

# 240W DIN RAIL SWITCH MODE POWER SUPPLY

## DRS-2410 SERIES

### USER'S MANUAL

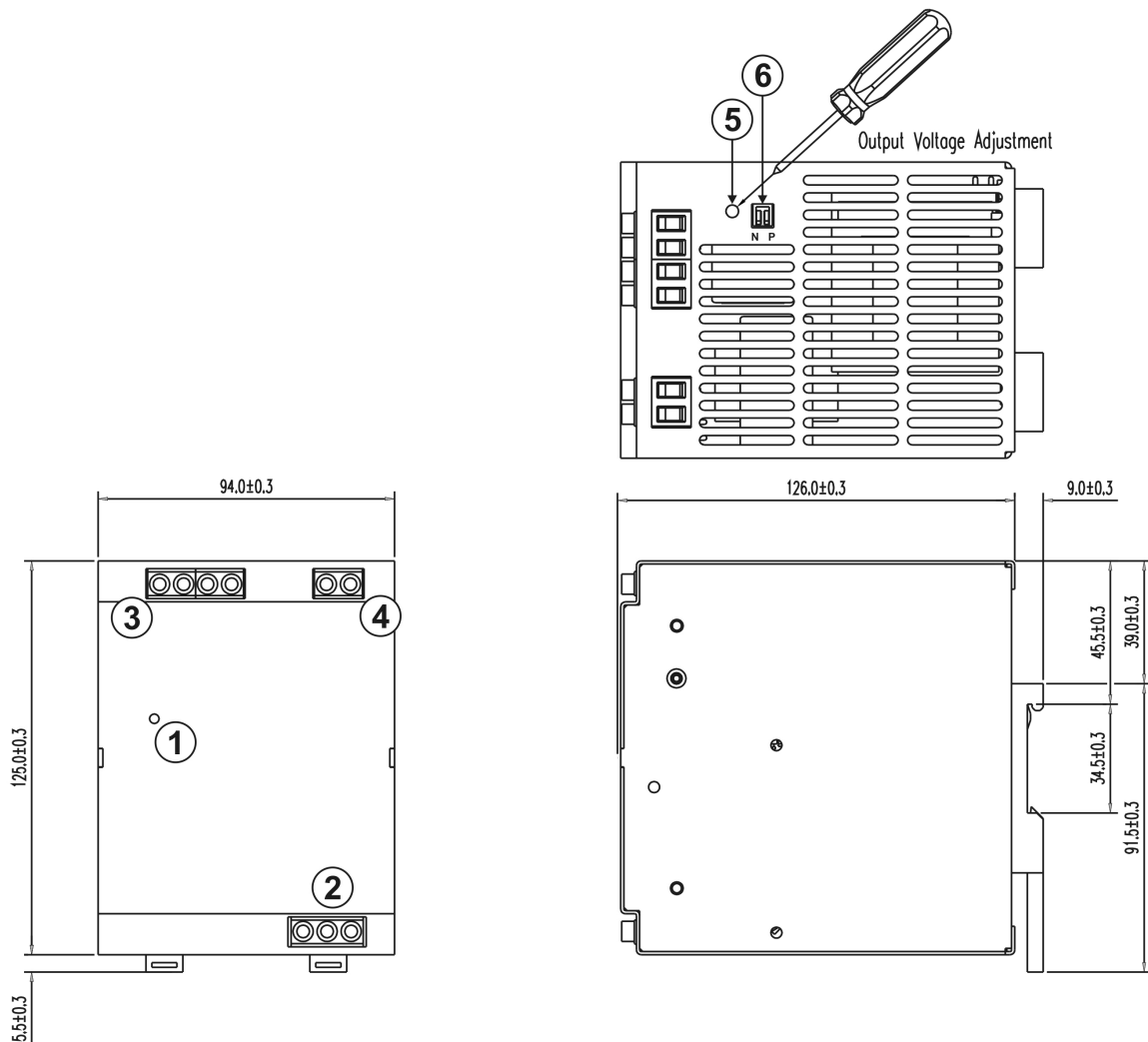
#### INTRODUCTION

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.

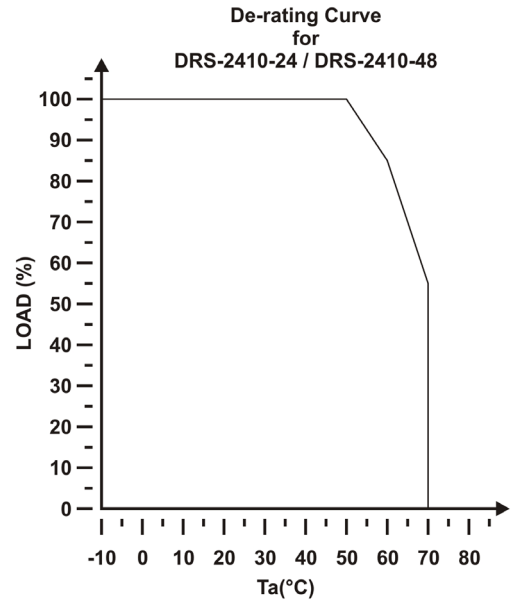
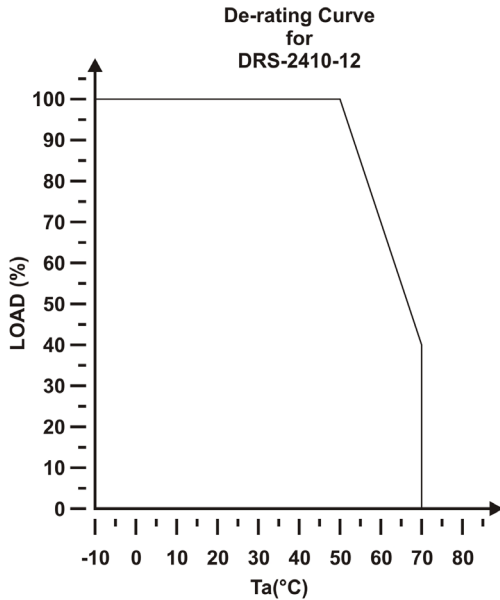
#### FEATURES

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.

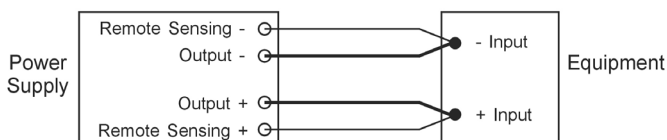
**Warning!** : Never short the Remote Sensing Terminal.

**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
<b>OUTPUT</b>			
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		
<b>PROTECTION</b>			
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
<b>SAFETY &amp; EMC</b>			
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)		
<b>ENVIRONMENT</b>			
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		
<b>GENERAL</b>			
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		
<b>REMARK</b>	*Ta=25°C Cold start		**100MHz Band width scope

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