MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES5955-7NC11

CC 155H RACK POWER SUPPLY

Used with the applicable SIMATIC S5-155H PS 955 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens S5-155H CPU 948 manual C79000-B8576-C139-06; CC 155H PS 955 section 3, identification and technical specifications.

Power Supply Unit

3

In this Chapter...

This chapter gives you an overview of the power supply unit, its functions, indicators and controls, and inputs and outputs.

Chapter Overview

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Order Numbers

Name	Order Number
Power supply unit	6ES5 955-7NC11

3.1 Characteristics

Introduction

The power supply unit supplies the other modules in the subrack with their operating voltages via the backplane bus. It does not provide load voltages for the signal modules.

Characteristics

The most important characteristics of the power supply unit are:

- Nominal input voltage:
  - 24 V DC
- Output voltages:
  - 5 V DC / 14 A
  - 24 V DC / 1 A
- Short-circuit proof
- Ability to withstand overload currents
- Reverse voltage protection
- Protection against incorrect insertion
- Overvoltage protection for 5-V output
- Control and monitoring signals
- Display LEDs
- Redundant backup battery with monitoring (option)
- Both output voltages (5 V DC and 24 V DC) share a common ground
- Primary/secondary galvanic isolation
  (see following note)

Note

The power supply unit 6ES5 955-7NC11 has no safe isolation between input and output. The 24 V DC supply to this power supply unit must be generated with safe isolation.

Note

The power supply unit 6ES5 955-7NC11 is only intended for operation in the CC 155H.

3.11 Technical Specifications

Dimensions, weight and cable cross sections	
Dimensions W × H × D (mm)	40 × 255 × 205
Weight	1.35 kg
Cable cross section	0.2 to 2.5 mm^2 (full wire or litz wire)
Input voltage	
Safety specifications	According to VDE 0805 / EN 60950 / IEC 950 / VDE 0160 and VDE 0106 part 101 VDE 0160
Protected against touch	Yes, when installed
Input fuse	10 A / 25 V medium time-lag, fuse, 6.3 × 32 mm (UL/CSA)
Galvanic isolation	Yes, test voltage 500 V
Nominal input voltage V_N	24 V DC (18 V to 33 V) generated with safe isolation acc. to the requirements of VDE 0100, part 410 ≙ IEC 364–4–41; VDE 0805 ≙ EN 60950 ≙ IEC 950; VDE 0106, part 101
Transient overvoltages	2 * V_N for 0.4 ms (single pulse)
Input current I_N at rated load and nominal voltage	≤ 7 A
Starting current inrush I_{max}	≤ 15* I_N, recovery time 40 s
Protection against reversing voltage polarity	Yes (replace fuse after reversing polarity)
Efficiency at rated load	≥ 0.7
Stored energy time for power failure at rated load and V_E = 18 V DC	> 20 ms or > 5 ms, can be set Recovery time at least 1 s, max. 10 events/h
5 V output voltage	
P5V output voltage	5.1 V DC
Isolation from ground	Ungrounded with respect to the casing Test acc. to VDE 0160, Test voltage 350 V AC / 500 V DC Not ungrounded once installed in the CC 155H subrack P5V ground connected to P24V ground
Nominal output current	14 A DC
Required base load	200 mA
Ripple	≤ 1% of P5V
Switching peaks	< 150 mV_S
Static voltage tolerance at variation in input voltage, load and temperature within the permitted limits	+2%/–0.5%
Dynamic voltage tolerances at load surge from 50% to 100% overshoot settling time	 ≤ 3% of P5V ≤ 5 ms
P5V startup	≤ 500 ms at 100 mF capacitive load
Voltage Monitor	Monitors voltage for < 14 V and > 15.2 V

Protection and monitoring overvoltage shutdown P5V undervoltage signal P5V Current limiting for overload	 6V ±5% 4.75V +3% 1.0 to 1.2 I_{AN}
Test sockets for P5V I5V	On front plate On front plate (3 V equals 14 A) Linearity range 0 V/0 A to 3 V/14 A
Protection and monitoring green LED 5V	LED lights up when P5V is in order
24 V output voltage	
P24V output voltage	24 V DC +25% / –12.5%
Isolation from ground	Ungrounded with respect to the casing Test acc. to VDE 0160, Test voltage 350 V AC / 500 V DC Not ungrounded once installed in the CC 155H subrack P24V ground connected to P5V ground
Nominal output current I_{AN}	1 A DC
Ripple	< 1% of P24V
Switching peaks	< 2% of P24V, pulse width < 100 ns
Dynamic voltage tolerances at load surge from 50% to 100% overshoot settling time	 ≤ 10% of P24V ≤ 5 ms
P24V startup	≤ 5 ms after P5V startup (max. capacitive load 200 µF)
Protection and monitoring overvoltage signal P24V undervoltage signal P24V Current limiting for overload	 30 V 19.2 V +3% 1.0 to 1.3 I_{AN} isolated from P5V
Monitoring green LED 24V	LED lights up when P24V is in order
Auxiliary voltage V_H	
Output voltage V_H	14.2 to 20.7 V
Internal resistance R_i	< 2.7kΩ
Short-circuit protection	Yes
Relay outputs	
Maximum voltage	24 V DC
Maximum current	0.2 A
Casing	No
Load voltage monitoring	
Ok signal level	16.7 to 18 V
Not ok signal level	14 to 15.2 V
Permitted range	0 to 36 V
Environmental data	See Chapter 5, Technical Data