

## LMA100F

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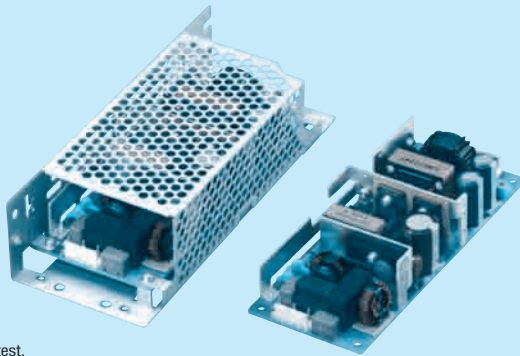
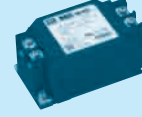
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Recommended EMI/EMC Filter  
NAM-04-101High voltage pulse noise type : NAP series  
Low leakage current type : NAM series\* The EMI/EMC Filter is recommended  
to connect with several devices.

- ① Series name  
② Single output  
③ Output wattage  
④ Universal input  
⑤ Output voltage  
⑥ Optional \*1  
C : with Coating  
G : Low leakage current  
H : with the function to be acceptable  
to output peak current  
J1 : VH(J.S.T.)connector type  
R : with Remote ON/OFF  
R2 : with Remote ON/OFF  
S : with Chassis  
SN : with Chassis & cover  
P : Setting in the overcurrent  
protection rating

Information the Home page is the latest.

This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit,  
so handle the unit with care.

| MODEL                 | LMA100F-24-Y | LMA100F-24-HY      |
|-----------------------|--------------|--------------------|
| MAX OUTPUT WATTAGE[W] | 103.2        | 103.2 (206.4) *2   |
| DC OUTPUT             | 24V 4.3A     | 24V 4.3A (8.6A) *2 |

## SPECIFICATIONS

|                                     | MODEL                                   | LMA100F-24-Y                                                                                         | LMA100F-24-HY                            |
|-------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------|
| INPUT                               | VOLTAGE[V]                              | AC85 - 264 1 φ                                                                                       |                                          |
|                                     | CURRENT[A]                              | ACIN 100V                                                                                            | 1.4typ (Io=100%)                         |
|                                     |                                         | ACIN 200V                                                                                            | 0.7typ (Io=100%)                         |
|                                     | FREQUENCY[Hz]                           | 50 / 60 (47 - 63)                                                                                    |                                          |
|                                     | EFFICIENCY[%]                           | ACIN 100V                                                                                            | 84.0typ (Io=100%)                        |
|                                     |                                         | ACIN 200V                                                                                            | 86.0typ (Io=100%)                        |
|                                     | POWER FACTOR                            | ACIN 100V                                                                                            | 0.99typ (Io=100%)                        |
|                                     |                                         | ACIN 200V                                                                                            | 0.95typ (Io=100%)                        |
| OUTPUT                              | INRUSH CURRENT[A]                       | ACIN 100V                                                                                            | 15typ (Io=100%) (At cold start) (Ta=25℃) |
|                                     |                                         | ACIN 200V                                                                                            | 30typ (Io=100%) (At cold start) (Ta=25℃) |
|                                     | LEAKAGE CURRENT[ma]                     | 0.10 / 0.25max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60601-1)                             |                                          |
|                                     | VOLTAGE[V]                              | 24                                                                                                   | 24                                       |
|                                     | CURRENT[A]                              | 4.3                                                                                                  | 4.3 (Peak 8.6) *2                        |
|                                     | LINE REGULATION[mV] *7                  | 96max                                                                                                | 96max                                    |
|                                     | LOAD REGULATION[mV] *7                  | 150max                                                                                               | 150max                                   |
|                                     | RIPPLE[mVp-p] *3                        | 0 to +50℃                                                                                            | 120max                                   |
|                                     |                                         | -10 - 0℃                                                                                             | 160max                                   |
|                                     | RIPPLE NOISE[mVp-p]*3                   | 0 to +50℃                                                                                            | 150max                                   |
|                                     |                                         | -10 - 0℃                                                                                             | 180max                                   |
| PROTECTION<br>CIRCUIT AND<br>OTHERS | TEMPERATURE REGULATION[mV]              | 0 to +50℃                                                                                            | 240max                                   |
|                                     |                                         | -10 to +50℃                                                                                          | 290max                                   |
|                                     | DRIFT[mV] *4                            | 96max                                                                                                | 96max                                    |
|                                     | START-UP TIME[ms]                       | 350typ (ACIN 100V, Io=100%)                                                                          |                                          |
|                                     | HOLD-UP TIME[ms]                        | 20typ (ACIN 100V, Io=100%)                                                                           |                                          |
|                                     | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]      | 19.20 to 27.50                                                                                       | 19.20 to 27.50                           |
|                                     | OUTPUT VOLTAGE SETTING[V]               | 24.00 to 24.96                                                                                       | 24.00 to 24.96                           |
|                                     | OVERCURRENT PROTECTION                  | Works over 105% of rating (works over 101% of peak current at option -H) and recovers automatically  |                                          |
|                                     | OVERVOLTAGE PROTECTION[V]               | 27.60 to 33.60                                                                                       | 27.60 to 33.60                           |
|                                     | OPERATING INDICATION                    | Not provided                                                                                         |                                          |
| ISOLATION                           | REMOTE SENSING                          | Not provided                                                                                         |                                          |
|                                     | REMOTE ON/OFF                           | Option (Required external power source.)                                                             |                                          |
|                                     | INPUT-OUTPUT-RC *6                      | AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOOP                 |                                          |
|                                     | INPUT-FG                                | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOOP                 |                                          |
|                                     | OUTPUT-RC-FG *6                         | AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)                         |                                          |
| ENVIRONMENT                         | OUTPUT-RC *6                            | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (At Room Temperature)                         |                                          |
|                                     | OPERATING TEMP., HUMID. AND ALTITUDE *5 | -10 to +70℃, 20 - 90%RH (Non condensing), 3,000m (10,000feet) max                                    |                                          |
|                                     | STORAGE TEMP., HUMID. AND ALTITUDE      | -20 to +75℃, 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<br>NOISE<br>REGULATIONS  | AGENCY APPROVALS (AT ONIY AC input)     | ANSI/AAMI ES60601-1, EN60601-1 3rd                                                                   |                                          |
|                                     | CONDUCTED NOISE                         | Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B                                         |                                          |
|                                     | HARMONIC ATTENUATOR                     | Complies with IEC61000-3-2 (Class A) *8                                                              |                                          |
| OTHERS                              | CASE SIZE/WEIGHT                        | 62 X 33 X 155mm [2.44 X 1.30 X 6.10 inches] (W X H X D) / 290g max (with chassis & cover : 470g max) |                                          |
|                                     | COOLING METHOD                          | Convection *5                                                                                        |                                          |

\*1 Specification is changed at option, refer to Instruction Manual.

\*2 Peak loading for 10sec. And Duty 40% max.

() means peak current. There is a possibility that an internal device is damaged when the specification is exceeded.

\*3 This is the value that measured on measuring board with capacitor of 22 μF at 150mm from output terminal.  
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).

\*4 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.

\*5 Derating is required.

\*6 Applicable when remote control (optional) is added.

\*7 Please contact us about dynamic load and input response.

\*8 Please contact us about another class.

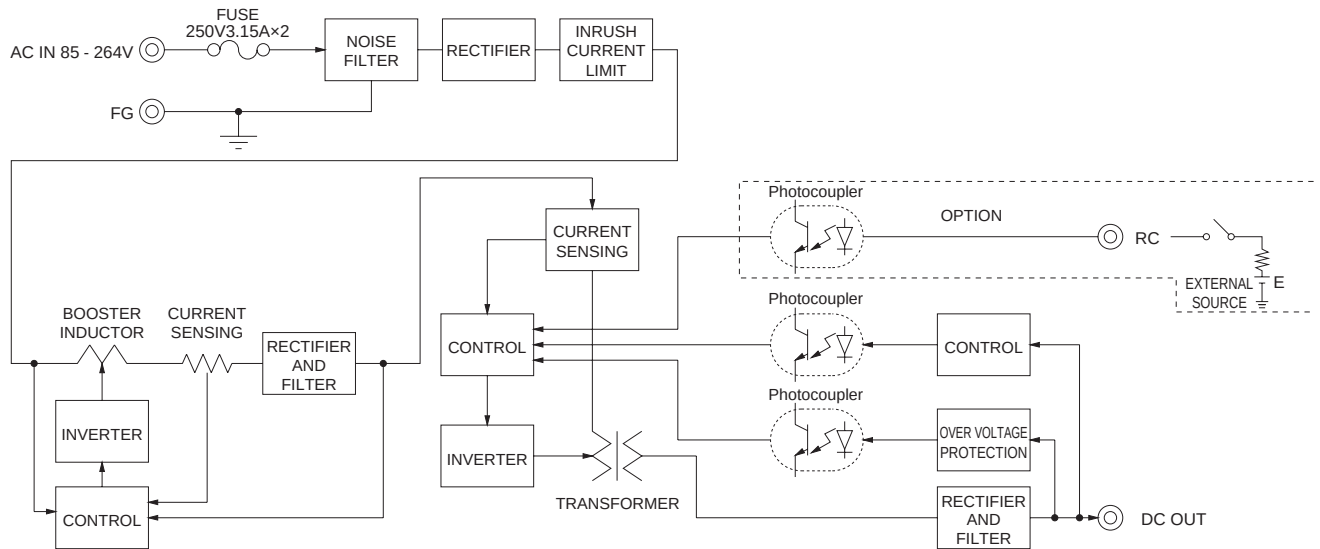
\* To meet the specifications. Do not operate over-loaded condition.

\* Parallel operation is not possible.

\* Derating is required when operated with chassis and cover.

\* Sound noise may be generated by power supply in case of pulse load.

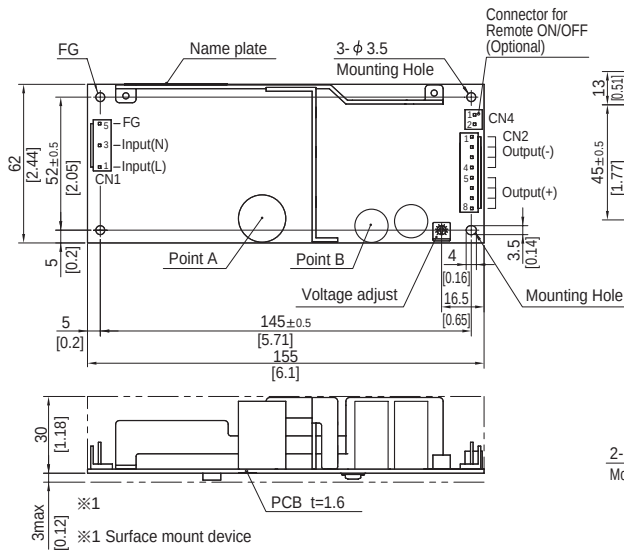
## Block diagram



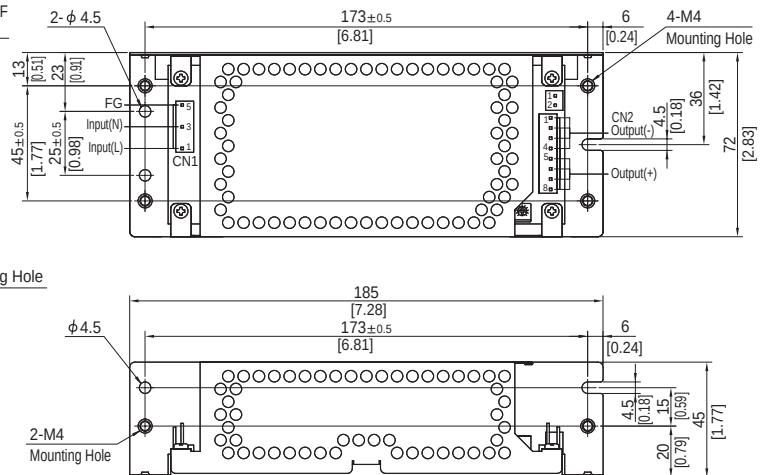
## External view

※ External size of option is different from standard model.

Standard type



Chassis and cover type



- ※ 4 Mounting holes are existing.
- ※ The back side of P.C.B. of the power supply is assembled some SMDs.  
Be attention not to bump against the attached area by vibration.
- ※ Use the spacer of 8mm length or more regarding insulation.  
And do not use press-fitting bush.
- ※ Point A, Point B are thermometry points.

| I/O Connector | Mating connector | Terminal    |                 |
|---------------|------------------|-------------|-----------------|
| CN1           | 1-1123724-3      | 1-1123722-5 | Chain 1123721-1 |
|               |                  |             | Loose 1318912-1 |
| CN2           | 1-1123723-8      | 1-1123722-8 | Chain 1123721-1 |
|               |                  |             | Loose 1318912-1 |

(Mfr:Tyco Electronics)

- ※ I/O Connector is Mfr. Tyco Electronics
- ※ Option:-J1:VH(J.S.T) connector type.

## &lt;PIN CONNECTION&gt;

CN1

| Pin No. | Input |
|---------|-------|
| 1       | AC(L) |
| 2       |       |
| 3       | AC(N) |
| 4       |       |
| 5       | FG    |

CN2

| Pin No. | Output |
|---------|--------|
| 1 to 4  | -V     |
| 5 to 8  | +V     |

- ※ Keep drawing current per pin below 5A for CN2.

- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 290g max (with chassis & cover : 470g max)
- ※ PCB material : CEM3
- ※ Optional chassis and cover material : Electric galvanizing steel board.
- ※ Dimensions in mm, [ ] =inches
- ※ Mounting torque (Mounting hole of chassis) :  $1.5N \cdot m$  (16kgf  $\cdot$  cm) max

## Connector type

CN4 Option (Mfr:J.S.T)

| PIN No. | Contents |
|---------|----------|
| 1       | RC(+)    |
| 2       | RC(-)    |

## Barrier strip type

Model B2B-XH-A  
Mating Connector (Terminal)  
XHP-2  
(BXH-001T-P0.6  
or SXH-001T-P0.6)

## LMA150F

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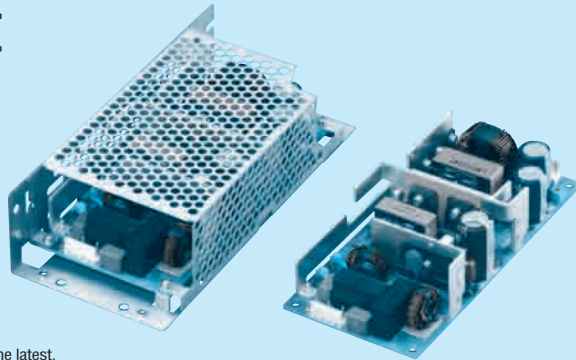
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Recommended EMI/EMC Filter  
NAM-04-101High voltage pulse noise type : NAP series  
Low leakage current type : NAM series\* The EMI/EMC Filter is recommended  
to connect with several devices.

- ① Series name  
② Single output  
③ Output wattage  
④ Universal input  
⑤ Output voltage  
⑥ Optional \*1  
C : with Coating  
G : Low leakage current  
H : with the function to be acceptable  
to output peak current  
J1 : VH(J.S.T.)connector type  
R : with Remote ON/OFF  
R2 : with Remote ON/OFF  
S : with Chassis  
SN : with Chassis & cover  
P : Setting in the overcurrent  
protection rating

Information the Home page is the latest.

This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit,  
so handle the unit with care.

| MODEL                 | LMA150F-24-Y | LMA150F-24-HY       |
|-----------------------|--------------|---------------------|
| MAX OUTPUT WATTAGE[W] | 151.2        | 151.2 (302.4) *2    |
| DC OUTPUT             | 24V 6.3A     | 24V 6.3A (12.6A) *2 |

## SPECIFICATIONS

|                                     | MODEL                                   | LMA150F-24-Y                                                                                           | LMA150F-24-HY                            |
|-------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------|
| INPUT                               | VOLTAGE[V]                              | AC85 - 264 1 φ                                                                                         |                                          |
|                                     | CURRENT[A]                              | ACIN 100V                                                                                              | 2.0typ (Io=100%)                         |
|                                     |                                         | ACIN 200V                                                                                              | 1.0typ (Io=100%)                         |
|                                     | FREQUENCY[Hz]                           | 50 / 60 (47 - 63)                                                                                      |                                          |
|                                     | EFFICIENCY[%]                           | ACIN 100V                                                                                              | 85.0typ (Io=100%)                        |
|                                     |                                         | ACIN 200V                                                                                              | 87.0typ (Io=100%)                        |
|                                     | POWER FACTOR                            | ACIN 100V                                                                                              | 0.99typ (Io=100%)                        |
|                                     |                                         | ACIN 200V                                                                                              | 0.95typ (Io=100%)                        |
| OUTPUT                              | INRUSH CURRENT[A]                       | ACIN 100V                                                                                              | 15typ (Io=100%) (At cold start) (Ta=25℃) |
|                                     |                                         | ACIN 200V                                                                                              | 30typ (Io=100%) (At cold start) (Ta=25℃) |
|                                     | LEAKAGE CURRENT[ma]                     | 0.10 / 0.25max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60601-1)                               |                                          |
|                                     | VOLTAGE[V]                              | 24                                                                                                     | 24                                       |
|                                     | CURRENT[A]                              | 6.3                                                                                                    | 6.3 (Peak 12.6) *2                       |
|                                     | LINE REGULATION[mV] *7                  | 96max                                                                                                  | 96max                                    |
|                                     | LOAD REGULATION[mV] *7                  | 150max                                                                                                 | 150max                                   |
|                                     | RIPPLE[mVp-p] *3                        | 0 to +50℃                                                                                              | 120max                                   |
|                                     |                                         | -10 - 0℃                                                                                               | 160max                                   |
|                                     | RIPPLE NOISE[mVp-p] *3                  | 0 to +50℃                                                                                              | 150max                                   |
|                                     |                                         | -10 - 0℃                                                                                               | 180max                                   |
| PROTECTION<br>CIRCUIT AND<br>OTHERS | TEMPERATURE REGULATION[mV]              | 0 to +50℃                                                                                              | 240max                                   |
|                                     |                                         | -10 to +50℃                                                                                            | 290max                                   |
|                                     | DRIFT[mV] *4                            | 96max                                                                                                  | 96max                                    |
|                                     | START-UP TIME[ms]                       | 350typ (ACIN 100V, Io=100%)                                                                            |                                          |
|                                     | HOLD-UP TIME[ms]                        | 20typ (ACIN 100V, Io=100%)                                                                             |                                          |
|                                     | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]      | 19.20 to 27.50                                                                                         | 19.20 to 27.50                           |
|                                     | OUTPUT VOLTAGE SETTING[V]               | 24.00 to 24.96                                                                                         | 24.00 to 24.96                           |
|                                     | OVERCURRENT PROTECTION                  | Works over 105% of rating (works over 101% of peak current at option -H) and recovers automatically    |                                          |
|                                     | OVERVOLTAGE PROTECTION[V]               | 27.60 to 33.60                                                                                         | 27.60 to 33.60                           |
|                                     | OPERATING INDICATION                    | Not provided                                                                                           |                                          |
| ISOLATION                           | REMOTE SENSING                          | Not provided                                                                                           |                                          |
|                                     | REMOTE ON/OFF                           | Option (Required external power source.)                                                               |                                          |
|                                     | INPUT-OUTPUT-RC *6                      | AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOOP                   |                                          |
|                                     | INPUT-FG                                | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOOP                   |                                          |
|                                     | OUTPUT-RC-FG *6                         | AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)                           |                                          |
| ENVIRONMENT                         | OUTPUT-RC *6                            | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (At Room Temperature)                           |                                          |
|                                     | OPERATING TEMP., HUMID. AND ALTITUDE *5 | -10 to +70℃, 20 - 90%RH (Non condensing), 3,000m (10,000feet) max                                      |                                          |
|                                     | STORAGE TEMP., HUMID. AND ALTITUDE      | -20 to +75℃, 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<br>NOISE<br>REGULATIONS  | AGENCY APPROVALS (AT ONIY AC input)     | ANSI/AAMI ES60601-1, EN60601-1 3rd                                                                     |                                          |
|                                     | CONDUCTED NOISE                         | Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B                                           |                                          |
|                                     | HARMONIC ATTENUATOR                     | Complies with IEC61000-3-2 (Class A) *8                                                                |                                          |
| OTHERS                              | CASE SIZE/WEIGHT                        | 75 X 36.5 X 160mm [2.95 X 1.44 X 6.30 inches] (W X H X D) / 370g max (with chassis & cover : 600g max) |                                          |
|                                     | COOLING METHOD                          | Convection *5                                                                                          |                                          |

\*1 Specification is changed at option, refer to Instruction Manual.

\*2 Peak loading for 10sec. And Duty 40% max.

( ) means peak current. There is a possibility that an internal device is damaged when the specification is exceeded.

\*3 This is the value that measured on measuring board with capacitor of 22 μF at 150mm from output terminal.  
Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).

\*4 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.

\*5 Derating is required.

\*6 Applicable when remote control (optional) is added.

\*7 Please contact us about dynamic load and input response.

\*8 Please contact us about another class.

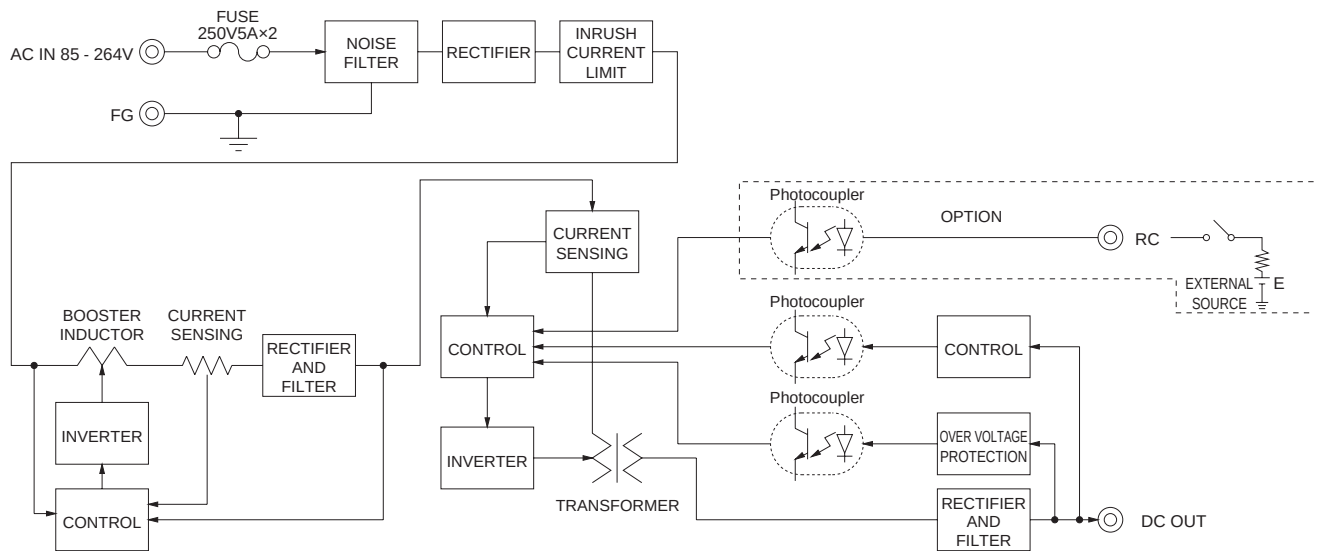
\* To meet the specifications. Do not operate over-loaded condition.

\* Parallel operation is not possible.

\* Derating is required when operated with chassis and cover.

\* Sound noise may be generated by power supply in case of pulse load.

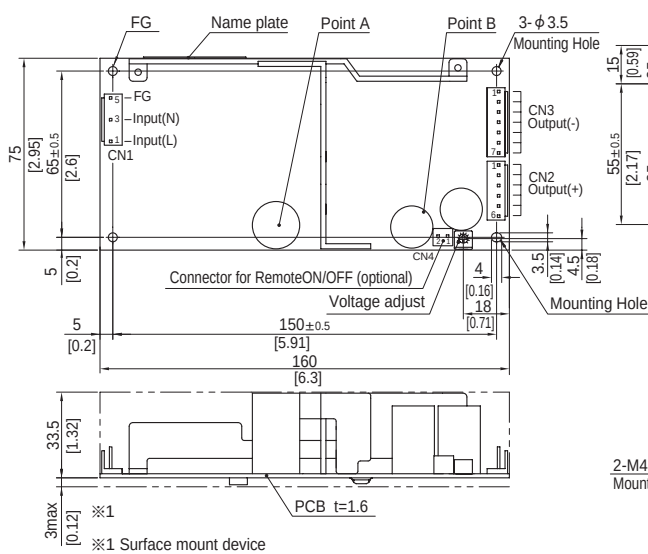
## Block diagram



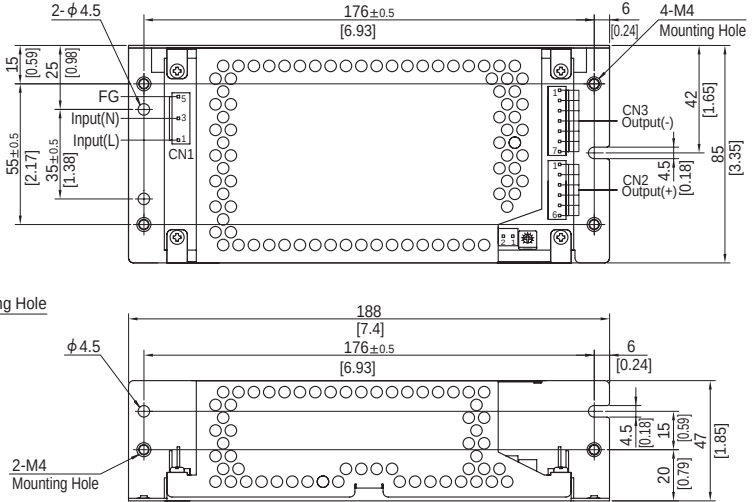
## External view

※ External size of option is different from standard model.

Standard type



Chassis and cover type



- ※ 4 Mounting holes are existing.
- ※ The back side of P.C.B. of the power supply is assembled some SMDs.
- Be attention not to bump against the attached area by vibration.
- ※ Use the spacer of 8mm length or more regarding insulation.
- And do not use press-fitting bush.
- ※ Point A, Point B are thermometry points.

| I/O Connector | Mating connector | Terminal    |
|---------------|------------------|-------------|
| CN1           | 1-1123724-3      | 1-1123722-5 |
| CN2           | 1-1123723-6      | 1-1123722-6 |
| CN3           | 1-1123723-7      | 1-1123722-7 |

(Mfr: Tyco Electronics)

- ※ I/O Connector is Mfr. Tyco Electronics
- ※ Option: -J1:VH(J.S.T) connector type.

## &lt;PIN CONNECTION&gt;

| CN1     | CN2     | CN3     |
|---------|---------|---------|
| Pin No. | Pin No. | Pin No. |
| 1       | 1 to 6  | 1 to 7  |
| 2       |         |         |
| 3       | +V      | -V      |
| 4       |         |         |
| 5       |         |         |
| FG      |         |         |

※ Keep drawing current per pin below 5A for CN2, CN3.

- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 370g max (with chassis & cover : 600g max)
- ※ PCB material : CEM3
- ※ Optional chassis and cover material : Electric galvanizing steel board.
- ※ Dimensions in mm, [ ] = inches
- ※ Mounting torque (Mounting hole of chassis) : 1.5N · m (16kgf · cm) max

## Connector type

CN4 Option (Mfr: J.S.T)

| PIN No. | Contents |
|---------|----------|
| 1       | RC(+)    |
| 2       | RC(-)    |

## Barrier strip type

Model B2B-XH-A  
Mating Connector (Terminal)  
XHP-2  
(BXH-001T-P0.6  
or SXH-001T-P0.6)

## LMA240F

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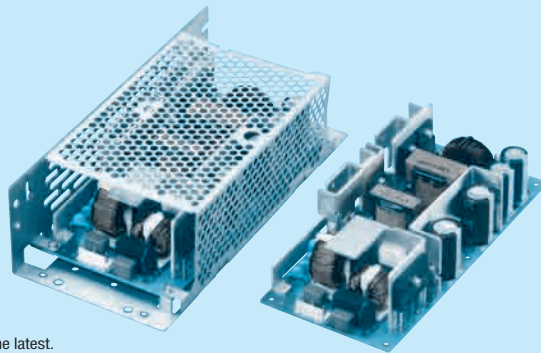
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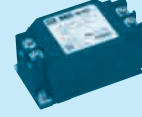
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Recommended EMI/EMC Filter  
NAM-06-101



High voltage pulse noise type : NAP series  
Low leakage current type : NAM series

- ① Series name  
② Single output  
③ Output wattage  
④ Universal input  
⑤ Output voltage  
⑥ Optional \*1  
C : with Coating  
G : Low leakage current  
H : with the function to be acceptable to output peak current  
J1 : VH(J.S.T.)connector type  
R : with Remote ON/OFF  
R2 : with Remote ON/OFF  
S : with Chassis  
SN : with Chassis & cover  
P : Setting in the overcurrent protection rating

Information the Home page is the latest.

This power supply is manufactured by SMD technology. The stress to P.C.B like twisting or bending causes the defect of the unit, so handle the unit with care.

| MODEL                 | LMA240F-24-Y         | LMA240F-24-HY      |
|-----------------------|----------------------|--------------------|
| MAX OUTPUT WATTAGE[W] | 300                  | 300 (480) *2       |
| DC OUTPUT             | Convection 24V 10A   | 24V 10A (20A) *2   |
|                       | Forced air 24V 12.5A | 24V 12.5A (20A) *2 |

## SPECIFICATIONS

|                               | MODEL                                   | LMA240F-24-Y                                                                                                     | LMA240F-24-HY     |
|-------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|
| INPUT                         | VOLTAGE[V]                              | AC85 - 264 1 φ                                                                                                   |                   |
|                               | CURRENT[A]                              | ACIN 100V 3.9typ (Io=100%)                                                                                       |                   |
|                               |                                         | ACIN 200V 1.8typ (Io=100%)                                                                                       |                   |
|                               | FREQUENCY[Hz]                           | 50 / 60 (47 - 63)                                                                                                |                   |
|                               | EFFICIENCY[%]                           | ACIN 100V 86.0typ (Io=100%)                                                                                      | 86.0typ (Io=100%) |
|                               |                                         | ACIN 200V 88.0typ (Io=100%)                                                                                      | 88.0typ (Io=100%) |
|                               | POWER FACTOR                            | ACIN 100V 0.99typ (Io=100%)                                                                                      |                   |
|                               |                                         | ACIN 200V 0.95typ (Io=100%)                                                                                      |                   |
| OUTPUT                        | INRUSH CURRENT[A]                       | ACIN 100V 15 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start) |                   |
|                               |                                         | ACIN 200V 30 / 30typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3 sec. to re-start) |                   |
|                               | LEAKAGE CURRENT[ma]                     | 0.15 / 0.40max (ACIN 100V / 240V 60Hz, Io=100%, According to IEC60601-1)                                         |                   |
|                               | VOLTAGE[V]                              | 24                                                                                                               | 24                |
|                               | CURRENT[A]                              | Convection 10                                                                                                    | 10 (Peak 20) *2   |
|                               |                                         | Forced air 12.5                                                                                                  | 12.5 (Peak 20) *2 |
|                               | LINE REGULATION[mV] *7                  | 96max                                                                                                            |                   |
|                               | LOAD REGULATION[mV] *7                  | 150max                                                                                                           |                   |
|                               | RIPPLE[mVp-p] *3                        | 0 to +50°C 120max                                                                                                | 120max            |
|                               |                                         | -10 - 0°C 160max                                                                                                 | 160max            |
|                               | RIPPLE NOISE[mVp-p] *3                  | 0 to +50°C 150max                                                                                                | 150max            |
|                               |                                         | -10 - 0°C 180max                                                                                                 | 180max            |
| PROTECTION CIRCUIT AND OTHERS | TEMPERATURE REGULATION[mV]              | 0 to +50°C 240max                                                                                                | 240max            |
|                               |                                         | -10 to +50°C 290max                                                                                              | 290max            |
|                               | DRIFT[mV] *4                            | 96max                                                                                                            |                   |
|                               | START-UP TIME[ms]                       | 350typ (ACIN 100V, Io=100%)                                                                                      |                   |
|                               | HOLD-UP TIME[ms] *9                     | 20typ (ACIN 100V, Io=100%)                                                                                       |                   |
|                               | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]      | 19.20 to 27.50                                                                                                   | 19.20 to 27.50    |
|                               | OUTPUT VOLTAGE SETTING[V]               | 24.00 to 24.96                                                                                                   | 24.00 to 24.96    |
|                               | OVERCURRENT PROTECTION                  | Works over 105% of rating (works over 101% of peak current at option -H) and recovers automatically              |                   |
|                               | OVERVOLTAGE PROTECTION[V]               | 27.60 to 33.60                                                                                                   | 27.60 to 33.60    |
|                               | OPERATING INDICATION                    | Not provided                                                                                                     |                   |
| ISOLATION                     | REMOTE SENSING                          | Not provided                                                                                                     |                   |
|                               | REMOTE ON/OFF                           | Option (Required external power source.)                                                                         |                   |
|                               | INPUT-OUTPUT-RC *6                      | AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOOP                             |                   |
|                               | INPUT-FG                                | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOOP                             |                   |
|                               | OUTPUT-RC-FG *6                         | AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)                                     |                   |
| ENVIRONMENT                   | OUTPUT-RC *6                            | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (At Room Temperature)                                     |                   |
|                               | OPERATING TEMP., HUMID. AND ALTITUDE *5 | -10 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000feet) max                                               |                   |
|                               | STORAGE TEMP., HUMID. AND ALTITUDE      | -20 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 (AT ONIY AC input)     | ANSI/AAMI ES60601-1, EN60601-1 3rd                                                                               |                   |
|                               | CONDUCTED NOISE                         | Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B                                                     |                   |
|                               | HARMONIC ATTENUATOR                     | Complies with IEC61000-3-2 (Class A) *8                                                                          |                   |
| OTHERS                        | CASE SIZE/WEIGHT                        | 84 X 46 X 180mm [3.31 X 1.81 X 7.09 inches] (W X H X D) / 540g max (with chassis & cover : 860g max)             |                   |
|                               | COOLING METHOD                          | Convection / Forced air *5                                                                                       |                   |

\*1 Specification is changed at option, refer to Instruction Manual.

\*2 Peak loading for 10sec. And Duty 40% max.

( ) means peak current. There is a possibility that an internal device is damaged when the specification is exceeded.

\*3 This is the value that measured on measuring board with capacitor of 22 μF at 150mm from output terminal.

Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103).

\*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 Derating is required.

\*6 Applicable when remote control (optional) is added.

\*7 Please contact us about dynamic load and input response.

\*8 Please contact us about another class.

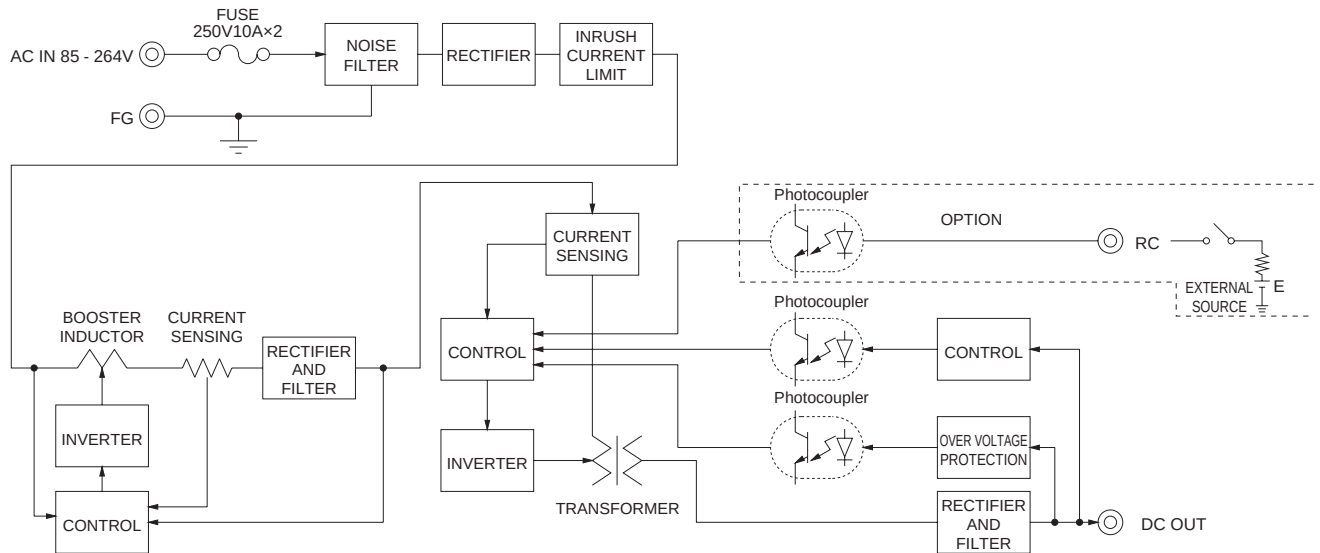
\* To meet the specifications. Do not operate over-loaded condition.

\* Parallel operation is not possible.

\* Derating is required when operated with chassis and cover.

\* Sound noise may be generated by power supply in case of pulse load.

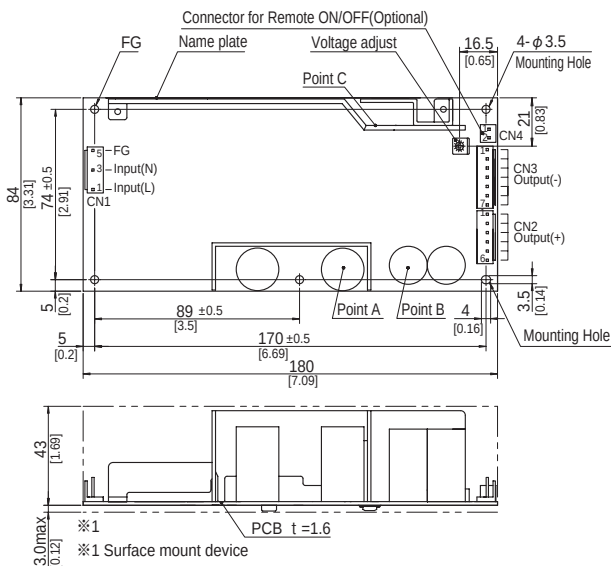
## Block diagram



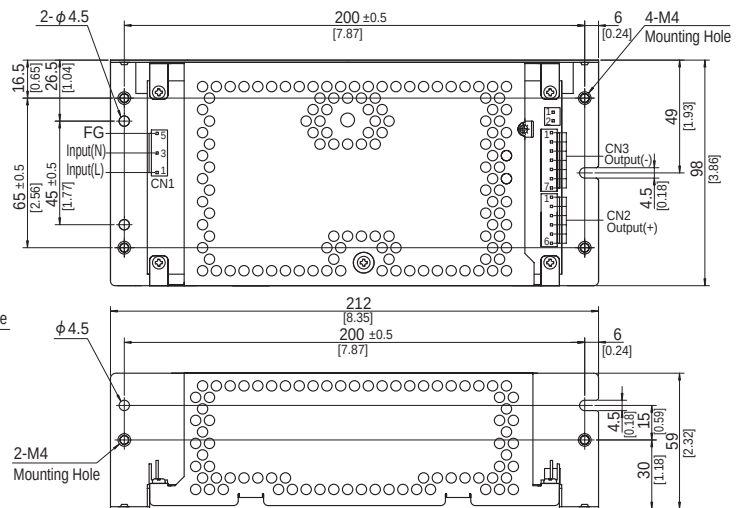
## External view

※ External size of option is different from standard model.

|               |
|---------------|
| Standard type |
|---------------|



Chassis and cover type



- ※ 5 Mounting holes are existing.
- ※ The back side of P.C.B. of the power supply is assembled some SMDs.  
Be attention not to bump against the attached area by vibration.
- ※ Use the spacer of 8mm length or more regarding insulation.  
And do not use press-fitting bush.
- ※ Point A, Point B, Point C are thermometry points.

### <PIN CONNECTION>

| I/O Connector |             | Mating connector | Terminal |           |
|---------------|-------------|------------------|----------|-----------|
| CN1           | 1-1123724-3 | 1-1123722-5      | Chain    | 1123721-1 |
|               |             |                  | Loose    | 1318912-1 |
| CN2           | 1-1123723-6 | 1-1123722-6      | Chain    | 1123721-1 |
|               |             |                  | Loose    | 1318912-1 |
| CN3           | 1-1123723-7 | 1-1123722-7      | Chain    | 1123721-1 |
|               |             |                  | Loose    | 1318912-1 |

(Mfr:Tyco Electronics)

| CN1     |       | CN2     |        | CN3     |        |
|---------|-------|---------|--------|---------|--------|
| Pin No. | Input | Pin No. | Output | Pin No. | Output |
| 1       | AC(L) | 1 to 6  | +V     | 1 to 7  | -V     |
| 2       |       |         |        |         |        |
| 3       | AC(N) |         |        |         |        |
| 4       |       |         |        |         |        |
| 5       | FG    |         |        |         |        |

- ※ Keep drawing current per pin below 5A for CN2,CN3.
- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 540g max (with chassis & cover : 860g max)
- ※ PCB material : CEM3
- ※ Optional chassis and cover material : Electric galvanizing steel board.
- ※ Dimensions in mm, [ ] =inches
- ※ Mounting torque (Mounting hole of chassis) :  $1.5\text{N} \cdot \text{m}$  (16kgf  $\cdot$  cm) max

## Connector type

| PIN No. | Contents |
|---------|----------|
| 1       | RC(+)    |
| 2       | RC(-)    |

## Barrier strip type

Model B2B-XH-A  
Mating Connector (Terminal)  
XHP-2  
( BXH-001T-P0.6  
or SXH-001T-P0.6 )

- ※ I/O Connector is Mfr. Tyco Electronics  
※ Option:-J1:VH(J.S.T) connector type.

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