Robot Controller

RC8

Specifications

Term			Specifications					
Applicable robots			VP-5243 / 6242	VS 050 / 060 / 050S2	VS 068 / 087	VS-6556 / 6577	VM-6083 / 60B1	HM-4*****	XR-43***
Power	Power supply		1.00kVA [1]	1.15kVA	2.78kVA	1.80kVA	3.30kVA	2.45kVA	1.85kVA
	Input voltage range		Three-phase 200 VAC −15% to 240 VAC +10% (100 V specification also available for the VP series.)						
			Single-phase, 230 VAC −10% to 240 VAC +10% [1]				—	Single-phase, 230 VAC −10% to 240 VAC +10%	
	Power supply frequency		50Hz / 60Hz						
Power cable			5m						
Controllable axes			5 / 6		6			4	
Control method			PTP, CP 3-dimensional linear, 3-dimensional arc (PTP control only for additional axes)						
Drive method			All axes all digital AC servo						
Language used			DENSO Robotics language (PacScript)						
Memory capacity			User area Variable area: 1.75 MB (32,766 points equivalent), file area: 400 MB (5,000 steps × 256 files)						
Teaching system			1) Remote teaching 2) Numerical entry (MDI) 3) Direct teaching (HS series and HM series only)						
External signal (I/O, etc.)	Universal / dedicated I/O	Mini I/O	Input: User open 8 points + system fix 14 points (the safety I/O less version has system fix 13 points) [2] Output: User open 8 points + system fix 16 points (the safety I/O less version has system fix 12 points)						
		Hand I/O	Input: User open 8 points / Output: User open 8 points						
	Parallel I/O boards (option)		Bus: PCI Input :User open 40 points / Output: User open 48 points						
	DeviceNet slave board (option)		Bus: PCI Express Input: 256 points / Output: 256 points						
	CC-Link remote device board (option)		Bus: PCI Express Input: 128 points / Output: 128 points Remote registers Input: 256 points / Output: 256 points						
	PROFIBUS slave board (option)		Bus: PCI Express Input: 256 points / Output: 256 points						
	EtherNet / IP adapter board (option)		Bus: PCI Express Input: 4,032 points / Output: 4,032 points						
	PROFINET I/O device board (option)		Bus: PCI Express Input: 8192 points / Output: 8192 points						
	EtherCAT slave board (option)		Bus: PCI Express Input: 2048 points / Output: 2048 points						
External communication			RS-232C: 1 line, EtherNet: 1 line (GbE: Gigabit EtherNet), USB: 2 lines, VGA: 1 line (option)						
Expansion slot			· PCI 1 slot · PCI Express 1 slot						
Self diagnosis function			Overrun, servo error, memory error, input error, short circuit detection (user wiring part), etc.						
Environmental condition (in motion)			Temperature: 0 to 40 degree C, Humidity: 20 - 90%RH (no condensation allowed.)						
Safety function			See the "options" on the list below.						
Protect grade			IP20						
Weight			Approx. 10kg [3]						

1: Power for the 100 VAC specification is "Single-phase 100 VAC −5% to 110 VAC +10% 50/60 Hz, 1 kVA.

2: If the built-in safety I/O is not necessary for the standard specification, please specify a safety-I/O-less specification.   3: Does not include the supplied cables.

Options [4]

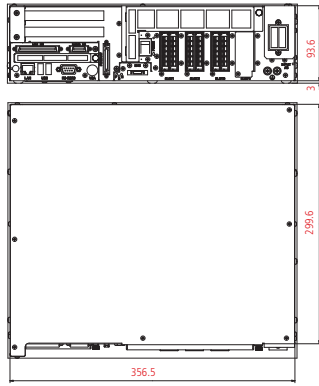| Controller Type	Safety function	Standard(s)	I/O type
Safety I/O-less	—	—	NPN/PNP

4: Specifications must be designated when placing an order. Specifications cannot be changed after shipment. Additional axis specifications are available for all controllers.

Legend

RC8 - □□□□ - NN□□ - □□ - NNN

Controller name

Robot type format:
VPA0: VP-5243 / 6242
VSA3: VS050 / 060 / 050S2
VSA4: VS068 / 087
VSA0: VS-6566 / 6577
VMA0: VM series

HMA0: HM series
XRA0: XR series
S1A1: SC series (2-axis)
S2A1: SC series (3-axis, 4-axis)

CPU:
N: Standard
E: Standard (In and after June 2020) *Due to CPU change.
7: High-spec CPU

I/O type:
M: Negative common (NPN)
P: Positive common (PNP)

Compliant standard:
NN: Safety-I/O-less specification (safety-I/O-less)

5- AND 6-AXIS ROBOTS

4-AXIS ROBOTS

GANTRY ROBOTS

COLLABORATIVE ROBOTS

ROBOT CONTROLLER

SOFTWARE / PERIPHERALS

MAIN FUNCTIONS

SUPPORT

External dimensions Unit : mm

Safety I/O-less specification

93.6

3

299.6

Options

RC8 Controller
Protective Box Light

85

(657.6)
(636.6)

47 131.3

505

408
500

558
630.6

I/O conversion box
(RC5 to RC8 / 8A
Safety I/O-less specification)

140
100
40
220

440

4-M3

270
300

2-Ø4.5

421

User interface

(PCI Express)

Mini I/O universal / dedicated connector

Hand I/O connector

Pendant connector

Power switch

Power connector

EtherNet (GigE)

2 × USB

RS-232C

VGA (option)

Motor connector

Encoder connector

Motor connector
(for extended-joint support)

Status LED

Optional systems diagram

Control device

Teach pendant

Mini-pendant
kit

Emergency
stop box

High-spec CPU

CPU

Controller extension board

· Parallel I/O board for expansion
· DeviceNet slave board
· PROFIBUS slave board
· PROFINET I/O device board
· CONTEC serial communications board
  <RS232C / 422 / 485> [1]
. CONTEC motion control board [1]
· DeviceNet master board
· CC-Link remote device board

· EtherNet/IP adapter board
· EtherCAT master board (Cooperative)
· EtherCAT slave board (Cooperative)
· EtherCAT slave board (Motion)
· EtherCAT slave board (I/O)
· EtherCAT master board (external axis)
· CONTEC analog I/O board [1]
· CONTEC digital I/O board [1]

1.To be supplied by customer

**Extended-joint
support
specification**

Power cable

Three-phase: 200 V
Single-phase: 230 V (100 V)

Mini I/O cable <8 m, 15 m>

Motor & encoder cable <2 m, 4 m, 6 m, 12 m, 20 m>
20m cables are not compatible with UL specifications.

Software

WINCAPS®Ⅲ

EMU

Robot Tools

RC Vision

ORiN®2 SDK

VRC

Applications
for smart
devices

Mobile Tools

Peripherals

PLC

Conveyor

Robot