

## **Wall Industries, Inc.**

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### **DCHF500 SERIES**

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**2:1 & 4:1 Input Voltage Ranges**  
**12 & 24 VDC Single Outputs**  
**480~504W Output Power**  
**DC/DC Chassis Mount Power Converters**

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#### **FEATURES**

- RoHS Compliant
  - $\pm 10\%$  Voltage Adjustment Range
  - 2:1 & 4:1 Input Voltage Ranges
  - Built-in Fan
  - Built-in Remote Sense (Option)
  - Remote ON/OFF Control (Option)
  - 480~504W Output Power
  - 12VDC and 24VDC Single Outputs Voltages
  - 100% Full Load Burn-in Tested
  - Dimensions: 8.46 x 4.53 x 1.97 Inches
  - Short Circuit, Over Voltage, Over Load, and Over Temperature Protected
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#### **DESCRIPTION**

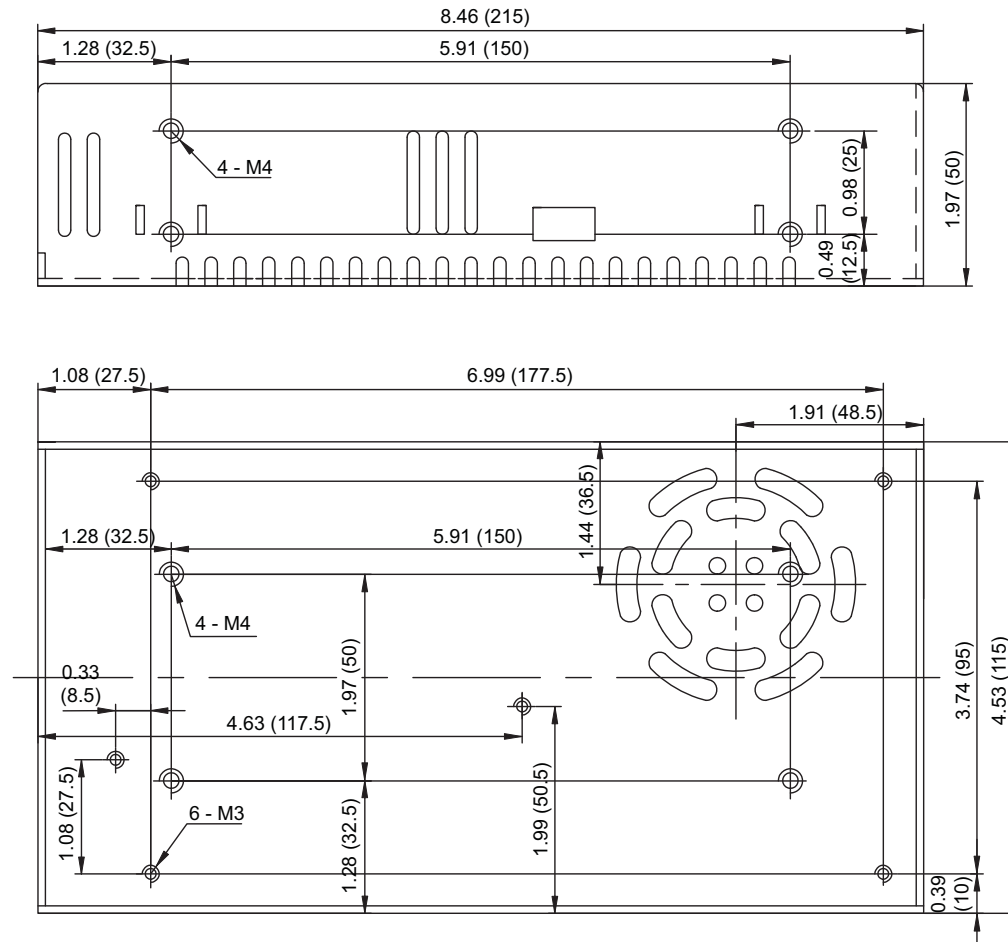
The DCHF500 series of DC/DC power converters offers up to 504W output power in an 8.46 x 4.53 x 1.97 enclosed case. This series has 12VDC and 24VDC single output models with either a 2:1 input voltage range of 72-144VDC or a 4:1 input voltage range of 19-72VDC. Some features include  $\pm 10\%$  output adjustability, remote sense (optional), remote ON/OFF control (optional), and a built-in fan. These supplies are RoHS compliant and are protected against short circuit, over voltage, over load, and over temperature conditions. All supplies in this series are 100% full load burn-in tested.

| SPECIFICATIONS: DCHF500 Series                                                                                                                                                                    |                                               |                  |                                    |     |        |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------|------------------------------------|-----|--------|-------|
| All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.<br>We reserve the right to change specifications based on technological advances. |                                               |                  |                                    |     |        |       |
| Specification                                                                                                                                                                                     | Test Conditions                               |                  | Min                                | Nom | Max    | Unit  |
| INPUT SPECIFICATIONS                                                                                                                                                                              |                                               |                  |                                    |     |        |       |
| Input Voltage Range                                                                                                                                                                               | 48VDC nominal input models                    |                  | 19                                 | 48  | 72     | VDC   |
|                                                                                                                                                                                                   | 110VDC nominal input models                   |                  | 72                                 | 110 | 144    |       |
| Remote ON/OFF Control                                                                                                                                                                             |                                               |                  | optional                           |     |        |       |
| OUTPUT SPECIFICATIONS                                                                                                                                                                             |                                               |                  |                                    |     |        |       |
| Output Voltage                                                                                                                                                                                    |                                               |                  | See Table                          |     |        |       |
| Output Voltage Adjustment Range                                                                                                                                                                   |                                               |                  | -10                                |     | +10    | %     |
| Line Regulation                                                                                                                                                                                   | Full load                                     |                  | ≤ -0.5                             |     | ≤ +0.5 | %     |
| Load Regulation                                                                                                                                                                                   |                                               |                  | ≤ -0.5                             |     | ≤ +0.5 | %     |
| Output Current                                                                                                                                                                                    |                                               |                  | See Table                          |     |        |       |
| Output Power                                                                                                                                                                                      |                                               |                  | See Table                          |     |        |       |
| Ripple & Noise                                                                                                                                                                                    |                                               |                  |                                    | 150 |        | mVp-p |
| Remote Sense                                                                                                                                                                                      |                                               |                  | optional                           |     |        |       |
| PROTECTION                                                                                                                                                                                        |                                               |                  |                                    |     |        |       |
| Over Voltage Protection                                                                                                                                                                           |                                               |                  | 115                                |     | 150    | % Vo  |
| Over Load Protection                                                                                                                                                                              |                                               |                  | 110                                |     | 130    | % Io  |
| Short Circuit Protection                                                                                                                                                                          |                                               |                  | Yes                                |     |        |       |
| Over Temperature Protection                                                                                                                                                                       |                                               |                  | Yes                                |     |        |       |
| GENERAL SPECIFICATIONS                                                                                                                                                                            |                                               |                  |                                    |     |        |       |
| Efficiency                                                                                                                                                                                        |                                               |                  | See Table                          |     |        |       |
| Withstand Voltage                                                                                                                                                                                 | Input to Output                               | All for 1 minute | 1000                               |     |        | VDC   |
|                                                                                                                                                                                                   | Input to FG                                   |                  | 1000                               |     |        |       |
|                                                                                                                                                                                                   | Output to FG                                  |                  | 500                                |     |        |       |
| Isolation Resistance                                                                                                                                                                              | At 500VDC                                     |                  | > 100                              |     |        | MΩ    |
| ENVIRONMENTAL SPECIFICATIONS                                                                                                                                                                      |                                               |                  |                                    |     |        |       |
| Operating Temperature                                                                                                                                                                             |                                               |                  | -10                                |     | +50    | °C    |
| Storage Temperature                                                                                                                                                                               |                                               |                  | -20                                |     | +85    | °C    |
| Cooling Method                                                                                                                                                                                    |                                               |                  | fan                                |     |        |       |
| PHYSICAL SPECIFICATIONS                                                                                                                                                                           |                                               |                  |                                    |     |        |       |
| Dimensions (L x W x H)                                                                                                                                                                            | 8.46 x 4.53 x 1.97 inches (215 x 115 x 50 mm) |                  |                                    |     |        |       |
| Weight                                                                                                                                                                                            |                                               |                  | 2.4 lbs (1100g)                    |     |        |       |
| SAFETY & EMC CHARACTERISTICS                                                                                                                                                                      |                                               |                  |                                    |     |        |       |
| Safety Standards                                                                                                                                                                                  |                                               |                  | Design refer to LVD                |     |        |       |
| EMC Standards                                                                                                                                                                                     |                                               |                  | Design refer to EN55022, EN61000-4 |     |        |       |

| MODEL SELECTION TABLE |                           |                |                |                |              |            |
|-----------------------|---------------------------|----------------|----------------|----------------|--------------|------------|
| Model Number          | Input Voltage             | Output Voltage | Output Current | Ripple & Noise | Output Power | Efficiency |
| DCHF500W-SMD48-12     | 48 VDC<br>(19 - 72 VDC)   | 12 VDC         | 40.0 A         | 150mVp-p       | 480W         | 86%        |
| DCHF500W-SMD48-24     |                           | 24 VDC         | 21.0 A         | 150mVp-p       | 504W         | 88%        |
| DCHF500W-SMD110-12    | 110 VDC<br>(72 - 144 VDC) | 12 VDC         | 40.0 A         | 150mVp-p       | 480W         | 87%        |
| DCHF500W-SMD110-24    |                           | 24 VDC         | 21.0 A         | 150mVp-p       | 504W         | 89%        |

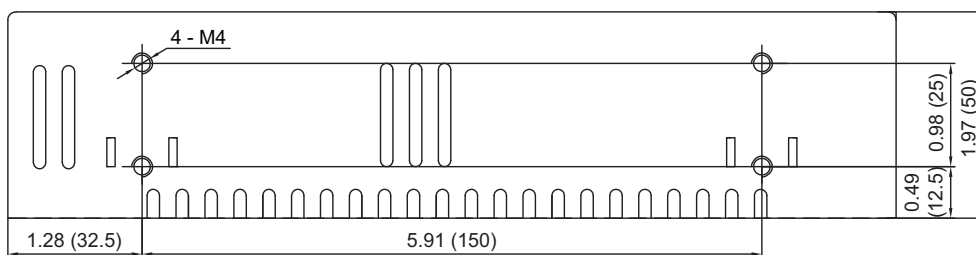
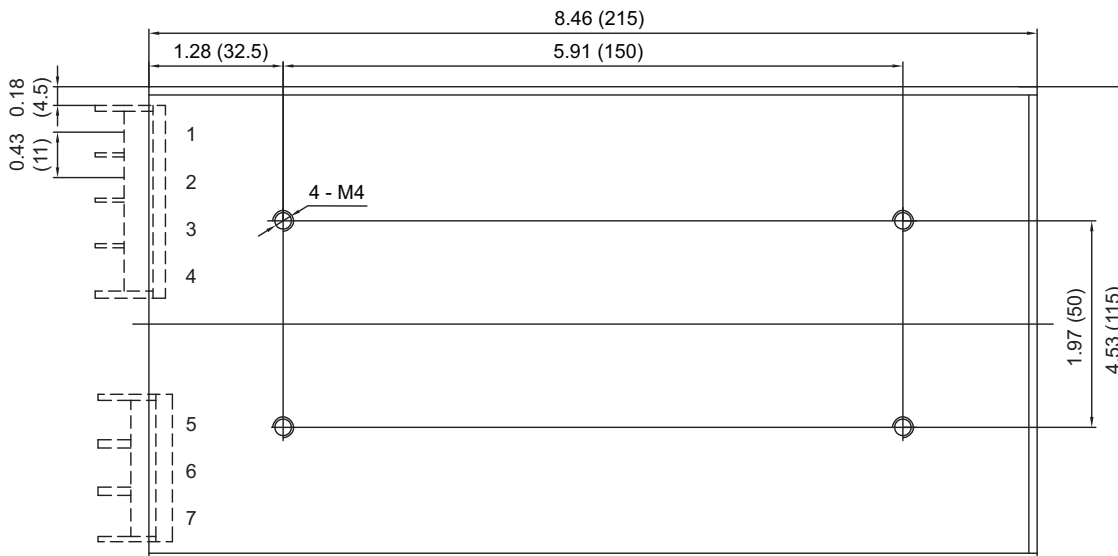
## MECHANICAL DRAWING

Unit: inches (mm)

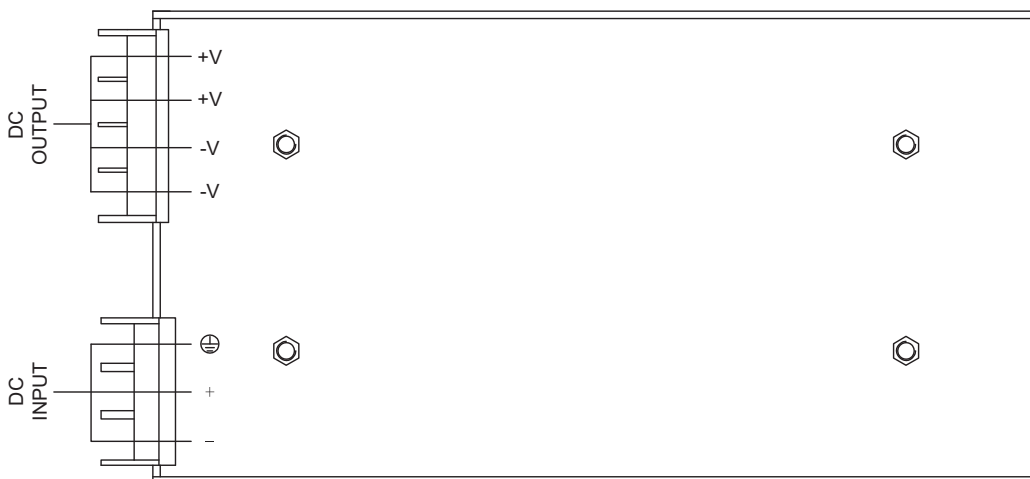


## PIN CONNECTIONS

Unit: inches (mm)



| PIN CONNECTIONS  |                |
|------------------|----------------|
| Pin No           | Assignment     |
| 1, 2             | DC Output (V+) |
| 3, 4             | DC Output (V-) |
| 5                | FG             |
| 6                | DC Input (V+)  |
| 7                | DC Input (V-)  |
| Screw Size: M4*6 |                |



## COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

Contact **Wall Industries** for further information:

|                   |                                                                        |
|-------------------|------------------------------------------------------------------------|
| <u>Phone:</u>     | ☎(603)778-2300                                                         |
| <u>Toll Free:</u> | ☎(888)597-9255                                                         |
| <u>Fax:</u>       | ☎(603)778-9797                                                         |
| <u>E-mail:</u>    | <a href="mailto:sales@wallindustries.com">sales@wallindustries.com</a> |
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