

RPS-4M

4-slot Industrial Redundant Power Communication Module

Features

- Supports 4 power slots up to 400W
- Supports N+1 power redundancy (N max. 3)
- Supports hot-swappable replacement
- Provides temp., current, status, and runtime info. of power modules
- Supports power module alarm output
- Supports Modbus RTU/TCP to remotely obtain power module status
- Supports parallel expansion of power supply wattage

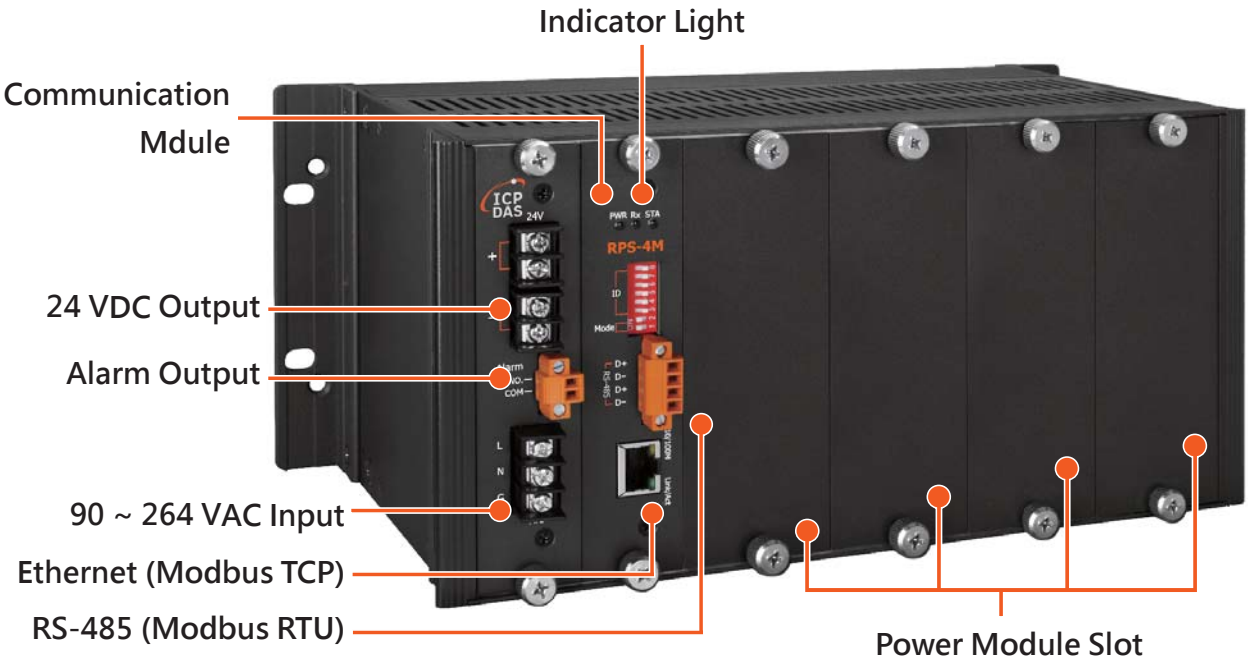
Introduction

The RPS series redundant power supply uses N+1 parallel current sharing (with Load Balancing) to achieve power backup and stable power supply, and supports hot swapping design. The RPS series provides communication functions for real-time monitoring, reducing inspection manpower.



- Each slot can plug in a 100W power module.
- 4-slot design for N+1 redundancy
  - ❒ The RPS can provide rated power of 3 power modules (300W) when 4 power modules are inserted.
  - ❒ The RPS can still supply power at all times when any power module fails. (Number of inserted modules > 1)
- The RPS can also record the using time of power module, which can be used as a basis for maintenance and replacement.

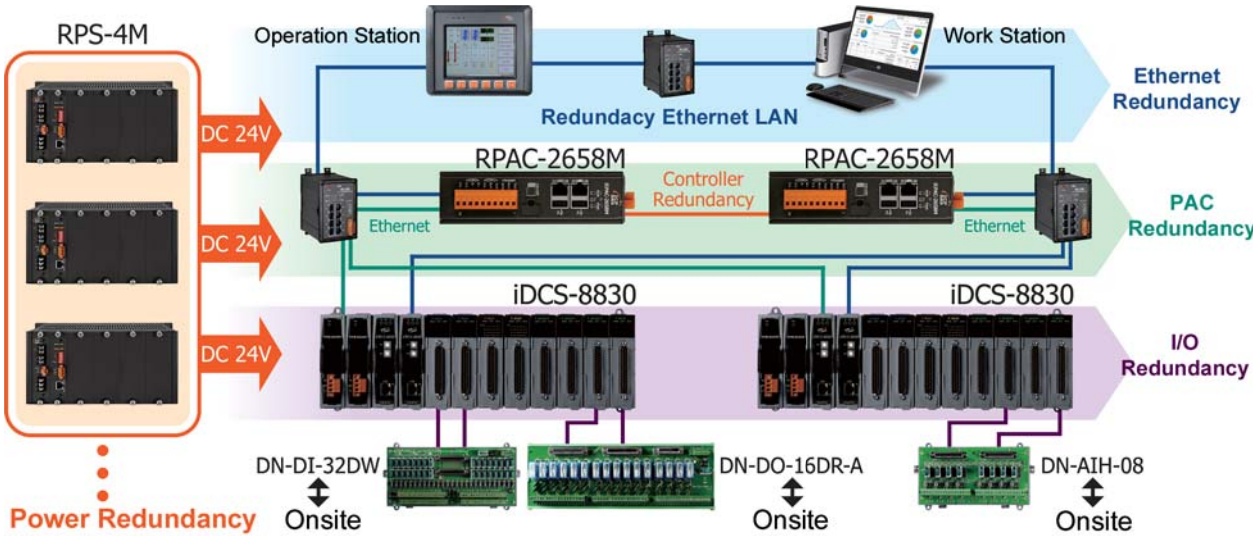
Exterior



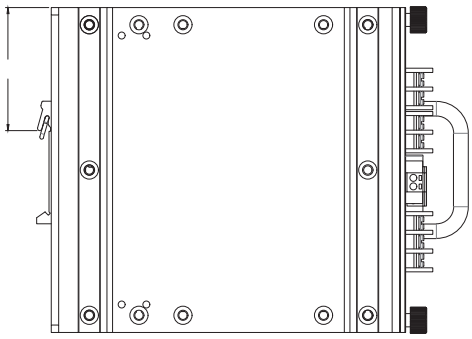
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Applications

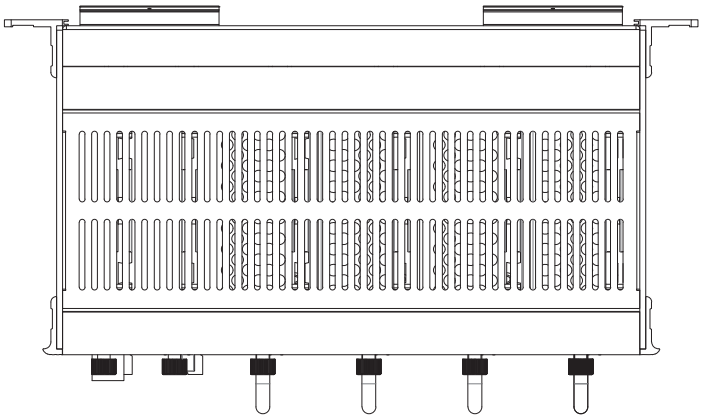
The RPS series can be used with ICP DAS's redundant solutions, including I/O redundancy (data acquisition), controller redundancy (program control), ethernet ring communication redundancy (ring network communication) and HMI redundancy (display information record) to form a complete redundant system.



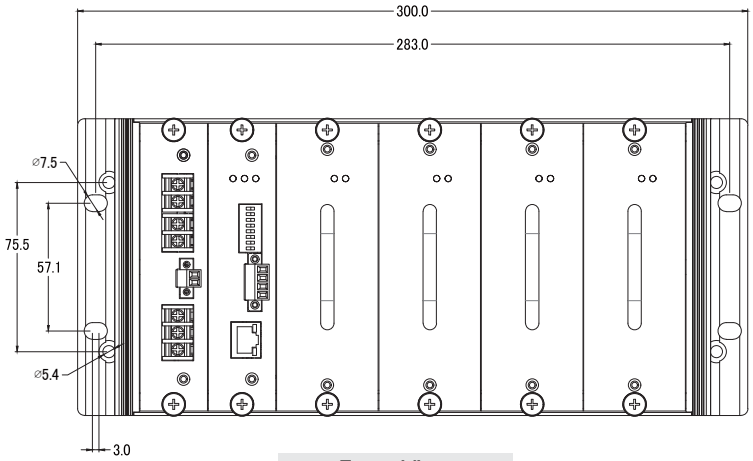
Dimensions (Units: mm)



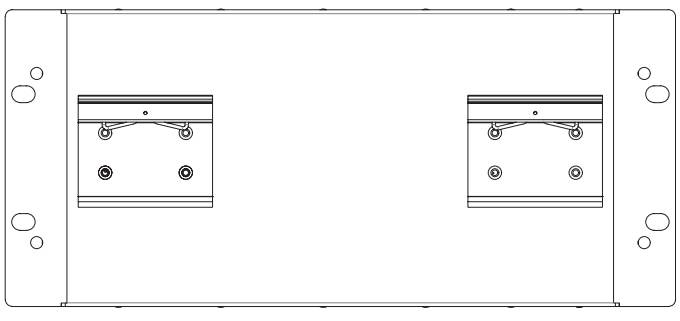
Left View



Top View



Front View



Rear View

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RPS-100(Power Module) Specifications

Output	
DC Voltage	24V
Rated Current	4.16A
Current Range	0 ~ 4.16A
Rated Power	100W
Ripple & Noise(max.)	50mVp-p
Voltage Tolerance	±1.0%
Line Regulation	±1.0%
Load Regulation	±5.0%
Setup, Rise Time	1300ms,120ms at full load
Hold Up Time(Typ.)	40ms at full load
Input	
Voltage Range	90~264VAC
Frequency Range	47 ~ 63Hz
Power Factor(Typ.)	PF=0.961/230VAC at full load, PF=0.985/115VAC at full load
Efficiency(Typ.)	86%
AC Current(Type)	1.01A/115VAC 0.51A/230VAC
Inrush Current	COLD START 30A/115VAC 60A/230VAC
Leakage Current	Earth<3.5mA ,Touch<0.25mA
Protection	
Overload	110%~200% (Automatic recovery)
Over Voltage	26.4~31.2 (Automatic recovery)
Environment	
Working Temperature	-20~50°C
Working Humidity	5~95%RH Non-condensing.
Storage Temperature, Humidity	-40~85°C
Vibration	0.26~6.09 G Frequency Type: Sweep Frequency Frequency Range: 10~55 Hz Displacement: 1.0mm Sweep Rate: 60 minute / cycle Number of cycle: 1 cycle / axis Direction: X ,Y and Z axis
MTBF	100K (hours@25°C)
Safety & EMC	
Safety Standards	Design to meet 62368
Withstand Voltage	I/P-O/P:3KVAC I/P-FG:1.8KVAC O/P-FG:0.5KVAC
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC
EMC Emission	EN 55032 CISPR 32 & FCC Part 15 B CLASS B : System with 4 module in parallel
EMC Immunity	EN 55022, CISPR 22 & FCC Part 15, EN 61000-3-2, EN 61000-3-3, EN 61204-3 IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11

RPS-4M(System)Specifications

COM Port		
Interface		RS-485
Protocol		Modbus RTU
Data Format		N,8,1 / O,8,1 / E,8,1 / N,8,2
Baud Rate		Hardware Configuration: Fixed 9600 bps
		Software Configuration: 1200 ~ 115200 bps
Node Address		1 ~ 64 for hardware configuration 1 ~ 255 for software configuration * For Modbus RTU, address 0 is auto become to 1
Connector		4-pin screw terminal
Ethernet		
Interface		1 x RJ-45, 10/100 Base-TX
Protocol		Modbus TCP server, Web server
Access Control		Password and IP Filter
Measurement		
Current	Range	0A ~ 5 A
	accuracy	±0.25A
Temperature	Range	0°C ~ 100°C
	accuracy	±5°C
LED Indicators		
Power		1 LED as power indicator
Communication		1 LED as Modbus Rx indicator
Status		1 LED as status indicator
EMS Protection		
ESD (IEC 61000-4-2)		±4 kV Contact, ±4 kV Air
EFT (IEC 61000-4-4)		±2 kV for power line
Surge (IEC 61000-4-5)		±2 kV for power line
Power Requirements		
Input Voltage Range		90~264VAC, 47 ~ 63Hz
Connector		3-pin screw terminal
Mechanical		
Dimensions (W x L x H)		133 mm x 266 mm x 177 mm
Installation		DIN-Rail
Environment		
Operating Temperature		-20°C ~ +50°C
Storage Temperature		-40°C ~ +85°C
Humidity		10 to 90% RH, Non-condensing

Ordering Information

RPS-4M CR	4-slot Industrial Redundant Power Communication Module (RoHS)

Accessories

RPS-100 CR	Industrial Redundant Power Supply Module (100W) (RoHS)

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