STMG-series

Feature
- Isolated unit type DC-DC converter
- Wide input voltage DC9-36V/DC18-76V
- Various lineups
- Available connector interface (option)
- Available case cover (option)
- Available DIN rail attachment (option)
- Built in Overcurrent protection (recovery automatically)
- Built in Overvoltage protection (for STMG30)
- Built in Remote ON/OFF
- Built in Output voltage adjustment (for single output, ±10%)

Safety agency approvals
- UL60950-1 C-UL EN60950-1 Complies

CE marking
- Low voltage Directive
- RoHS Directive

5-year warranty (refer to Instruction Manual)
# DC-DC Converters PCB Mount Value-added Type

## STMGFS15

### Ordering information
```
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>STMGFS</td>
<td>S</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>
```

### Specifications

#### Input

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>STMGFS15243R3</td>
<td>13.2</td>
<td>3.3</td>
<td>4</td>
</tr>
<tr>
<td>STMGFS152405</td>
<td>15</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>STMGFS152412</td>
<td>15.6</td>
<td>12</td>
<td>1.3</td>
</tr>
<tr>
<td>STMGFS152415</td>
<td>15</td>
<td>15</td>
<td>1</td>
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</tbody>
</table>

#### Output

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>STMGFS15483R3</td>
<td>13.2</td>
<td>3.3</td>
<td>4</td>
</tr>
<tr>
<td>STMGFS154805</td>
<td>15</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>STMGFS154812</td>
<td>15.6</td>
<td>12</td>
<td>1.3</td>
</tr>
<tr>
<td>STMGFS154815</td>
<td>15</td>
<td>15</td>
<td>1</td>
</tr>
</tbody>
</table>

---

*Please remove short piece on CN4 to enable remote ON/OFF function.*

### Protection Circuit and Others

- **Overcurrent Protection**: Works over 105% of rating and recovers automatically
- **Remote ON/OFF**: Provided (Negative logic L:ON, H:OFF)

---

*When the option is set specifications may vary.*
**GENERAL SPECIFICATIONS**

**ISOLATION**

<table>
<thead>
<tr>
<th>Input/Output</th>
<th>DC1,500V 1 minute, cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input/RC-Output</td>
<td>DC1,000V 1 minute, cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)</td>
</tr>
<tr>
<td>Output/FG</td>
<td>DC1,000V 1 minute, cutoff current = 10mA, DC500V 1,000MΩ min (20±15°C)</td>
</tr>
</tbody>
</table>

**ENVIRONMENT**

| Operating Temp., Humidity, and Altitude | -20 to +70°C, 20 to 95%RH (Non condensing) (Refer to “Derating”), 3,000m (10,000 feet) max |
| Storage Temp., Humidity, and Altitude | -20 to +75°C, 20 to 95%RH (Non condensing), 9,000m (30,000 feet) max |
| Vibration | 10 - 55Hz, 19.6m/s²(2G), 3 minutes period, 60 minutes each along X, Y and Z axis |
| Impact    | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis |

**SAFETY AGENCY APPROVALS**

UL60950-1, C-UL, EN60950-1 Complies

**OTHERS**

| Case Size/Weight | 52 x 27 x 93mm [2.05 x 1.06 x 3.66 inches] (W x H x D) / 110g max (When the option is set, refer to the page STMG-4) |
| Cooling Method   | Convection/Forced air |

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**External view**

*External view of option G, R are the same as standard model. External view of other type options, please refer to the page STMG-4.*

---

**I/O Connector**

<table>
<thead>
<tr>
<th>Remote ON/OFF</th>
<th>CN4</th>
</tr>
</thead>
</table>

**Mating Connector**

<table>
<thead>
<tr>
<th>XHP-2</th>
</tr>
</thead>
</table>

**Terminal**

<table>
<thead>
<tr>
<th>Chain: SXH-001T-P0.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loose: BXH-001T-P0.6</td>
</tr>
</tbody>
</table>

(Mfr.: J.S.T.)

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* Tolerance ±1 |
* Dimensions in mm, [ ] = inches |
* Weight: 110g max |
* PCB material/thickness: FR-4 / 1.6mm |
* Mounting plate: Iron (surface finishing: nickel plating) t=1.0 [0.04] |
* Terminal block screw tightening torque M3: 0.8N·m (8.5kgf·cm) max |
* CN4 has been installed short piece as factory setting (Except option R). When remote ON/OFF is used, please remove the installed short piece.
**Connector type (~J)**

- External view (Option type)

**Case cover and connector type (~JN1)**

- The specifications of terminal block and Case cover type cannot be set.

**DIN rail installation type (~N2)**

**External voltage variable volume type (~V)**

- Terminal cover

<table>
<thead>
<tr>
<th>Connector Type Input</th>
<th>I/O Connector</th>
<th>Mating Connector</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN1</td>
<td>B3P5-VH</td>
<td>VHR-5N</td>
<td>Chain : SVH-21T-P1.1, Loose : BVH-21T-P1.1</td>
</tr>
<tr>
<td>CN2</td>
<td>B4P-XH</td>
<td>XHP-4</td>
<td>Chain : SXH-001T-P0.6, Loose : BXH-001T-P0.6</td>
</tr>
<tr>
<td>CN4</td>
<td>B2B-XH</td>
<td>XHP-2</td>
<td>Chain : SXH-001T-P0.6, Loose : BXH-001T-P0.6</td>
</tr>
</tbody>
</table>

- CN4 has been installed jumper as factory setting (Except option R). When remote ON/OFF is used, please remove the installed jumper.

- Connector Type : Keep drawing current per pin below 2.5A for CN2.

*(Mfr.:J.S.T.)*

- Tolerance ±1
- Dimensions in mm, [ ]=inches
- Weight : Standard & Connector type 110g max
  - Case cover & DIN rail installation type 120g max
- PCB material / thickness : FR-4 / 1.6mm
- Mounting plate : Iron (surface finishing : nickel plating) t=1.0 [0.04]
- Case : PBT
- Terminal block screw tightening torque M3 : 0.8N · m (8.5kgf · cm) max
- CN4 has been installed jumper as factory setting (Except option R). When remote ON/OFF is used, please remove the installed jumper.
- Connector Type : Keep drawing current per pin below 2.5A for CN2.

June 26, 2020
### Specifications

#### Input

<table>
<thead>
<tr>
<th>Model</th>
<th>STMGFW152405</th>
<th>STMGFW152412</th>
<th>STMGFW152415</th>
<th>STMGFW154805</th>
<th>STMGFW154812</th>
<th>STMGFW154815</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Output Wattage [W]</td>
<td>15</td>
<td>15.6</td>
<td>15</td>
<td>15</td>
<td>15.6</td>
<td>15</td>
</tr>
<tr>
<td>DC Voltage [V]</td>
<td>±5 or +10</td>
<td>±15 or +30</td>
<td>±5 or +10</td>
<td>±12 or +24</td>
<td>±12 or +24</td>
<td>±15 or +30</td>
</tr>
<tr>
<td>Current [A]</td>
<td>1.5</td>
<td>0.65</td>
<td>0.5</td>
<td>1.5</td>
<td>0.65</td>
<td>0.5</td>
</tr>
<tr>
<td>Efficiency [%]</td>
<td>84typ</td>
<td>88typ</td>
<td>89typ</td>
<td>84typ</td>
<td>87typ</td>
<td>88typ</td>
</tr>
<tr>
<td>Line Regulation [mV]</td>
<td>40max</td>
<td>60max</td>
<td>75max</td>
<td>40max</td>
<td>60max</td>
<td>75max</td>
</tr>
<tr>
<td>Load Regulation [mV]</td>
<td>500max</td>
<td>600max</td>
<td>750max</td>
<td>500max</td>
<td>600max</td>
<td>750max</td>
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<tr>
<td>Ripple [mVp-p]</td>
<td>100max</td>
<td>100max</td>
<td>100max</td>
<td>100max</td>
<td>100max</td>
<td>100max</td>
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<tr>
<td>Ripple Noise [mVp-p]</td>
<td>120max</td>
<td>120max</td>
<td>120max</td>
<td>120max</td>
<td>120max</td>
<td>120max</td>
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<tr>
<td>Temperature Regulation [mV]</td>
<td>50max</td>
<td>150max</td>
<td>50max</td>
<td>150max</td>
<td>50max</td>
<td>150max</td>
</tr>
<tr>
<td>Drift [mV]</td>
<td>50max</td>
<td>50max</td>
<td>50max</td>
<td>50max</td>
<td>50max</td>
<td>50max</td>
</tr>
<tr>
<td>Protection Circuit and Others</td>
<td>Works over 105% of rating and recovers automatically</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Output

- Overcurrent Protection: Works over 105% of rating and recovers automatically
- Remote ON/OFF: Provided (Negative Logic L:ON, H:OFF)
- Operating Temp. Humidity and Altitude: -20 to +70°C, 20 to 95%RH (Non condensing) (Refer to "Derating")
- Storage Temp. Humidity and Altitude: -20 to +75°C, 20 to 95%RH (Non condensing)
- Vibration: 10 - 55Hz, 19.6m/s² (2G), 3 minutes period, 60 minutes each along X, Y and Z axis
- Impact: 196.1m/s² (20G), 11ms, once each along X, Y and Z axis
- Agency Approvals: UL60950-1, C-UL, EN60950-1 Complies
- Case Design/Weight: 52 x 27 x 93mm [2.05 x 1.08 x 3.66 inches] (W x H x D) / 110g max (When the option is set, refer to the page STMG-7)
- Cooling Method: Convection/Forced air

### Ordering Information

<table>
<thead>
<tr>
<th>STMG FW</th>
<th>Series Name</th>
<th>Dual Output</th>
<th>Output Wattage</th>
<th>Input Voltage</th>
<th>Output Voltage</th>
<th>Optional</th>
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</thead>
<tbody>
<tr>
<td>15</td>
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<td></td>
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<td></td>
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<tr>
<td>24</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05 -</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

- G: Capacitor between Input and Output is removed.
- R: with Remote ON/OFF (Positive logic control)
- J: Input/Output Connector
- JN1: Connector with case cover
- JN2: With DIN rail installation type
- JN3: Connector with cover (plastic) and DIN rail installation type

*When the option is set specifications may vary.*

---

**Reminder:** Please remove short piece on CN4 to enable remote ON/OFF function.
**External view**

### Standard type

* External view of option G, R are the same as standard model.

### Connector type (~J)

### Case cover and connector type (~JN1)

* The specifications of terminal block and Case cover type can not be set.

### DIN rail installation type (~N2)

* Tolerance ±1
* Dimensions in mm, [ ]-inches
* Weight: Standard & Connector type 110g max
* Case cover & DIN rail installation type 120g max
* PCB material / thickness: FR-4 / 1.6mm
* Mounting plate: Iron (surface finishing: nickel plating) t=1.0 (0.04)
* Case: PBT
* Terminal block screw tightening torque M3: 0.8N - m (8.5kgf - cm) max
* CN4 has been installed jumper as factory setting (Except option R).
* When remote ON/OFF is used, please remove the installed jumper.
* Connector Type: Keep drawing current per pin below 2.5A for CN2, CN3.

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**I/O Connector**

<table>
<thead>
<tr>
<th>Connector Type Input</th>
<th>I/O Connector</th>
<th>Mating Connector</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN1</td>
<td>B3P5-VH</td>
<td>VHR-SN</td>
<td>Chain: SVH-21T-P1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Loose: BVH-21T-P1.1</td>
</tr>
<tr>
<td>CN2, CN3</td>
<td>B4B-XH</td>
<td>XHP-4</td>
<td>Chain: SXH-001T-P0.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Loose: BXH-001T-P0.6</td>
</tr>
<tr>
<td>Remote ON/OFF</td>
<td>CN4</td>
<td>B2B-XH</td>
<td>Chain: SXH-001T-P0.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Loose: BXH-001T-P0.6</td>
</tr>
</tbody>
</table>

(Mfr.: J.S.T.)

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June 26, 2020
STMGFS30

DC-DC Converters PCB Mount Value-added Type

STMGFS30

Ordering information

STMGF S 30 24 05 -

1. Series name
2. Single output
3. Output wattage
4. Input voltage
5. Output voltage
6. Optional
G: Capacitor between Input and Output is removed.
R: with Remote ON/OFF
(J: Input/Output Connector
N1: With case cover
N2: With DIN rail installation type
N3: With cover(plastic) and DIN rail installation type
V: Output voltage setting potentiometer externally

*Please remove short piece on CN4 to enable remote ON/OFF function.

MODEL STMGFS30243R3 STMGFS302405 STMGFS302412 STMGFS302415
MAX OUTPUT WATTAGE[W] 24.75 30 30 30
DC OUTPUT VOLTAGE[V] 3.3 5 12 15
CURRENT[A] 7.5 6 2.5 2

SPECIFICATIONS

MODEL STMGFS30243R3 STMGFS302405 STMGFS302412 STMGFS302415
VOLTAGE[V] DC9 - 36
CURRENT[A] 1.16typ 1.39typ 1.40typ 1.40typ
EFFICIENCY[%] 89typ 90typ 89typ 89typ

INPUT

MODEL STMGFS30243R3 STMGFS302405 STMGFS302412 STMGFS302415
VOLTAGE[V] 3.3 5 12 15
CURRENT[A] 7.5 6 2.5 2
LINE REGULATION[mV] 13.2max 20max 48max 60max
LOAD REGULATION[mV] 60max 60max 100max 120max

OUTPUT

MODEL STMGFS30243R3 STMGFS302405 STMGFS302412 STMGFS302415
RIPPLE[mVp-p] 0 to +60℃ 75max 75max 100max 100max
-60 to +85℃ 100max 100max 120max 120max
RIPPLE NOISE[mVp-p] 0 to +60℃ 120max 120max 150max 150max
-60 to +85℃ 200max 200max 200max 200max
TEMPERATURE REGULATION[mV] 0 to +60℃ 50max 50max 150max 180max
-60 to +85℃ 80max 80max 240max 290max
DRIFT[mV] 20max 20max 48max 60max
START-UP TIME[ms] 30max (Minimum input, Io=100%)
OUTPUT VOLTAGE ADJUSTMENT RANGE 2.97 - 3.63 4.50 - 5.50 10.80 - 13.20 13.50 - 16.50

PROTECTION CIRCUIT AND OTHERS

MODEL STMGFS30243R3 STMGFS302405 STMGFS302412 STMGFS302415
OVERCURRENT PROTECTION Works over 105% of rating and recovers automatically
OVERVOLTAGE PROTECTION[V] Works over 120 to 160% of rating
REMOTE ON/OFF Provided (Negative logic L:ON, H:OFF)

MODEL STMGFS30483R3 STMGFS304805 STMGFS304812 STMGFS304815
MAX OUTPUT WATTAGE[W] 24.75 30 30 30
DC OUTPUT VOLTAGE[V] 3.3 5 12 15
CURRENT[A] 7.5 6 2.5 2

SPECIFICATIONS

MODEL STMGFS30483R3 STMGFS304805 STMGFS304812 STMGFS304815
VOLTAGE[V] DC18 - 76
CURRENT[A] 0.58typ 0.70typ 0.70typ 0.70typ
EFFICIENCY[%] 89typ 90typ 89typ 89typ

INPUT

MODEL STMGFS30483R3 STMGFS304805 STMGFS304812 STMGFS304815
VOLTAGE[V] 3.3 5 12 15
CURRENT[A] 7.5 6 2.5 2
LINE REGULATION[mV] 13.2max 20max 48max 60max
LOAD REGULATION[mV] 60max 60max 100max 120max

OUTPUT

MODEL STMGFS30483R3 STMGFS304805 STMGFS304812 STMGFS304815
RIPPLE[mVp-p] 0 to +60℃ 75max 75max 100max 100max
-60 to +85℃ 100max 100max 120max 120max
RIPPLE NOISE[mVp-p] 0 to +60℃ 120max 120max 150max 150max
-60 to +85℃ 200max 200max 200max 200max
TEMPERATURE REGULATION[mV] 0 to +60℃ 50max 50max 150max 180max
-60 to +85℃ 80max 80max 240max 290max
DRIFT[mV] 20max 20max 48max 60max
START-UP TIME[ms] 30max (Minimum input, Io=100%)
OUTPUT VOLTAGE ADJUSTMENT RANGE 2.97 - 3.63 4.50 - 5.50 10.80 - 13.20 13.50 - 16.50

PROTECTION CIRCUIT AND OTHERS

MODEL STMGFS30483R3 STMGFS304805 STMGFS304812 STMGFS304815
OVERCURRENT PROTECTION Works over 105% of rating and recovers automatically
OVERVOLTAGE PROTECTION[V] Works over 120 to 160% of rating
REMOTE ON/OFF Provided (Negative logic L:ON, H:OFF)

STMG-8

June 26, 2020
GENERAL SPECIFICATIONS

**ISOLATION**

| INPUT · RC-OUTPUT | DC1,500V 1minute, Cutoff current = 10mA, DC500V 1.000MΩ min (20±15°C) |
| INPUT · RC-FG | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1.000MΩ min (20±15°C) |
| OUTPUT-FG | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1.000MΩ min (20±15°C) |

**ENVIRONMENT**

| OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +70°C, 20 to 95%RH (Non condensing) (Refer to “Derating”), 3,000m (10,000feet) max |
| STORAGE TEMP., HUMID. AND ALTITUDE | -20 to +75°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max |
| VIBRATION | 10 - 55Hz, 19.6m/s²(2G), 3 minutes period, 60 minutes each along X, Y and Z axis |
| IMPACT | 196.1m/s² (2G), 11ms, once each along X, Y and Z axis |

**SAFETY AGENCY APPROVALS**

UL60950-1, C-UL, EN60950-1 Complies

**OTHERS**

| CASE SIZE/WEIGHT | 52x27x117mm [2.05x1.06x4.61 inches] (W×H×D) / 140g max (When the option is set, refer to the page STMG-10) |
| COOLING METHOD | Convection/Forced air |

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External view

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**Standard type**

* External view of option G, R are the same as standard model. External view of other type options, please refer to the page STMG-10.

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**I/O Connector**

<table>
<thead>
<tr>
<th>I/O Connector</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote ON/OFF</td>
<td>CN4 B2B-XH XHP-2</td>
</tr>
<tr>
<td></td>
<td>Chain : SXH-001T-P0.6</td>
</tr>
<tr>
<td></td>
<td>Loose : BXH-001T-P0.6 (Mfr.:J.S.T.)</td>
</tr>
</tbody>
</table>

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* Tolerance ±1
* Dimensions in mm, [ ] = inches
* Weight : 140g max
* PCB material / thickness : FR-4 / 1.6mm
* Mounting plate : Iron (surface finishing : nickel plating) t=1.0 [0.04]
* Terminal block screw tightening torque M3 : 0.8N·m (8.5kgf·cm) max
* CN4 has been installed jumper as factory setting (Except option R). When remote ON/OFF is used, please remove the installed jumper.
**Connector type (−J)**

**External view (Option type)**

**External voltage variable volume type (−V)**

**Case cover type (−N1)**

**DIN rail installation type (−N2)**

<table>
<thead>
<tr>
<th>I/O Connector</th>
<th>Mating Connector</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN1</td>
<td>B3P5-VH</td>
<td>VHR-5N</td>
</tr>
<tr>
<td>CN2</td>
<td>B4P-VH</td>
<td>VHR-4N</td>
</tr>
<tr>
<td>CN4</td>
<td>B2B-XH</td>
<td>XHP-2</td>
</tr>
<tr>
<td>CN5</td>
<td>B3B-XH</td>
<td>XHP-3</td>
</tr>
</tbody>
</table>

* Tolerance ±1
* Dimensions in mm, [ ]=inches
* Weight : Standard & Connector type 140g max
  Case cover & DIN rail installation type 160g max
* PCB material / thickness : FR-4 / 1.6mm
* Mounting plate : Iron (surface finishing : nickel plating) t=1.0 [0.04]
* Case : PBT
* Terminal block screw tightening torque M3 : 0.8N • m (8.5kgf • cm) max
* CN4 has been installed jumper as factory setting (Except option R).
  When remote ON/OFF is used, please remove the installed jumper.
* Connector Type : Keep drawing current per pin below 5A for CN2.
STMGFW30 DC-DC Converters PCB Mount Value-added Type

STMGFW 30 24 05 - DIN rail installation type (Option : -N2)

STMGFW 30 24 05 - With case cover (Option : -N1)

STMGFW 30 24 05 - Standard type

Ordering information

1. Series name
2. Dual output
3. Output wattage
4. Input voltage
5. Output voltage
6. Optional
   G: Capacitor between Input and Output is removed.
   R: with Remote ON/OFF (Positive logic control)
   J: Input/Output Connector
   N1: With case cover
   N2: With DIN rail installation type
   N3: With cover(plastic) and DIN rail installation type

*When the option is set specifications may vary.

Please remove short piece on CN4 to enable remote ON/OFF function.

SPECIFICATIONS

MODEL | STMGFW302405 | STMGFW302412 | STMGFW302415 | STMGFW304805 | STMGFW304812 | STMGFW304815
MAX OUTPUT WATTAGE[W] | 20 | 30 | 30 | 20 | 30 | 30
DC OUTPUT | | | | | | |
VOLTAGE[V] | ±5 or +10 | ±12 or +24 | ±15 or +30 | ±5 or +10 | ±12 or +24 | ±15 or +30
CURRENT[A] | 2 | 1.25 | 1 | 2 | 1.25 | 1

INPUT

VOLTAGE[V] | DC9 - 36 | DC18 - 76
CURRENT[A] | 0.98typ, 1.42typ, 1.44typ, 0.49typ, 0.71typ, 0.72typ
EFFICIENCY[%] | 85typ, 88typ, 87typ, 85typ, 88typ, 87typ
VOLTAGE[V] | ±5(+10) | ±12(+24) | ±15(+30) | ±5(+10) | ±12(+24) | ±15(+30)
CURRENT[A] | 2 | 1.25 | 1 | 2 | 1.25 | 1
LINE REGULATION[mV] | 40max | 60max | 75max | 40max | 60max | 75max
LOAD REGULATION[mV] | 500max | 600max | 750max | 500max | 600max | 750max
RIPPLE[mV-p-p] | 0 to +40% | 0 to -40% | 0 to +40% | 0 to -40% | 0 to +40% | 0 to -40%
RIPPLE NOISE[mV-p-p] | 100max | 100max | 120max | 120max | 120max | 120max
TEMPERATURE REGULATION[mV] | 50max | 150max | 200max | 200max | 200max | 200max
DRIFT[mV] | 50max | 50max | 60max | 50max | 50max | 60max
START-UP TIME[ms] | 30max (Minimum input, Io=100%)

PROTECTION CIRCUIT AND OTHERS

OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically
OVERVOLTAGE PROTECTION | Works over 120 to 160% of rating (Total of +V and -V)
REMOTE ON/OFF | Provided (Negative logic L:ON, H:OFF)

ISOLATION

INPUT ↓ RC-OUTPUT | DC1,500V 1minute, Cutoff current = 10mA, DC500V 1,000Ω min (20±15C)
INPUT ↓ RC-FG | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000Ω min (20±15C)
OUTPUT-FG | DC1,000V 1minute, Cutoff current = 10mA, DC500V 1,000Ω min (20±15C)

ENVIRONMENT

OPERATING TEMP.,HUMID. AND ALTITUDE | -20 to +70°C, 20 to 95%RH (Non condensing) (Refer to “Derating”), 3,000m (10,000feet) max
STORAGE TEMP.,HUMID. AND ALTITUDE | -20 to +75°C, 20 to 95%RH (Non condensing), 9,000m (30,000feet) max
VIBRATION | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis
IMPACT | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis

SAFETY

AGENCY APPROVALS | UL60950-1, C-UL, EN60950-1 Complies

OTHERS

CASE SIZE/WEIGHT | 52X27X117mm [2.05x1.06x4.61 inches] (W X H X D) / 140g max
COOLING METHOD | Convection/Forced air

STMG-12
June 26, 2020
**Standard type**

※ External view of option G, R are the same as standard model.

![Diagram](image-url)

**Connector type (~J)**

![Diagram](image-url)

**Case cover type (~N1)**

![Diagram](image-url)

**DIN rail installation type (~N2)**

![Diagram](image-url)

<table>
<thead>
<tr>
<th>Connector Type</th>
<th>I/O Connector</th>
<th>Mating Connector</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>CN1</td>
<td>B3P5-VH</td>
<td>Chain : SVH-21T-P1.1&lt;br&gt;Loose : BVH-21T-P1.1</td>
</tr>
<tr>
<td>Output</td>
<td>CN2</td>
<td>B3P-VH</td>
<td>Chain : SVH-21T-P1.1&lt;br&gt;Loose : BVH-21T-P1.1</td>
</tr>
<tr>
<td>Remote ON/OFF</td>
<td>CN4</td>
<td>B2B-XH</td>
<td>Chain : SXH-001T-P0.6&lt;br&gt;Loose : BXH-001T-P0.6</td>
</tr>
</tbody>
</table>

※ Tolerance ±1
※ Dimensions in mm, [ ]-inches
※ Weight : Standard & Connector type 140g max
※ Case cover & DIN rail installation type 160g max
※ PCB material / thickness : FR-4 / 1.6mm
※ Mounting plate : Iron (surface finishing : nickel plating) t=1.0 [0.04]
※ Case : PBT
※ Terminal block screw tightening torque M3 : 0.8N·m (8.5kgf·cm) max
※ CN4 has been installed jumper as factory setting (Except option R).
When remote ON/OFF is used, please remove the installed jumper.
※ Connector Type : Keep drawing current per pin below 5A for CN2.

June 26, 2020
Assembling and Installation Method

Installation

- Derating curve varies depending on the mounting direction. Refer to “Derating.”
- Please note that a power supply and chassis will become hot depending on mounting direction or operating condition.
- In case of metal chassis, keep the distance between d1 for to insulate between lead of component and metal chassis. If it is less than d1, insert the insulation sheet between power supply and metal chassis.

Derating

STMGFS15/STMGFW15 Ambient temperature derating curve
- Specifications for ripple and ripple noise change in the shaded area.
- In the case of Convection Cooling
  - If you derate the output current, you can use the unit in the temperature range from -20°C to the maximum temperature shown below.

<table>
<thead>
<tr>
<th>Load factor [%]</th>
<th>Ambient temperature Ta [°C]</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>75</td>
<td>40</td>
</tr>
<tr>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>25</td>
<td>80</td>
</tr>
</tbody>
</table>

(1) Standard type (No Case cover type)

Forced air (0.5m³/min)

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<tr>
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<td>80</td>
</tr>
</tbody>
</table>

(1) Standard type (No Case cover type)

Forced air (0.5m³/min)

(2) Case cover type
### Derating

- **STMGFS30/STMGFW30** Ambient temperature derating curve

  Specifications for ripple and ripple noise changes in the shaded area.

- In the case of Convection Cooling

  If you derate the output current, you can use the unit in the temperature range from -20°C to the maximum temperature shown below.

- In the case of Forced Air Cooling

  In case of forced air cooling, please have sufficient ventilation to keep the temperature of point A in Instruction Manual5 at 105°C or below. Please also make sure that the ambient temperature does not exceed the range shown in below.

### Instruction Manual

- It is necessary to read the “Instruction Manual” and “Before using our product” before you use our product.

  - Before using our product: https://en.cosel.co.jp/technical/caution/index.html

### Basic Characteristics Data

<table>
<thead>
<tr>
<th>Model</th>
<th>Circuit method</th>
<th>Switching frequency [kHz] (reference)</th>
<th>Input current [A]</th>
<th>Inrush current protection</th>
<th>PCB/Pattern *3</th>
<th>Series/Parallel operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>STMGF15</td>
<td>Flyback converter</td>
<td>445-495</td>
<td>*1</td>
<td>-</td>
<td>glass fabric base, epoxy resin</td>
<td>Yes</td>
</tr>
<tr>
<td>STMGF30</td>
<td>Forward converter</td>
<td>380-460</td>
<td>*1</td>
<td>-</td>
<td>glass fabric base, epoxy resin</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*1 Refer to Specification.
*2 Refer to the Instruction Manual.
*3 MG series with the power supply unit, please refer to the basic characteristics of the MG series data.

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