



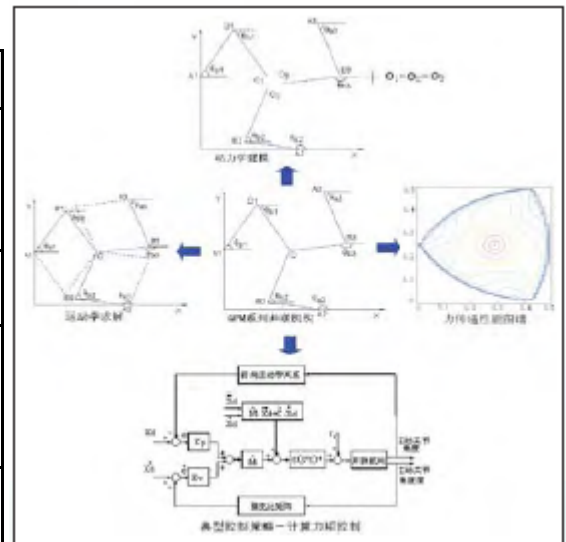
**GOOGOL TECHNOLOGY** Compared with a traditional industrial robot of equivalent functions (such as Cartesian coordinate robot and industrial serial robot), a Parallel Robot has the advantages of simpler structure and higher acceleration and deceleration capability. In addition, some problems in structure of this type of robots such as singularity and narrow working space can be solved by increasing redundancy constraints or adding redundancy drive. Parallel robot is currently receiving great attention in industrial and academic circles



GPM series of redundant Parallel Robots is a new experiment and research system specially designed and developed by Googol Technology. GPM can be used in robotics courses such as Automation Control and Mechatronics to meet laboratory experiment requirements for studying mechanism, kinematics, dynamics, motion planning and programming. This system can also be used in studying controlling and programming redundant parallel robot, in testing various non-linear control algorithms and redundancy coordination control algorithms, in assisting the control experiments of various automatic control theories and be used as a non-linear system with three inputs and two outputs. Besides its research and teaching usage, GPM series of parallel robots can also be used in developing new principles and experiment prototypes with high-speed, high-accuracy gluing and bonding.

### Ordering Guide

Model Number	Product Name	Description
GPM-2002	2DOF parallel robot	<ul style="list-style-type: none"> <li>• 2DOF parallel robot main body</li> <li>• GT-400-SV motion controller</li> <li>• 3 axes electric control module</li> <li>• Parallel manipulator software with source code</li> </ul>
GPM-2012	2DOF parallel robot (with pneumatic Z axis)	<ul style="list-style-type: none"> <li>• GPM-2002 package</li> <li>• Z-axis Pneumatic arm</li> </ul>
GPM-2003	3DOF parallel robot	<ul style="list-style-type: none"> <li>• 3 DOF parallel robot main body</li> <li>• GT-400-SV motion controller</li> <li>• 4 axes electric control module</li> <li>• Parallel manipulator software with source code</li> </ul>
GPM-2004	4DOF parallel robot	<ul style="list-style-type: none"> <li>• 4 DOF parallel robot main body</li> <li>• GT-400-SV motion controller</li> <li>• 5 axes electric control module</li> <li>• Parallel manipulator software with source code</li> </ul>



### Technical Specification

#### System Features:

- Special plane joint structure is designed to maximize the work-space of end effector
- Aluminum alloy connecting bars, with unique structure design - lightweight, low inertia and high rigidity.
- Three-motor drive enables 2 DOF movement of the end effector. All motors are mounted on the base to allow higher acceleration.
- Industrial AC servo motor equipped with absolute encoder and harmonic decelerators are used to ensure its personality of compact structure and high motion precision.
- High-performance motion controller in the control system, in order to facilitate the users to develop the system subsequently and to research on coordinated control algorithms.

Item	Index	
Structure	Planar joint type	
Load capability	1 Kg	
Motion accuracy (Pulse equivalent weight/ rev)	819200	
Repeatability	± 0.05 mm	
Accuracy	± 0.1mm	
Max. swing of each axis	Joint 1	125°
	Joint 2	128°
	Joint 3	125°
Max. angular velocity of each axis	3.14 rad/s	
Weight	≤ 50 Kg	
Dimension (Length x Width x Height)	590mm x 525mm x 400mm	

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