



#### ■ Features :

- Charger for lead-acid batteries (flooded, Gel and AGM) and Li-ion batteries (lithium iron and lithium manganese) (Note.1)
- 2 stage charging characteristic
- Universal AC input / Full range
- Built-in active PFC function, PF>0.90
- No load power consumption<1W
- 3 pole AC inlet IEC320-C14
- Class I power ( with earth pin)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Fully enclosed plastic case
- 2 color LED indicator for charging status
- Approvals: UL / TUV / EAC / CB / FCC / CE / UKCA
- 2 years warranty

#### ■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>



( for GC220Axx-AD1 only)



BS EN/EN62368-1 TPTC004 IEC62368-1



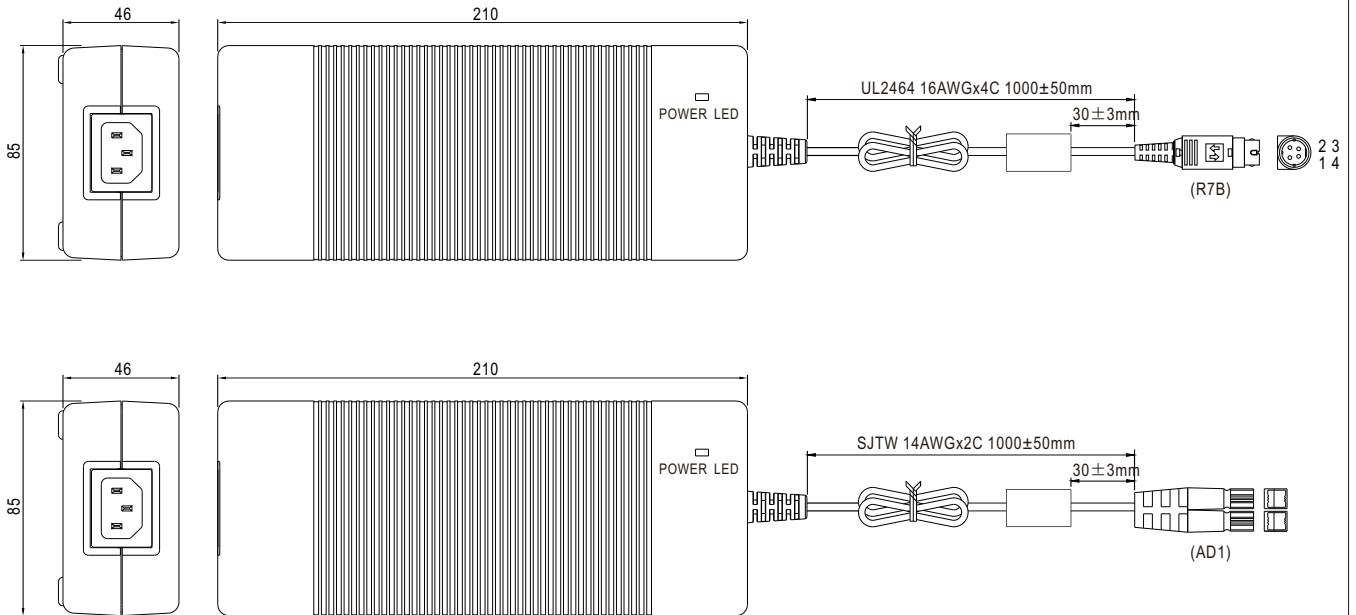
| ORDER NO.                          | OUTPUT CONNECTOR   | SAFETY                                |
|------------------------------------|--------------------|---------------------------------------|
| GC220Axx-R7B (standard model)      | 4pin power din     | TUV / CB / FCC / CE / UKCA / EAC      |
| GC220Axx-AD1 (optional model)      | Anderson connector | UL / TUV / CB / FCC / CE / UKCA / EAC |
| GC220Axx-□ xx=12,24,48 ; □=R7B,AD1 |                    |                                       |

#### SPECIFICATION

| ORDER NO.                 |                                                       | GC220A12-□                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | GC220A24-□ | GC220A48-□ |
|---------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| OUTPUT                    | SAFETY MODEL NO.                                      | GC220A12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | GC220A24   | GC220A48   |
|                           | DC VOLTAGE (Typ.)                                     | 13.6V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27.2V      | 54.4V      |
|                           | RECOMMENDED BATTERY CAPACITY<br><small>Note.3</small> | 80 ~ 200Ah                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 40 ~ 125Ah | 20 ~ 65Ah  |
|                           | CONTINUOUS OUTPUT CURRENT (Typ.)                      | 13.5A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 8A         | 4A         |
|                           | RATED POWER                                           | 183.6W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 217.6W     | 217.6W     |
|                           | LED INDICATOR                                         | Charging(CC) : RED Floating charging(CV) : GREEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |            |
| INPUT                     | VOLTAGE RANGE<br><small>Note.4</small>                | 90 ~ 264VAC 127 ~ 370VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |            |
|                           | FREQUENCY RANGE                                       | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |            |
|                           | POWER FACTOR (Typ.)                                   | PF>0.90 / 230VAC PF>0.98 / 115VAC at full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |            |
|                           | EFFICIENCY (Typ.)                                     | 89%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 92.5%      | 93%        |
|                           | AC CURRENT                                            | 4A / 115VAC 2A / 230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |            |
|                           | INRUSH CURRENT (max.)                                 | 120A / 230VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |            |
|                           | LEAKAGE CURRENT(max.)                                 | 1.5mA / 240VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |            |
| PROTECTION                | OVERLOAD<br><small>Note.5</small>                     | 90 ~ 110% rated output power<br>Protection type : Constant current limiting recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |            |
|                           | SHORT CIRCUIT                                         | Protection type : Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |            |
|                           | OVER VOLTAGE                                          | 105 ~ 135% rated output voltage<br>Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |            |
|                           | OVER TEMPERATURE                                      | 95°C ± 10°C (TSW1) detect on heatsink of power transistor<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |            |
|                           |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |            |
| ENVIRONMENT               | WORKING TEMP.                                         | -30 ~ +60°C (Refer to "Derating Curve")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |            |
|                           | WORKING HUMIDITY                                      | 20% ~ 90% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |            |
|                           | STORAGE TEMP., HUMIDITY                               | -40 ~ +85°C, 10 ~ 95% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |            |
|                           | TEMP. COEFFICIENT                                     | ± 0.03% / °C (0~50°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |            |
|                           | VIBRATION                                             | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |            |
| SAFETY & EMC<br>(Note. 6) | SAFETY STANDARDS                                      | UL1012 (for GC220Axx-AD1 only), TUV BS EN/EN62368-1, EAC TP TC 004 approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |            |
|                           | WITHSTAND VOLTAGE                                     | I/P-O/P: 3KVAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |            |
|                           | ISOLATION RESISTANCE                                  | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |            |
|                           | EMC EMISSION                                          | Compliance to BS EN/EN55032 class B, BS EN/EN61000-3-2,3, FCC PART 15 / CISPR22 class B, CAN ICES-3(B)-NMB-(B), EAC TP TC 020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |            |
| OTHERS                    | EMC IMMUNITY                                          | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, light industry level, EAC TP TC 020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |            |
|                           | MTBF                                                  | 1557.3K hrs min. Telcordia SR-332 (Bellcore) ; 170.2K hrs min. MIL-HDBK-217F (25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |            |
|                           | DIMENSION                                             | 210*85*46mm (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |            |
|                           | PACKING                                               | 1.1Kg; 12pcs/14.2Kg/0.73CUFT(GC220Axx-R7B) 1.2Kg; 12pcs/15.4Kg/1CUFT(GC220Axx-AD1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |            |
| CONNECTOR                 | PLUG                                                  | See page 2 ; Other type available by customer requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |            |
|                           | CABLE                                                 | See page 2 ; Other type available by customer requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |            |
| NOTE                      |                                                       | <p>1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and MEAN WELL for details.</p> <p>2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>3. This is MeanWell's suggested range, please consult your battery manufacturer for their suggestions about maximum charging current limitation.</p> <p>4. Derating may be needed under low input voltage. Please check the derating curve for more details.</p> <p>5. Constant current operation region is within 50~100% rated output voltage.</p> <p>6. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that whole system complies with the EMC directives.</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> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |            |            |

## Mechanical Specification

Case No.961A Unit:mm



## Plug Assignment

DC output connector (standard)

| R7B<br>(KYCON KPP-4S or equivalent) |        |  |
|-------------------------------------|--------|--|
| PIN NO.                             | OUTPUT |  |
| 1,4                                 | +V     |  |
| 2,3                                 | -V     |  |

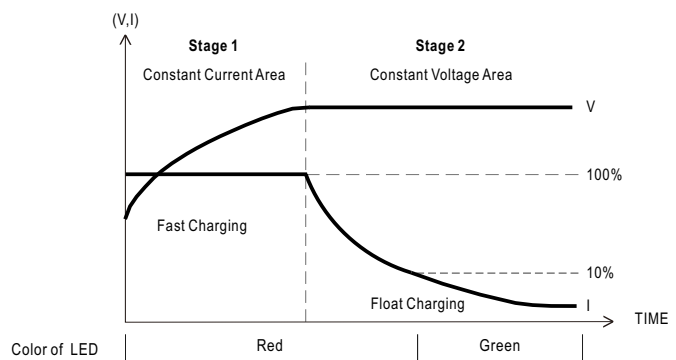
AC FG

-V connected to AC FG

DC output connector (optional)

| AD1<br>[ housing: Anderson 1327FP(red), 1327G6FP(black)<br>contacts: Anderson 261G2 (45A) or equivalent ] |  |           |
|-----------------------------------------------------------------------------------------------------------|--|-----------|
| Red(+V)                                                                                                   |  | Black(-V) |

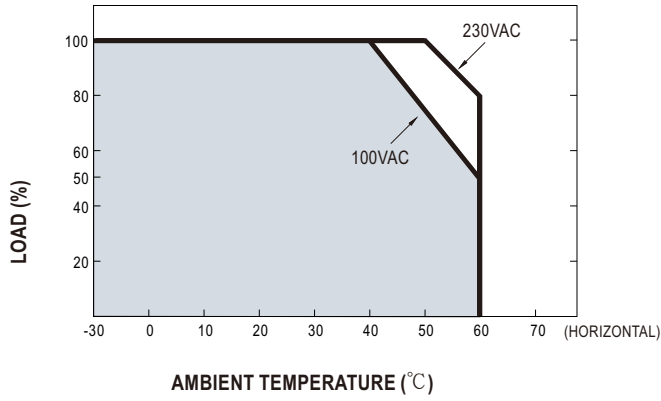
## Charging Curve



| Model    | Suggested Battery capacity |
|----------|----------------------------|
| GC220A12 | 80-200Ah                   |
| GC220A24 | 40-125Ah                   |
| GC220A48 | 20-65Ah                    |

Suitable for lead-acid batteries (flooded, Gel and AGM) and Li-ion batteries (lithium iron and lithium manganese)

■ Derating Curve



■ Static Characteristics

