

# Ziegler

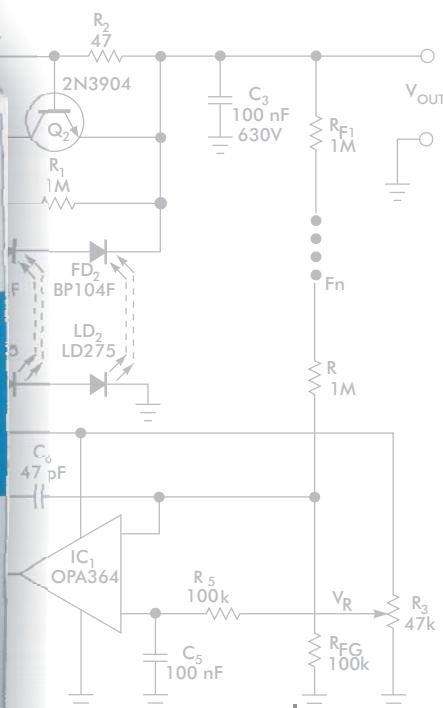
Redefine Innovative Metering

made  
in  
Germany

Data Sheet

Switching Power Supply . Two Phase

Switched-Mode Power Supply (SMPS)



Input	230 Vac - 400 Vac - 500 Vac
Output	24 Vdc 60°C
Efficiency	Up to 91% Up to 50% Strong Overload Without Switch-Off
Power Continuity	From 120 W to 180 W - Flexible "Power Good" Relay
Three Mode of Output Protections	1) Manual Reset 2) Hiccup Mode 3) Continuous Out Mode
Installation	DIN Rail Mountable
Size	Extremely Small Size
Warranty	3 Year

## PS2-2408

24 VDC - 8 A



## Features

### Input Data

Nominal Input Voltage (2 x Vac)	230 Vac - 400 Vac - 500 Vac
Manual Select Input From 230 V to 400 V-500 V	
Input Voltage range (Vac)	187 Vac to 264 Vac (230 Vac) 330 Vac to 550 Vac (400-500 Vac)
Inrush Current (Vn and In Load) I <sup>2</sup> T	≤ 17 A ≤ 5 msec.
Frequency	47 Hz to 63 Hz ±6%
Input Current (230 Vac - 400 Vac - 500 Vac)	1.5 A - 0.8 A - 0.7 A
Internal Fuse	T 4 A
External Fuse (recommended)	10 A (MCB Curve B)

### Output Data

Output Voltage (Vn) Factory Setting ±3%	24 Vdc
Adjustment Range (Vadj)	22 Vdc to 27 Vdc
Start Up with Strong Load (Capacitive Load)	≤ 50.000μF
Turn-On Delay After Applying Mains Voltage	1 sec. (Max)
Continuous Current at 24 V < 40 °C (In)	7.5 A (Permanent)
Continuous Current at 24 V < 50 °C (In)	6 A (Permanent)
Continuous Current at 24 V < 60 °C (In)	5 A (Permanent)
Power Boost Current at 24 Vdc 60 °C (In)	In (60 °C) × 1.5 ≥ 3 min.
Current Max. Overload ≥ 4 Vdc (Permanent)	I <sub>max</sub> = In 60 °C × (1.8 - 2.2)
Current Short Circuit (I <sub>cc</sub> )	
Max 2 sec.: Hiccup Mode	16 A
Permanent: Continuous Mode	
Hold-up Time (Min. Vac) 24 Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV <sub>pp</sub>
Efficiency	≥ 91 %
Over Temperature Protection	Yes. Shut-Down Output and Automatic Restart.
Short-Circuit Protection	1° Manual Reset 2° Hiccup Mode 3° Continuous Out Mode
Dissipation Power Load Max (W)	17 W
Over Load Protection	Yes
Over Voltage Output Protection	Yes. (Typ. 35 Vdc)
Parallel Connection	Yes
Power Good Contact Rating (EN60947.4.1): Max. DC1:30 Vdc 1A; AC1: 60 Vdc 1A Min. 1 mA at 5 Vdc	Resistive Load Min Permissive Load

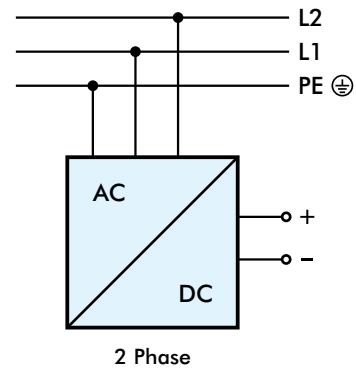
### Climatic Data

Ambient Temperature Operation	-25 °C Up to +70 °C (>60° Derating 2.5% °C)
Ambient Temperature Storage	-40 °C Up to +85 °C
Humidity at 25 °C, No Condensation	95 % to 25 °C

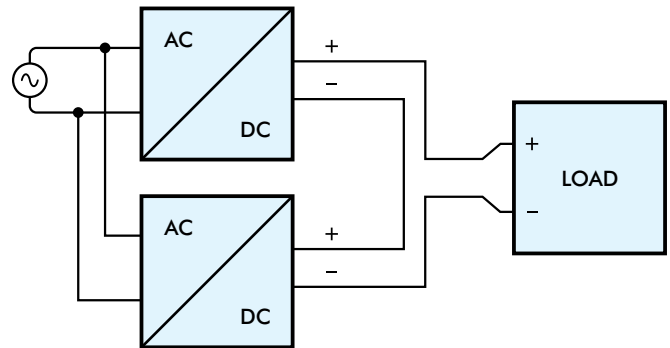
### General Data

Isolation Voltage (Input / Output)	3000 Vac
Input / Ground Isolation PE (Input / PE)	1605 Vac
Output / Ground Isolation PE (Output / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP20 (Degree of Protection)
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2.5 mm (24 AWG to 14 AWG)
Protection Class	I with PE Connected
Dimension (W-H-D)	55 mm × 110 mm × 105 mm
Weight	0.60 kg Approx.

### Connection

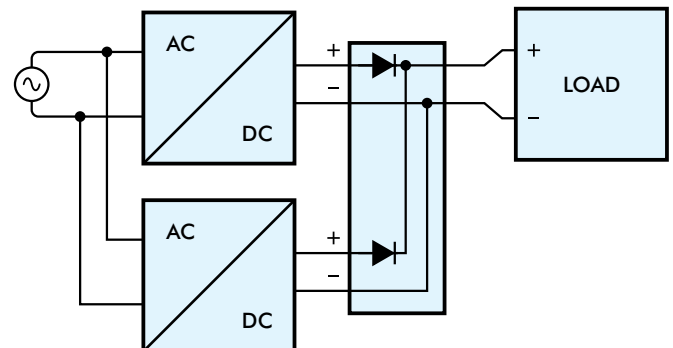


### Serial Connection

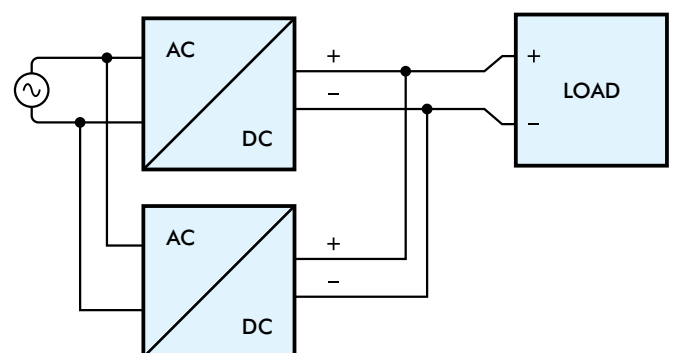


### Parallel Connection

#### Parallel Connection Redundancy

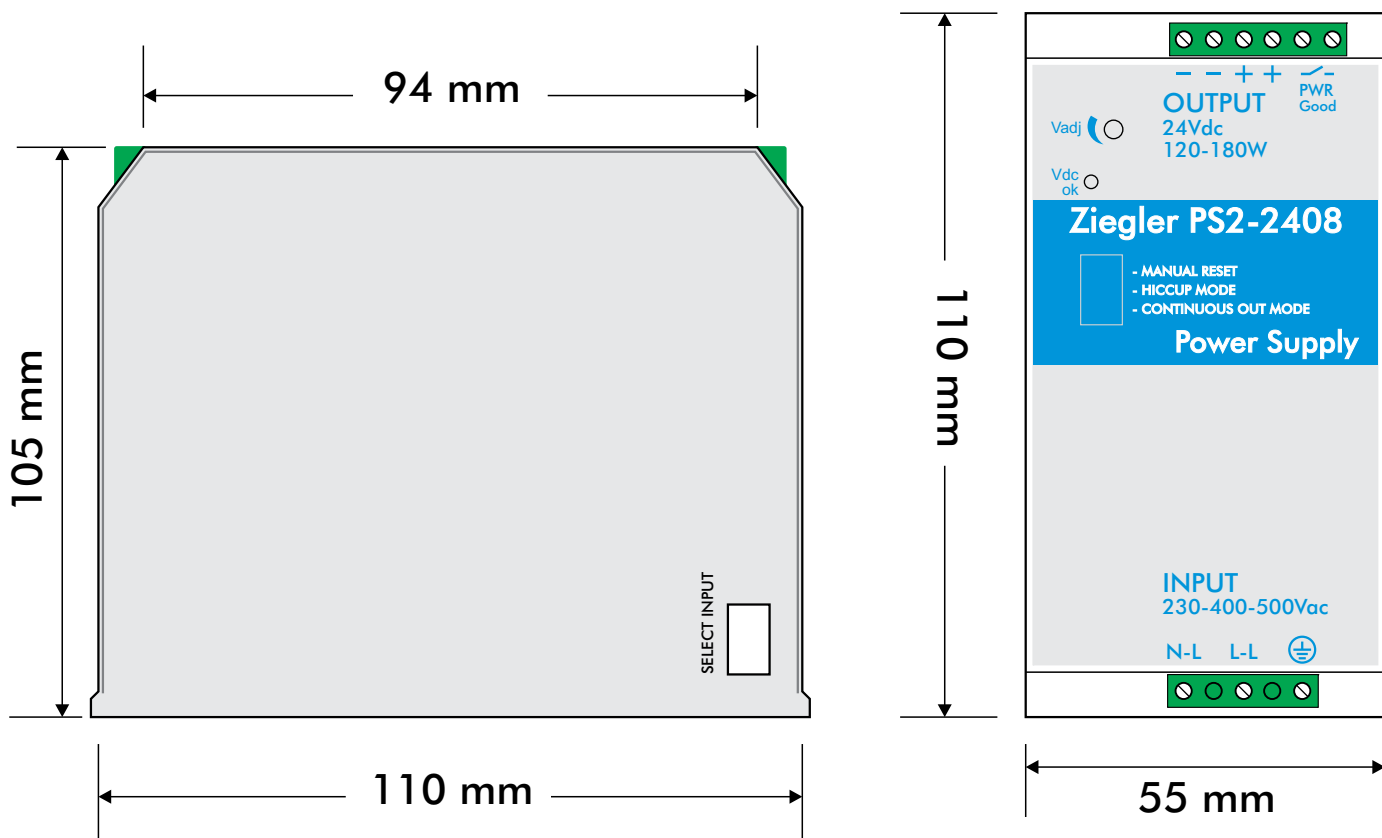


#### Parallel Connection, to Increase Output Power

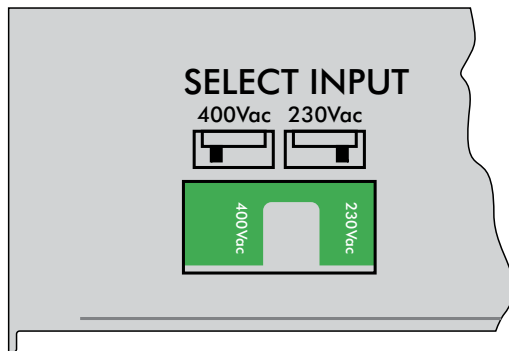


## Features

## Connection



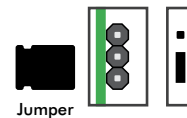
## Side View



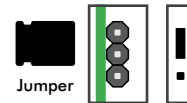
## Top View



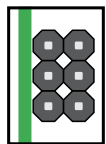
REMOVE FOR  
PARALLEL  
CONNECTION



Easy Parallel Connection  
OFF (Factory Selection)



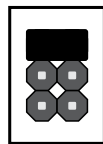
Easy Parallel Connection  
ON (Operator Selection)



- MANUAL RESET  
- HICCUP MODE  
- CONTINUOUS OUT MODE

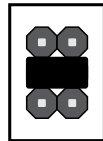


Jumper



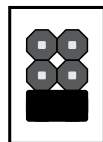
● **MANUAL RESET (Manual Restart by Operator)**

This Protection Mode Is Particularly Suggested in Applications Where Safety Procedures Require That Reset Be Carried Out Only By an Authorized Person. In Case Of Short-circuit or Overload, The Output Current Is Interrupted. In Order To Restart The Output It Is Necessary to Switch-off The Input Circuit For About 1 Minute.



● **HICCUP MODE (Default Factory Jumper Setting)**

General Purpose Mode, Used For Normal Load. Output Current Is Interrupted. The Device Tries Again to Re-Establish Output Voltage and Normal Condition About Every 2 Second Till The Problem Is Cleared.

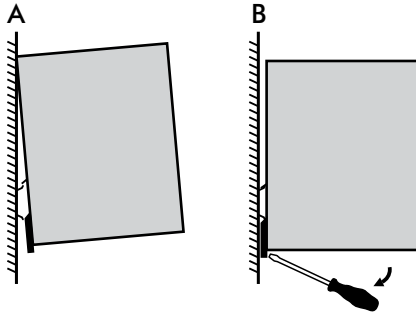


● **CONTINUOUS OUT MODE**

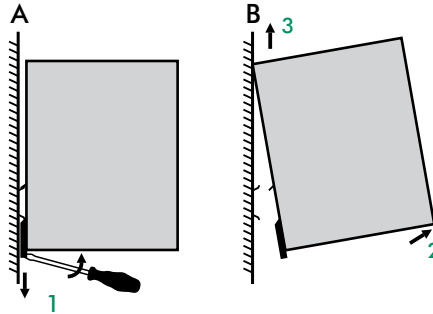
In Case Of Short-Circuit or Overload, the Output Current Is Kept at High Values With Near Zero Voltage. In Case of Short Circuit the Current Can Reach Up To 3 Times the Rated Current at 60 °C. This Protection Mode Is Used to Meet the Requirements of Demanding Loads Such as Motors, Solenoid Valves, Lamps, PLC With Highly Capacitive Input Circuits and Other Loads With Marked Transient Overload Behavior.

## Rail Mounting

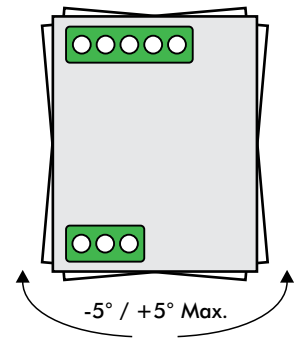
### ■ Assembly



### ■ Disassembly



### ■ Maximum Angle Assembly



Other Models / Modules Must have a Minimum Vertical and Horizontal Distance of 10 cm to This Power Supply in Order to Guarantee Sufficient Auto Convection. Depending on the Ambient Temperature and Load of the Device, the Temperature of the Housing Can Become Very High.

## Standards and Certification

### Norms and Certifications

The CE Mark in According to EMC 2004/108/EC and Low Voltage Directive 2006/95/EC.

### Electrical Safety

In Compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE0160) for Assembling Device. The Unit Must be Installed According to IEC/EN 60950.

Input / Output Separation: SELV EN60950-1 6 Edition, and PELV EN 60204-1. Double or Reinforced Insulation.

### EMC Immunity

EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-6-2.

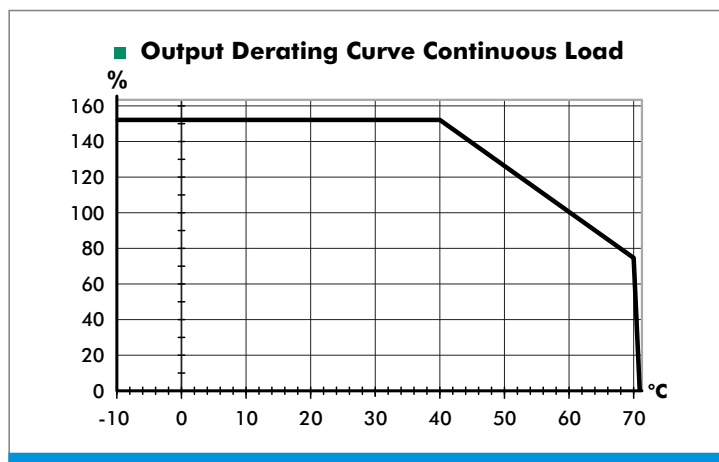
### EMC Emission

EN 61000-6-4, EN 61000-3-2.

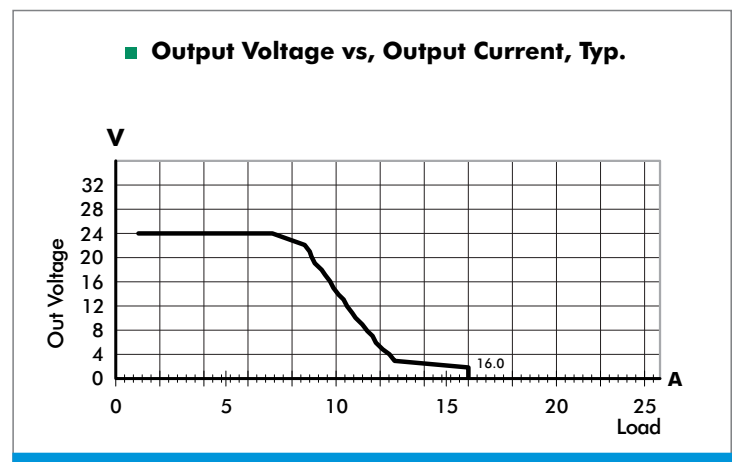
### Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines.

## Temperature Ratings



## Output Device



## ZIEGLER INSTRUMENTS

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Germany

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