Version:2026/06

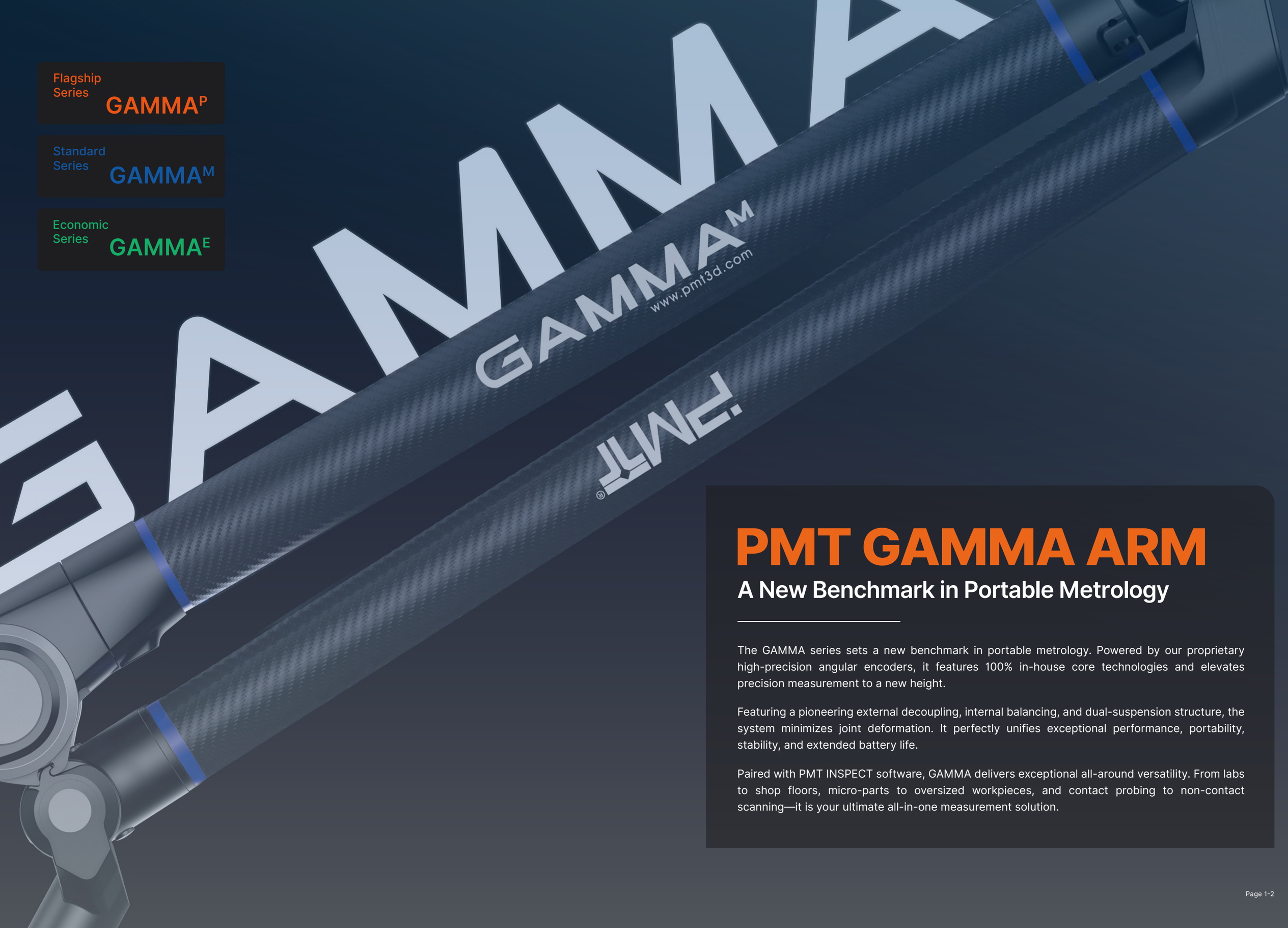
PORTABLE COORDINATE MEASURING MACHINE

PMT Technologies (Suzhou) Co.,Ltd.

Flagship Series
GAMMA^{P}

Standard Series
GAMMA^{M}

Economic Series
GAMMA^{E}



PMT GAMMA ARM

A New Benchmark in Portable Metrology

The GAMMA series sets a new benchmark in portable metrology. Powered by our proprietary high-precision angular encoders, it features 100% in-house core technologies and elevates precision measurement to a new height.

Featuring a pioneering external decoupling, internal balancing, and dual-suspension structure, the system minimizes joint deformation. It perfectly unifies exceptional performance, portability, stability, and extended battery life.

Paired with PMT INSPECT software, GAMMA delivers exceptional all-around versatility. From labs to shop floors, micro-parts to oversized workpieces, and contact probing to non-contact scanning—it is your ultimate all-in-one measurement solution.

6-Axis Measuring Arm

The Premier Choice for Contact Measurement

The ultimate solution for shop-floor contact measurement. The GAMMA 6-Axis handles standard measurement needs with ease, delivering superior accuracy within its class. Available in P, M, and E accuracy grades across 7 sizes (1.5 m to 4.5 m range in 0.5 m increments). Supporting diverse styli and leapfrog functions for seamless efficiency.

7-Axis Measuring Arm

Flexible Upgrade Options

The GAMMA 7-Axis adds an extra degree of freedom for superior expansion. Beyond extension probes, styli, and leapfrog, it seamlessly upgrades with next-gen blue light scanners, laser i-fork probe, and 8-axis rotary tables. Its exceptional versatility and reliability ensure top-tier quality control.

Scanner for Measuring Arm

Mastery in Complex Surface Metrology

The GAMMA Blue Light Scanning Arm features high-speed scanning and advanced algorithms to reduce cycle times and optimize workflow. Premium optics handle complex environments, while a lightweight design ensures operator comfort. It excels in BIW inspection and complex surface reverse engineering.

I-Fork Tube Measuring Arm

Dedicated Design for Tube Inspection

Tailored for shop-floor tube inspection, the GAMMA Tube Arm utilizes non-contact laser technology for damage-free measurement. It quickly captures bend angles and dimensions of both rigid and flexible tubes. Combined with the dedicated tube module in PMT INSPECT software, it simplifies the workflow to elevate production-line quality control.

ADVANTAGES

The New-generation Portable Measurement System

World's First

External Decoupling and Internal Balancing System

Greater [**Stability**]
Better [**Balance**]
Lighter [**Weight**]
Lower [**Deformation and Cost**]

NEW

Dual Suspension Support Structure

Greater [**Stability**]

NEW

Four-jaw Quick-Mount Base Collar

[Double Handle]
Easier Installation and Dismantling

NEW

Specialized Wi-Fi Module

Customized 5G Wi-Fi Module
Faster [**Transmission Rate**]

NEW

Smart Sensing Probe System

Integrated Smart Probe with Lighter Weight,
Quick Replacement without Recalibration,
Compatible with Versatile Probe System

High-speed Wired USB Connection

More Stable [**Data Transfers**]
Wider [**Transmission Bandwidth**]

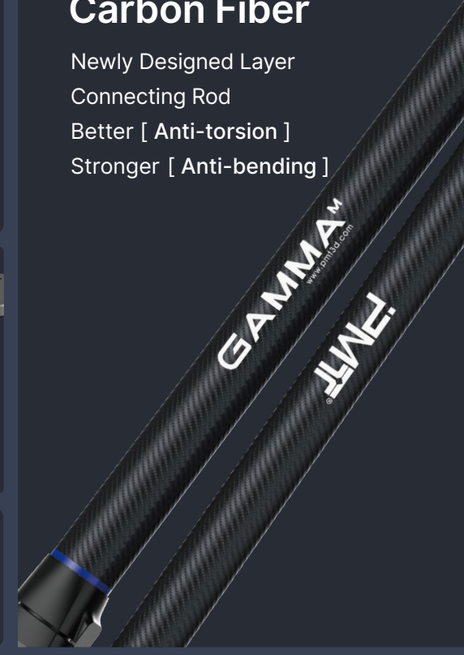
8-Axis Rotary Worktable

Increase Efficiency by [**40%**]
Reduce Measuring Dead Zone

Temp Monitor | Simulated Mouse | Tilt Diagnosis | External Synchronization Mode | Device Drivers

Aerospace-grade Carbon Fiber

Newly Designed Layer
Connecting Rod
Better [**Anti-torsion**]
Stronger [**Anti-bending**]



Revolutionizing the Measurement Experience

All-New

Smart Battery Health System

[**Low Power**] [**Dual Battery**]
Up to [**32h**] continuous operation
SMBus diagnostics for real-time lithium-ion battery tracking

Smart Temp Compensation

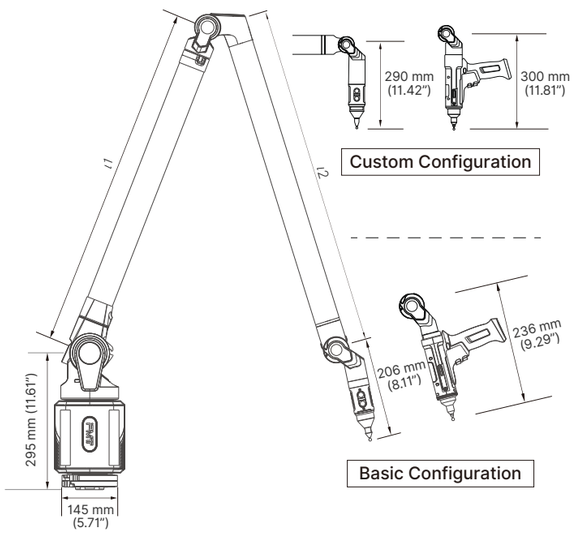
Real-Time Sensors on Every Joint
Maximizes [**Stability**] [**Accuracy**] [**Consistency**]
in extreme environments

Contact Measurement Range

Equal Arm Lengths

Note: " (inches)

Range	*l*1	*l*2
1.5 m	375 mm (14.76")	375 mm (14.76")
2.0m	500 mm (19.69")	500 mm (19.69")
2.5m	625 mm (24.61")	625 mm (24.61")
3.0m	750 mm (29.53")	750 mm (29.53")
3.5m	875 mm (34.45")	875 mm (34.45")
4.0m	1000 mm (39.37")	1000 mm (39.37")
4.5m	1125 mm (44.29")	1125 mm (44.29")



Hardware Specifications

- **Operating Temp Range:** 5 °C - 45 °C (41 °F - 113 °F)
- **Temp Rate:** 3 °C/5mins (37.4 °F/5 mins)
- **Operating Humidity:** 0-95 %, non-condensing
- **Weight:** 8.8 kg to 10.6 kg
- **Battery Life:** 16 h+ for one battery; 32+ for two batteries (base on contact measurement)
- **Power Supply:** Universal worldwide voltage; 100-240 VAC; 50/60 Hz
- **Data Transmission Mode:** USB or Wi-Fi

Accuracy - Contact Measurement

ISO CE RoHS IP54

GAMMA^{P}

Range	^{1}SPAT		^{2}EUNI		^{3}PSIZE		^{4}PFORM		^{5}LDIA	
	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis
1.5 m	0.012 mm	0.015 mm	0.022 mm	0.023 mm	0.007 mm	0.008 mm	0.012 mm	0.018 mm	0.024 mm	0.038 mm
2.0 m	0.016 mm	0.018 mm	0.024 mm	0.025 mm	0.008 mm	0.010 mm	0.015 mm	0.019 mm	0.030 mm	0.042 mm
2.5 m	0.018 mm	0.020 mm	0.026 mm	0.028 mm	0.009 mm	0.011 mm	0.018 mm	0.022 mm	0.032 mm	0.046 mm
3.0 m	0.026 mm	0.032 mm	0.038 mm	0.047 mm	0.012 mm	0.016 mm	0.025 mm	0.032 mm	0.045 mm	0.071 mm
3.5 m	0.036 mm	0.043 mm	0.052 mm	0.057 mm	0.016 mm	0.020 mm	0.034 mm	0.039 mm	0.060 mm	0.091 mm
4.0 m	0.045 mm	0.054 mm	0.063 mm	0.073 mm	0.020 mm	0.026 mm	0.038 mm	0.044 mm	0.075 mm	0.112 mm
4.5 m	0.055 mm	0.065 mm	0.080 mm	0.095 mm	0.028 mm	0.036 mm	0.050 mm	0.065 mm	0.101 mm	0.132 mm

GAMMA^{M}

Range	^{1}SPAT		^{2}EUNI		^{3}PSIZE		^{4}PFORM		^{5}LDIA	
	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis
1.5 m	0.018 mm	0.020 mm	0.024 mm	0.025 mm	0.009 mm	0.011 mm	0.016 mm	0.020 mm	0.028 mm	0.043 mm
2.0 m	0.020 mm	0.022 mm	0.026 mm	0.030 mm	0.010 mm	0.012 mm	0.018 mm	0.022 mm	0.032 mm	0.047 mm
2.5 m	0.023 mm	0.026 mm	0.029 mm	0.032 mm	0.012 mm	0.013 mm	0.022 mm	0.025 mm	0.037 mm	0.051 mm
3.0 m	0.034 mm	0.042 mm	0.041 mm	0.053 mm	0.015 mm	0.020 mm	0.031 mm	0.035 mm	0.051 mm	0.073 mm
3.5 m	0.043 mm	0.055 mm	0.055 mm	0.066 mm	0.019 mm	0.024 mm	0.038 mm	0.043 mm	0.066 mm	0.094 mm
4.0 m	0.052 mm	0.065 mm	0.066 mm	0.082 mm	0.023 mm	0.029 mm	0.043 mm	0.048 mm	0.083 mm	0.120 mm
4.5 m	0.061 mm	0.073 mm	0.089 mm	0.099 mm	0.038 mm	0.043 mm	0.078 mm	0.082 mm	0.108 mm	0.137 mm

GAMMA^{E}

Range	^{1}SPAT		^{2}EUNI		^{3}PSIZE		^{4}PFORM		^{5}LDIA	
	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis	6-Axis	7-Axis
1.5 m	0.028 mm	0.030 mm	0.036 mm	0.040 mm	0.015 mm	0.020 mm	0.029 mm	0.035 mm	0.038 mm	0.048 mm
2.0 m	0.030 mm	0.035 mm	0.040 mm	0.045 mm	0.018 mm	0.025 mm	0.035 mm	0.040 mm	0.041 mm	0.052 mm
2.5 m	0.035 mm	0.040 mm	0.045 mm	0.050 mm	0.020 mm	0.030 mm	0.038 mm	0.045 mm	0.050 mm	0.058 mm
3.0 m	0.055 mm	0.060 mm	0.065 mm	0.070 mm	0.028 mm	0.035 mm	0.048 mm	0.050 mm	0.080 mm	0.091 mm
3.5 m	0.075 mm	0.080 mm	0.080 mm	0.085 mm	0.035 mm	0.040 mm	0.058 mm	0.065 mm	0.098 mm	0.115 mm
4.0 m	0.090 mm	0.095 mm	0.100 mm	0.105 mm	0.044 mm	0.050 mm	0.068 mm	0.075 mm	0.116 mm	0.140 mm
4.5 m	0.112 mm	0.115 mm	0.120 mm	0.125 mm	0.048 mm	0.055 mm	0.086 mm	0.095 mm	0.128 mm	0.158 mm

^{1}SPAT Single Point Articulation Test

^{2}EUNI Distance Error between two points comparing measured versus nominal values

^{3}PSIZE Sphere Probing Size Error comparing measured versus nominal values

^{4}PFORM Sphere Probing Form Error

^{5}LDIA Sphere Location Diameter Error (Diameter of the spherical zone containing the centers of a sphere measured from multiple orientations)

▶ All values represent MPE (Maximum Permissible Error)

▶ Contact Measurement (PMTArm):
In accordance with ISO 10360-12;
defined as EUNI (Unilateral Error) - Distance error between two points comparing measured versus nominal. Values are +/-.

GAMMA LASER SCANNER

Non-contact Blue Light Scanning

Comprehensively solving complex surface measurement challenges, leading quality control to new heights.

With the full range of GAMMA products, you can easily select the appropriate next-generation blue light scanning head based on actual needs.

PMT blue light scanning arms utilize high-speed scanning and intelligent data processing algorithms to significantly shorten individual scan times and enhance process efficiency. Superior optical design easily handles various complex scenarios, effectively solving the difficulty of traditional contact probes reaching precise points in high-volume and complex surface inspections, achieving full coverage of inspection elements.

vs. Gen 1

Lighter
51%

Smaller
70%

Faster Setup
50%

Laser Line Probe Specifications

Item	NEW GH	NEW GS
Accuracy	15 μm	26 μm
Stand-off	Far 220 mm; Mid 157 mm; Near 110 mm	
Scan Width	Far 150 mm; Mid 110 mm; Near 80 mm	
Depth of Field	110 mm	
Min Point Spacing	0.02 mm	
Max Points Per Line	4000	
Max Scan Rate	300 Hz	
Point Acquisition Rate	1200000 points/s	
Laser Type	450 nm, Class 2	
Weight	280 g	

Scanner Performance

New Force Isolation Design

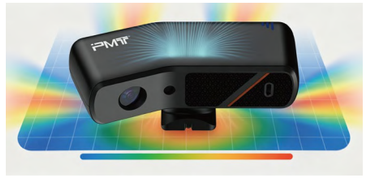
Features a decoupled force transmission to eliminate micro-deformations, boosting scanning accuracy and stability.

Eye-Protection Mode

Offers 4 adjustable brightness levels to reduce visual fatigue during extended tracking.

Ultra-Lightweight Design

At 49% weight and 30% volume of Gen 1, drastically boosting comfort and precision while minimizing deformation.



Advanced Thermal Management

Ventless design with algorithmic thermal control, boosting accuracy and stability by completely eliminating fan-induced errors.

Custom Optical Architecture

Optimized for throughput, distortion, resolution, uniformity, and lens creep to ensure stable scanning accuracy.

Robust Layout & Full Protection

Optimized PCB layout boosts cooling and reliability, with integrated foam padding for upgraded dust/shock protection.

Quick Change

The optimized interface ensures smooth, secure mounting for longer device life and superior repeatable accuracy.

Versatile Scanning Modes

Tailored scanning patterns for high-density point cloud capture on complex freeform shapes.

Accuracy for Non-Contact Measurement (PMTScanArm)

▶ Non-Contact Measurement (PMTScanArm): In accordance with ISO 10360-8 Annex D; defined as L_{DIA} (Sphere Location Diameter Error) - Diameter of the spherical zone containing the centers of a sphere measured from multiple orientations.

Range	GAMMA^{P}		GAMMA^{M}		GAMMA^{E}	
	GH	GS	GH	GS	GH	GS
1.5 m	0.035 mm	0.040 mm	0.038 mm	0.045 mm	0.045 mm	0.050 mm
2.0 m	0.038 mm	0.043 mm	0.040 mm	0.050 mm	0.051 mm	0.058 mm
2.5 m	0.042 mm	0.048 mm	0.045 mm	0.055 mm	0.057 mm	0.065 mm
3.0 m	0.047 mm	0.055 mm	0.052 mm	0.062 mm	0.065 mm	0.075 mm
3.5 m	0.060 mm	0.068 mm	0.065 mm	0.076 mm	0.085 mm	0.095 mm
4.0 m	0.074 mm	0.079 mm	0.081 mm	0.090 mm	0.105 mm	0.110 mm
4.5 m	0.120 mm	0.125 mm	0.131 mm	0.139 mm	0.150 mm	0.185 mm

GAMMA I-FORK

Tube Measuring Arm

Portable Laser-Based Tube Inspection System

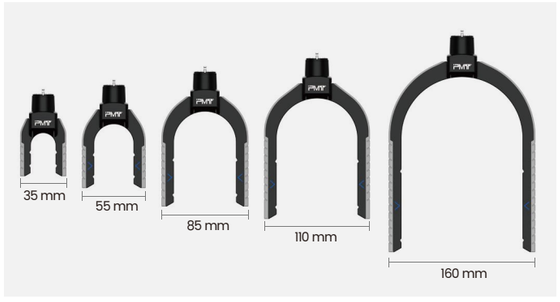
- High-Precision, High-Efficiency Capture
- Non-Contact Laser I-Fork Probe
- Deformation-Free Inspection

Tailored for Fragile & Flexible Tubes

Compatible with multiple laser i-fork probes to completely eliminate deformation caused by contact pressure. Automatic probe recognition allows for tool-free installation and swapping with no recalibration required, drastically simplifying on-site workflows.

Specification

Model	Fork Opening	Tube Diameter Range
I-Fork 35	35 mm	4 ~ 20 mm
I-Fork 55	55 mm	10 ~ 40 mm
I-Fork 85	85 mm	12 ~ 65 mm
I-Fork 110	110 mm	20 ~ 85 mm
I-Fork 160	160 mm	30 ~ 130 mm



Hardware Specifications

Description	Value
Storage Temperature	-10 ~ 50 °C
Operating Temperature	0 ~ 45 °C
Laser Power	< 5 mW
Max Power Consumption	500 mW
Pilot Laser Wavelength	650 nm
Measuring Laser Wavelength	850 nm

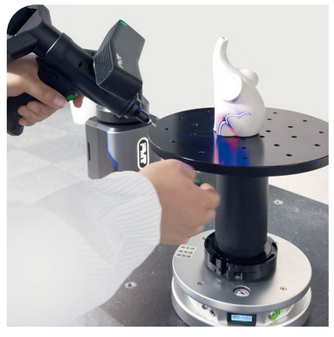
GAMMA 8-AXIS 360-degree Rotation

The PMT GAMMA 8-Axis rotary axis connects directly to PMT GAMMA measuring arms, offering plug-and-play seamless integration and high-precision expansion. Unlike traditional turntables, this axis is completely transparent to the measurement software, enabling real-time in-situ rotation of the workpiece relative to the arm without upgrades or adaptation, significantly reducing manual measurement time and error.

Scan with Greater Confidence and Speed
Leveraging convenient workpiece rotation to complete scanning, measurement, and digitization of parts of all sizes, increasing efficiency by over 40% compared to standard 7-axis systems.

Enhance Operational Efficiency
With zero dead zones and fewer interruptions, operators can focus on the measurement itself, making the digitization of complex workpieces faster and more complete.

Accelerate Post-processing Activities
By reducing the need to move the arm around the part or relocate the part to capture all necessary features, the number of scans requiring alignment is minimized, making post-processing leaner and more efficient.



Accuracy for Contact Measurement (PMTArm + 8-Axis)

▶ Contact Measurement (PMTArm + 8-Axis): In accordance with ISO 10360-12; defined as L_{DIA} (Sphere Location Diameter Error) - Diameter of the spherical zone containing the centers of a sphere measured from multiple orientations.

Range	GAMMA^{P}		GAMMA^{M}		GAMMA^{E}	
	6-Axis+8-Axis	7-Axis+8-Axis	6-Axis+8-Axis	7-Axis+8-Axis	6-Axis+8-Axis	7-Axis+8-Axis
1.5 m	0.024 mm	0.038 mm	0.028 mm	0.043 mm	0.038 mm	0.048 mm
2.0 m	0.030 mm	0.042 mm	0.032 mm	0.047 mm	0.041 mm	0.052 mm
2.5 m	0.032 mm	0.046 mm	0.037 mm	0.051 mm	0.050 mm	0.058 mm
3.0 m	0.045 mm	0.071 mm	0.051 mm	0.073 mm	0.080 mm	0.091 mm
3.5 m	0.060 mm	0.091 mm	0.066 mm	0.094 mm	0.098 mm	0.115 mm
4.0 m	0.075 mm	0.112 mm	0.083 mm	0.120 mm	0.116 mm	0.140 mm
4.5 m	0.101 mm	0.132 mm	0.108 mm	0.137 mm	0.128 mm	0.158 mm

Accuracy for Non-Contact Measurement (PMTScanArm + 8-Axis)

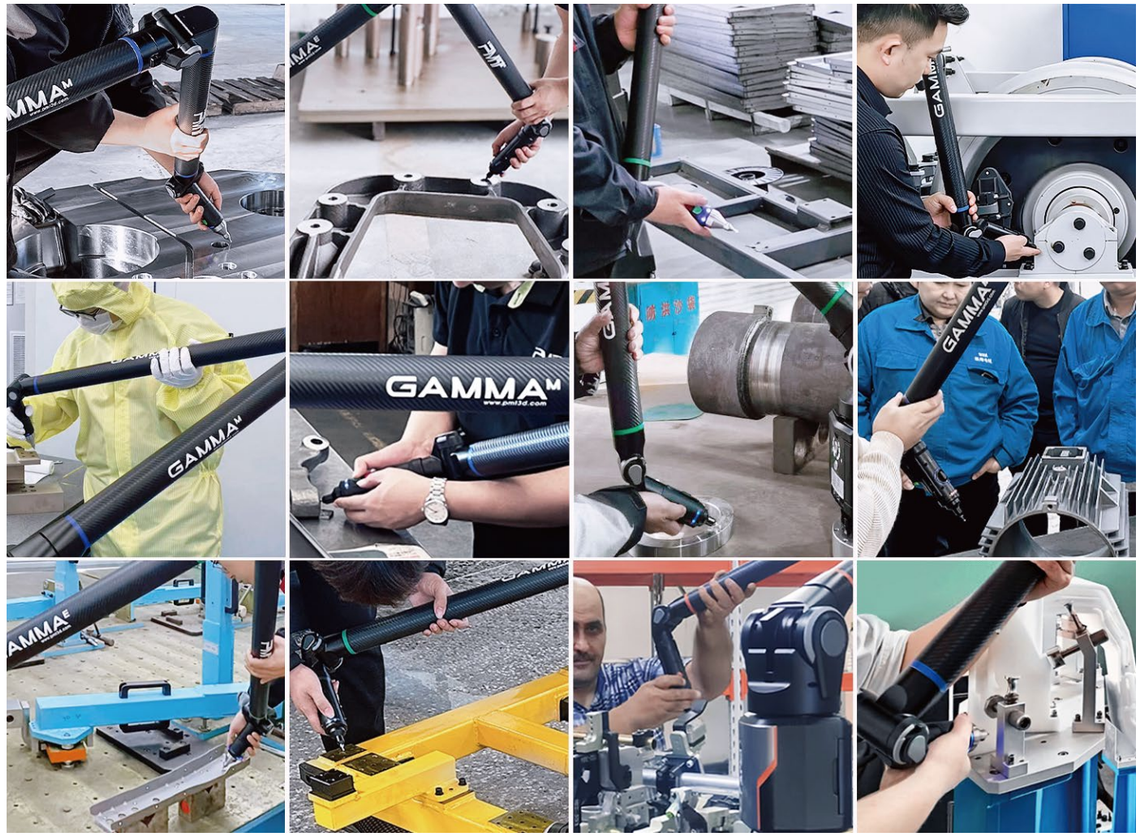
▶ Non-Contact Measurement (PMTScanArm + 8-Axis): In accordance with ISO 10360-8 Annex D; defined as L_{DIA} (Sphere Location Diameter Error) - Diameter of the spherical zone containing the centers of a sphere measured from multiple orientations.

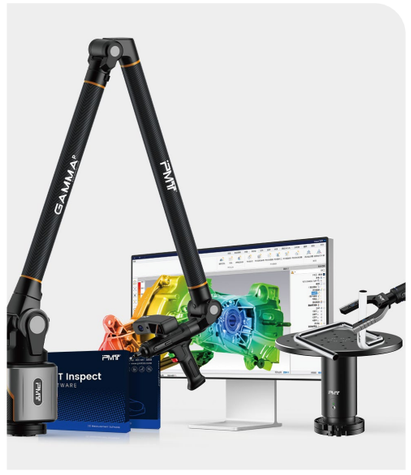
Range	GAMMA^{P}		GAMMA^{M}		GAMMA^{E}	
	6-Axis+8-Axis	7-Axis+8-Axis	6-Axis+8-Axis	7-Axis+8-Axis	6-Axis+8-Axis	7-Axis+8-Axis
1.5 m	0.035 mm	0.040 mm	0.038 mm	0.045 mm	0.045 mm	0.050 mm
2.0 m	0.038 mm	0.043 mm	0.040 mm	0.050 mm	0.051 mm	0.058 mm
2.5 m	0.042 mm	0.048 mm	0.045 mm	0.055 mm	0.057 mm	0.065 mm
3.0 m	0.047 mm	0.055 mm	0.052 mm	0.062 mm	0.065 mm	0.075 mm
3.5 m	0.060 mm	0.068 mm	0.065 mm	0.076 mm	0.085 mm	0.095 mm
4.0 m	0.074 mm	0.079 mm	0.081 mm	0.090 mm	0.105 mm	0.110 mm
4.5 m	0.120 mm	0.125 mm	0.131 mm	0.139 mm	0.150 mm	0.185 mm

20+ Years of Metrology Expertise
PMT Arms are Trusted by Industry Leaders

BYD · GAC · GWM · SAIC · GEELY
SINOTRUK · CHANGAN · DONGFENG · BAIC · MAGNA · Autoliv
HANGCHA · HELLA · BorgWarner · LiuGong · CATERPILLAR · HENGE
TIANRUN · BAOWU · CanadianSolar · AstraZeneca · CRRC · ZOOMLION

Beyond Equipment
Delivering One-Stop Solutions for Any Scenario





Typical Applications	Recommended Configurations
Mid-Small Part Contact Inspection	6/7-Axis Arm
Mid-Small Surface Inspection	Blue Light Scanning Arm
Hoses and Bent Tubes	Tube Measuring Arm
Oversized Molds	6/7-Axis Arm with Leapfrog
BIW and Large Assemblies	6/7-Axis Arm with Leapfrog
Reverse Engineering (Product Development)	Blue Light Scanning Arm + 8-Axis Rotary Table
Shop-Floor Batch Inspection	6/7-Axis Arm
Confined Spaces & Fixed Setups	6/7-Axis Arm + Probe Extension Kit

The Global Measurement Leader

PMT Technologies (Suzhou) Co.,Ltd.

PMT CHINA (Operating Headquarters)
Building 2, Xinyang Industrial Park, No.8 Yanghua Road, Suzhou Industrial Park, Suzhou, China
Tel: 0512-6286 8300

PMT CHINA (Guangdong Solution Center)
National Mould Product Quality Inspection Testing Center, No.10 Lianhu Road, Chang'an Town, Dongguan, Guangdong Province

PMT CHINA (Beijing Solution Center)
Room 30T, F4, Building 4, Jiao'ao Center, No. 59 Hua Gong Rd, Chaoyang District, Beijing

PMT CHINA (Liaoning Solution Center)
Room 1205, Shenyang Zhongguancun, 28 Huahai Rd, Shenyang Economic Development Zone, Liaoning Province, China

PMT Korea (Solution Center)
Busan, Haeundae-gu, APEC-ro 17, Centum Leaders Mark/ 2207
Tel: 82 10.4068.2926

PMT CHINA (R&D Center)
Building 2, Xinyang IndustrialPark, No.8 Yanghua Road, Suzhou Industrial Park, Suzhou, China

PMT GERMANY (R&D Center)
Kirchheimer Straße 186 + 188, 73265 Dettingen unter Teck, Germany
Email: germany@pmt3d.com

PMT JAPAN (R&D Center)
No. 3-30-1, Wajiro-higashi, Higashi-ku, Fukuoka, Japan
Email: japan@pmt3d.com

Web: www.pmt3d.com
Hotline: 400-681-3688
Email: info@pmt3d.com