Ziegler
Redefine Innovative Metering
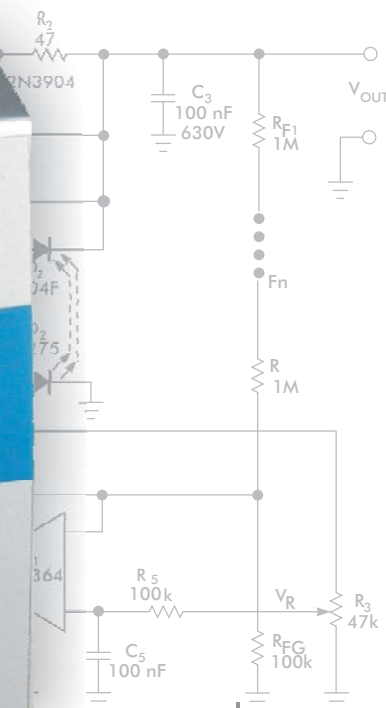
made
in
Germany

Data Sheet
Switching Power Supply . Three Phase

Switched-Mode Power Supply (SMPS)

OUTPUT
24Vdc
480-600W

REMOVE FOR
PARALLEL
CONNECTION

PWR
Good

Vadj

Vdc
ok

Ziegler PS3-2425

- MANUAL RESET
- HICCUP MODE
- CONTINUOUS OUT MODE

Power Supply

INPUT
400-500Vac

L1 L2 L3

R_2 47
2N3904
C_3 100 nF 630V
V_{OUT}
R_{F1} 1M
Fn
R 1M
R_5 100k
V_R
R_3 47k
R_{FG} 100k
C_5 100 nF

Input	Three-Phase. 400 Vac - 500 Vac
Output	24 Vdc 60°C
Efficiency	Up to 91%
	Up to 50% Strong Overload Without Switch-Off
Power Continuity	From 480 W to 600 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

PS3-2425
24 Vᴅᴄ - 25 A

CE   RoHS

Features

Input Data

Nominal Input Voltage (3 x Vac)	**400 Vac - 500 Vac**
Input Voltage range (Vac)	**330 Vac to 550 Vac (400-500 Vac)**
Inrush Current (Vn and In Load) I^2T	**⩽ 17 A ⩽ 5 msec.**
Frequency	**47 Hz to 63 Hz ±6%**
Input Current (400 Vac - 500 Vac)	**0.95 A - 0.85 A**
Internal Fuse	**T 6.3 A**
External Fuse (recommended)	**16 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)	**25 A (Permanent)**
Continuous Current at 24 V < 50 °C (In)	**22 A (Permanent)**
Continuous Current at 24 V < 60 °C (In)	**20 A (Permanent)**
Power Boost Current at 24 Vdc 60 °C (In)	**In (60 °C) × 1.5 ⩾ 3 min.**
Current Max. Overload ≅ 4 Vdc (Permanent)	**Imax = In 60 °C × (1.8 - 2.2)**
Current Short Circuit (Icc)	
Max 2 sec.: Hiccup Mode	**60 A**
Permanent: Continuous Mode	
Hold-up Time (Min. Vac) 24 Vdc 5A	**Typ. 20 msec**
Residual Ripple	**⩽ 80 mV_PP**
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)	**54 W**
Over Load Protection	**Yes**
Over Voltage Output Protection	**Yes.** (Typ. 35 Vdc)
Parallel Connection	**Yes. "Easy Parallel"**
Power Good Contact Rating (EN60947.4.1):	
Max. DC1:30 Vdc 1A; AC1: 60 Vdc 1A	**Resistive Load**
Min. 1 mA at 5 Vdc	**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

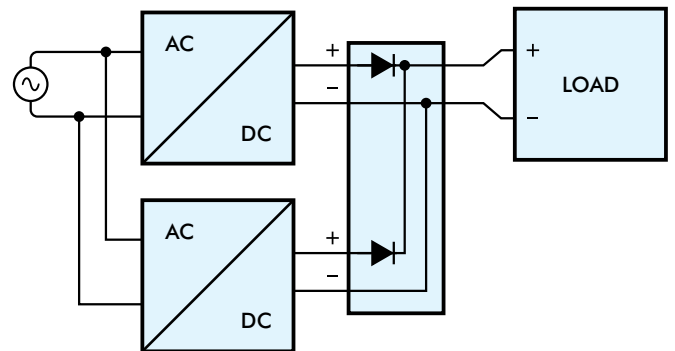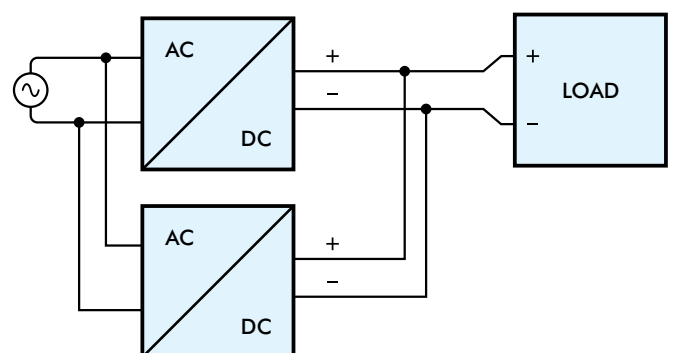|	
Isolation Voltage (Input / Output)	**3000 Vac**
Input / Ground Isolation PE (Input / PE)	**1605 Vac**
Output / Ground Isolation PE (Output / PE)	**500 Vac**
Protection Class (EN/IEC 60529)	**IP20 (Degree of Protection)**
Reliability: MTBF IEC 61709	**> 500.000 h**
Pollution Degree Environment	**2**
Connection Terminal Blocks Screw Type	**4 mm (30 AWG to 10 AWG)**
Protection Class	**I with PE Connected**
Dimension (W-H-D)	**85 mm × 120 mm × 140 mm**
Weight	**0.75 kg Approx.**

Connection

3 Phase
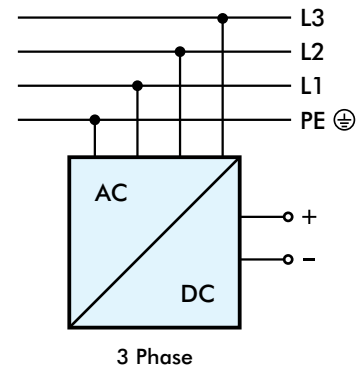
Serial Connection
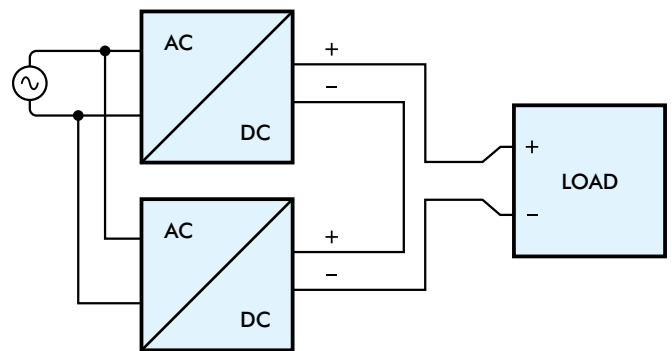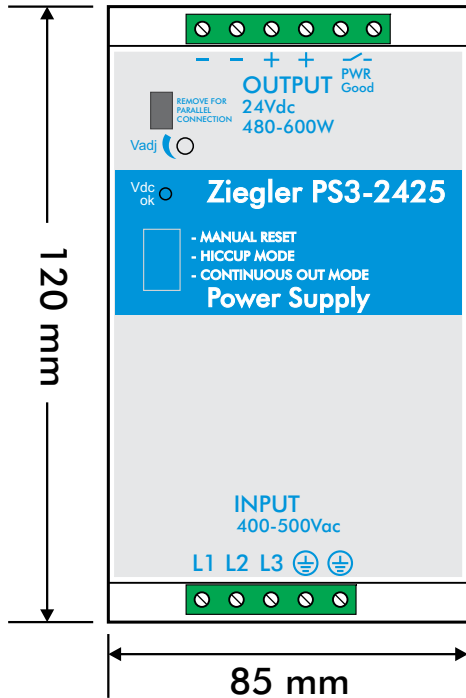

Parallel Connection

Parallel Connection Redundancy

Parallel Connection, to Increase Output Power

Features
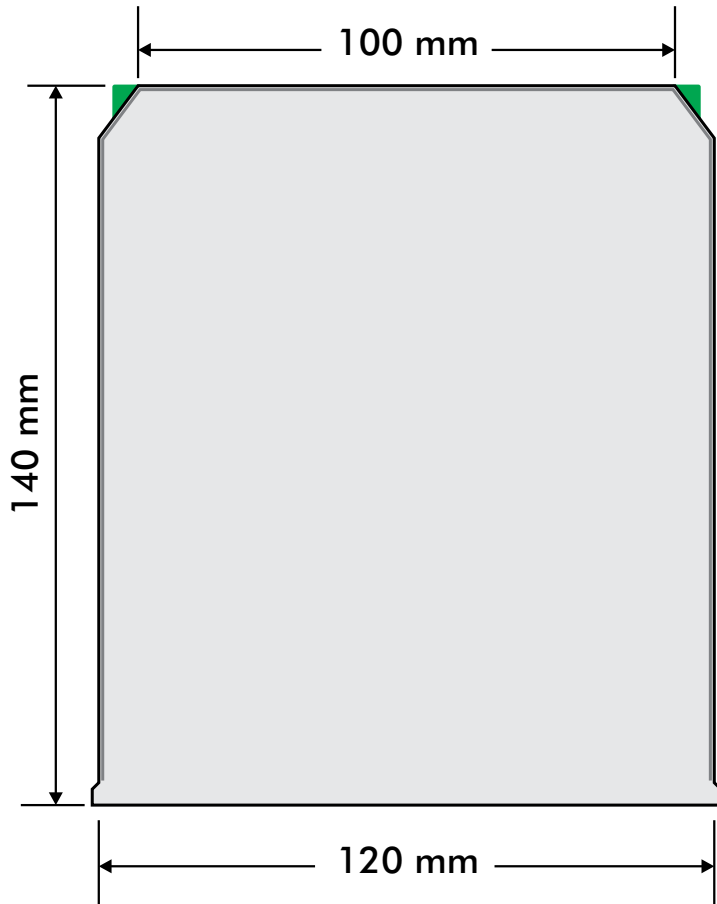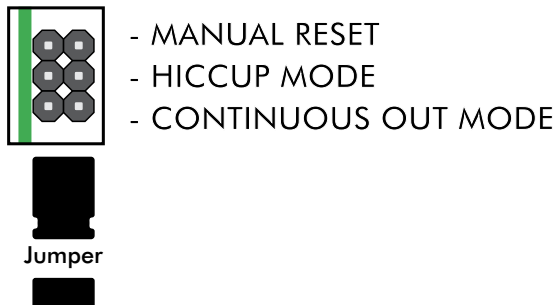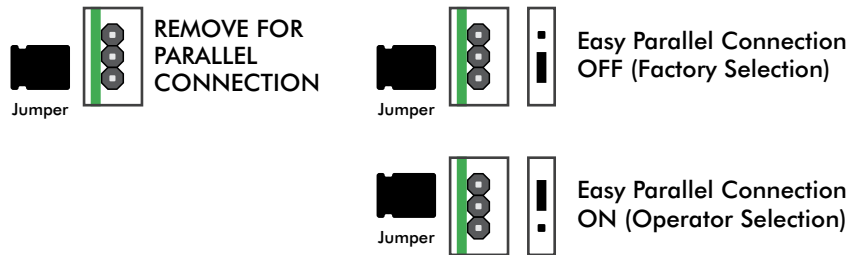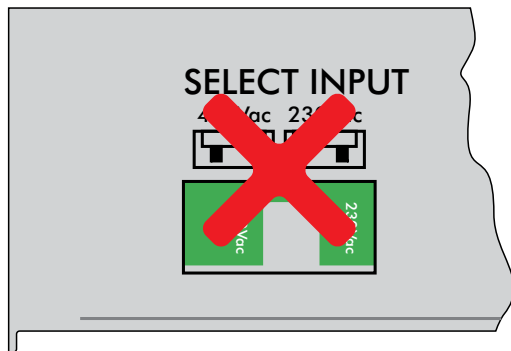### Connection

Top View

- - + + ⌐-
PWR
Good
OUTPUT
24Vdc
480-600W

REMOVE FOR PARALLEL CONNECTION

Vadj

Vdc ok

Ziegler PS3-2425

- MANUAL RESET
- HICCUP MODE
- CONTINUOUS OUT MODE

Power Supply

INPUT
400-500Vac

L1 L2 L3

120 mm
85 mm

Top View

100 mm
140 mm
120 mm

Side View

SELECT INPUT

Jumper

REMOVE FOR PARALLEL CONNECTION

Jumper

Easy Parallel Connection OFF (Factory Selection)

Jumper

Easy Parallel Connection ON (Operator Selection)

- MANUAL RESET
- HICCUP MODE
- CONTINUOUS OUT MODE

Jumper
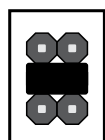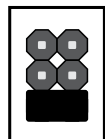
● MANUAL RESET (Manual Restart by Operator)
This Protection Mode Is Particularly Suggested in Applications Where Safety Procedures Require That Reset Be Carried Out Only By an Authorized Person. In Case Of Short-circuit or Overload, The Output Current Is Interrupted. In Order To Restart The Output It 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.
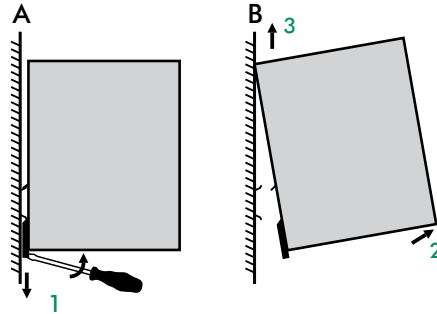
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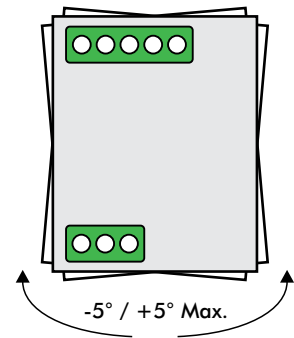All specifications are subject to change without notice

Rail Mounting
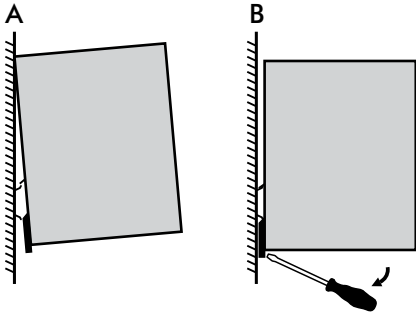
- **Assembly**
- **Disassembly**
- **Maximum Angle Assembly**

A   B

A   B

-5° / +5° Max.

⚠ 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.
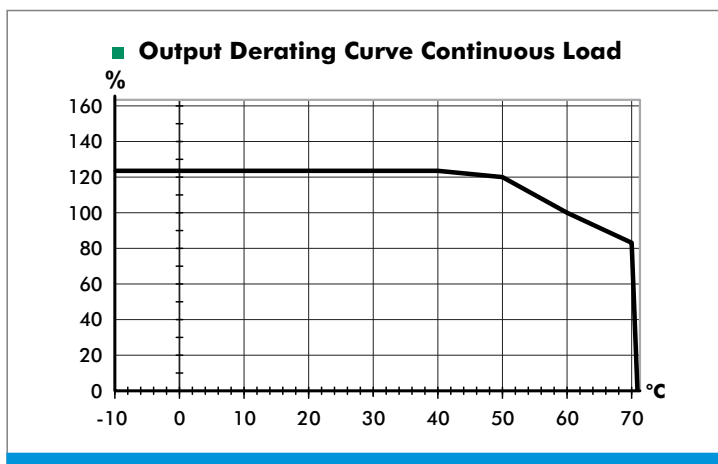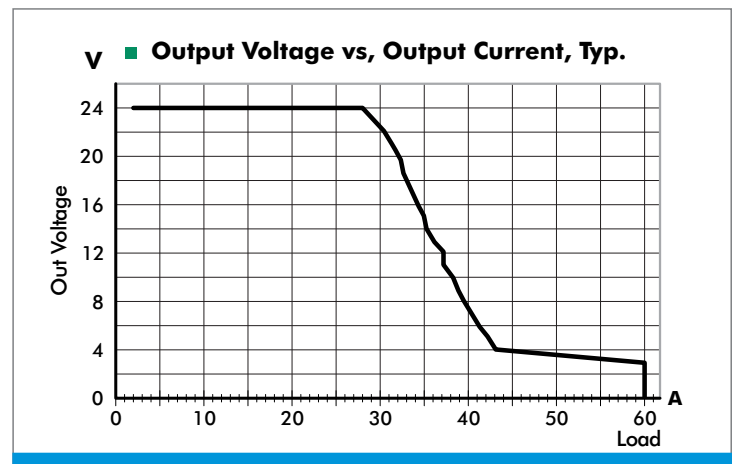
EMC Emission

EN 61000-6-4.

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines.

Temperature Ratings

Output Derating Curve Continuous Load

%

160
140
120
100
80
60
40
20
0

-10 0 10 20 30 40 50 60 70 °C

Output Device

Output Voltage vs, Output Current, Typ.

V

24
20
16
12
8
4
0

Out Voltage

0 10 20 30 40 50 60 A
Load

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