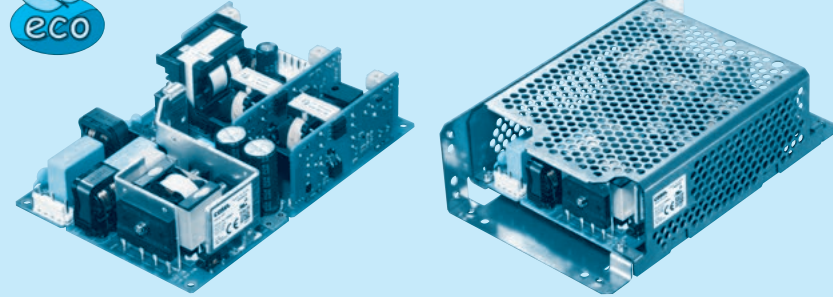


# RBC200F

RB C 200 F -    -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



Example recommended EMI/EMC filter  
NAC-04-472



High voltage pulse noise type : NAP series  
Low leakage current type : NAM series  
\* A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ① Series name
- ② Multiple output
- ③ Abbreviation power of RB series  
200 : 207W
- ④ Universal input
- ⑤ Slot 3 module code
- ⑥ Slot 2 module code
- ⑦ Slot 1 module code
- ⑧ Optional \*6  
C : with Coating  
G : Low leakage current  
R : with Remote ON/OFF  
S : with Chassis  
SN : with Chassis & cover  
T : Vertical terminal block

Specification changes when options are added. Please refer to the instruction manual 5.1.

\* This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defects to the unit, so handle the unit with care.  
The RB series has Order Name which is used for the ordering aside from Model Name. Please contact us for detail.

## SPECIFICATIONS

MODEL		RBC200F	
INPUT	VOLTAGE [VAC]	*1 AC85 - 264 1 φ	
	CURRENT [A]	ACIN 100V	2.4typ
		ACIN 230V	1.1typ
	FREQUENCY [Hz]	50/60 (45 - 66)	
	EFFICIENCY [%]	ACIN 100V	89.5typ
		ACIN 230V	91.0typ
	POWER FACTOR	ACIN 100V	0.99typ
		ACIN 230V	0.93typ
INRUSH CURRENT [A]	ACIN 100V	15typ	
	ACIN 230V	30typ	
LEAKAGE CURRENT [mA]		0.40 / 0.75max (ACIN 100/240V 60Hz, Io=100%, According to IEC62368-1)	
OUTPUT	NUMBER OF SLOT	3	
	TOTAL OUTPUT [W]	207	
	START-UP TIME [ms]	*2 350typ (ACIN 100V)	
	HOLD-UP TIME [ms]	*2 20typ (ACIN 100V)	
FUNCTION	REMOTE ON/OFF	Optional R (Refer to Instruction Manual)	
ISOLATION	INPUT - OUTPUT, RC		*4 AC3,000V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)
	INPUT - FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)
	OUTPUT - FG	V3 - FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)
		V1, V2, RC - FG	AC 500V 1minute, Cutoff current = 100mA, DC500V 100MΩ min (At Room Temperature)
	OUTPUT - OUTPUT	V1, V2, RC - V3	AC3,000V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)
		V1 - V2	AC 500V 1minute, Cutoff current = 100mA, DC500V 100MΩ min (At Room Temperature)
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE		*1 -20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000feet) max
	STORAGE TEMP., HUMID. AND ALTITUDE		-30 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), EN62368-1, EN62477-1 (OVC III), Complies with EN61558-2-16 (OVC III)
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR11-B, CISPR32-B, EN55011-B, EN55032-B
	HARMONIC ATTENUATOR		*5 Complies with IEC61000-3-2 (class A)
OTHERS	SIZE		101 X 38.3 X 152 mm [3.98 X 1.5 X 5.98 inches] (W X H X D), with terminal block 101 X 38.3 X 164 mm [3.98 X 1.5 X 6.46 inches] (W X H X D)
	WEIGHT [g]		450max
	COOLING METHOD		*1 Convection / Forced air (Refer to Instruction Manual 4.1)

- \*1 Derating is required.
- \*2 The value at 200W output. The value depends on output modules and their combinations.
- \*3 More than 3 sec, to re-start.
- \*4 Values when V1, V2 and V3 are all shorted.
- \*5 Please contact us about another class.
- \*6 Specification is changed at option, please contact us for detail.
- \* To meet the specifications. Do not operate over-loaded condition.
- \* Parallel operation is not possible.
- \* Sound noise may be generated by power supply in case of pulse load.

## Output module specifications

ITEM	CODE	Slot 1 output module				Slot 2, Slot 3 output module				
		Y	Z	G	H	J	K	L	M	
Number of slots used		1	1	1	1	1	1	1	1	
VOLTAGE [V]		+24	+48	+3.3	+5	+12	+16.5	+24	+48	
MINIMUM CURRENT [A]		0	0	0	0	0	0	0	0	
CURRENT [A]		6	3	5	5	2.5	1.9	1.3	0.65	
MAX OUTPUT WATTAGE [W]		144	144	16.5	25	30	31.4	31.2	31.2	
LINE REGULATION [mV] max		96	192	20	20	48	66	96	192	
LOAD REGULATION [mV] max		150	240	40	40	100	120	150	240	
RIPPLE [mVp-p] max	0 to +50°C	120	380	80	80	120	120	120	150	
	*1 *2 -20 to 0°C	240	480	140	140	160	160	160	250	
RIPPLE NOISE [mVp-p] max	0 to +50°C	150	480	120	120	150	150	150	250	
	*1 *3 -20 to 0°C	300	580	160	160	180	180	180	350	
TEMPERATURE	0 to +50°C	240	480	50	50	120	165	240	480	
COEFFICIENT [mV] max	-20 to +50°C	290	600	60	60	150	200	290	600	
DRIFT [mV] max	*4	96	192	20	20	48	66	96	192	
OUTPUT VOLTAGE SETTING [V]		24.00 to 24.96	48.00 to 49.92	3.30 to 3.40	5.00 to 5.20	12.00 to 12.48	16.50 to 17.16	24.00 to 24.96	48.00 to 49.92	
OUTPUT VOLTAGE ADJUSTMENT RANGE [V]		22.80 to 26.40	45.60 to 52.80	2.97 to 3.63	4.50 to 5.50	10.80 to 13.20	14.85 to 18.15	21.60 to 26.40	43.20 to 52.80	
OVERCURRENT PROTECTION [A]	*6	Works over 105% of rating and recovers automatically								
OVERVOLTAGE PROTECTION [V]		28.80 to 34.80	57.60 to 67.20	4.00 to 5.25	5.75 to 7.00	13.80 to 16.80	18.90 to 23.10	28.80 to 34.80	57.60 to 67.20	

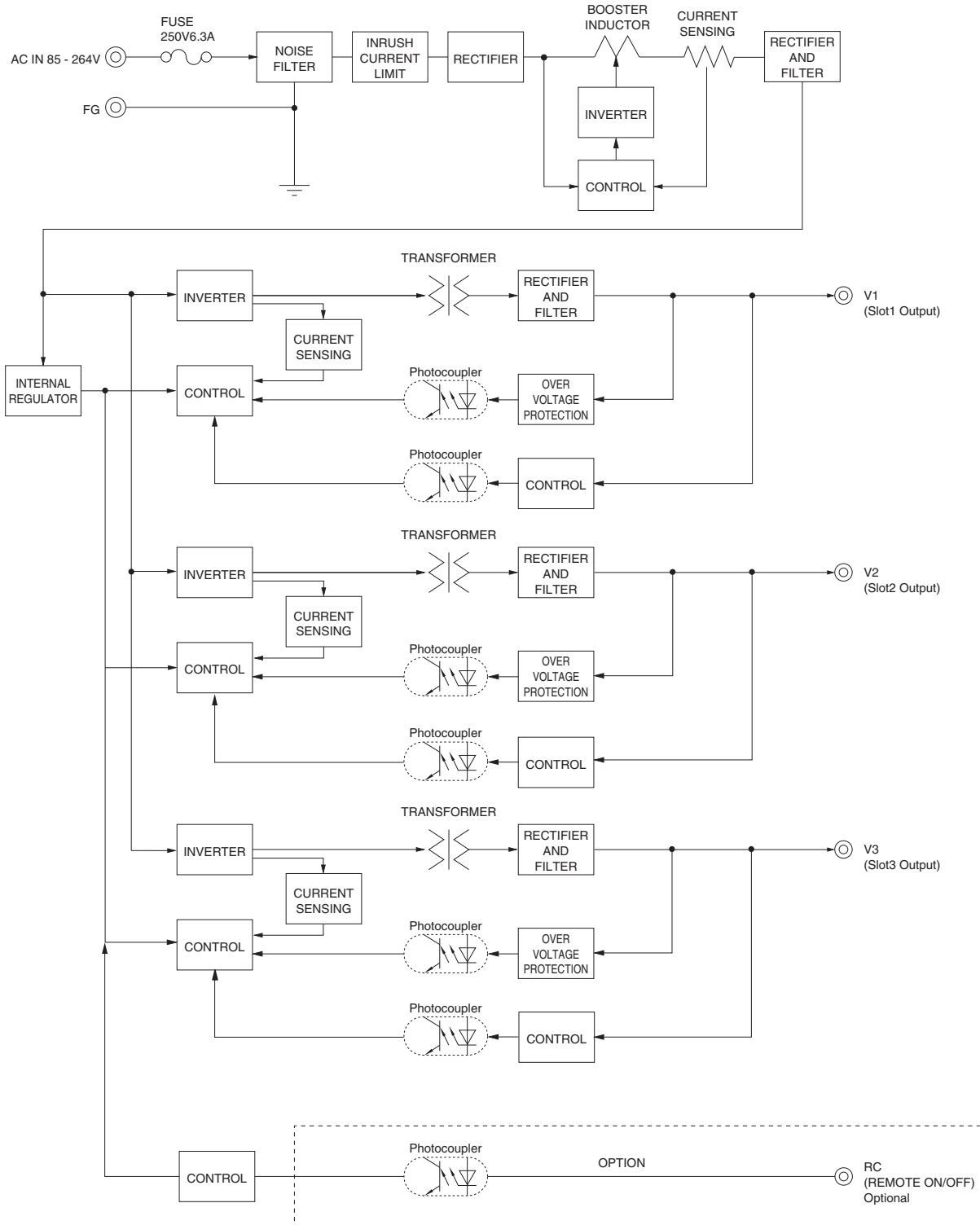
ITEM	CODE	Slot 2 dedicated output module	
		P	Q
Number of slots used		1	1
VOLTAGE [V]		±12	±15
MINIMUM CURRENT [A]		0	0
CURRENT [A]		0.7	0.7
MAX OUTPUT WATTAGE [W]		16.8	21
LINE REGULATION [mV] max		48	60
LOAD REGULATION [mV] max	*5	600	650
RIPPLE [mVp-p] max	0 to +50°C	120	120
	*1 -20 to 0°C	160	160
RIPPLE NOISE [mVp-p] max	0 to +50°C	150	150
	*1 -20 to 0°C	180	180
TEMPERATURE	0 to +50°C	120	150
COEFFICIENT [mV] max	-20 to +50°C	150	180
DRIFT [mV] max	*4	48	60
OUTPUT VOLTAGE SETTING [V]		12.00 to 12.48	15.00 to 15.60
OUTPUT VOLTAGE ADJUSTMENT RANGE [V]		10.80 to 13.20	13.50 to 16.50
OVERCURRENT PROTECTION [A]	*6	Works over 105% of rating and recovers automatically	
OVERVOLTAGE PROTECTION [V]		14.40 to 18.00	18.00 to 22.50

- \*1 This is the value that measured on measuring board with capacitor of 22μF at 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).
- \*2 At the G module, ripple is 120 mV(Ta=0 to 50°C) 160 mV(Ta=-20 to 0°C) at 5% or less load because of reduction of standby power.
- \*3 At the G module, ripple noise is 160mV(Ta=0 to 50°C) 200mV(Ta=-20 to 0°C) at 5% or less load because of reduction of standby power.
- \*4 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- \*5 Figures for 0 to rated current. The current not measured side is rated current.
- \*6 The output is shut down when the overcurrent state continues for 5 minutes.
- \* To meet the specifications. Do not operate over-loaded condition.
- \* Parallel operation is not possible.
- \* Sound noise may be generated by power supply in case of pulse load.

Features

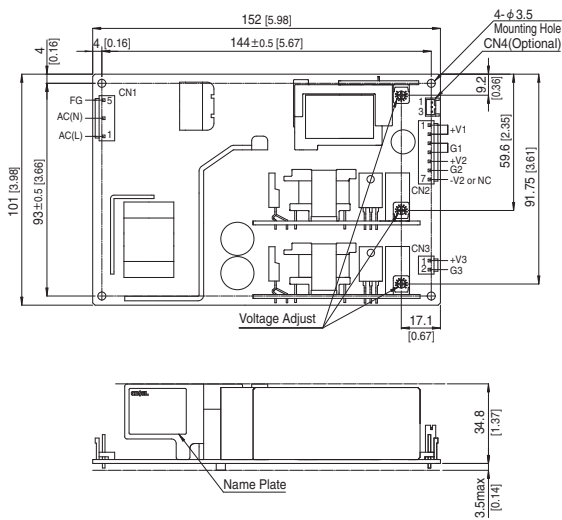
- Flexible modular system architecture provides various output configurations
- Multiple outputs of driving system + control system are packaged together, ideal for robot controller
- Meets OVC III (EN62477-1 approved, EN61558-2-16 compliant)
- The output of slot 3 and the other outputs have a reinforced insulation structure
- Remote control function (optional)

Block diagram



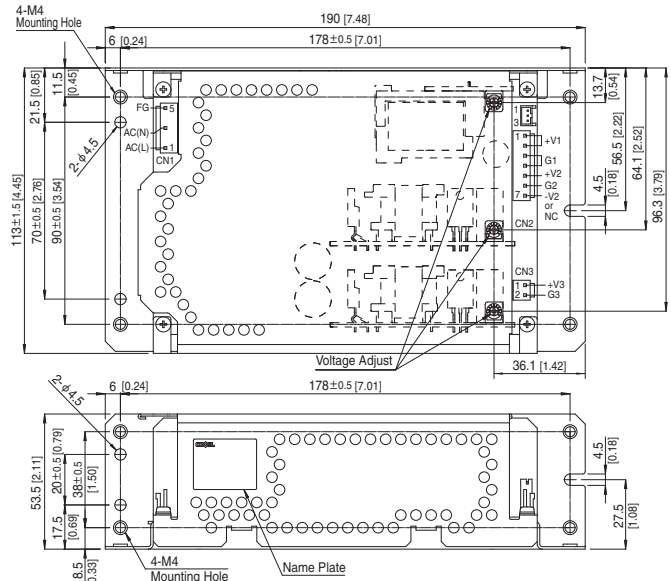
## External view

### Standard type



- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 450g max
- ※ There are a total of four attachment holes.
- ※ Dimensions in mm, [ ]=inches
- ※ Mounting torque : 0.6N·m max
- ※ PCB Material / thickness : FR-4 / 1.7mm [0.07]

### Chassis and cover type



- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 820g max
- ※ There are a total of four attachment holes.
- ※ Dimensions in mm, [ ]=inches
- ※ Mounting torque (Mounting hole of chassis) : 1.5N·m max
- ※ PCB Material / thickness : FR-4 / 1.7mm [0.07]

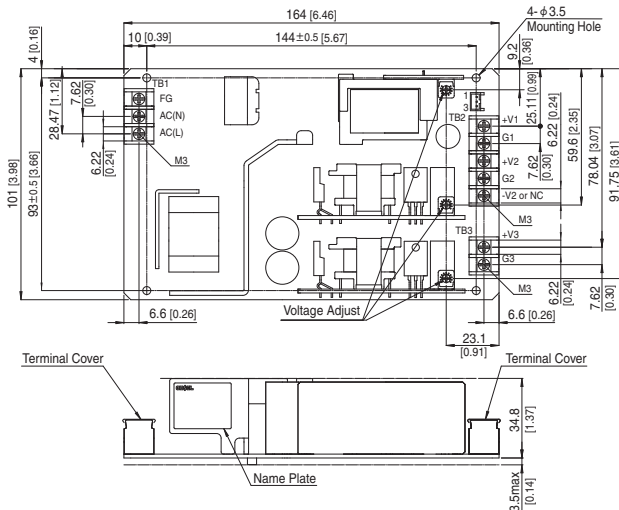
I/O Connector	Mating connector	Terminal
CN1	B3P5-VH	VHR-5N
		Chain : SVH-21T-P1.1
		Loose : BVH-21T-P1.1
CN2	B7P-VH	VHR-7N
		Chain : SVH-21T-P1.1
		Loose : BVH-21T-P1.1
CN3	B2P-VH	VHR-2N
		Chain : SVH-21T-P1.1
		Loose : BVH-21T-P1.1
CN4 Optional	BH3B-PH	PHR-3
		Chain : SPH-002T-P0.5S
		Loose : BPH-002T-P0.5S

(Mfr : J.S.T.)

CN1		CN2		CN3		CN4 (Optional)	
Pin No.	Input	Pin No.	Output	Pin No.	Output	Pin No.	Function
1	AC (L)	1	+V1	1	+V3	1	RC
2	-	2	+V1	2	G3	2	NC
3	AC (N)	3	G1			3	SGND
4	-	4	G1				
5	FG	5	+V2				
		6	G2				
		7	NC or -V2				

- ※ Pin no.2 and 4 is NC at CN1.
- ※ Maximum current per contact at CN2 is 5A.
- ※ Pin no.7 of CN2 is NC when slot 2 module is single output.

### Vertical terminal block type



- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 470g max
- ※ There are a total of four attachment holes.
- ※ Dimensions in mm, [ ]=inches
- ※ Screw tightening torque : 0.8N·m max
- ※ Mounting torque : 0.6N·m max
- ※ PCB Material / thickness : FR-4 / 1.7mm [0.07]