

RC7M Controller							
Extended-joint Controller specifications : RC7M							
Item		RC7M					
Applicable robot	VP-G Series	VS-G Series	VM-G Series	HS-G Series	HM-G Series	XYC-4G Series	
Model name(RC7M-)	VPG-5/6***-**	VSG-6***-**	VMG-6***-**	HSG-4***-**	HMG-4***-**	XYCG-4***-**	
Number of controllable axes	Up to eight axes simultaneously (6 robot axes and 2 extended-joints)			Up to six axes simultaneously (4 robot axes and 2 extended-joints)			
Control system	PTP, CP 3-dimensional linear, 3-dimensional circular(Only PTP control for extended-joints)						
Drive system	All axes : Full-digital AC servo						
Language	DENSO robot language (conforming to SLIM)						
Memory capacity	3.25MB(equivalent to 10.000-step, 30.000-point)						
Teaching system	1)Remote teaching 2)Numerical input(MDI)			1)Direct teaching 2)Remote teaching 3)Numerical input(MDI)		1)Remote teaching 2)Numerical input(MDI)	
External signals(I/O)	Standard I/O	Mini I/O	Input : 8 user open points + 11 fixed system points				
			Output : 8 user open points + 14 fixed system points				
		(Note : The global model of the controller cannot use system-fixed emergency stop I/Os.)					
	HAND I/O	Input : 8 user open points / Output : 8 fixed system points					
		SAFETY I/O (only on global type)					Input : 6 fixed system points / Output : 5 fixed system points
	Parallel I/O extension boards (option)	2 boards mounted	Input : 80 user open points / Output : 96 user open points (additional possible)				
		Single board mounted	Input : 40 user open points / Output : 48 user open points (additional possible)				
	DeviceNet board (option)	Master/Slave	Input : 1024 points(Maste) + 256 points(Slave) / Output : 1024 points(Maste) + 256 points(Slave)				
		Master	Input : 1024 points / Output : 1024 points				
		Slave	Input : 256 points / Output : 256 points				
CC-Link board (option)	Slave	Input : 128 points / Output : 128 points					
External communications interface	RS-232C: 1 line Ethernet : 1 line USB : 2 lines (Supporting flash memory)						
Extension slots	3(for optional boards)						
Self-diagnosis function	Overrun, servo error, memory error, input error etc.						
Timer function	0.02 to 10sec (in unit of 1/60 sec)						
Error display	Error codes will be outputted on the external I/O. Error codes will be displayed on the mini pendant (option). Error message will be displayed on the teaching pendant(option).						
Cables	VM-G, VS-G, VP-G, HM-G, HS-G Motor & encoder	4m, 6m, 12m				-	
	XYC-4G motor cable (option)	-				4m, 6m	
	XYC-4G encoder cable (option)	-				4m, 6m	
	I/O Cable (option)	8m, 15m(for Mini I/O, HAND I/O, Parallel I/O extension boards, safety I/O board)					
	Power cable	5m					
	Motor cable (option)	Two types available for 1.5 kW and 750 W or below.4 m, 6 m, 12 m for each type (Connected to the controller via the motor conversion cable)					
	Encoder cable (option)	4 m, 6 m, 12 m					
Environmental conditions (operation)	Temperature 0 to 40°C Relative humidity 90% or less (No condensation)						
Power source	<200VAC model> Three-phase 200VAC-15%- 230VAC+10%, 50/60Hz, 1kVA Single-phase 230VAC-10%- 230VAC+10%. <100VAC model> Single-phase AC100V-10%- AC110V+10%, 50/60Hz, 1kVA	Three-phase 200VAC-15%- 230VAC+10%, 50/60Hz, 1.85kVA Single-phase 230VAC-10%- 230VAC+10%, 50/60Hz, 1.85kVA	Three-phase 200VAC-15%- 230VAC+10%, 50/60Hz, 3.3kVA	Three-phase 200VAC-15%- 230VAC+10%, 50/60Hz, 1.8kVA Single-phase 230VAC-10%- 230VAC+10%, 50/60Hz, 1.8kVA	Three-phase 200VAC-15%- 230VAC+10%, 50/60Hz, 2.5kVA Single-phase 230VAC-10%- 230VAC+10%, 50/60Hz, 2.5kVA	Three-phase 200VAC-15%- 230VAC+10%, 50/60Hz, 1.15kVA Single-phase 230VAC-10%- 230VAC+10%, 50/60Hz, 1.15kVA	
I/O Power source (Note)	External power source	A24VDC ±10% should be supplied from external equipment.					
	Internal power source	A24VDC ±10% should be supplied internally in the robot controller.					
Safety category	with safety box : Compliant with safety category 4						
Degree of protection	IP20						
Weight (in full configuration)	4-axis standard model : approx. 21kg 6-axis standard model : approx. 22kg 4-axis global model(with safety board) : approx. 22kg 6-axis global model(with safety board) : approx. 23kg 4-axis global model(with safety box) : approx. 25kg 6-axis global model(with safety box) : approx. 26kg						

Note : Refer to Sections 4.2.1 and 5.2.1 "Setting up Mini I/O Power Supply."

#### Controller Handling Notes

##### ⚠ WARNING

- \* DO NOT touch fins. Their hot surfaces may cause severe burns.
- \* DO NOT insert fingers or foreign objects into openings. Doing so may cause bodily injury.
- \* Before opening the controller cover and accessing the inside of the controller for maintenance, be sure to turn off the power switch, disconnect the power cable, and wait 3 minutes or more. This is for protecting you from electric shock.
- \* DO NOT connect or disconnect connectors to / from the controller while the AC power or the 24 VDC power for I/O is being supplied. Doing so may cause electric shock or controller failure.

##### ⚠ CAUTION IN INSTALLATION

- \* This controller is not designed to be dust-proof, mist-proof, or explosion-proof.
- \* Read operation manuals before installation.
- \* Do not place anything on the controller or apply an impact or shock to the controller.
- \* Avoid mounting the controller in an environment where excessive vibration is applied to the controller.

##### ⚠ CAUTION

The robot controller connectors are of a screw-lock type or ring-lock type. Lock the connectors securely. If even one of the connectors is not locked, weak contact may result thereby causing an error.

Be sure to turn the robot controller OFF before connection / disconnecting the power connector or motor connector. Otherwise, the internal circuits of the robot controller may be damaged.