

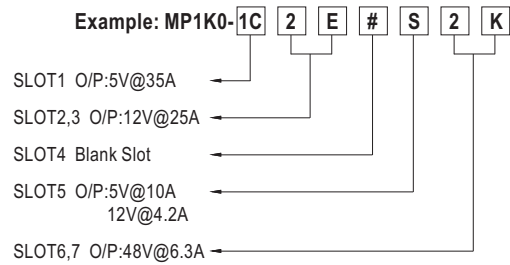
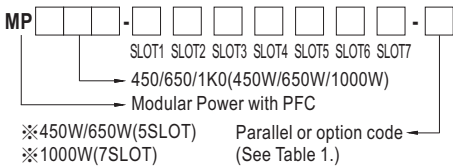


Features :

- Various output configuration is selectable
- Built in active PFC, PF>0.95
- Universal AC input/ full range
- Remote Control on every individual output module
- Remote Sense on every single output module (MS-75,150,210,300,360)
- Remote margin / V-Program (MS-210/360)
- Built in parallel function (MS-210/300/360)
- Protections: Short circuit / Overload / Over voltage for all output modules
- Additional 12V/0.1A auxiliary output for remote control
- Cooling by built-in DC fan with fan alarm function
- 3 years warranty



Output Configuration Guide



| Single output (MS-150) 1 SLOT (150W max.) | | Single output (MS-210) 1 SLOT (210W max.) | | Single output (MS-300) 2 SLOT (300W max.) | | Single output (MS-360) 2 SLOT (360W max.) | | Single output (MS-75) 1 SLOT (75W max.) | | Dual output (MD-100) 1 SLOT (100W max.) | |
|--|---------|--|---------|--|---------|--|---------|--|---------|--|---------|
| Voltage code | Voltage | Voltage code | Voltage | Voltage code | Voltage | Voltage code | Voltage | Voltage code | Voltage | Voltage code | Voltage |
| A | 2V | 1A | 2V | 2A | 2V | 3A | 2V | L | 3.3V | R | 5V |
| B | 3.3V | 1B | 3.3V | 2B | 3.3V | 3B | 3.3V | M | 5V | S | 5V |
| C | 5V | 1C | 5V | 2C | 5V | 3C | 5V | N | 12V | T | 12V |
| D | 7.5V | 1D | 7.5V | 2D | 7.5V | 3D | 7.5V | O | 15V | U | 15V |
| E | 12V | 1E | 12V | 2E | 12V | 3E | 12V | P | 24V | V | 24V |
| F | 15V | 1F | 15V | 2F | 15V | 3F | 15V | Q | 48V | W | 12V |
| G | 18V | 1G | 18V | 2G | 18V | 3G | 18V | | | X | 12V |
| H | 24V | 1H | 24V | 2H | 24V | 3H | 24V | | | | 15V |
| I | 27V | 1I | 27V | 2I | 27V | 3I | 27V | | | | 15V |
| J | 33V | 1J | 33V | 2J | 33V | 3J | 33V | | | | |
| K | 48V | 1K | 48V | 2K | 48V | 3K | 48V | | | | |

SPECIFICATION

| MODEL | PFC-450 | | PFC-650 | | PFC-1000 | |
|-----------------------|-------------------------|--|-------------|---------------------------------------|-------------|------------------------------------|
| INPUT | VOLTAGE RANGE | 85 ~ 264VAC | | 120 ~ 370VDC | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | |
| | POWER FACTOR | PF>0.95/230VAC | | PF>0.98/115VAC at full load | | |
| | EFFICIENCY Note.1 | 82.5% typ. | | 84% typ. | | 84% typ. |
| | AC CURRENT | 6.3A/115VAC | 3.2A/230VAC | 9A/115VAC | 4.5A/230VAC | 13.5A/115VAC 6.7A/230VAC |
| | INRUSH CURRENT | 25A/115VAC | 40A/230VAC | 30A/115VAC | 50A/230VAC | 20A/115VAC 40A/230VAC |
| | LEAKAGE CURRENT | <1.5mA/240VAC | | | | |
| OUTPUT | TOTAL OUTPUT POWER | | 450W max. | | 650W max. | 1000W max. |
| PROTECTION | OVER TEMPERATURE | Shut down o/p voltage, recovers automatically after temperature goes down | | | | |
| | FAN ALARM | Output shutdown when FAN is malfunction | | | | |
| FUNCTION | REMOTE CONTROL | RC+/RC-: 0 ~ 0.8V or Short, Power ON | | RC+/RC-: 4 ~ 12V or Open, Power OFF | | |
| | AUXILIARY POWER(AUX) | 12V@0.1A (only for Remote ON/OFF Control) | | | | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +70°C (Refer to "Derating Curve") | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85°C, 10 ~ 95% RH non-condensing | | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0 ~ 50°C) | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | |
| SAFETY & EMC (Note 5) | SAFETY STANDARDS | UL62368-1, TUV EN62368-1, EAC TP TC 004 approved | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC | | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH | | | | |
| | EMC EMISSION | Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020 | | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-1, EN61204-3, light industry level, criteria A, EAC TP TC 020 | | | | |
| OTHERS | DIMENSION | 254*127*63.5mm (L*W*H) | | 278*127*63.5mm (L*W*H) | | 278*177.8*63.5mm (L*W*H) |
| | PACKING | 1.8Kg (typ.); 6pcs / 11.8Kg / 1.25CUFT | | 2.16Kg (typ.); 6pcs / 14Kg / 1.34CUFT | | 3Kg (typ.); 6pcs / 19Kg / 1.74CUFT |

SPECIFICATION

■ 1 SLOT Single output (150W) MS-150

| | | | | | | | | | | | | | |
|--------------------|---|--|----------|------------|-------------------------------|------------|----------------------------|------------|------------|------------|------------|------------|--|
| OUTPUT (MS-150) | OUTPUT VOLTAGE CODE | MS-150A | MS-150B | MS-150C | MS-150D | MS-150E | MS-150F | MS-150G | MS-150H | MS-150I | MS-150J | MS-150K | |
| | DC VOLTAGE | 2V | 3.3V | 5V | 7.5V | 12V | 15V | 18V | 24V | 27V | 33V | 48V | |
| | RATED CURRENT | 25A | 25A | 25A | 18A | 13A | 10A | 8.5A | 6.5A | 5.8A | 4.7A | 3.2A | |
| | CURRENT RANGE | 0 ~ 25A | 0 ~ 25A | 0 ~ 25A | 0 ~ 18A | 0 ~ 13A | 0 ~ 10A | 0 ~ 8.5A | 0 ~ 6.5A | 0 ~ 5.8A | 0 ~ 4.7A | 0 ~ 3.2A | |
| | PEAK LOAD <small>Note.4</small> | 30A | 30A | 30A | 20.7A | 15A | 11.5A | 9.8A | 7.5A | 6.7A | 5.4A | 3.68A | |
| | RATED POWER | 50W | 82.5W | 125W | 135W | 156W | 150W | 153W | 156W | 156.6W | 155.1W | 153.6W | |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 50mVp-p | 80mVp-p | 80mVp-p | 100mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 250mVp-p | 250mVp-p | |
| | VOLTAGE ADJ. RANGE | 1.6 ~ 2.6V | 2.6 ~ 4V | 4 ~ 6V | 6 ~ 9V | 9 ~ 13.2V | 13.2 ~ 16.8V | 16.8 ~ 20V | 20 ~ 26.4V | 25 ~ 31V | 30 ~ 40V | 40 ~ 53V | |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ±3.0% | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% | |
| | LOAD REGULATION | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| | SETUP, RISE, HOLD UP TIME | 1500ms, 50ms, 20ms at full load | | | | | | | | | | | |
| PROTECTION | OVERLOAD | 121 ~ 150% rated output power | | | 116 ~ 150% rated output power | | | | | | | | |
| | | Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | | | | | | | |
| | OVER VOLTAGE | 2.7 ~ 4V | 4.1 ~ 5V | 6.1 ~ 7.5V | 9.1 ~ 11.2V | 13.3 ~ 18V | 16.9 ~ 22V | 20.1 ~ 26V | 26.5 ~ 35V | 31.1 ~ 39V | 40.1 ~ 48V | 53.1 ~ 60V | |
| | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | | | |
| FUNCTION | REMOTE INHIBIT CONTROL | RC+/RC-: 0 ~ 0.8V or OPEN, POWER ON | | | | | RC+/RC-: 4 ~ 12V POWER OFF | | | | | | |

■ 1 SLOT Single output (210W) MS-210

| | | | | | | | | | | | | | |
|--------------------|---|--|-----------|------------|-------------------------------|------------|----------------------------|------------|------------|------------|------------|------------|--|
| OUTPUT (MS-210) | OUTPUT VOLTAGE CODE | MS-210-1A | MS-210-1B | MS-210-1C | MS-210-1D | MS-210-1E | MS-210-1F | MS-210-1G | MS-210-1H | MS-210-1I | MS-210-1J | MS-210-1K | |
| | DC VOLTAGE | 2V | 3.3V | 5V | 7.5V | 12V | 15V | 18V | 24V | 27V | 33V | 48V | |
| | RATED CURRENT | 35A | 35A | 35A | 28A | 17.5A | 14A | 11.6A | 8.75A | 7.8A | 6.4A | 4.4A | |
| | CURRENT RANGE | 0 ~ 35A | 0 ~ 35A | 0 ~ 35A | 0 ~ 28A | 0 ~ 17.5A | 0 ~ 14A | 0 ~ 11.6A | 0 ~ 8.75A | 0 ~ 7.8A | 0 ~ 6.4A | 0 ~ 4.4A | |
| | PEAK LOAD <small>Note.4</small> | 38.5A | 38.5A | 38.5A | 32.2A | 20.1A | 16.1A | 13.4A | 10.1A | 9A | 7.4A | 5.1A | |
| | RATED POWER | 70W | 115.5W | 175W | 210W | 210W | 210W | 208.8W | 210W | 210.6W | 211.2W | 211.2W | |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 50mVp-p | 80mVp-p | 80mVp-p | 100mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 250mVp-p | 250mVp-p | |
| | VOLTAGE ADJ. RANGE | 1.6 ~ 2.6V | 2.6 ~ 4V | 4 ~ 6V | 6 ~ 9V | 9 ~ 13.2V | 13.2 ~ 16.8V | 16.8 ~ 20V | 20 ~ 26.4V | 25 ~ 31V | 30 ~ 40V | 40 ~ 53V | |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ±3.0% | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% | |
| | LOAD REGULATION | ±2.0% | ±1.5% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| | SETUP, RISE, HOLD UP TIME | 1500ms, 50ms, 20ms at full load | | | | | | | | | | | |
| PROTECTION | OVERLOAD | 110 ~ 135% rated output power | | | 116 ~ 150% rated output power | | | | | | | | |
| | | Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | | | | | | | |
| | OVER VOLTAGE | 2.7 ~ 4V | 4.1 ~ 5V | 6.1 ~ 7.5V | 9.1 ~ 11.2V | 13.3 ~ 18V | 16.9 ~ 22V | 20.1 ~ 26V | 26.5 ~ 35V | 31.1 ~ 39V | 40.1 ~ 48V | 53.1 ~ 60V | |
| | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | | | |
| FUNCTION | REMOTE INHIBIT CONTROL | RC+/RC-: 0 ~ 0.8V or OPEN, POWER ON | | | | | RC+/RC-: 4 ~ 12V POWER OFF | | | | | | |

■ 2 SLOT Single output (300W) MS-300

| | | | | | | | | | | | | | |
|--------------------|---|--|-----------|------------|-------------|------------|----------------------------|------------|------------|------------|------------|------------|--|
| OUTPUT (MS-300) | OUTPUT VOLTAGE CODE | MS-300-2A | MS-300-2B | MS-300-2C | MS-300-2D | MS-300-2E | MS-300-2F | MS-300-2G | MS-300-2H | MS-300-2I | MS-300-2J | MS-300-2K | |
| | DC VOLTAGE | 2V | 3.3V | 5V | 7.5V | 12V | 15V | 18V | 24V | 27V | 33V | 48V | |
| | RATED CURRENT | 50A | 50A | 50A | 40A | 25A | 20A | 16.7A | 12.5A | 11.2A | 9.1A | 6.3A | |
| | CURRENT RANGE | 0 ~ 50A | 0 ~ 50A | 0 ~ 50A | 0 ~ 40A | 0 ~ 25A | 0 ~ 20A | 0 ~ 16.7A | 0 ~ 12.5A | 0 ~ 11.2A | 0 ~ 9.1A | 0 ~ 6.3A | |
| | PEAK LOAD <small>Note.4</small> | 57.5A | 57.5A | 57.5A | 46A | 29A | 23A | 19.2A | 14.4A | 12.9A | 10.5A | 7.2A | |
| | RATED POWER | 100W | 165W | 250W | 300W | 300W | 300W | 300.6W | 300W | 302.4W | 300.3W | 302.4W | |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 80mVp-p | 80mVp-p | 80mVp-p | 100mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 200mVp-p | 250mVp-p | 300mVp-p | |
| | VOLTAGE ADJ. RANGE | 1.6 ~ 2.6V | 2.6 ~ 4V | 4 ~ 6V | 6 ~ 9V | 9 ~ 13.2V | 13.2 ~ 16.8V | 16.8 ~ 20V | 20 ~ 26.4V | 25 ~ 31V | 30 ~ 40V | 40 ~ 53V | |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ±3.0% | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% | |
| | LOAD REGULATION | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | SETUP, RISE, HOLD UP TIME | 1500ms, 50ms, 20ms at full load | | | | | | | | | | | |
| PROTECTION | OVERLOAD | 116 ~ 150% rated output power | | | | | | | | | | | |
| | | Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | | | | | | | |
| | OVER VOLTAGE | 3 ~ 4V | 4.1 ~ 5V | 6.1 ~ 7.5V | 9.1 ~ 11.2V | 13.3 ~ 18V | 16.9 ~ 22V | 20.1 ~ 26V | 26.5 ~ 35V | 31.1 ~ 39V | 40.1 ~ 48V | 53.1 ~ 60V | |
| | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | | | |
| FUNCTION | REMOTE INHIBIT CONTROL | RC+/RC-: 0 ~ 0.8V or OPEN, POWER ON | | | | | RC+/RC-: 4 ~ 12V POWER OFF | | | | | | |

■ 2 SLOT Single output (360W) MS-360

| | | | | | | | | | | | | | |
|--------------------|---|--|-----------|------------|-------------|------------|----------------------------|------------|------------|------------|------------|------------|--|
| OUTPUT (MS-360) | OUTPUT VOLTAGE CODE | MS-360-3A | MS-360-3B | MS-360-3C | MS-360-3D | MS-360-3E | MS-360-3F | MS-360-3G | MS-360-3H | MS-360-3I | MS-360-3J | MS-360-3K | |
| | DC VOLTAGE | 2V | 3.3V | 5V | 7.5V | 12V | 15V | 18V | 24V | 27V | 33V | 48V | |
| | RATED CURRENT | 60A | 60A | 60A | 48A | 30A | 24A | 20A | 15A | 13.4A | 11A | 7.5A | |
| | CURRENT RANGE | 0 ~ 60A | 0 ~ 60A | 0 ~ 60A | 0 ~ 48A | 0 ~ 30A | 0 ~ 24A | 0 ~ 20A | 0 ~ 15A | 0 ~ 13.4A | 0 ~ 11A | 0 ~ 7.5A | |
| | PEAK LOAD <small>Note.4</small> | 69A | 69A | 69A | 55.2A | 34.5A | 27.6A | 23A | 17.3A | 15.5A | 12.7A | 8.7A | |
| | RATED POWER | 120W | 198W | 300W | 360W | 360W | 360W | 360W | 360W | 361.8W | 363W | 360W | |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 80mVp-p | 100mVp-p | 100mVp-p | 100mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 200mVp-p | 250mVp-p | 300mVp-p | |
| | VOLTAGE ADJ. RANGE | 1.6 ~ 2.6V | 2.6 ~ 4V | 4 ~ 6V | 6 ~ 9V | 9 ~ 13.2V | 13.2 ~ 16.8V | 16.8 ~ 20V | 20 ~ 26.4V | 25 ~ 31V | 30 ~ 40V | 40 ~ 53V | |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ±3.0% | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.3% | ±0.2% | ±0.2% | ±0.2% | ±0.2% | |
| | LOAD REGULATION | ±2.0% | ±1.5% | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | |
| | SETUP, RISE, HOLD UP TIME | 1500ms, 50ms, 20ms at full load | | | | | | | | | | | |
| PROTECTION | OVERLOAD | 116 ~ 150% rated output power | | | | | | | | | | | |
| | | Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | | | | | | | |
| | OVER VOLTAGE | 3 ~ 4V | 4.1 ~ 5V | 6.1 ~ 7.5V | 9.1 ~ 11.2V | 13.3 ~ 18V | 16.9 ~ 22V | 20.1 ~ 26V | 26.5 ~ 35V | 31.1 ~ 39V | 40.1 ~ 48V | 53.1 ~ 60V | |
| | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | | | |
| FUNCTION | REMOTE INHIBIT CONTROL | RC+/RC-: 0 ~ 0.8V or OPEN, POWER ON | | | | | RC+/RC-: 4 ~ 12V POWER OFF | | | | | | |

SPECIFICATION

■ 1 SLOT Single output (75W) MS-75

| | | | | | | | |
|---------------------------|---|---|------------|------------|--------------|------------|------------|
| OUTPUT (MS-75) | OUTPUT VOLTAGE CODE | MS-75L | MS-75M | MS-75N | MS-75O | MS-75P | MS-75Q |
| | DC VOLTAGE | 3.3V | 5V | 12V | 15V | 24V | 48V |
| | RATED CURRENT | 15A | 15A | 6.3A | 5A | 3.2A | 1.6A |
| | CURRENT RANGE | 0 ~ 15A | 0 ~ 15A | 0 ~ 6.3A | 0 ~ 5A | 0 ~ 3.2A | 0 ~ 1.6A |
| | PEAK LOAD <small>Note.4</small> | 17.3A | 17.3A | 7.3A | 5.8A | 3.7A | 1.8A |
| | RATED POWER | 49.5W | 75W | 75.6W | 75W | 76.8W | 76.8W |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 80mVp-p | 80mVp-p | 150mVp-p | 150mVp-p | 150mVp-p | 250mVp-p |
| | VOLTAGE ADJ. RANGE | 2.6 ~ 4V | 4 ~ 6V | 9 ~ 13.2V | 13.2 ~ 16.8V | 20 ~ 26.4V | 40 ~ 53V |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ±2.0% | ±2.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LINE REGULATION | ±0.5% | ±0.5% | ±0.3% | ±0.3% | ±0.2% | ±0.2% |
| LOAD REGULATION | ±1.0% | ±1.0% | ±0.5% | ±0.5% | ±0.5% | ±0.5% | |
| SETUP, RISE, HOLD UP TIME | 1500ms, 50ms, 20ms at full load | | | | | | |
| PROTECTION | OVERLOAD | 116 ~ 150% rated output power Protection type : Constant current limiting, recovers automatically after fault condition is removed | | | | | |
| | OVER VOLTAGE | 4.1 ~ 5V | 6.1 ~ 7.5V | 13.3 ~ 18V | 16.9 ~ 22V | 26.5 ~ 35V | 53.1 ~ 60V |
| FUNCTION | REMOTE INHIBIT CONTROL | RC+/RC-: 0 ~ 0.8V or OPEN, POWER ON RC+/RC-: 4 ~ 12V POWER OFF | | | | | |

■ 1 SLOT Isolated Dual output (100W) MD-100

| | | | | | | | | | | | | | | | | |
|---------------------------|---|--|-------------|-------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| OUTPUT (MD-100) | OUTPUT VOLTAGE CODE | MD-100R | | MD-100S | | MD-100T | | MD-100U | | MD-100V | | MD-100W | | MD-100X | | |
| | DC VOLTAGE | 5V | 5V | 5V | 12V | 5V | 15V | 24V | 5V | 24V | 12V | 12V | 12V | 12V | 15V | 15V |
| | RATED CURRENT | 10A | 8A | 10A | 4.2A | 10A | 3.4A | 2.5A | 8A | 2.5A | 3.4A | 5A | 3.4A | 4A | 4A | 2.7A |
| | CURRENT RANGE | 2 ~ 10A | 0 ~ 8A | 2 ~ 10A | 0 ~ 5.8A | 2 ~ 10A | 0 ~ 4.7A | 0.5 ~ 3A | 0 ~ 10A | 0.6 ~ 3A | 0 ~ 4.7A | 1 ~ 5A | 0 ~ 5.8A | 1 ~ 4.7A | 1 ~ 4.7A | 0 ~ 4.7A |
| | RATED POWER <small>Note.6</small> | 90W | | 100.4W | | 101W | | 100W | | 100.8W | | 100.8W | | 100.5W | | |
| | RIPPLE & NOISE (max.) <small>Note.2</small> | 100mVp-p | 100mVp-p | 100mVp-p | 150mVp-p | 100mVp-p | 150mVp-p | 200mVp-p | 100mVp-p | 240mVp-p | 120mVp-p | 120mVp-p | 120mVp-p | 120mVp-p | 150mVp-p | 150mVp-p |
| | VOLTAGE ADJ. RANGE | 4.75 ~ 5.5V | 4.75 ~ 5.5V | 4.75 ~ 5.5V | 11.4 ~ 13.2V | 4.75 ~ 5.5V | 14.2 ~ 16.5V | 22.8 ~ 26.4V | 4.75 ~ 5.5V | 22.8 ~ 26.4V | 11.4 ~ 13.2V | 11.4 ~ 13.2V | 11.4 ~ 13.2V | 11.4 ~ 13.2V | 14.2 ~ 16.5V | 14.2 ~ 16.5V |
| | VOLTAGE TOLERANCE <small>Note.3</small> | ±3.0% | ±3.0% | ±3.0% | ±3.0% | ±3.0% | ±3.0% | ±3.0% | ±3.0% | ±2.0% | ±3.0% | ±2.0% | ±3.0% | ±2.0% | ±3.0% | ±3.0% |
| | LINE REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±0.5% | ±1.0% | ±0.5% | ±1.0% | ±0.5% | ±1.0% | ±1.0% |
| | LOAD REGULATION | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±2.0% | ±1.0% | ±2.0% | ±1.0% | ±2.0% | ±1.0% | ±2.0% | ±2.0% |
| SETUP, RISE, HOLD UP TIME | 1500ms, 50ms, 20ms at full load | | | | | | | | | | | | | | | |
| PROTECTION | OVERLOAD | 105 ~ 150% rated output power Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | | | | | |
| | OVER VOLTAGE | 5.6 ~ 7.2V | 5.6 ~ 7.2V | 5.6 ~ 7.2V | 13.3 ~ 17V | 5.6 ~ 7.2V | 16.6 ~ 22V | 26.5 ~ 34V | 5.6 ~ 7.2V | 26.5 ~ 34V | 13.3 ~ 17V | 13.3 ~ 17V | 13.3 ~ 17V | 13.3 ~ 17V | 16.6 ~ 22V | 16.6 ~ 22V |
| FUNCTION | REMOTE INHIBIT CONTROL | RC+/RC-: 0 ~ 0.8V or OPEN, POWER ON RC+/RC-: 4 ~ 12V POWER OFF | | | | | | | | | | | | | | |
| NOTE | <p>1. MP450:The value changed by installing different output modules. The efficiency in specification means output modules are composed by following modules. 5V(Voltage code C)*1, 12V(Voltage code E)*1, 24V(Voltage code H)*1, 5V(Voltage code M)*1.</p> <p>MP650:The value changed by installing different output modules. The efficiency in specification means output modules are composed by following modules. 5V(Voltage code C)*2, 12V(Voltage code E)*1, 24V(Voltage code H)*2.</p> <p>MP1K0:The value changed by installing different output modules. The efficiency in specification means output modules are composed by following modules. 5V(Voltage code C)*2, 12V(Voltage code E)*2, 24V(Voltage code H)*3.</p> <p>The hold-up time of above combination is 20ms(typ.)</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. 35% Duty cycle maximum within every 10 seconds. Average output power should not exceed the rated power.</p> <p>5. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 720mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)</p> <p>6. If the output voltage adjust to higher level, the rated current should be derated to meet the total rated power for both outputs(For MD-100 only).</p> <p>7.The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> | | | | | | | | | | | | | | | |

Table 1. Parallel code(For MS-210、MS-300、MS-360 only)

| Model | Code | SLOT1 | SLOT2 | SLOT3 | SLOT4 | SLOT5 | SLOT6 | SLOT7 |
|------------|------|-------|-------|-------|-------|-------|-------|-------|
| MS-300/360 | X | | | | | | ---- | ---- |
| | 1 | ○ | | | ○ | | ---- | ---- |
| | 2 | | ○ | | | ○ | ---- | ---- |
| | 3 | | | ○ | | | ○ | |
| | 4 | | | | | ○ | | ○ |
| | 5 | ○ | | | ○ | | ○ | |
| MS-210 | 7 | ○ | ○ | | | | | |
| | 8 | ○ | ○ | ○ | ○ | | | |
| | 9 | ○ | ○ | ○ | ○ | ○ | | |

※Code X,1,2,7,8,9 for MP450, MP650

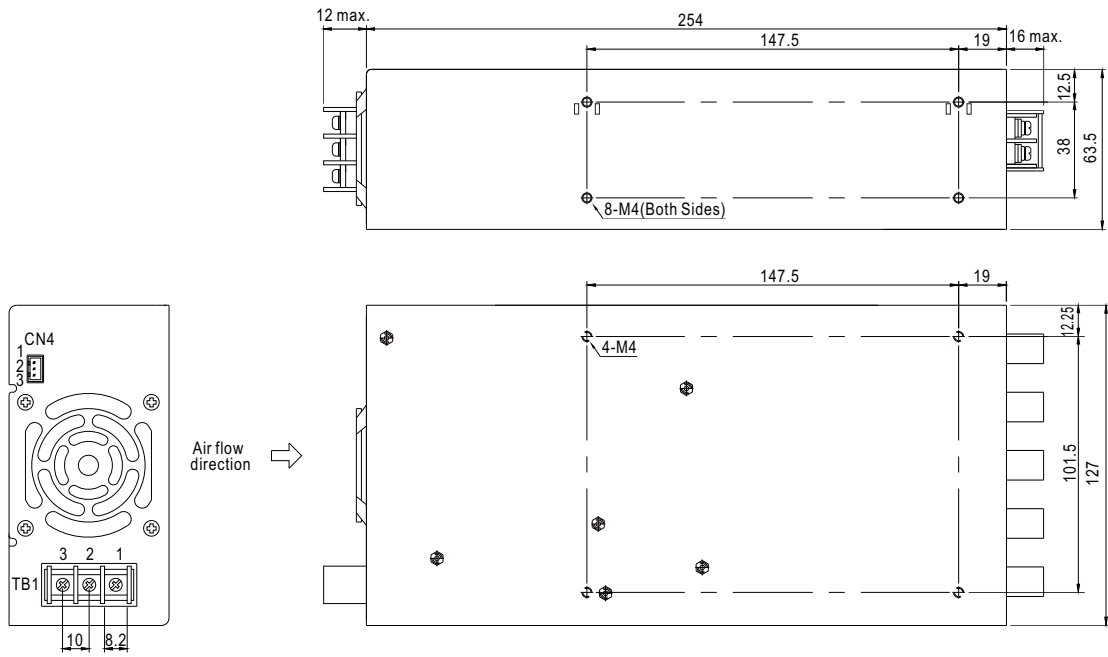
※Code X,1,2,3,4,5,6,7,8,9 for MP1K0

※Maximum number of units for parallel function : 5 for MS-210, 3 for MS-300/360

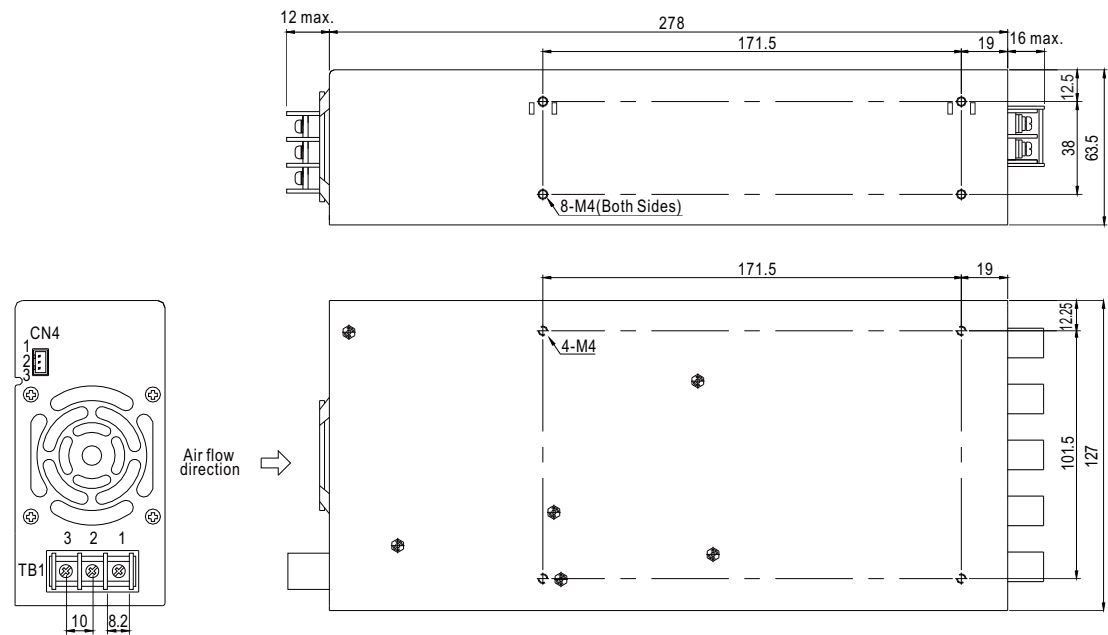
■ Mechanical Specification

Unit:mm

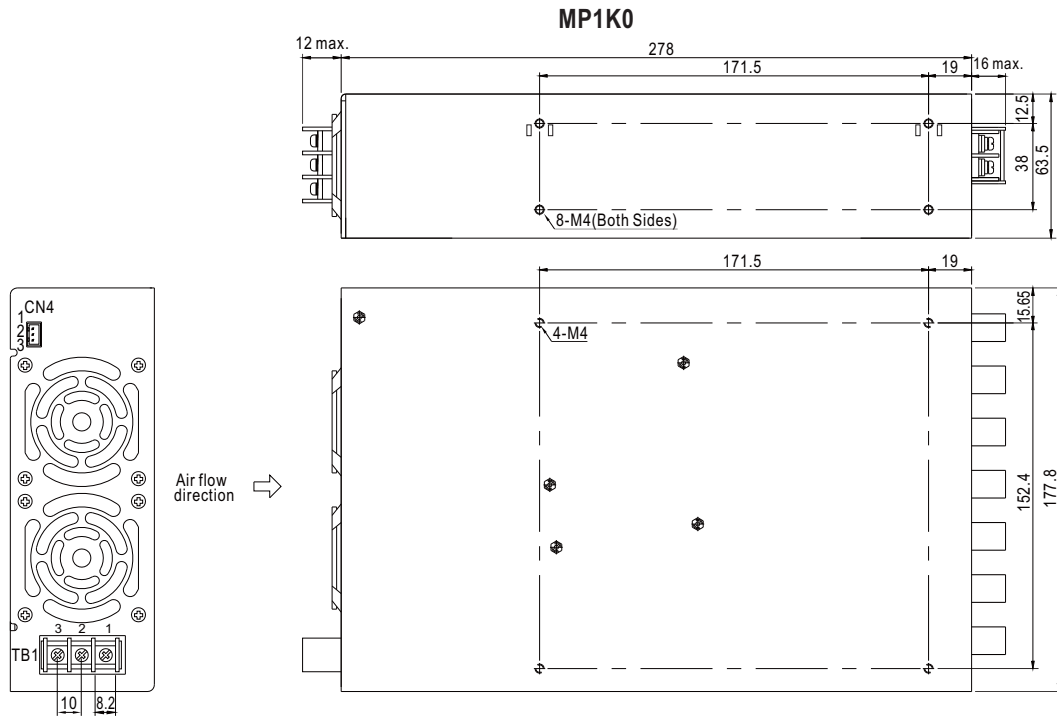
MP450



MP650



■ Mechanical Specification



TB1(PFC-450/650/1K0)

| Pin No. | Assignment |
|---------|------------|
| 1 | AC/L |
| 2 | AC/N |
| 3 | FG \perp |

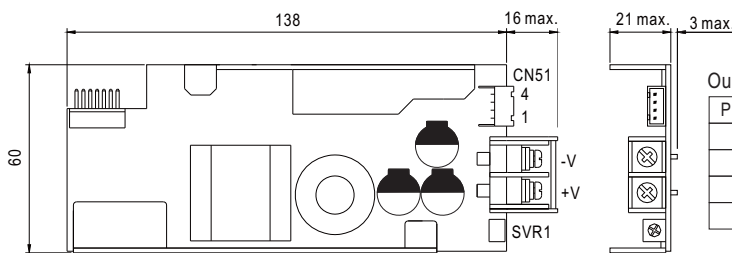
CN4(PFC-450/650/1K0) : JST B3B-XH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|--------------------------------|-----------------------|---------------------------------|
| 1 | +RC: +Remote ON/OFF | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2 | -RC: -Remote ON/OFF | | |
| 3 | VCC: 12V/0.1A auxiliary output | | |

■ Mechanism of Output Modules

◎MS-75

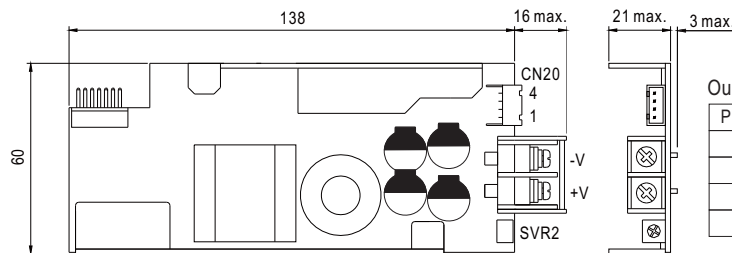
Unit:mm



Output Connector(CN51) : JST B4B-XH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|---------------------|-----------------------|---------------------------------|
| 1 | +S: +Remote sense | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2 | -S: -Remote sense | | |
| 3 | +RC: +Remote ON/OFF | | |
| 4 | -RC: -Remote ON/OFF | | |

◎MS-150

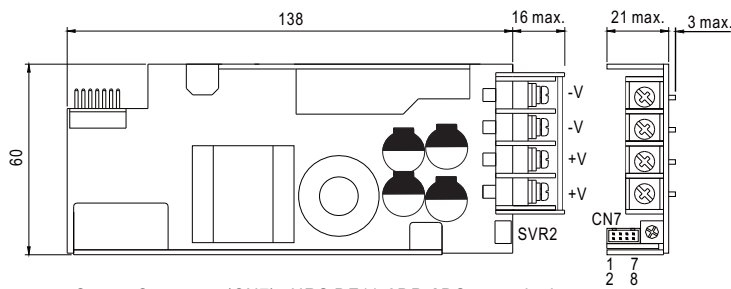


Output Connector(CN20) : JST B4B-XH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|---------------------|-----------------------|---------------------------------|
| 1 | +S: +Remote sense | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2 | -S: -Remote sense | | |
| 3 | +RC: +Remote ON/OFF | | |
| 4 | -RC: -Remote ON/OFF | | |

■ Mechanism of Output Modules

©MS-210

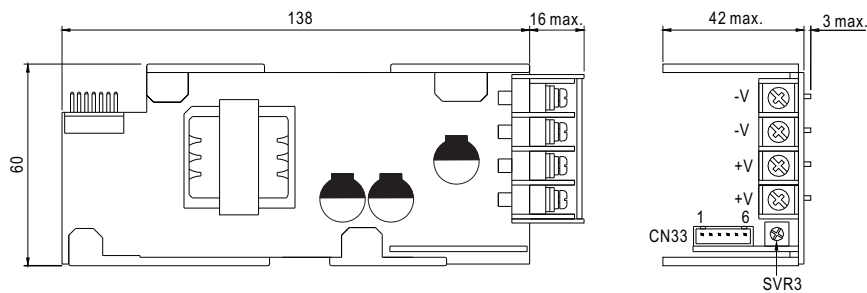


Output Connector(CN7) : HRS DF11-8DP-2DS or equivalent

| Pin No. | Assignment | Pin No. | Assignment | Mating Housing | Terminal |
|---------|---------------------|---------|-------------------------------|----------------------------|-----------------------------|
| 1 | +S: +Remote sense | 5 | CS: Current sharing | HRS DF11-8DS or equivalent | DRS DF11-**SC or equivalent |
| 2 | -S: -Remote sense | 6 | G: GND | | |
| 3 | +RC: +Remote ON/OFF | 7 | ML: Remote margin low control | | |
| 4 | -RC: -Remote ON/OFF | 8 | M: Remote margin control | | |

- NOTE: 1.The voltage difference among each output should be minimized that less than 2% is required.
 2.The total output current must not exceed the value determined by the following equation.
 (Output current at parallel operation) = (The rated current per unit) × (Number of unit) × 0.9

©MS-300

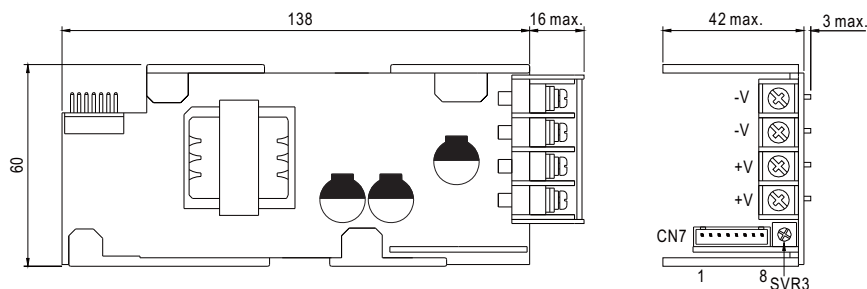


Output Connector(CN33) : JST B6B-XH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|---------------------|-----------------------|---------------------------------|
| 1 | +S: +Remote sense | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2 | -S: -Remote sense | | |
| 3 | +RC: +Remote ON/OFF | | |
| 4 | -RC: -Remote ON/OFF | | |
| 5 | CS: Current sharing | | |
| 6 | G: GND | | |

- NOTE: 1.The voltage difference among each output should be minimized that less than 2% is required.
 2.The total output current must not exceed the value determined by the following equation.
 (Output current at parallel operation) = (The rated current per unit) × (Number of unit) × 0.9

©MS-360



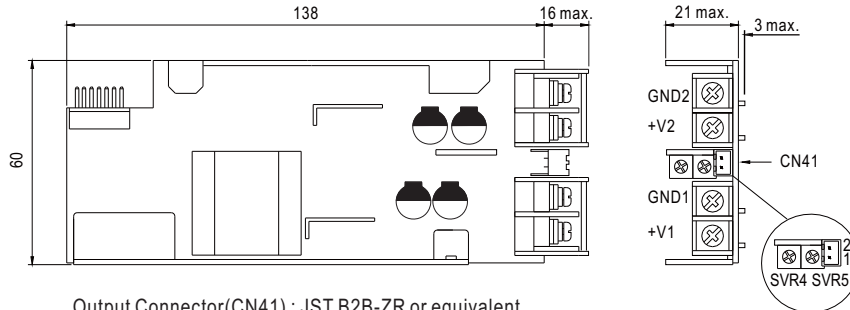
Output Connector(CN7) : JST B8B-XH or equivalent

| Pin No. | Assignment | Pin No. | Assignment | Mating Housing | Terminal |
|---------|---------------------|---------|-------------------------------|-----------------------|---------------------------------|
| 1 | +S: +Remote sense | 5 | CS: Current sharing | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 2 | -S: -Remote sense | 6 | G: GND | | |
| 3 | +RC: +Remote ON/OFF | 7 | ML: Remote margin low control | | |
| 4 | -RC: -Remote ON/OFF | 8 | M: Remote margin control | | |

- NOTE: 1.The voltage difference among each output should be minimized that less than 2% is required.
 2.The total output current must not exceed the value determined by the following equation.
 (Output current at parallel operation) = (The rated current per unit) × (Number of unit) × 0.9

■ Mechanism of Output Modules

©MD-100

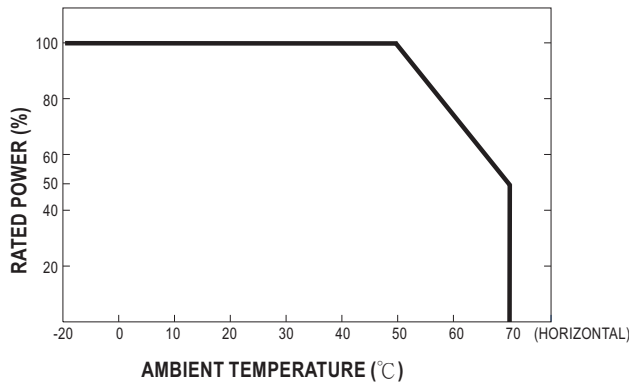


Output Connector(CN41) : JST B2B-ZR or equivalent

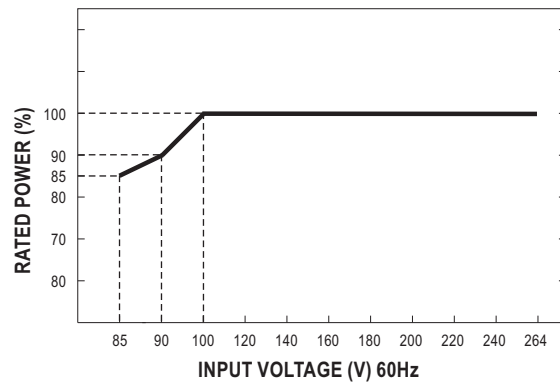
| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|----------------------------|------------------------------------|
| 1 | +RC | JST ZHR-2 or equivalent | JST SZH-002T-P0.5 or equivalent |
| 2 | -RC | | |

- NOTE: 1.Remote ON/OFF of CN4 turn ON/OFF the entire power system
 2.Remote ON/OFF of CN20,CN33,CN41,CN51 turn ON/OFF the individual output module
 3.SVR1~5: DC output voltage adjustment(SVR4 for CH2 of MD-100,SVR5 for CH1 of MD-100)

■ Derating Curve



■ Static Characteristics



■ Remote Margin / V-Program

Remote Margin / V-Program is available for MS-210 and MS-360 to fine tune the output voltage. Hereunder is the instruction, assuming no voltage adjustment is applied via the built-in potentiometer.

- (1)When the function is not required, please have pin CN7-8 (refer to Mechanism of Output Modules) open, and the output voltage will present the nominal voltage.
- (2)Connecting pin CN7-8 with CN7-6 (or CN7-7) will tune the output voltage up (if CN7-7, down) by 5% of the nominal voltage.
- (3)Applying an additional 100K Ω potentiometer across CN7-6 and CN7-7 (referring to Figure 1) will enable the adjustment in between -5% and +5% (EX: -3%, +2.5%, and etc.)

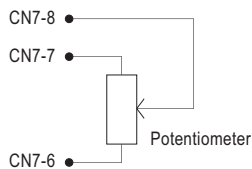


Figure 1

(Please refer to Mechanism of Output Modules)

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