

240W DIN RAIL SWITCH MODE POWER SUPPLY

DRS-2410 SERIES

USER'S MANUAL

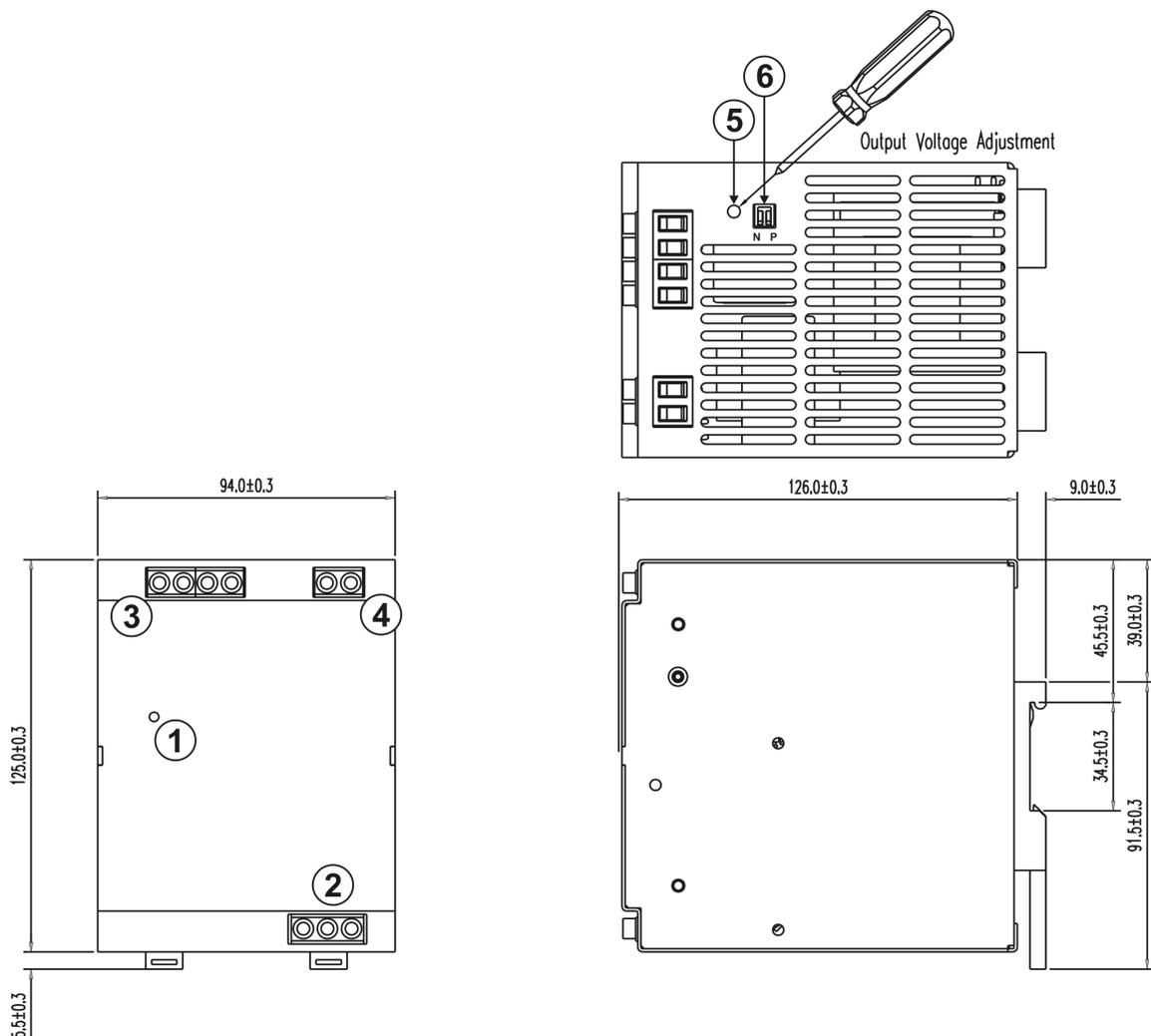
INTRODUCTION

This range of compact DIN mounted switching mode power supplies are designed for a wide range of control equipment which demands good quality regulated DC power source with excellent EMC immunity and electrical performance in an industrial environment. The remote sensing terminal is used to compensate for long output line losses.

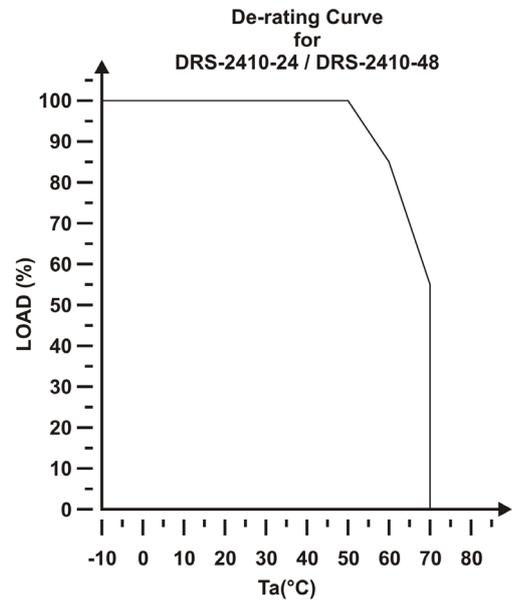
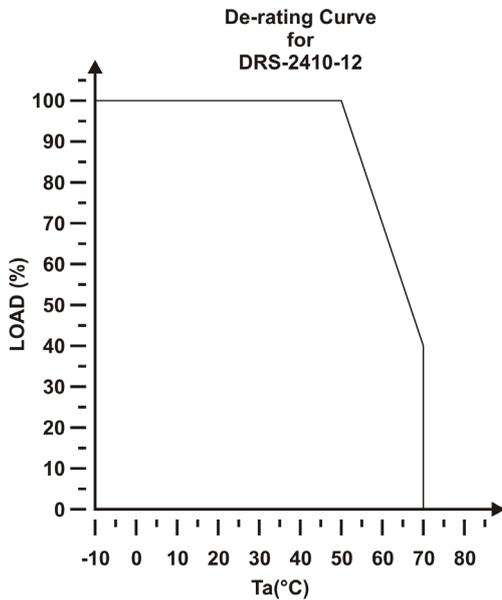
FEATURES

1. Overload Protection: The constant current circuitry is adopted to prevent from overload. The DC output ON indicator will turn off when the unit is overloaded.
2. Over Temperature Protection: The over temperature circuitry is functioned when the unit is over a certain high temperature to prevent the unit from damage by the high temperature. When the circuitry is functioned, the output voltage and current will drop down and the DC output ON indicator will turn off.
3. Over Voltage Protection: The over voltage circuitry protect the unit and the loading equipment from damage by abnormal high output voltage.
4. High RFI Stability: The high protection circuitry against RFI (Radio Frequency Interference) provides a stable operation.
5. The concealed trimmer (Fine tune access port) allows fine tuning of output voltage.
6. Up to 5 units can be connected in parallel.

PANEL DESCRIPTION



1. DC output ON indicator
2. AC input terminal block
3. DC output terminal block
4. Remote Sensing terminal (Warning! Never short the remote sensing terminal).
5. Fine tune access port
6. Parallel connection switch (This switch is default set at "N">Normal.
To parallel the units, please switch to "P">Parallel before connection of load).



INSTALLATION

1. The DRS-2410 series power supplies are build-in units and designed for mounting on a standard DIN- rail TS35 (35x15/7.5).
2. Make sure the correct mounting position for optimal cooling performance.
3. To fix the unit on the DIN rail, hook top part of clip on DIN rail, push down and inwards until you hear a clipping sound.
4. To remove the unit, insert a insulated flat head screwdriver into the recess in the clip closest to bottom of the unit and then push down to remove it from the recess and lift it off from DIN rail.

Note: For Indoor Use Only.

SAFETY PRECAUTIONS

1. **NEVER** remove the metal cover of the power supply while AC power is connected.
2. **NEVER** touch the unit when your hands are wet.
3. **NEVER** operate the unit if foreign materials such as metallic objects, water, or other debris have fallen inside. Contact your dealer for check and repair.
4. **NEVER** operate the unit that was being damaged, as the voltage regulation circuitry may have been disabled. The resulting high voltage could damage your equipment.
5. **NEVER** allow foreign objects to touch the DC Power Output Terminals.
6. If you have the need to inspect the interior of the unit, let it to cool down completely, as some components may be enough to burn your hand in the event of component failure.
7. **NEVER** block the air intake window.

CONNECTION AND OPERATION

1. A protective device (fuse, MCB) and an easy accessible isolating device for disconnecting the power supply must be provided.
2. Ensure that the main switch is switched off and prevented from being switched on again. In case of non-observance touching at any alive components or improper dealing with this power supply can result in death or severe injury.
3. Connect the equipment to the unit. If flexible wires are used, the wires have to be terminated. (e.g. by using ferrules)
4. To parallel the units to get higher output current, switch the parallel connection switch to "P" position before wire connection.

REMOTE SENSING

– Take note of the warning and follow the order of installation.

Warning! : Never short the Remote Sensing Terminal

Connection:

1. First complete the power connections between power supply and equipment.
2. Check and make sure the power connections are secure.
3. Then make connections between Remote Sensing and equipment.

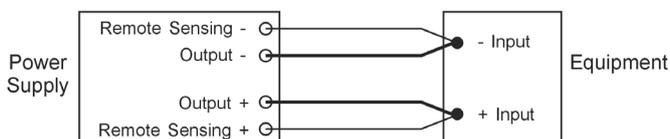
Warning! : Never short the Remote Sensing Terminal.

Never connect the Remote Sensing Terminal in reverse polarity.

Dis-connection:

1. First disconnect the remote sensing connections.
2. Then disconnect the power connections between the power supply and equipment.

Figure showing connections between Remote Sensing, Power output and Equipment.



The remote sensing wire should be AT LEAST 22AWG wire size.

SPECIFICATIONS

| | DRS-2410-12 | DRS-2410-24 | DRS-2410-48 |
|-----------------------------------|--|-------------------------------------|-----------------------------------|
| Voltage Range (Auto Select) | 90-130Vac ; 180-260Vac | | |
| Frequency | 47-63Hz~ | | |
| Full Load AC Current | 5A@100Vac ; 1.9A@230Vac | 4.9A@100Vac ; 1.7A@230Vac | 4.9A@100Vac ; 1.7A@230Vac |
| No Load AC Current | 100mA@100Vac ; 140mA@230Vac | | |
| Inrush Current, cold start @25°C* | 32A@100Vac ; 62A@230Vac | | |
| Leakage Current | 2mA | | |
| Power Factor | min. 70% | | |
| Efficiency | 84%@100Vac ; 85%@230Vac | 88%@100Vac ; 88%@230Vac | 88%@100Vac ; 88%@230Vac |
| OUTPUT | | | |
| Normal DC Voltage | 12V | 24V | 48V |
| Voltage Adjust Range | 10.5 - 14V | 22.5 - 28V | 44.5 - 53V |
| Rated Current | 20A | 10A | 5A |
| Rated Power | 240W | | |
| Ripple & Noise (peak to peak)** | ≤50mV | | |
| Line Regulation | ≤0.2% | | |
| Load Regulation (10% - 100%) | ≤0.5% | ≤0.3% | ≤0.3% |
| Hold-up Time (Full Load) | >30mSec@100Vac ; >40mSec@230Vac | | |
| Parallel Operation | 5 units max. user selectable | | |
| PROTECTION | | | |
| Over load / Over Current | 21 – 22.0A, C.C., Auto Restart | 10.8 – 11.6A, C.C., Auto Restart | 5.6 – 6.2A, C.C., Auto Restart |
| Over Output Voltage | 16.0 – 18.5Vdc | 30 - 35Vdc | 63 - 68Vdc |
| SAFETY & EMC | | | |
| Safety Standards | EN62368-1 | | |
| Withstand Voltage | I/P - O/P 3KVac ; I/P - F/G 1.5KVac ; O/P - F/G 0.5KVac | | |
| Insulation Resistance | I/P - O/P, I/P - F/G, O/P - F/G 100Mohm and 500Vdc | | |
| EMI Radiation & Conduction | Compliance to EN55032 | | |
| Harmonics Current | Compliance to EN61000-3-2, 3 Class A & D | | |
| EMC Immunity | Compliance to EN55035 (EN61000-4-2, 3, 4, 5, 6, 8, 11) | | |
| ENVIRONMENT | | | |
| Working Temperature | -10°C to +60°C | | |
| Derating above 50°C | See Derating Curve | | |
| Working Humidity | 20 - 90 RH non-condensing | | |
| Storage Temperature Humidity | -10°C to +80°C , 20 - 90 RH non-condensing | | |
| GENERAL | | | |
| Switching Frequency @ Full Load | 45 - 55KHz | | |
| Case Material | Electro-Galvanized steel & Aluminum Enclosure | | |
| Safety Class | Degree of Protection 1 (IEC 5360) | | |
| Case Protection | IP 20 (IEC 529) | | |
| Mounting | Snap on type with self locking can be installed on 35 mm Din-Rails / 7.5 or 15 | | |
| Connection | Screw terminals with double terminals for output | | |
| REMARK | *Ta=25°C Cold start | | **100MHz Band width scope |

All values are based on the Standard ambient Temperature 25°C and Pressure 0.1Mpa.