TM5S 6-axis cobot (Profinet), 900 mm, load capacity 5kg

THE NEW TECHMAN TM AI COBOT S-SERIES
The AI-controlled cobots with payloads of 5 kg, 7 kg, 12 kg and 14 kg and a repeat accuracy of ±0.03 mm are impressive in many respects. The S-series has been developed for safe human-machine interaction, is flexible, easy to operate and can be used in many different settings. Therefore, the new S-series is perfect for automation in various industries such as mechanical engineering, the automotive industry and the semiconductor industry.

WHAT'S NEW WITH THE TECHMAN S-SERIES?
MORE PRECISE: A repeat accuracy of 0.03 mm for the TM5S / TM7S / TM12S / TM14S models represents an improvement of 70% compared to the previous version. FASTER: The joint speed of the 6 axes has been increased from 225°/s to 450°/s. This reduces the cycle time by up to 25% compared to the previous version and thus increases production efficiency. FLEXIBLE: The improved robot stick with a 3-position release switch and a RESET button for easier and safer operation of the cobot. The robot stick can also be

combined with the TM screen, which not only increases the versatility of training and simplifies control, but also makes troubleshooting much easier. The I/O flange can be configured to RS422, RS485 or analog input.

IMPROVED SAFETY THANKS TO NEW SAFETY FUNCTIONS
Safety is the top priority for Techman and TM Cobots. All models of the new S-Series have up to 31 TÜV-certified safety functions. These safety functions comply with the latest version of ISO 10218-1 and are certified as PL d, Cat.3 according to ISO 13849-1, which guarantees safety in all possible scenarios. The new S-Series cobots also have UL and CSA certification for North America and CE certification for Europe, ensuring safe and efficient use in different regions. The flexible safety functions can replace an additional safety PLC, which saves costs and effort for configuring the safety controller and makes safety assessment much easier.

ROBOT VISION WITH KI UPGRADE
In conventional machine vision, engineers have to manually set algorithms and control configurations to detect and analyze visual information. This approach can be time-consuming and may not be scalable to handle large amounts of data. In contrast, AI technology relies on pattern recognition and machine learning to automatically create and learn decision rules. This enables more efficient and accurate analysis of visual data, which can ultimately lead to increased productivity and cost savings.

AUTOMATION HAS NEVER BEEN SO EASY
The collaborative robots of the new S-Series are designed for a wide range of tasks and are suitable for companies of all sizes. Thanks to simple installation and intuitive programming and operation, the robots not only increase production efficiency, but also quickly optimize and scale processes. We support you on your path to automation and work together with you to develop a suitable solution - all the way from a robot arm to a complete production cell.
• Rotation of the joints (J1, J2, J4, J5, J6): +/- 360°
• Rotation of the joints (J3): +/- 158°
• Speed (J1, J2, J3): 210°/s
• Speed (J4, J5): 225°/s
• Speed (J6): 450°/s
• Degrees of freedom: 6 axes of rotation
• I/O power supply: 24 V / 2.0 A control unit and 24 V / 1.5 A robot
• IP class: IP54 (robot arm), IP54 (control unit)
• Power: 240 watts
• Clean room class: ISO Class 3
• Temperature range: 0 - 50° C
• Power supply: 100-240 VAC, 50-60 Hz
• PROFINET (Process Field Network) communication standard
• Communication: RS232, Ethernet, Modbus TCP/RTU (master and slave), PROFINET

(optional), EtherNet/IP (optional)
- AI function: Classification, object recognition, segmentation, anomaly detection, AI OCR
- Application: Positioning, 1D/2D barcode reading, OCR, defect detection, measurement, assembly control
- Built-in camera: Color camera with 5M resolution, working distance 100mm~∞

Item no.	WL83048
Model	TM5S_Profinet
Robot series	S-Series (Profinet)
Manufacturer	TECHMAN
Manufacturer article no.	TM5S_PROFINET
GPSR manufacturer data	Techman Robot Inc. Staalindustrieweg 21 NL-2952 Alblasserdam www.tm-robot.com
Sales unit	1 piece
Content unit	1 piece
Tare weight	23.9 kg
Speed (max.)	4 m/s
Repetition accuracy	+/- 0,03 mm
AI functions	Classification, Object recognition, Segmentation, Anomaly detection, AI OCR
Application(s) Robotics	1D/2D Barcode Reading, assembly check, defect detection, measurement, OCR, positioning
Programming environment	TMflow™ (graphical flowchart/script based)
Camera features	working distance 100 mm - ∞, Resolution 5 MP, auto focused, color camera
Supply voltage	100 – 240 V
Reach	900 mm
Temperature range °C	0 – 50 °C
Camera resolution	5 MP
Power consumption	240 W
Load capacity	5 kg
Interfaces	I/O interface • Digital in: 16 • Digital out: 16 • Analog in: 2 • Analog out: 2

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05.02.2026

	I/O interface on the robot head
	• Digital in: 3
	• Digital out: 3
	• DO_0 (DO-0/AI) / DO_1 (DO-1/RS485+) / DO_2 (DO-2/RS485-)
	Further communication
	• 2x COM
	• 1x HDMI
	• 3x LAN
	• 2x USB 2.0
	• 4x USB 3.0

ESD compliant   yes

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