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Find the *OMRON R88D-UA20V* at our website: *Click HERE*

■ General Specifications (For 30- to 750-W Models)

Item	Specifications
Operating ambient temperature	0°C to 55°C
Operating ambient humidity	35% to 85% RH (with no condensation)
Storage ambient temperature	−10°C to 75°C
Storage ambient humidity	35% to 85% RH (with no condensation)
Storage and operating atmosphere	No corrosive gasses.
Vibration resistance	10 to 55 Hz in X, Y, and Z directions with 0.10-mm double amplitude; acceleration: 0.5 G {4.9 m/s^2} max.; time coefficient: 8 min; 4 sweeps (See note 1.)
Impact resistance	Acceleration 2 G {19.6 m/s^2} max., in X, Y, and Z directions, three times
Insulation resistance	Between power line terminals and case: 5 MΩ min. (at 1,000 VDC)
Dielectric strength	Between power line terminals and case: 1,000 VAC for 1 min (20 mA max.) at 50/60 Hz
Protective structure	Built into panel.

Note:
1. Vibration may be amplified due to sympathetic resonance of machinery, so use the Servomotor under conditions which will not exceed 0.5 G {4.9 m/s^2} over a long period of time.
2. The above items reflect individual evaluation testing. The results may differ under compounded conditions.
3. Absolutely do not conduct a withstand voltage test or other Megger tester tests on the Servo driver. If such tests are conducted, internal elements may be damaged.
4. Depending on the operating conditions, some Servo Driver parts will require maintenance. Refer to the relevant operation manual for details.

■ Performance Specifications (30- to 750-W Analog Input Models)

Model		200 V						100 V				
		R88D -UA02HA	R88D -UA03HA	R88D -UA04HA	R88D -UA08HA	R88D -UA12HA	R88D -UA20HA	R88D -UA03LA	R88D -UA04LA	R88D -UA10LA	R88D -UA12LA	R88D -UA15LA
Continuous output current (0-P)		0.6 A	0.85 A	1.2 A	2.8 A	3.7 A	6.2 A	0.9 A	1.3 A	3.1 A	3.8 A	4.8 A
Momentary maximum output current (0-P)		1.8 A	2.7 A	4.0 A	8.5 A	11.3 A	19.7 A	2.8 A	4.1 A	10 A	12 A	15 A
Input power supply		Single-phase 200/230 VAC (170 to 253 V) 50/60 Hz						Single-phase 100/115 VAC (85 to 127 V) 50/60 Hz				
Control method		All-digital servo										
Speed feedback		Incremental encoder (magnetic), 2,048 pulses/revolution										
Applicable load inertia INC (see note)		Maximum of 30 times motor's rotor inertia				Maximum of 20 times motor's rotor inertia		Maximum of 30 times motor's rotor inertia				Maximum of 20 times motor's rotor inertia
Inverter method		PWM method based on IGBT										
PWM frequency		11 kHz					7.8 kHz	11 kHz				7.8 kHz
Applicable Servomotor INC (see note)		R88M-U03030HA	R88M-U05030HA	R88M-U10030HA	R88M-U20030HA	R88M-U40030HA	R88M-U75030HA	R88M-U03030LA	R88M-U05030LA	R88M-U10030LA	R88M-U20030LA	R88M-U30030LA
Applicable Servomotor wattage		30 W	50 W	100 W	200 W	400 W	750 W	30 W	50 W	100 W	200 W	300 W
Weight		Approx. 0.9 kg				Approx. 1.2 kg	Approx. 1.5 kg	Approx. 0.9 kg			Approx. 1.2 kg	Approx. 1.5 kg
Capacity	Speed control range	1:5000										
	Speed fluctuation rate (load characteristic)	0.01% at 0 to 100% (at rated rotation speed)										
	Speed fluctuation rate (voltage characteristic)	0% at input voltage of 170 to 253 VAC						0% at input voltage of 85 to 127 VAC				
	Speed fluctuation rate (temperature characteristic)	±0.2% max. at 0 to 50°C										
	Frequency characteristics	250 Hz (at the same load as the rotor inertia)										
	Torque control reproducibility	±2.0%										
	Acceleration time setting	0 to 10 s (Acceleration and deceleration times are set separately)										

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Servo Driver Specifications

Specifications Table – continued from previous page

Input signal	Speed command voltage	±2 to 10 VDC (motor rotation by +command) / rated rotation speed Input impedance: Approx. 30 kΩ; circuit time constant: Approx. 47 μs
	Torque command voltage	±1 to 10 VDC / rated torque Input impedance: Approx. 30 kΩ; circuit time constant: Approx. 47 μs
	Sequence input	Run command, gain deceleration, forward/reverse current limit, forward/reverse drive prohibit, alarm reset, 24-VDC, 5-mA photocoupler input, external power supply: 24±1 VDC, 50 mA min.
Output signal	Position feedback output	A-, B-, Z-phase line driver output (EIA RS-422A) A-phase and B-phase (dividing rate setting): 16 to N pulses/revolution, N=2,048 (incremental) Z-phase: 1 pulse/revolution
	Speed monitor output	0.5 V/1000 r/min
	Current monitor output	0.5 V/100%
	Sequence output	Alarm output, alarm code output, motor rotation detection, brake interlock, speed conformity, open collector output, 30 VDC, 50 mA (except for alarm code output, which is 30 VDC, 20 mA)
Dynamic brake stopping		Operates when the power supply turns off, a servo alarm is generated or an overrun occurs.
Protective functions		Overcurrent, grounding, overload, overvoltage, overspeeding, A/D errors, transmission errors, encoder errors, overrun prevention

Note: INC: Servomotor with Incremental Encoder attached.

■ Performance Specifications (30- to 750-W Pulse Train Input Models)

Model		200 V						100 V				
		R88D -UP02HA	R88D -UP03HA	R88D -UP04HA	R88D -UP08HA	R88D -UP12HA	R88D -UP20HA	R88D -UP03LA	R88D -UP04LA	R88D -UP10LA	R88D -UP12LA	R88D -UP15LA
Continuous output current (0-P)		0.6 A	0.85 A	1.2 A	2.8 A	3.7 A	6.2 A	0.9 A	1.3 A	3.1 A	3.8 A	4.8 A
Momentary maximum output current (0-P)		1.8 A	2.7 A	4.0 A	8.5 A	11.3 A	19.7 A	2.8 A	4.1 A	10 A	12 A	15 A
Input power supply		Single-phase 200/230 VAC (170 to 253 V) 50/60 Hz						Single-phase 100/115 VAC (85 to 127 V) 50/60 Hz				
Control method		All-digital servo										
Speed feedback		Incremental encoder (magnetic), 2,048 pulses/revolution										
Applicable load inertia		Maximum of 30 times motor's rotor inertia				Maximum of 20 times motor's rotor inertia		Maximum of 30 times motor's rotor inertia				Maximum of 20 times motor's rotor inertia
Inverter method		PWM method based on IGBT										
PWM frequency		11 kHz					7.8 kHz	11 kHz				7.8 kHz
Applicable Servomotor		R88M-U03030HA	R88M-U05030HA	R88M-U10030HA	R88M-U20030HA	R88M-U40030HA	R88M-U75030HA	R88M-U03030LA	R88M-U05030LA	R88M-U10030LA	R88M-U20030LA	R88M-U30030LA
Applicable Servomotor wattage		30 W	50 W	100 W	200 W	400 W	750 W	30 W	50 W	100 W	200 W	300 W
Weight		Approx. 0.9 kg				Approx. 1.2 kg	Approx. 1.5 kg	Approx. 0.9 kg			Approx. 1.2 kg	Approx. 1.5 kg
Capacity	Maximum response pulse frequency	200 kpps										
	Position loop gain	1 to 500 (1/s)										
	Electrical gear function	Electrical gear ratio range: 0.01 ≦ (G1/G2) ≦ 100 (G1, G2 = 1 to 65, 535)										
	Positioning completed width	0 to 250 (command units)										
	Feed forward compen-sation	0 to 100% of the speed command (pulse frequency)										
	Bias setting	0 to 450 r/min										
	Position accel/ decel time constant setting	0 to 64 ms (acceleration and deceleration are set the same)										

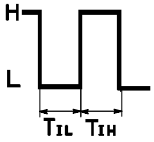
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Specifications Table – continued from previous page

Input signal	Position command pulse input (See note.)	TTL line driver input photo isolation input power supply 6 mA to 3 V. Feed pulse/forward, reverse signal, forward pulse/reverse pulse, 90° disparity (A-, B-phase) signal.
	Deviation counter reset	TTL line driver input photo isolation input power supply 6 mA to 3 V.
	Sequence input	Run command, gain deceleration, forward/reverse current limit, forward/reverse drive prohibit, alarm reset, 24-VDC, 5-mA photocoupler input, external power supply: 24±1 VDC, 50 mA min.
Output signal	Position feedback output	A-, B-, Z-phase line driver output (EIA RS-422A) A-phase and B-phase (dividing rate setting): 16 to 2,048 pulses/revolution Z-phase: 1 pulse/revolution
	Speed monitor output	0.5 V/1000 r/min
	Current monitor output	0.5 V/100%
	Sequence output	Alarm output, alarm code output, motor rotation detection, brake interlock, positioning complete, open collector output, 30 VDC, 50 mA (except for alarm code output, which is 30 VDC, 20 mA)
Dynamic brake stopping		Operates when the power supply turns off, a servo alarm is generated or an overrun occurs.
Protective functions		Overcurrent, grounding, overload, overvoltage, overspeeding, overrun prevention, transmission errors, encoder errors, deviation counter overrun

Note: Ensure that the input pulse width meets the following conditions.



T_{IL}, $T_{IH} \geq 2.5$ μs

■ U-Series Servomotors and Servo Drivers Are UL and cUL Approved

Standard	Model	Applicable Standard	File No.
UL	AC Servo Driver	UL508C	E179149
	AC Servomotor	UL1004	E179189
cUL	AC Servo Driver	cUL C22.2 No. 14	E179149
	AC Servomotor	cUL C22.2 No. 100	E179189

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Options Specifications

■ Regeneration Unit Specifications (For 30- to 750-W Models)

General Specifications

Item	Specifications
Operating ambient temperature	0°C to 55°C
Storage ambient temperature	−10°C to 75°C
Operating ambient humidity	35% to 85% RH (with no condensation)
Storage ambient humidity	35% to 85% RH (with no condensation)
Storage and operating atmosphere	No corrosive gasses.
Vibration resistance	0.5 G {4.9 m/s^2} max.
Impact resistance	Acceleration 2 G {19.6 m/s^2} max.

Performance Specifications

Model	R88A-RG08U
Regeneration operating voltage	380 V_{DC}
Regeneration processing current	8 A_{DC}
Average regeneration power	12 W (internal resistance: 50 Ω, 60 W)
Error detection function	Regeneration resistance disconnection, regeneration transistor damage, overvoltage
Alarm output	1b contact (open contact at time of protective function operation) (200 VAC drive possible.)
Weight	Approx. 1 kg

Indicator LED Specifications

Item	Specifications
POWER	Lit while power flows through PN terminal.
REGEN	Lit during regeneration operation.
ALARM-REGEN	Lit for regeneration resistance disconnection or regeneration transistor damage.
ALARM-OV	Lit when overvoltage occurs.

Note:
1. When the error detection function operates, an alarm is output from the Unit.
2. Create a sequence so that the power supply (R−T) to the Servo Driver is cut off when an alarm is generated.
3. When the error detection function operates and the Servo Driver's power supply is cut off, the Regeneration Unit won't be restored to its normal status until 2 to 3 seconds have elapsed, even if the power supply is turned on again. (Normal status is restored after the electrolytic capacitor in the Servo Driver has been discharged and the voltage between signals P and N drops.)

■ Parameter Unit Specifications

General Specifications

Item	Specifications
Operating ambient temperature	0°C to 55°C
Storage ambient temperature	−10°C to 75°C
Operating ambient humidity	35% to 85% RH (with no condensation)
Storage ambient humidity	35% to 85% RH (with no condensation)
Storage and operating atmosphere	No corrosive gasses.
Vibration resistance	0.5 G {4.9 m/s^2} max.
Impact resistance	Acceleration 2 G {19.6 m/s^2} max.

Performance Specifications

Item			R88A-PR02U	R88A-PR03U
Type			Handy type	Mounted type
Accessory cable			1 m	(Connected by connectors.)
Connectors			7910-7500SC (10 pins)	D sub-connector (9 pins)
Display			7-segment LED, 5 digits	
Weight			Approx. 0.18 kg	Approx. 0.02 kg
Communications specifications	Standard		RS-232C	RS-422A
	Communications method		Asynchronous (ASYNC)	
	Baud rate		2,400 bps	
	Start bits		1 bit	
	Data		8 bits	
	Parity		None	
	Stop bits		1 bit	
Errors detected by Parameter Unit		Display	CPF00	Cannot transmit even after 5 seconds have elapses since power supply was turned on.
			CPF01	A BCC error or faulty reception data has occurred for five consecutive times, or a time overrun (1 s) has occurred for three consecutive times.

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