



**Features**

- Universal input 90~305VAC (277VAC available)
- All-in-one function with Power supply, DC-UPS, battery charger and status monitoring in ONE compact unit
- Signal and alarms design meet UL2524,NFPA 1221,BS EN/EN54-4 and GB17945 requirement, with adjustable parameters configurable by communication interface
- Form C relay contacts and LED indicators for AC Fail, Battery Low, Charger Fail, and DC-OK
- Load-dependent high speed battery charging
- Built-in MODBus protocol, CANBus optional
- Protections: Short circuit / Overload / Over voltage / Over temperature(auto derating) / Battery reverse polarity (No damage) / Battery cut off
- Battery low protection / Battery reverse polarity protection
- -30 ~ +70°C wide operating temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- Charging curve can be set with SBP-001 (Smart programmer sold separately, please refer to: <https://www.meanwell.com/webapp/product/search.aspx?prod=SBP-001>)
- 20~100% charging current adjustable by VR
- 2 or 3-stage selectable by DIP S.W
- Suitable for lead acid and lithium-ion batteries
- 3 years warranty

**Applications**

- Public safety battery back-up (Red box)
- Security system
- Emergency lighting system
- Alarm system
- Uninterruptible DC-UPS system, battery detection system
- Central monitoring system
- Industrial automation

**GTIN CODE**

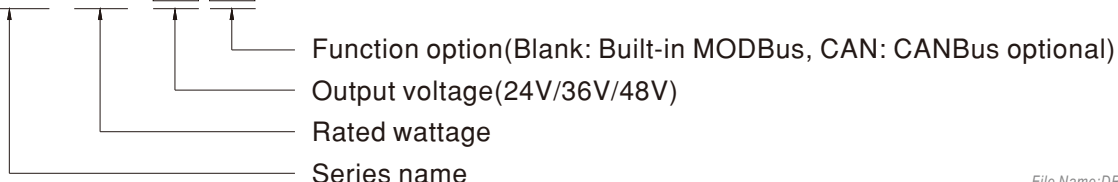
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

**Description**

DRS-480 is a 480W AC/DC DIN rail type security power supply series. In addition to the primary output, there is an additional charger circuit that will automatically adjust charge current depending on the primary output current. DRS-480 accepts the universal input between 90VAC and 305VAC, and supports output 24VDC, 36VDC, and 48VDC nominal systems. With high efficiency up to 93.5%, it can operate with free air convection cooling under -30°C through 70°C ambient temperature. In addition to the key protection features such as overload protection, over voltage protection, battery low voltage disconnect, and battery reverse polarity protection, the DRS-480 also provides Form-C contacts and LED indicator alarm signals for AC-fail, battery low, charger fail, and DC-OK to allow easy integration into security systems that comply with local alarm codes.

**Model Encoding**

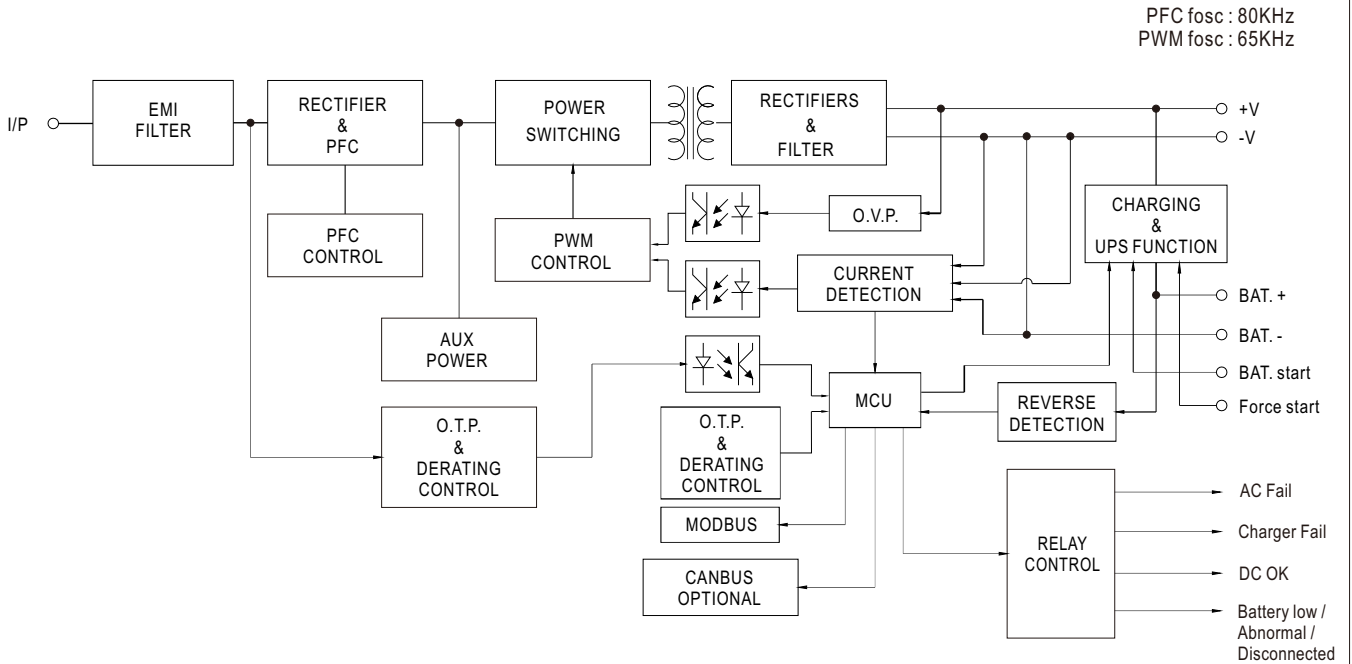
DRS - 480 - 48 □



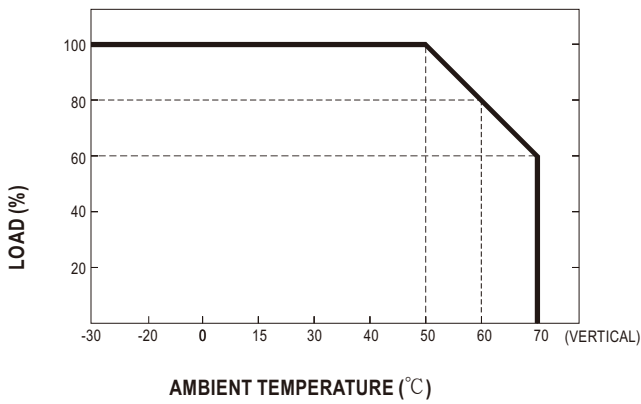
**SPECIFICATION**

| MODEL                                    |  | DRS-480-24  | DRS-480-36   | DRS-480-48   |                                  |
|--|--|---|--|--|----------------------------------|
| OUTPUT                                   | OUTPUT VOLTAGE <small>Note.2</small>   | 24V   | 36V  | 48V  |                                  |
|  | LOAD CURRENT RANGE   | 0 ~ 20A   | 0 ~ 13.3A  | 0 ~ 10A  |                                  |
|  | BATTERY CURRENT (CC)(max.)   | 15.4A   | 10.2A  | 7.7A   |                                  |
|  | RECOMMENDED BATTERY CAPACITY(AMP HOURS) <small>Note.3</small>  | 20 ~ 200AH  | 13 ~ 133AH   | 10 ~ 100AH   |                                  |
|  | TOTAL OUTPUT POWER <small>Note.4</small>   | Combined power on all Channels must not exceed 480W, load has priority. 550W peak capability within 5s.   |  |  |                                  |
|  | RIPPLE & NOISE (max.) <small>Note.5</small>  | 240mVp-p  | 360mVp-p   | 480mVp-p   |                                  |
|  | VOLTAGE TOLERANCE <small>Note.6</small>  | ±1.0%   | ±1.0%  | ±1.0%  |                                  |
|  | LINE REGULATION  | ±0.5%   | ±0.5%  | ±0.5%  |                                  |
|  | LOAD REGULATION  | ±0.5%   | ±0.5%  | ±0.5%  |                                  |
|  | SETUP RISETIME <small>Note.7</small>   | 2400ms, 1000ms/230VAC      2400ms, 1000ms/115VAC at full load   |  |  |                                  |
| HOLD UP TIME (Typ.)                      | 16ms/230VAC      10ms/115VAC at full load  |   |  |  |                                  |
| INPUT                                    | VOLTAGE RANGE  | 90 ~ 305VAC      127 ~ 431VDC   |  |  |                                  |
|  | FREQUENCY RANGE  | 47 ~ 63Hz   |  |  |                                  |
|  | POWER FACTOR (Typ.)  | PF>0.95/230VAC      PF>0.98/115VAC at full load   |  |  |                                  |
|  | EFFICIENCY (Typ.)  | 92.5%   | 93.5%  | 93.5%  |                                  |
|  | AC CURRENT (Typ.)  | 5.4A/115VAC      2.7A/230VAC  |  |  |                                  |
|  | INRUSH CURRENT (Typ.)  | COLD START    30A/115VAC      60A/230VAC  |  |  |                                  |
| PROTECTION                               | SHORT CIRCUIT  | Protection type: Constant current limiting, power will shutdown after 5 sec, re-power on to recover.  |  |  |                                  |
|  | OVERLOAD   | 105 ~ 135% rated output power<br>Protection type: Constant current limiting, shutdown output voltage after 5 sec.   |  |  |                                  |
|  | OVER TEMPERATURE   | Automatically drop load with temperature only for bat. load.<br>Protection type : Shut down o/p voltage, recover automatically after temperature goes down. |  |  |                                  |
|  | OVER VOLTAGE   | Load main output : 32.4 ~ 37.3V   | Load main output : 48.6 ~ 55.9V  | Load main output : 64.8 ~ 74.5V                                    |                                  |
|  |  | Protection type : Shut down o/p voltage, re-power on to recover   |  |  |                                  |
|  | BATTERY CUT OFF  | 20.9±0.5V   | 31.3±0.7V  | 41.8±1V  |                                  |
|  | REVERSE POLARITY   | By internal MOSFET, no damage, recovers automatically after fault condition is removed.   |  |  |                                  |
| FUNCTION                                 | FORM-C RELAY   | AC FAIL   | Signals AC failure and activates when input voltage drops below : 79~89VAC of 120AC, 132~187VAC of 220VAC. Relay contact output, ON : AC OK ; OFF : AC Fail ; max. rating : 30Vdc/1A |  |                                  |
|  |  | CHARGER FAIL  | Relay contact output, ON : Charger OK ; OFF : Charger Fail ; max. rating : 30Vdc/1A  |  |                                  |
|  |  | DC OK   | Signals normal DC output and activates when output voltage > 90% rated value. Relay contact output, ON : DC OK ; OFF : DC Fail ; max. rating : 30Vdc/1A                              |  |                                  |
|  |  | BATTERY LOW/ABNORMAL/DISCONNECTED   | Battery low voltage : < 22V±0.3V   | Battery low voltage : < 33V±0.4V                                   | Battery low voltage : < 44V±0.5V |
|  | BATTERY START  | Restart system directly from battery and does not require AC power  |  |  |                                  |
|  | DC-UPS   | UPS switch to battery power within 10ms of AC failure   |  |  |                                  |
|  | ADJUSTABLE CHARGING CURRENT  | 20% ~ 100% charging current adjustable by VR  |  |  |                                  |
|  | BATTERY TEMPERATURE COMPENSATION   | The system can change the battery charging voltage by detecting the temperature (Please refer to page 9~10 for more details).                               |  |  |                                  |
|  | ENVIRONMENT  | WORKING TEMP.   | -30 ~ +70°C (Refer to "Derating Curve")  |  |                                  |
| WORKING HUMIDITY                         |  | 20 ~ 90% RH non-condensing  |  |  |                                  |
| STORAGE TEMP., HUMIDITY                  |  | -40 ~ +85°C, 10 ~ 95% RH non-condensing   |  |  |                                  |
| TEMP. COEFFICIENT                        |  | ±0.03%/°C (0 ~ 50°C) on Load output   |  |  |                                  |
| VIBRATION                                |  | 10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes  |  |  |                                  |
| OPERATING ALTITUDE <small>Note.8</small> |  | 2000 meters / OVC III   |  |  |                                  |
| OVER VOLTAGE CATEGORY                    |  | III ; According to Dekra BS EN/EN62368-1; altitude up to 2000 meters  |  |  |                                  |
| SAFETY & EMC (Note.10)                   | SAFETY STANDARDS   | UL62368-1, Dekra BS EN/EN62368-1, RCM AS/NZS 62368.1 approved; EAC TP TC 004 pending  |  |  |                                  |
|  | WITHSTAND VOLTAGE  | I/P-O/P: 4KVAC    I/P-FG: 2KVAC    O/P-FG: 1.5KVAC  |  |  |                                  |
|  | ISOLATION RESISTANCE   | I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC/25°C / 70%RH  |  |  |                                  |
|  | EMC EMISSION   | Parameter   | Standard   | Test Level / Note  |                                  |
|  |  | Conducted   | BS EN/EN55032 (CISPR32)  | Class B  |                                  |
|  |  | Radiated  | BS EN/EN55032 (CISPR32)  | Class B  |                                  |
|  |  | Harmonic Current  | BS EN/EN61000-3-2  | -----  |                                  |
|  |  | Voltage Flicker   | BS EN/EN61000-3-2  | -----  |                                  |
|  | EMC IMMUNITY   | BS EN/EN55035, BS EN/EN61204-3, BS EN/EN61000-6-2(BS EN/EN50082-2)  |  |  |                                  |
|  |  | Parameter   | Standard   | Test Level / Note  |                                  |
|  |  | ESD   | BS EN/EN61000-4-2  | Level 3, 8KV air ; Level 2, 4KV contact; criteria A                |                                  |
|  |  | Radiated  | BS EN/EN61000-4-3  | Level 3, 10V/m ; criteria A  |                                  |
|  |  | EFT / Burst   | BS EN/EN61000-4-4  | Level 3, 2KV ; criteria A  |                                  |
|  |  | Surge   | BS EN/EN61000-4-5  | Level 3, 1KV/Line-Line ;Level 3, 2KV/Line-Line-Chassis ;criteria A |                                  |
| Conducted                                |  | BS EN/EN61000-4-6   | Level 3, 10V ; criteria A  |  |                                  |
| Magnetic Field                           |  | BS EN/EN61000-4-8   | Level 4, 30A/m ; criteria A  |  |                                  |
| FIRE DETECTION AND FIRE ALARM SYSTEM     | Compliance to BS EN/EN54-4   |   |  |  |                                  |
| OTHERS                                   | MTBF   | 556.6K hrs min.    Telcordia SR-332 (Bellcore);    74.5K hrs min.    MIL-HDBK-217F (25°C)   |  |  |                                  |
|  | DIMENSION  | 110*125.2*150.7mm (W*H*D)   |  |  |                                  |
|  | PACKING  | 1.65Kg; 6pcs/ 11Kg / 1.42CUFT   |  |  |                                  |
| NOTE                                     | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Variable with charger voltage when battery is connected.</p> <p>3. This is Mean Well's suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.</p> <p>4. If load current increases, the system will prioritize load current demand and automatically reduce the battery charging current.</p> <p>5. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</p> <p>6. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>7. Length of setup time is measured at cold first start, Turning ON/OFF the power supply may lead to increase of the setup time.</p> <p>8. 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>9. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15cm clearance is recommended.</p> <p>10. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</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> |   |  |  |                                  |

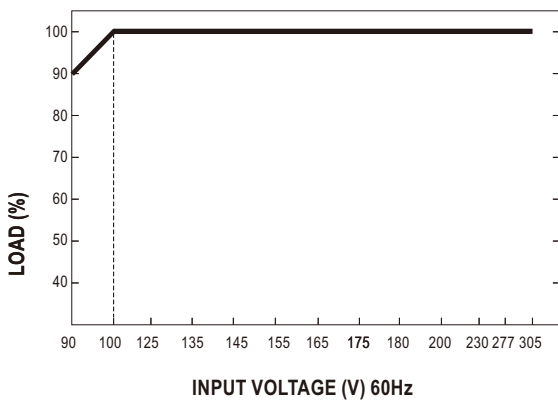
■ Block Diagram



■ Derating Curve



■ Static Characteristics



■ Function manual

1. Alarm signals

- (1) Alarm Signal is sent out through "AC fail " & " Battery low " & " Charger fail "pins via relay contact.
- (2) An external voltage source is required for this function. The maximum applied voltage is 30Vdc and the maximum sink current is 1A. Please refer to Fig 1.2.
- (3) Table 1.1 explains the alarm function built in the power supply

| INPUT                    | AC fail |        | DC OK  |      | Battery low/Abnormal /Disconnected |        | Charger fail |        |
|--------------------------|---------|--------|--------|------|------------------------------------|--------|--------------|--------|
|                          | 2-3     | 1-3    | 5-6    | 4-6  | 8-9                                | 7-9    | 11-12        | 10-12  |
| AC only                  | closed  | open   | closed | open | open                               | closed | ----         | ----   |
| AC + BAT.                | closed  | open   | closed | open | closed                             | open   | ----         | ----   |
| BAT. only                | open    | closed | closed | open | closed                             | open   | ----         | ----   |
| Low BAT. (<30% capacity) | ----    | ----   | ----   | ---- | open                               | closed | ----         | ----   |
| Charger Fail             | ----    | ----   | ----   | ---- | ----                               | ----   | open         | closed |

Table 1.1 Explanation of alarm signal

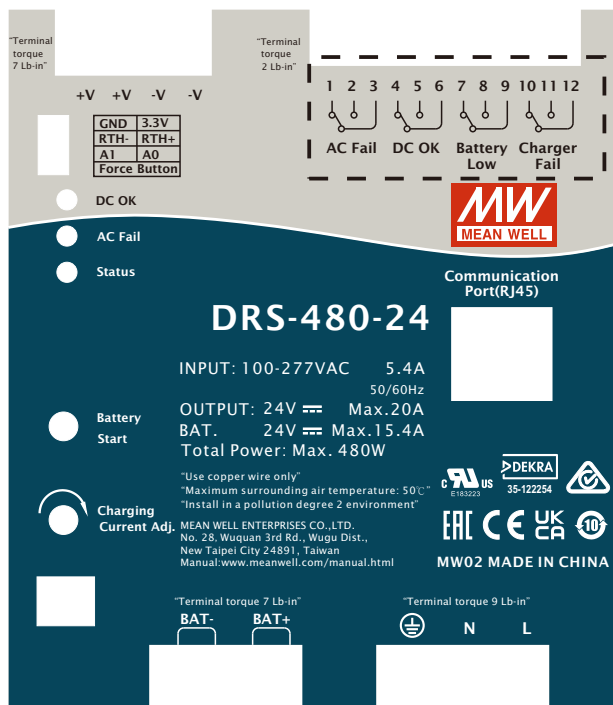


Fig 1.1 alarm signal Terminals

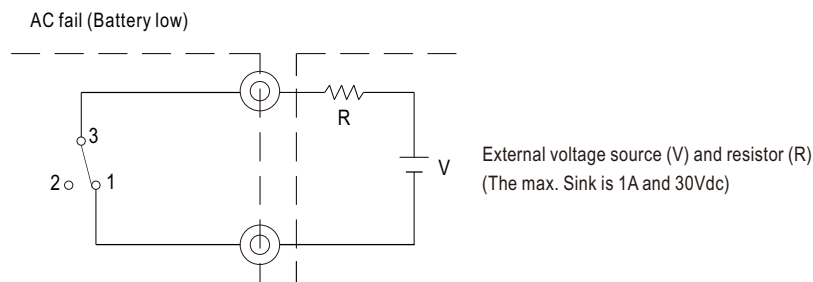
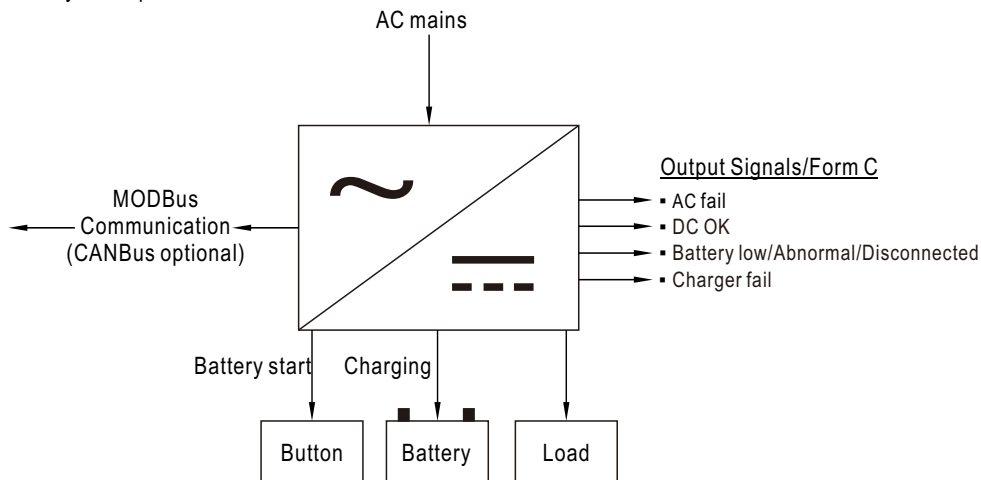


Fig 1.2 Internal circuit of AC fail (Battery low), via relay contact

### 2.DC-UPS function

When AC mains drops below:79~89VAC of 120VAC,132~187VAC of 220VAC, UPS function will activate and power source switch battery backup.

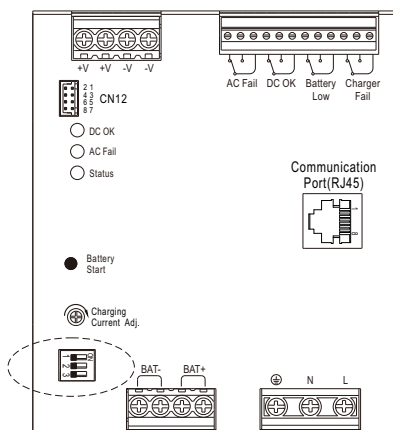


### 3.Charger setting

#### 3.1.1 2 or 3-stage selectable by DIP S.W

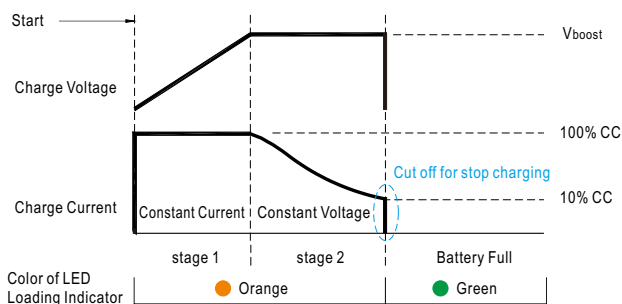
※ This series provides 2 or 3 stage charging curve.

|   |                                     |
|---|-------------------------------------|
| 1 | OFF: 3 stage(Default), ON: 2 stage  |
| 2 | Charging curve adjustable:see below |
| 3 |                                     |



#### 3.1.2 Charging curve can be adjustable by DIP S.W

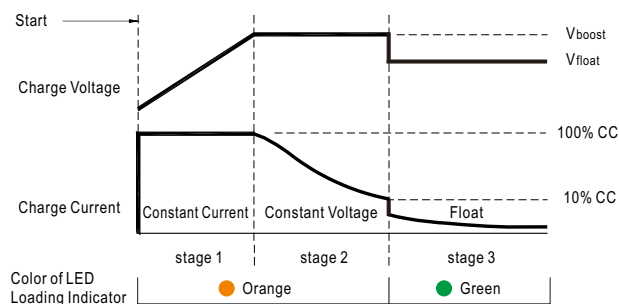
☉ 2 stage charging curve



| State            | DRS-480-24 | DRS-480-36 | DRS-480-48 |
|------------------|------------|------------|------------|
| Constant Current | 15.4A      | 10.2A      | 7.7A       |
| Vboost           | 28.8V      | 43.2V      | 57.6V      |

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

☉ Default 3 stage charging curve



| State            | DRS-480-24 | DRS-480-36 | DRS-480-48 |
|------------------|------------|------------|------------|
| Constant Current | 15.4A      | 10.2A      | 7.7A       |
| Vboost           | 28.8V      | 43.2V      | 57.6V      |
| Vfloat           | 27.6V      | 41.4V      | 55.2V      |

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

※ The default curve is programmable, whereas other pre-defined curves can be activated by the means of the DIP S.W; please refer to the table below and the Mechanical Specification.

⊙ Embedded **2 stage** charging curve

| DIP SW position |     | 24V model                       |             |        |
|-----------------|-----|---------------------------------|-------------|--------|
| 2               | 3   | Description                     | CC(default) | Vboost |
| OFF             | OFF | Default, programmable           | 15.4A       | 28.8   |
| ON              | OFF | Pre-defined, gel batter         |             | 28.0   |
| OFF             | ON  | Pre-defined, flooded battery    |             | 28.4   |
| ON              | ON  | Pre-defined, AGM battery,LiFe04 |             | 29.2   |
| DIP SW position |     | 36V model                       |             |        |
| 2               | 3   | Description                     | CC(default) | Vboost |
| OFF             | OFF | Default, programmable           | 10.2A       | 43.2   |
| ON              | OFF | Pre-defined, gel battery        |             | 42     |
| OFF             | ON  | Pre-defined, flooded battery    |             | 42.6   |
| ON              | ON  | Pre-defined, AGM battery,LiFe04 |             | 43.8   |
| DIP SW position |     | 48V model                       |             |        |
| 2               | 3   | Description                     | CC(default) | Vboost |
| OFF             | OFF | Default, programmable           | 7.7A        | 57.6   |
| ON              | OFF | Pre-defined, gel battery        |             | 56.0   |
| OFF             | ON  | Pre-defined, flooded battery    |             | 56.8   |
| ON              | ON  | Pre-defined, AGM battery,LiFe04 |             | 58.4   |

⊙ Embedded **3 stage** charging curve

| DIP SW position |     | 24V model                       |             |        |        |
|-----------------|-----|---------------------------------|-------------|--------|--------|
| 2               | 3   | Description                     | CC(default) | Vboost | Vfloat |
| OFF             | OFF | Default, programmable           | 15.4A       | 28.8   | 27.6   |
| ON              | OFF | Pre-defined, gel batter         |             | 28.0   | 27.2   |
| OFF             | ON  | Pre-defined, flooded battery    |             | 28.4   | 26.8   |
| ON              | ON  | Pre-defined, AGM battery,LiFe04 |             | 29.2   | 28.0   |
| DIP SW position |     | 36V model                       |             |        |        |
| 2               | 3   | Description                     | CC(default) | Vboost | Vfloat |
| OFF             | OFF | Default, programmable           | 10.2A       | 43.2   | 41.4   |
| ON              | OFF | Pre-defined, gel battery        |             | 42     | 40.8   |
| OFF             | ON  | Pre-defined, flooded battery    |             | 42.6   | 40.2   |
| ON              | ON  | Pre-defined, AGM battery,LiFe04 |             | 43.8   | 42.0   |
| DIP SW position |     | 48V model                       |             |        |        |
| 2               | 3   | Description                     | CC(default) | Vboost | Vfloat |
| OFF             | OFF | Default, programmable           | 7.7A        | 57.6   | 55.2   |
| ON              | OFF | Pre-defined, gel battery        |             | 56.0   | 54.4   |
| OFF             | ON  | Pre-defined, flooded battery    |             | 56.8   | 53.6   |
| ON              | ON  | Pre-defined, AGM battery,LiFe04 |             | 58.4   | 56.0   |

**3.2 SBP-001 can adjust the charging curves (Only CANBus Model)**

⊙ **2 stage** charging curve (programmable)

| DIP SW position |     | 24V model             |             |        |
|-----------------|-----|-----------------------|-------------|--------|
| 2               | 3   | Description           | CC(default) | Vboost |
| OFF             | OFF | Default, programmable | 15.4A       | 28.8   |
| DIP SW position |     | 36V model             |             |        |
| 2               | 3   | Description           | CC(default) | Vboost |
| OFF             | OFF | Default, programmable | 10.2A       | 43.2   |
| DIP SW position |     | 48V model             |             |        |
| 2               | 3   | Description           | CC(default) | Vboost |
| OFF             | OFF | Default, programmable | 7.7A        | 57.6   |

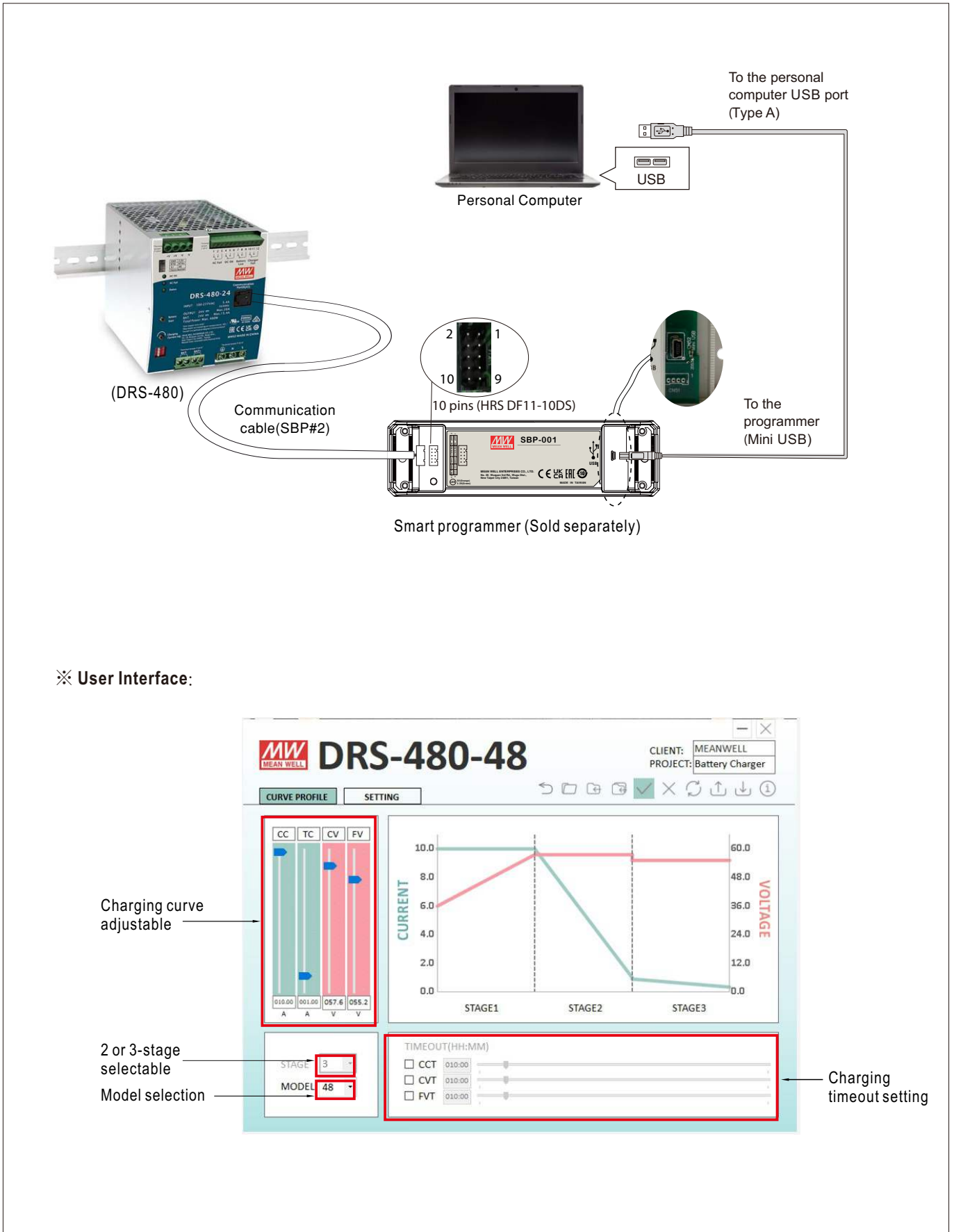
⊙ **3 stage** charging curve (programmable)

| DIP SW position |     | 24V model             |             |        |        |
|-----------------|-----|-----------------------|-------------|--------|--------|
| 2               | 3   | Description           | CC(default) | Vboost | Vfloat |
| OFF             | OFF | Default, programmable | 15.4A       | 28.8   | 27.6   |
| DIP SW position |     | 36V model             |             |        |        |
| 2               | 3   | Description           | CC(default) | Vboost | Vfloat |
| OFF             | OFF | Default, programmable | 10.2A       | 43.2   | 41.4   |
| DIP SW position |     | 48V model             |             |        |        |
| 2               | 3   | Description           | CC(default) | Vboost | Vfloat |
| OFF             | OFF | Default, programmable | 7.7A        | 57.6   | 55.2   |

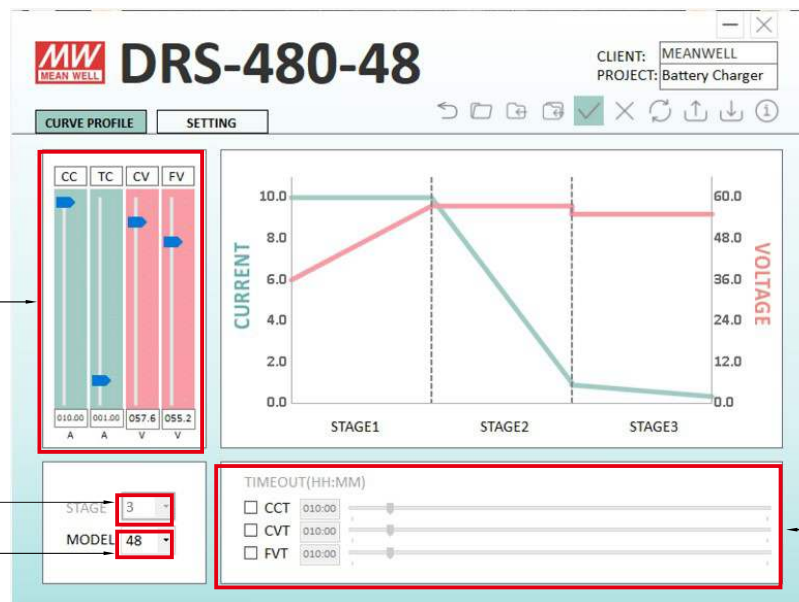
※ SBP-001 is a programmer, particularly for MEAN WELL's various programmable battery charger models to program the parameters of charging curves, such as the Constant current (CC), tapper current(TC), Constant voltage (CV), float voltage (FV) and so on, to accommodate the diversified battery specification in industry. With the design accounting for simplicity and convenience, users can easily configure MEAN WELL's programmable battery chargers with SBP-001 programmer and the computer; all of the setups are able to be finished easily by the means of the specific software.

Note:(1) Tapper current(TC) default is 10%, can be fine tuned from 2% to 30% by SBP-001 with computer or CANBus Interface.

(2) Please contact MEAN WELL for more details.



※ User Interface:



Charging curve adjustable

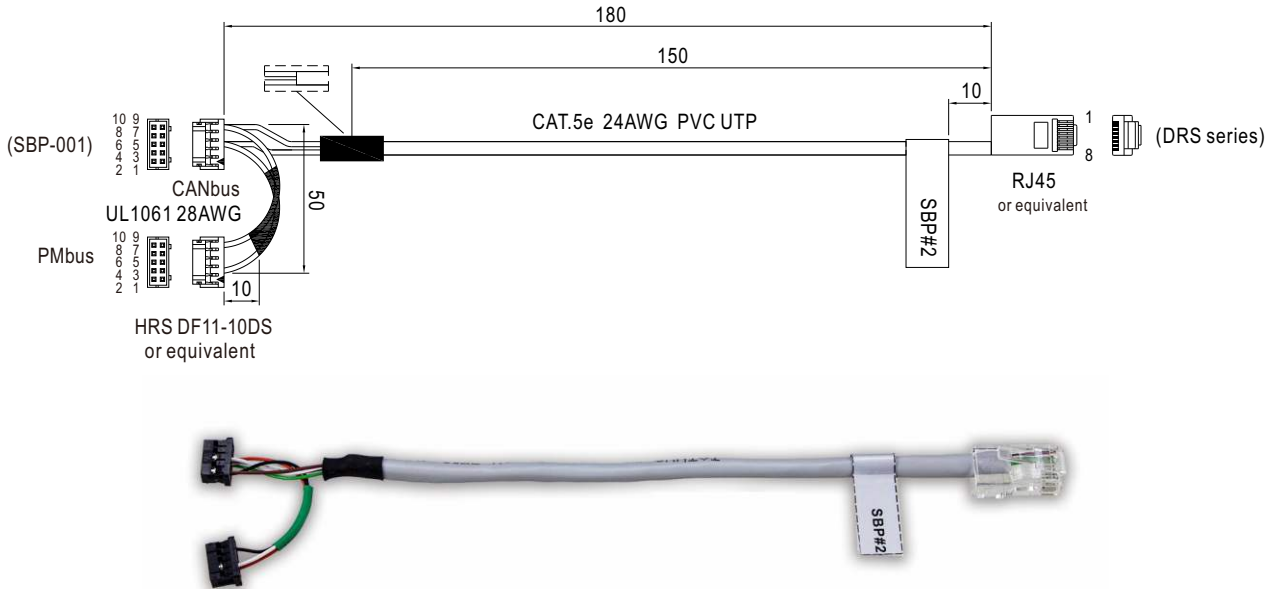
2 or 3-stage selectable

Model selection



Charging timeout setting



※ Communication cable for DRS series



DRS series pin assignment :

| Connector  | Pin Assignment |      |      |      |             |             |      |      |      |             |
|--|----------------|------|------|------|-------------|-------------|------|------|------|-------------|
| SBP-001 10pin connector<br>(Connector part No.:HRS DF11-10DS)<br> | 1              | 2    | 3    | 4    | 5<br>(CANH) | 6<br>(CANL) | 7    | 8    | 9    | 10<br>(GND) |
| DRS-480 RJ45<br>Communication port<br>                            | ----           | ---- | ---- | ---- | 6           | 7           | ---- | ---- | ---- | 8           |
| Wire color   | ----           | ---- | ---- | ---- | Green       | White/Brown | ---- | ---- | ---- | Brown       |

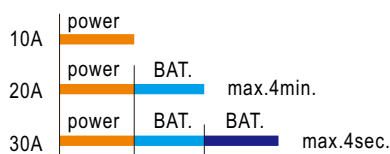
### 3.3 Communication interface

Charging parameters can be modified by MODBus (Built-in) or CANBus(optional) communication commands.  
For details, please refer to: <http://www.meanwell.com/manual.html>

### 4.Power Boost Mode

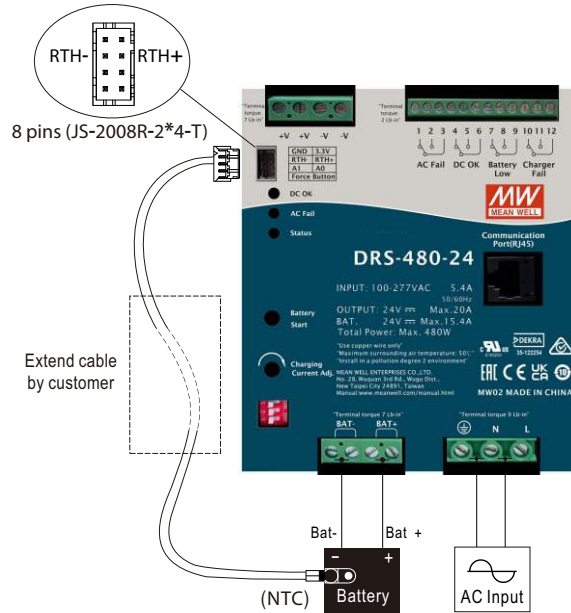
The maximum current on the load output is the 2 times the rated current for 4 minutes max. and 3 times the rated current for 4 seconds max.  
For example (48V model):

Output load





### 5. Battery temperature compensation



- ◎ To exploit the temperature compensation function, please attach the temperature sensor(NTC) which is enclosed with DRS-480, to the battery or the battery's vicinity.
- ◎ DRS-480 is able to work normally without the temperature sensor(NTC).

- 5.1 The compensation parameters included Disable, -3, -4 and -5mV/°C /Cell .It can be modified by communication command of CANBus, MODBus. The factory default value is -3mV/°C /Cell.
- 5.2 It will be regarded as normal temperature and will not be compensated when temperature compensation resistance is not connected; And temperature compensation will only compensate lead-acid battery, not lithium iron battery.
- 5.3 The range of temperature compensation is 0-40°C , normal temperature 25°C is the central value, no compensation; When the temperature is < 0 °C or > 40 °C., the current temperature compensation value will be limited to 0 °C or 40°C.

24V model as an example

Assuming that  $V_{boost}=28.8V$ , temperature compensation set to  $-5mV/°C/Cell$  by communication, TEMP\_bat is NTC temperature detection.

The compensating voltage can be calculated by the following equation:

$$V_{boost\_comp}=28.8V-5mV*(TEMP\_bat-25°C)*12Cell$$

Max. compensation voltage:

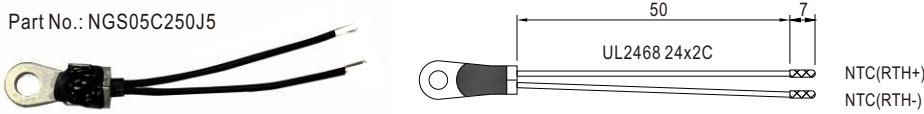
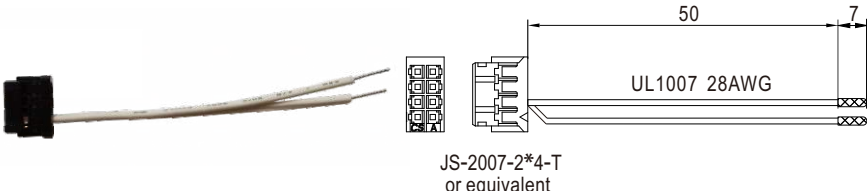
$$V_{boost\_H}=28.8V-5mV*(0°C-25°C)*12Cell=30.3V$$

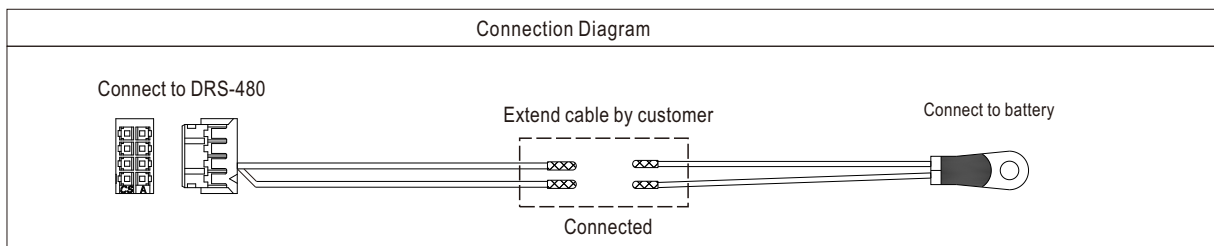
Min. compensation voltage:

$$V_{boost\_L}=28.8V-5mV*(40°C-25°C)*12Cell=27.9V$$























5.4 Accessory List

※ NTC Sensor and mating wire along with DRS-480 (Standard accessory)

|   | Item   | Quantity |
|---|--|----------|
| 1 | <p style="text-align: center;">NTC sensor wire</p> <p>Part No.: NGS05C250J5</p>                                    | 1        |
| 2 | <p style="text-align: center;">Mating wire</p>  <p style="text-align: center;">JS-2007-2*4-T<br/>or equivalent</p> | 1        |



**6.LED alarm**

| Function |                  | Description                                       | Output of alarm   |
|----------|------------------|---|---|
| DC OK    |                  | DC fail   | OFF    |
|          |                  | DC OK   | Green    |
| AC fail  |                  | AC fail   | Red    |
|          |                  | AC OK   | OFF    |
| Status   | Charging status  | Float   | Green    |
|          |                  | Charging: CC/CV                                   | Orange   |
|          | System diagnosis | Discharging                                       | Orange: 1 Blink/Pause   |
|          |                  | Charger fail                                      | Red : 1 Blink/Pause   |
|          |                  | Battery overvoltage /<br>Battery reverse polarity | Red : 2 Blink/Pause   |
|          |                  | Battery low / No Battery                          | Red : 3 Blink/Pause   |
|          |                  | Battery discharge peak power timeout.             | Red : 4 Blink/Pause   |
|          |                  | Over load / short                                 | Red : 5 Blink/Pause   |
|          |                  | Over temperature                                  | Red : 6 Blink/Pause   |
|          |                  | Timeout   | Red : 7 Blink/Pause   |

**Suggested Application**

**1.Backup connection for AC interruption**

(1) Please refer to Fig2.1 for suggested connection.

The power supply charges the battery and provides energy to the load at the same time when AC mains is OK.  
The battery starts to supply power to the load when AC mains fails.

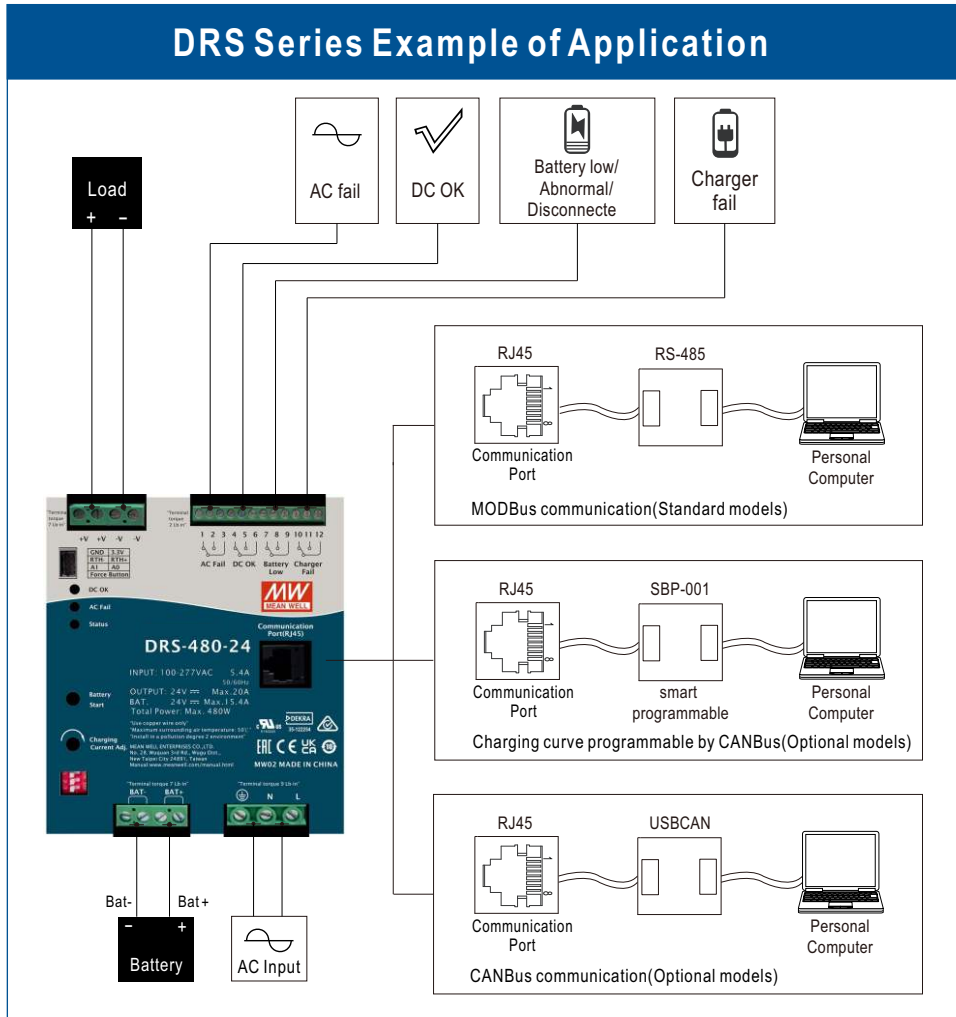


Fig 2.1 Suggested system connection

(2) Backup time

Backup time depends on:

- ⊗ from the load current
- ⊗ from the size of the batteries.

The following table is an example (battery capacity at C10 discharge rate).

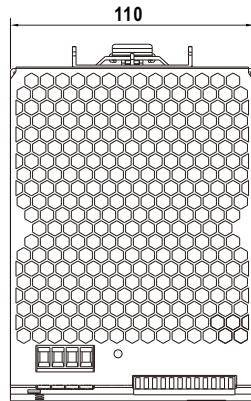
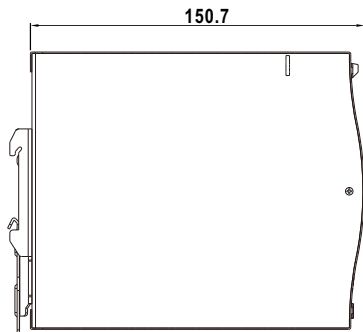
| Battery Load | 10AH   | 20AH   | 50AH   | 100AH  | 200AH |
|--------------|--------|--------|--------|--------|-------|
| 1.5A         | 350min | 13h    | 33h    | 67h    | 133h  |
| 3A           | 125min | 350min | 17h    | 33h    | 67h   |
| 5A           | 60min  | 180min | 600min | 20h    | 40h   |
| 7.5A         | 35min  | 90min  | 350min | 13h    | 27h   |
| 10A          | 23min  | 60min  | 240min | 10h    | 20h   |
| 15A          | 13min  | 35min  | 125min | 350min | 13h   |

**Mechanical Specification**

Case No. 214C Unit:mm

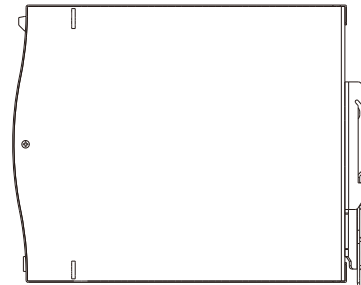
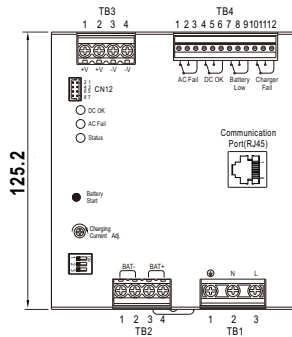
Terminal Pin No. Assignment (TB3)

| Pin No. | Assignment |
|---------|------------|
| 1,2     | +V         |
| 3,4     | -V         |



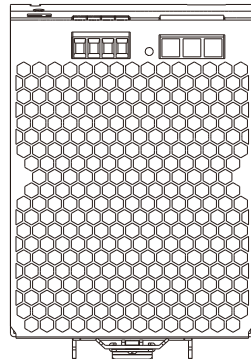
Terminal Pin No. Assignment (TB4)

| Pin No.  | Assignment                                |
|----------|---|
| 1,2,3    | AC fail                                   |
| 4,5,6    | DC OK                                     |
| 7,8,9    | Battery low/<br>Abnormal/<br>Disconnected |
| 10,11,12 | Charger fail                              |



Terminal Pin No. Assignment (TB2)

| Pin No. | Assignment |
|---------|------------|
| 1,2     | BAT.-      |
| 3,4     | BAT.+      |



Terminal Pin No. Assignment (TB1)

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

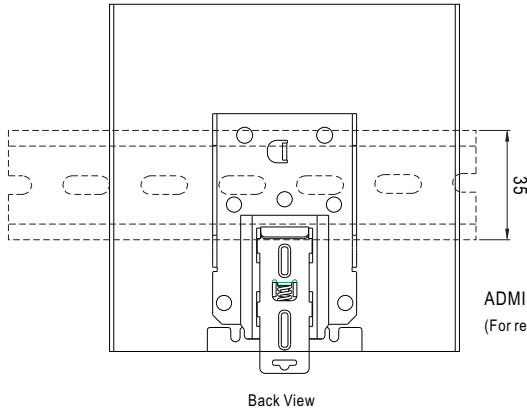
Force button Connector (CN12):  
JS-2008R-4\*2-T or equivalent

| Pin No. | Assignment                         |
|---------|------------------------------------|
| 1       | 3.3V                               |
| 2       | GND                                |
| 3       | RTH+                               |
| 4       | RTH-                               |
| 5       | A0                                 |
| 6       | A1                                 |
| 7,8     | Open: Normal<br>Short: Force start |

Terminal Pin No. Assignment (RJ45)

| Pin No.   | Function | Description   |
|-----------|----------|---|
| 1,2,3,4,5 | NC       | Retain for future use.  |
| 6         | Data+    | For MODBus model:Serial Date used in the MODBus interface.                                      |
|           | CANH     | For CANBus model:Date line used in the CANBus interface.  |
| 7         | Data-    | For MODBus model:Serial Clock used in the MODBus interface.                                     |
|           | CANL     | For CANBus model:Date line used in the CANBus interface.  |
| 8         | GND-AUX  | Auxillary voltage output GND. The signal return is isolated from the output terminals(+V & -V). |

## ■ Installation Instruction



This series fits DIN rail TS35/7.5 or TS35/15.  
For installation details, please refer to the Instruction manual.

ADMISSIBLE DIN rail: TS35/7.5 OR TS35/15  
(For reference only. Not included with unit.)

## ■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>