

30 Watts

- 4:1 DC Input Range
- 5 V to 24 V DC Output
- Low Profile Design
- Ambient Operation from -40 °C to +70 °C
- Remote On/Off
- 1500 VDC Isolation
- Class A Conducted and Radiated Emissions
- High Efficiency – Up to 85%
- 3 Year Warranty



Dimensions:

DDC30:

1.38 x 3.58 x 2.22" (35.0 x 91.0 x 56.5 mm)

The DDC series is a range of DIN Rail mounting DC/DC converters designed to offer additional voltages in DIN Rail power systems, provide isolated outputs & noise immunity or support battery powered or battery backed applications. With a 4:1 wide input range the DDC series converters can be supplied by both a 12V or 24V nominal input and offer output voltages between 5VDC and 24VDC.

Models & Ratings

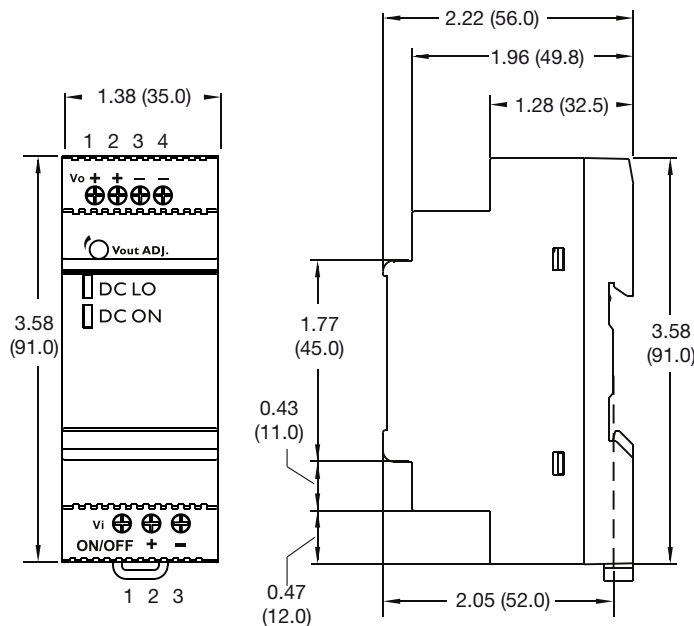
| Output Voltage | Output Power | Output Voltage Trim | Output Current ⁽¹⁾ | Input Current Typical, Max | Maximum Capacitive Load | Efficiency ⁽²⁾ | Model Number |
|----------------|--------------|---------------------|-------------------------------|----------------------------|-------------------------|---------------------------|--------------|
| 5 V | 22.5 W | 4.75-5.5 V | 4.5 A | 1.13 A, 3.1 A | 3500 µF | 81% | DDC3024S05 |
| 9 V | 25.0 W | 8.55-9.9 V | 2.8 A | 1.25 A, 3.4 A | 2200 µF | 82% | DDC3024S09 |
| 12 V | 30.0 W | 11.4-13.8 V | 2.5 A | 1.48 A, 4 A | 1000 µF | 83% | DDC3024S12 |
| 15 V | 30.0 W | 14.25-16.5 V | 2.0 A | 1.48 A, 4 A | 1000 µF | 84% | DDC3024S15 |
| 24 V | 30.0 W | 22.8-27.6 V | 1.25 A | 1.48 A, 4 A | 470 µF | 85% | DDC3024S24 |

Notes

1. Output current should be limited so that nominal output power is not exceeded

2. Typical efficiency at nominal input and full load.

Mechanical Details



| Pin Connector | | |
|---------------|-----|---------------|
| Conn | Pin | Designation |
| DC I/P | 1 | Remote On/Off |
| | 2 | +Vin |
| | 3 | -Vin |
| DC O/P | 1 | +Vout |
| | 2 | +Vout |
| | 3 | -Vout |
| | 4 | -Vout |

Input

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|----------------------|---------------------------|---------|---------|-------|------------------------------------|
| Input Voltage Range | 10 | | 36 | VDC | Input polarity reversal protection |
| Input Current | | | | | See Models and Ratings table |
| Inrush Current | | | 90 | A | at 36V |
| Input Filter | Pi type | | | | |
| Undervoltage Lockout | On at >8.5V | | | | |
| Input Surge | | | 40 | VDC | No Damage |
| Input Protection | T7.0A/63VDC Internal Fuse | | | | |

Output

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|--------------------------|---|---------|---------|-------------|--|
| Output Voltage | 5 | | 24 | V | See Models and Ratings table |
| Output Voltage Trim | | | | % | See Models and Ratings table |
| Initial Set Accuracy | 0 | | +1 | % | |
| Minimum Load | 0 | | | A | No minimum load required |
| Start Up Delay | | 50 | | ms | |
| Start Up Rise Time | | 7 | | ms | |
| Line Regulation | | | ±1.0 | % | |
| Load Regulation | | | ±1.0 | % | 0 - 100% load |
| Transient Response | | | 4 | % deviation | Recovery to within 1% in <1 ms for a 50% load change at 0.25 A/μs rate |
| Ripple & Noise | | | 100 | mV pk-pk | 20 MHz bandwidth |
| Short Circuit Protection | | | | | Constant Current, auto recovery |
| Overload Protection | 110 | | 165 | % | Constant Current |
| Overvoltage Protection | 115 | | 135 | % | Of nominal output voltage |
| Temperature Coefficient | | | 0.03 | %/°C | |
| Remote On/Off | Output On: Open circuit or 8-10 VDC WRT -Vin Output Off: -0.3 - 2 VDC WRT -Vin | | | | |

General

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---------------------------|---------|-------------|---------|-------------------|-------------------------------|
| Efficiency | | 83 | | % | See Models and Ratings table |
| Isolation | 1500 | | | VDC | |
| Switching Frequency | 100 | | 200 | kHz | |
| Power Density | | | 2.7 | W/in ³ | |
| Mean Time Between Failure | 680 | | | kHrs | MIL-HDBK-217F, +25 °C GB |
| Weight | | 0.265 (120) | | lb (g) | |
| DC ON Indicator | 90 | | | % | Of nominal voltage. Green LED |
| DC Low Indicator | 70 | | 90 | % | Of nominal voltage. Red LED |

Environmental

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|-----------------------|---|---------|---------|-------|--------------------|
| Operating Temperature | -40 | | +70 | °C | See derating curve |
| Storage Temperature | -55 | | +100 | °C | |
| Humidity | 5 | | 90 | %RH | Non-condensing |
| Operating Altitude | | | 4850 | m | |
| Cooling | | | | | Natural convection |
| Shock | ±3 shocks in each plane, total 36 shocks of 15 g : 11 ms halfsine. Conforms to EN60068-2-27 | | | | |
| Vibration | 10-500 Hz at 2 g sweep and endurance at resonance in all 3 planes. Conforms to EN60068-2-6 | | | | |

EMC: Emissions

| Phenomenon | Standard | Test Level | Criteria | Notes & Conditions |
|------------|----------|------------|----------|--------------------|
| Conducted | EN55022 | Class A | | |
| Radiated | EN55022 | Class A | | |

EMC: Immunity

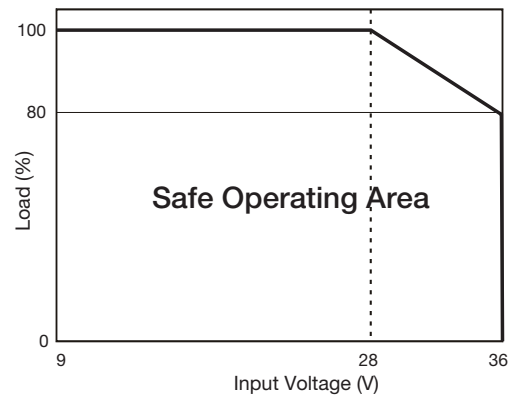
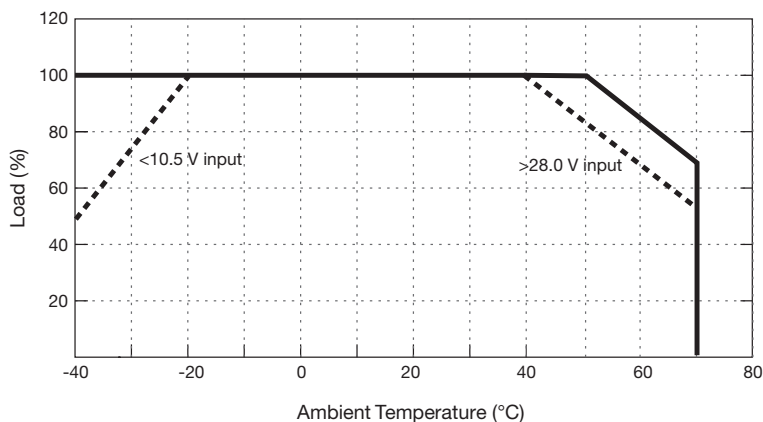
| Phenomenon | Standard | Test Level | Criteria | Notes & Conditions |
|-------------------|-------------|------------|----------|--------------------|
| ESD Immunity | EN61000-4-2 | 6 kV | A | Contact |
| | | 8 kV | | Air Discharge |
| Radiated Immunity | EN61000-4-3 | 10 V/m | A | |
| EFT/Burst | EN61000-4-4 | 2 | A | |
| Surge | EN61000-4-5 | 2 | A | |
| Conducted | EN61000-4-6 | 10 V | A | |
| Magnetic Fields | EN61000-4-8 | 4 | A | |

Safety Approvals

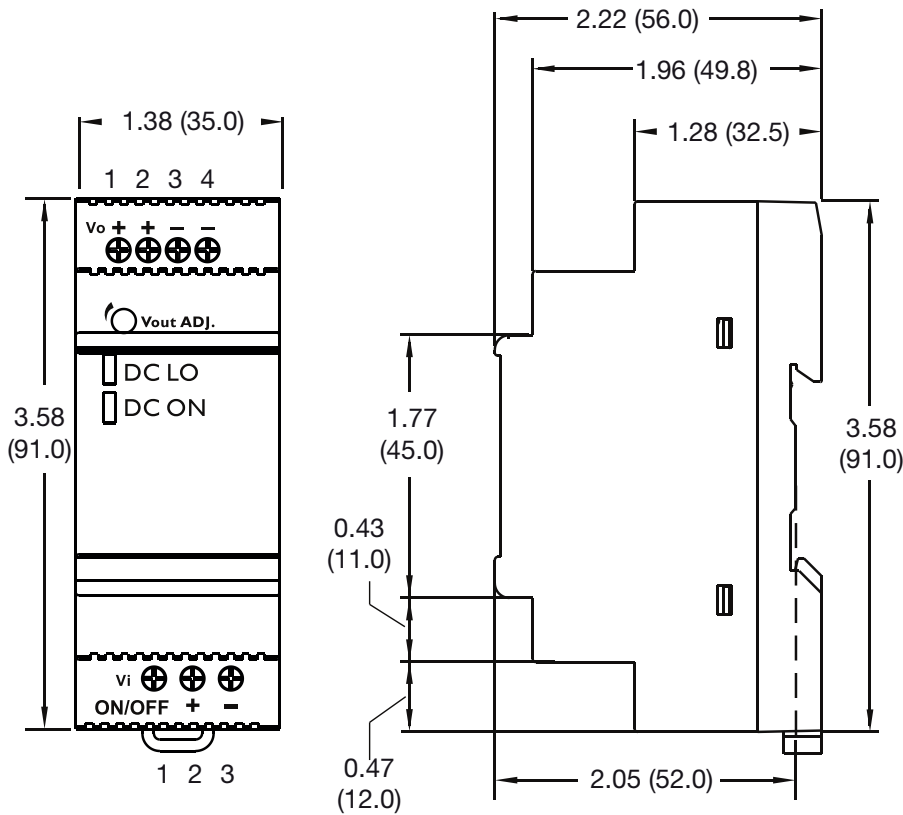
| Safety Agency | Safety Standard | Notes & Conditions |
|---------------|---------------------|------------------------------|
| UL | UL508 | Industrial Control Equipment |
| TUV | EN60950-1 A12:2011 | Information Technology |
| CB | IEC60950-1 +A1:2009 | Information Technology |

Application Notes

Derating Curves



Mechanical Details



| Pin Connector | | |
|---------------|-----|---------------|
| Conn | Pin | Designation |
| DC I/P | 1 | Remote On/Off |
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| DC O/P | 1 | +Vout |
| | 2 | +Vout |
| | 3 | -Vout |
| | 4 | -Vout |

Notes

1. All dimensions in inches (mm)
2. Weight: 0.265 lbs (120 g)
3. Tolerance: ± 0.02 in (± 0.5 mm)

4. Screw terminal: 12-24 AWG cables size.
5. Connection screw maximum torque: Input: 6 lbs-in (0.68 Nm)



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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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