



# PMT GAMMA

## SERIES ARM

With the simple dual suspension support structure design that brings greater structural stability, the PMT GAMMA series arm is regarded as the revolutionary benchmark in the field of portable measurement. Designed with the world's first external decoupling and built-in balancing mechanism, GAMMA features high performance, great flexibility, low power consumption, reduced joint loads and ultra-long standby time, and is deemed the most stable, reliable and portable measurement machine.



Flagship Series  
**GAMMA<sup>P</sup>**

Standard Series  
**GAMMA<sup>M</sup>**

Economic Series  
**GAMMA<sup>E</sup>**

### Laser Line Probe Specifications

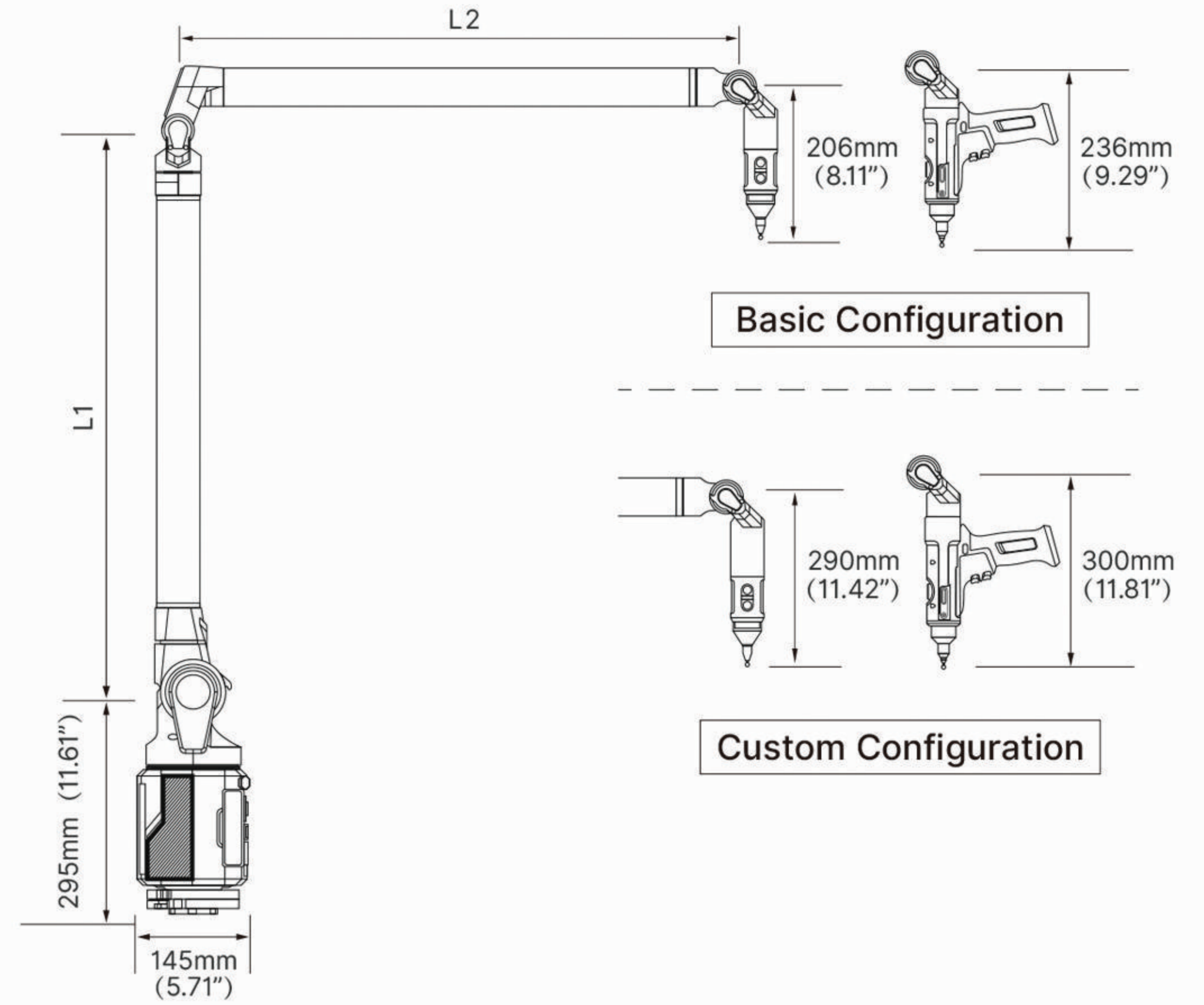
| Item                   |            | GH             | GS   |
|------------------------|------------|----------------|------|
| Accuracy               |            | 15µm           | 28µm |
| Stand-off              | Far Field  | 220mm          |      |
|                        | Mid Field  | 157mm          |      |
|                        | Near Field | 110mm          |      |
| Scan Width             | Far Field  | 150mm          |      |
|                        | Mid Field  | 110mm          |      |
|                        | Near Field | 80mm           |      |
| Depth of Field         |            | 110mm          |      |
| Max Points Per Line    |            | 4000           |      |
| Max Scan Rate          |            | 300HZ          |      |
| Point Acquisition Rate |            | 1200000/s      |      |
| Laser Type             |            | 450nm, Class 2 |      |
| Weight                 |            | 435g           |      |



# ADVANTAGES

## GAMMA Measurement Range

| Range | L1              | L2              |
|-------|-----------------|-----------------|
| 1.5m  | 375mm (14.76")  | 375mm (14.76")  |
| 2.0m  | 500mm (19.69")  | 500mm (19.69")  |
| 2.5m  | 625mm (24.61")  | 625mm (24.61")  |
| 3.0m  | 750mm (29.53")  | 750mm (29.53")  |
| 3.5m  | 875mm (34.45")  | 875mm (34.45")  |
| 4.0m  | 1000mm (39.37") | 1000mm (39.37") |
| 4.5m  | 1125mm (44.29") | 1125mm (44.29") |



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

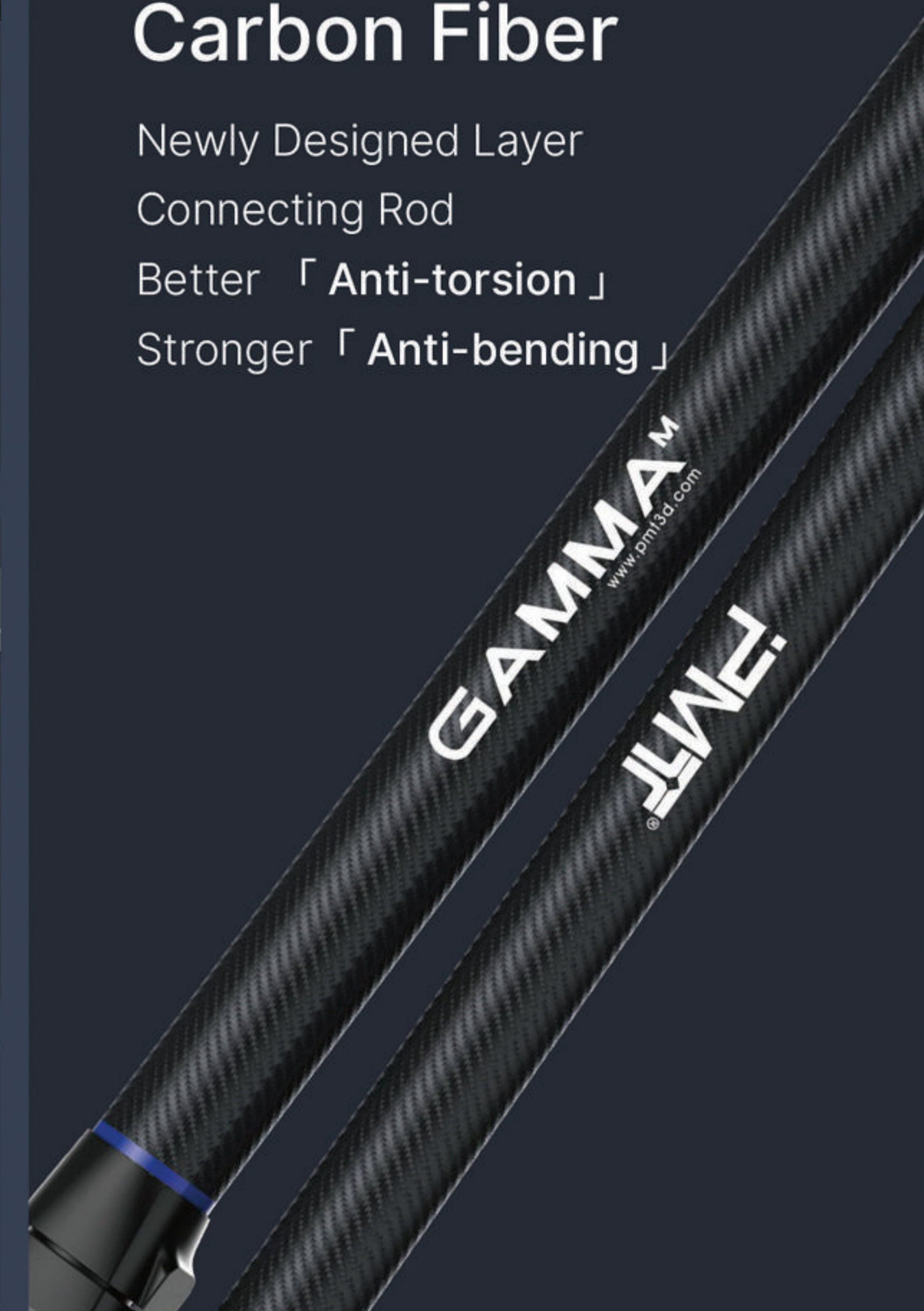
### Smart Sensing Probe System

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



### Aerospace-grade Carbon Fiber

Newly Designed Layer  
Connecting Rod  
Better 「Anti-torsion」  
Stronger 「Anti-bending」



### 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

# SPECIFICATIONS

## Accuracy - Contact Measurement (PMTArm)

### GAMMA<sup>P</sup>

► All values represent MPE (Maximum Permissible Error)  
 ► Contact Measurement (PMTArm): In accordance with ISO 10360-12; defined as E<sub>UNI</sub> (Unilateral Error) - Distance error between two points comparing measured versus nominal. Values are +/-.

| Range | <sup>1</sup> SPAT |         | <sup>2</sup> E <sub>UNI</sub> |         | <sup>3</sup> P <sub>SIZE</sub> |         | <sup>4</sup> P <sub>FORM</sub> |         | <sup>5</sup> L <sub>DIA</sub> |         |
|-------|-------------------|---------|-------------------------------|---------|--------------------------------|---------|--------------------------------|---------|-------------------------------|---------|
|       | 6-Axis            | 7-Axis  | 6-Axis                        | 7-Axis  | 6-Axis                         | 7-Axis  | 6-Axis                         | 7-Axis  | 6-Axis                        | 7-Axis  |
| 1.5m  | 0.012mm           | 0.015mm | 0.022mm                       | 0.023mm | 0.007mm                        | 0.008mm | 0.012mm                        | 0.018mm | 0.024mm                       | 0.038mm |
| 2.0m  | 0.016mm           | 0.018mm | 0.024mm                       | 0.025mm | 0.008mm                        | 0.010mm | 0.015mm                        | 0.019mm | 0.030mm                       | 0.042mm |
| 2.5m  | 0.018mm           | 0.020mm | 0.026mm                       | 0.028mm | 0.009mm                        | 0.011mm | 0.018mm                        | 0.022mm | 0.032mm                       | 0.046mm |
| 3.0m  | 0.026mm           | 0.032mm | 0.038mm                       | 0.047mm | 0.012mm                        | 0.016mm | 0.025mm                        | 0.032mm | 0.045mm                       | 0.071mm |
| 3.5m  | 0.036mm           | 0.043mm | 0.052mm                       | 0.057mm | 0.016mm                        | 0.020mm | 0.034mm                        | 0.039mm | 0.060mm                       | 0.091mm |
| 4.0m  | 0.045mm           | 0.054mm | 0.063mm                       | 0.073mm | 0.020mm                        | 0.026mm | 0.038mm                        | 0.044mm | 0.075mm                       | 0.112mm |
| 4.5m  | 0.055mm           | 0.065mm | 0.080mm                       | 0.095mm | 0.028mm                        | 0.036mm | 0.050mm                        | 0.065mm | 0.101mm                       | 0.132mm |

### GAMMA<sup>M</sup>

| Range | <sup>1</sup> SPAT |         | <sup>2</sup> E <sub>UNI</sub> |         | <sup>3</sup> P <sub>SIZE</sub> |         | <sup>4</sup> P <sub>FORM</sub> |         | <sup>5</sup> L <sub>DIA</sub> |         |
|-------|-------------------|---------|-------------------------------|---------|--------------------------------|---------|--------------------------------|---------|-------------------------------|---------|
|       | 6-Axis            | 7-Axis  | 6-Axis                        | 7-Axis  | 6-Axis                         | 7-Axis  | 6-Axis                         | 7-Axis  | 6-Axis                        | 7-Axis  |
| 1.5m  | 0.018mm           | 0.020mm | 0.025mm                       | 0.024mm | 0.009mm                        | 0.011mm | 0.016mm                        | 0.020mm | 0.028mm                       | 0.043mm |
| 2.0m  | 0.020mm           | 0.022mm | 0.026mm                       | 0.030mm | 0.010mm                        | 0.012mm | 0.018mm                        | 0.022mm | 0.032mm                       | 0.047mm |
| 2.5m  | 0.023mm           | 0.026mm | 0.029mm                       | 0.032mm | 0.012mm                        | 0.013mm | 0.022mm                        | 0.025mm | 0.037mm                       | 0.051mm |
| 3.0m  | 0.034mm           | 0.042mm | 0.041mm                       | 0.053mm | 0.015mm                        | 0.020mm | 0.031mm                        | 0.035mm | 0.051mm                       | 0.073mm |
| 3.5m  | 0.043mm           | 0.055mm | 0.055mm                       | 0.066mm | 0.019mm                        | 0.024mm | 0.038mm                        | 0.043mm | 0.066mm                       | 0.094mm |
| 4.0m  | 0.052mm           | 0.065mm | 0.066mm                       | 0.082mm | 0.023mm                        | 0.029mm | 0.043mm                        | 0.048mm | 0.083mm                       | 0.120mm |
| 4.5m  | 0.061mm           | 0.073mm | 0.089mm                       | 0.099mm | 0.038mm                        | 0.043mm | 0.078mm                        | 0.082mm | 0.108mm                       | 0.137mm |

### GAMMA<sup>E</sup>

| Range | <sup>1</sup> SPAT |         | <sup>2</sup> E <sub>UNI</sub> |         | <sup>3</sup> P <sub>SIZE</sub> |         | <sup>4</sup> P <sub>FORM</sub> |         | <sup>5</sup> L <sub>DIA</sub> |         |
|-------|-------------------|---------|-------------------------------|---------|--------------------------------|---------|--------------------------------|---------|-------------------------------|---------|
|       | 6-Axis            | 7-Axis  | 6-Axis                        | 7-Axis  | 6-Axis                         | 7-Axis  | 6-Axis                         | 7-Axis  | 6-Axis                        | 7-Axis  |
| 1.5m  | 0.028mm           | 0.030mm | 0.036mm                       | 0.040mm | 0.015mm                        | 0.020mm | 0.029mm                        | 0.035mm | 0.038mm                       | 0.048mm |
| 2.0m  | 0.030mm           | 0.035mm | 0.040mm                       | 0.045mm | 0.018mm                        | 0.025mm | 0.035mm                        | 0.040mm | 0.041mm                       | 0.052mm |
| 2.5m  | 0.035mm           | 0.040mm | 0.045mm                       | 0.050mm | 0.020mm                        | 0.030mm | 0.038mm                        | 0.045mm | 0.050mm                       | 0.058mm |
| 3.0m  | 0.055mm           | 0.060mm | 0.065mm                       | 0.070mm | 0.028mm                        | 0.035mm | 0.048mm                        | 0.050mm | 0.080mm                       | 0.091mm |
| 3.5m  | 0.075mm           | 0.080mm | 0.080mm                       | 0.085mm | 0.035mm                        | 0.040mm | 0.058mm                        | 0.065mm | 0.098mm                       | 0.115mm |
| 4.0m  | 0.090mm           | 0.095mm | 0.100mm                       | 0.105mm | 0.044mm                        | 0.050mm | 0.068mm                        | 0.075mm | 0.116mm                       | 0.140mm |
| 4.5m  | 0.112mm           | 0.115mm | 0.120mm                       | 0.125mm | 0.048mm                        | 0.055mm | 0.086mm                        | 0.095mm | 0.128mm                       | 0.158mm |



<sup>1</sup> SPAT Single Point Articulation Test



<sup>2</sup> EUNI Distance Error between two points comparing measured versus nominal values



<sup>3</sup> PSIZE Sphere Probing Size Error comparing measured versus nominal values



<sup>4</sup> PFORM Sphere Probing Form Error



<sup>5</sup> LDIA Sphere Location Diameter Error (Diameter of the spherical zone containing the centers of a sphere measured from multiple orientations)



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

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

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

## Hardware Specifications

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