GigE 2D cameras or 1× GigE 2D Camera + 1× 3D Camera* ⁽⁴⁾

⁽¹⁾ IP65 robot arm will be available in 2025/Q3

Please contact sales/agent for detailed specifications.

⁶⁰ The data in this table are measured by TM laboratory and the working distance is 100mm. It should be noted that in practical applications, the relevant values may be different due to factors such as the on-site ambient light source, object characteristics, and vision programming methods that will affect the change in accuracy. ⁶⁰ Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.

TM AI+ Trainer Installation Requirements

Software Requirements				
TM AI+ Trainer Software version: Ver. 2.18 or above				
Hardware Requirements				
Operating System	Ubuntu 22.04 *(1)			
CPU	7th Generation Intel® Core			
RAM	32 GB or above			
Graphics Cards	Only support NVIDIA Turin Recommendation NVIDIA GeForce RTX 30 s NVIDIA RTX professional (
Storage	2TB or above (SSD Recor			
Communication Interface	Ethernet			
Language Support	EN, TW, CN, DE, ES, FR,			
*(1) TM AI+ Trainer cannot be installed in a virtual environment on a personal co				

*(2) Only NVIDIA GPUs are supported; GPUs from other manufacturers like AMD and Intel are not compatible.

*(3) NVIDIA GPUs based on other micro-architectures, such as the GeForce RTX 40 series (Ada Lovelace architecture), are also not supported.

TM Image Manager Installation Requirements

Software Requirements				
TMflow Software Version: Ver. 2.18 or above				
Hardware Requirements				
Operating System	Ubuntu 22.04 *(1) *(2)			
CPU	Gen 7 intel i7 or above			
RAM	32 GB or above			
Storage	SSD 2TB-8TB			
Communication Interface	Ethernet			
Language Support	EN, TW, CN, JP, KO, TH			
Remark	Supports up to 10 TM AI Co simultaneous image transm			

Image Manager is not allowed to be installed on the virtual environment of personal computer, like VirtualBox.

 $^{\mbox{\tiny (2)}}$ Please verify if the computer hardware supports Ubuntu 22.04 LTS 64.

(3) When more than 10 connections are established with simultaneous image transmissions, users should assess the potential risks of system overload.

Requirements for the TMstudio Pro system

Hardware Requirements				
Operating System	Windows 10 or above			
CPU	Intel I7 Gen 7+, AMD Ryze			
CPU Core	4			
RAM	16 GB			
Storage	30 GB or above (SSD Rec			
Resolution	1920×1080 or above			

TM Broschüre EN – Stand 05/2025 – V1.0 The product details are for information purposes only. MayTec Aluminum Systemtechnik GmbH assumes no responsibility for errors or omissions. Product specifications are subject to change without notice.

e™ i7 Processors or above

ng and Ampere micro-architectures GPU*(2) *(3)

series (3060 12GB or above) GPUs (A4000 16GB or above)

nmended)

JP, KO, PT, TH, VI

omputer, such as VirtualBox.

Cobots and AI+ AOI Edges for continuous, mission*(3)

en+

commended)



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The smart way to connect

