Marvie Series 6 DOF Robot Controller

-Integration of Servo Drives, Controller and Software

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Overview

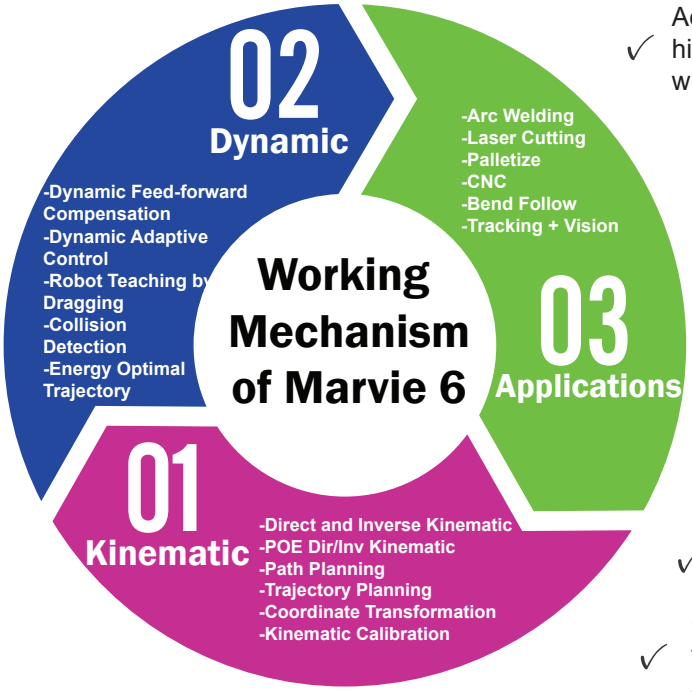
Marvie Series 6DOF Robot Controller integrates industrial robotic control system development platform, motion controller and 6-axis servo drive into one. It is compact, yet possesses high power density and integration level. It greatly simplifies the electric design of clients and enhances performance and reliability of the equipment. It is suitable for many industrial applications such as arc welding, transportation, loading and unloading of material for robotic arm up to 20 kg payload.

The development platform is based on WINCE Operation System to satisfy real-time security, and stability requirement of robotic arm applications. This platform targets robotic arm manufacturers with development capability, industrial clients, colleges and research institutes with application requirements. It adopts system architecture that supports secondary development to provide customized techniques and algorithms for clients.

Based on Industry 4.0 architecture design, the integrated network protocol can upload the onsite data to industrial cloud platform. It can thus help clients to manage and use the technique data to realize onsite equipment status monitoring and enhance management and production efficiency.

Marvie 6-axis Robotic Controller

Main Features



- ✓ Adopt multi-DOF and non-linear control algorithm to realize high dynamic response, current, speed and position control with high precision,
- ✓ Integrate motion controller, robotic control system and 6-axis servo drive into one device,
- ✓ Compact size, high integrated level, suitable for robotic arms with payload of 20kg or less,
- ✓ Support gLink-II gigabit network protocol,
- ✓ Support network control and transmission of encoder feedback signal and brake signal, support handheld device hot plug,
- ✓ Motion control algorithm and servo drive loop calculation are completely synchronized,
- ✓ Integrate auxiliary encoder, CAN bus protocol, machine vision and serial RS232 port,
- ✓ OtoStudio software development platform, real time observation of curves, easy test to realize online upgrade of firmware and software.

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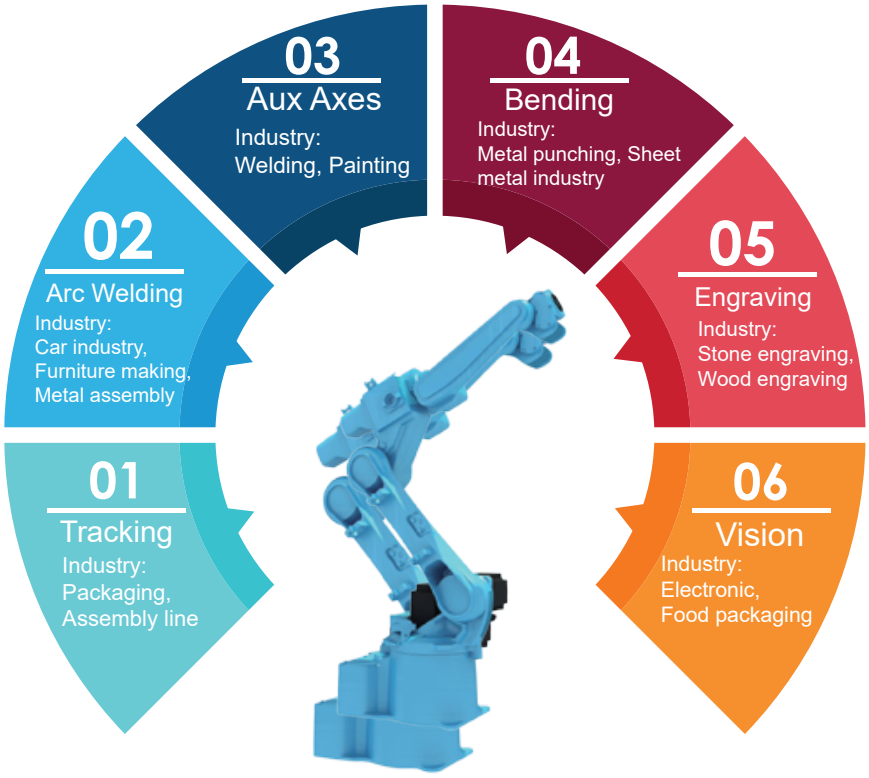
Support Hardware

Software

There are SIX different software packages available for Marvie 6:



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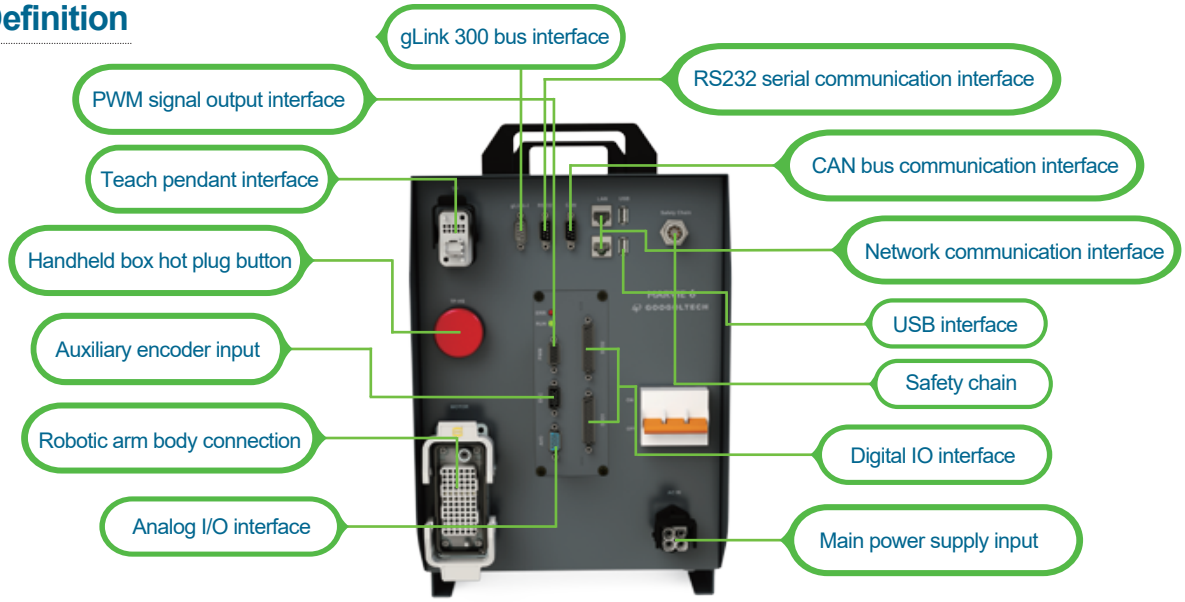
Specifications

Functional unit	Item	Technical indicator
PC performance	CPU	1.66GHz or above
	RAM & Hard disk	2GB & 4GB
	Operating system	WinCE 6.0
Primary loop power supply	Rated voltage (V)	3-phase 220V AC; fluctuation range -15%~10%, i.e. 187V~242V
	Rated frequency (Hz)	50Hz-60Hz, fluctuation range ±5%
Output characteristics	Standard suitable motor (W)	2000W*2+750W*2+200W*2(20kg payload); 750W*2+400W*2+200W*2(10kg payload)
	Rated output current (A)	15Ax2+7Ax2+2Ax2 (20kg payload); 7Ax2+4Ax2+2Ax2 (10kg payload)
	Output voltage (V)/	3-phase output under rated condition, 0V~rated input voltage
	Output frequency (Hz)	0~1000Hz
	Overload characteristics	30 sec. for 120% rated current, 1.5 sec. for 300% rated current
Control terminal	Digital input & output	32-channel optical coupling isolation input & 32-channel optical coupling isolation output (output 300mA)
	Analog input & output	4-channel, -10V~+10V, resolution 14-bit & 4-channel, -10V~+10Vm 10mA, resolution 14-bit
	Auxiliary encoder	2-channel, incremental encoder, 5V, powered by 250mA/channel
	Motor brake output	gLink-II communication (used with brake encoder module)
Encoder	Absolute encoder	gLink-II communication (used with brake encoder module)
Communication interface	Ethernet*2 (10/100/1000MBps self-adaptive), RS-232*1, CAN*1, USB2.0*2, gLink-I*1, gLink-II*1	
Handheld box	eHMI, 2-channel STO, 24V power supply (rated 300mA)	
Miscellaneous	Efficiency	97%
	Weight	26kg (20kg payload) /22kg (10kg payload)
	Ingress Protection rating	IP20
	Installation method	Console mode
	Cooling method	Air cooling
	Application environment	Indoor; not under direct sunlight; without dust, caustic gas, flammable gas, oil fog, vapor, water dripping, and salinity
	Altitude	Less than 2km
	Ambient temperature (°C) / Humidity	-20°C~+55°C (Derating for ambient temperature over 55°C) / Less than 90%RH, non-condensation
	Atmospheric pressure	80kPA~110kPA
	Storage temperature	-40°C~+70°C

Interface Definition



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Ordering Guide

Model No.	Loading Capacity	Voltage (V)	Max. motor power (W)	Rated output current (A)	Max. output current (1S)A
GTSD61-T3-K006X2-N10I0	20Kg	220	2Kx2	15	64
			750×2	7	28
			200x2	2	8
GTSD61-T3-K003X2-N10I0	<10kg	220 (single/three phases)	750x2	7	28
			400×2	4	16
			200x2	2	8

Ordering Guide (Optional)

Model		CA05N	CB06N	CA20N
Robotic Arm				
Payload(kg)		5	6	20
Position repeat accuracy (mm)		±0.02	±0.05	±0.05
Maximum operating range (mm)		705	3150	1725
Maximum speed (o/sec)	Axis J1	360	180	190
	Axis J2	360	180	205
	Axis J3	410	200	210
	Axis J4	460	410	400
	Axis J5	460	360	360
	Axis J6	740	610	610
Maximum operation angle (degree)	Axis J1	±180	±180	±180
	Axis J2	+135~-80	+140~-105	+155~-105
	Axis J3	+118~-172	+135~-155	+150~-163
	Axis J4	±360	±360	±270
	Axis J5	±145	±145	±145
	Axis J6	±360	±360	±360
Weight (kg)		34	545	230

* Other payload are available, please contact Googol for more information.

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Ordering guide (Optional)

Software (OtoRobot)		
Model Number	GT_OtoRobo_CS_6 V1.0	
No. of control axes	Less than or equal to 6 axes	
Program Features	-Joint PTP command/ Cartesian system PTP command/ Cartesian system linear command / Arc CP command -Joint/ tool/ global/ work piece coordinate system	
Control Pendant		
Model Number	GRP-3000II	
Configuration	7 inch LCD, EFT Class 2/ ESD Class 4	
Kestrel Series Smart Camera		
Model Number	GCK-1100-130M	
Configuration	640 x 480 (30W)/620fps 800 x 600 (50W)/420fps 1280 x 1024 (130W)/175fps	
Extended IO		
Model Number	HCB1-1616-DTS01	
Configuration	Digital 16 In, 16 Out, NPN	

Contact Us

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