2.3 Power Supply Module PS 307; 5 A; (6ES7307-1EAx0-0AA0)

Order number: “Standard module

6ES7307-1EA00-0AA0

Order number “SIMATIC Outdoor module”

6ES7307-1EA80-0AA0

Characteristics

The PS 307 power supply module (5 A) has the following salient features:

- Output current 5 A
- Output voltage 24 VDC; proof against short-circuit and open circuit
- Connection to single-phase AC system
  (input voltage 120/230 VAC, 50/60 Hz)
- Reliable isolation to EN 60 950
- Can be used as load power supply

Wiring schematic of the PS 307; 5 A

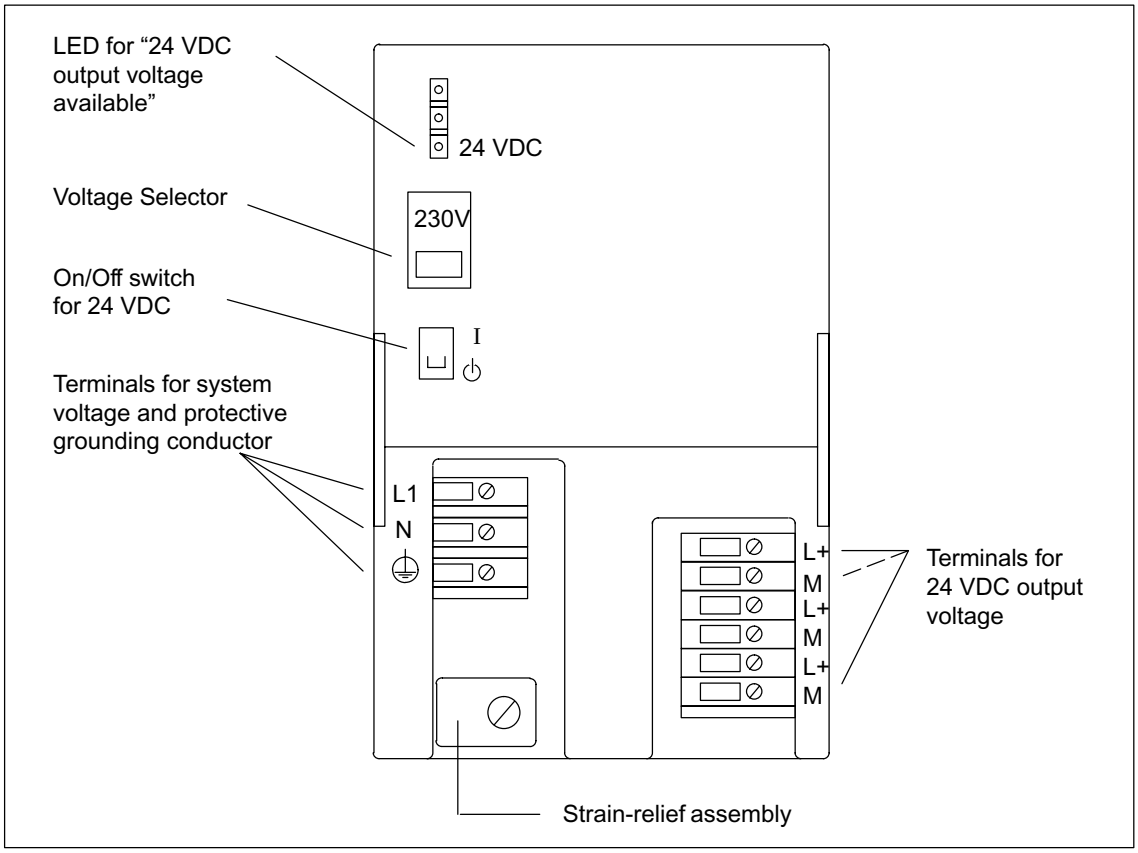

Figure 2-5 Wiring Schematic of the PS 307 Power Supply Module (5 A)

Basic circuit diagram of the PS 307; 5 A

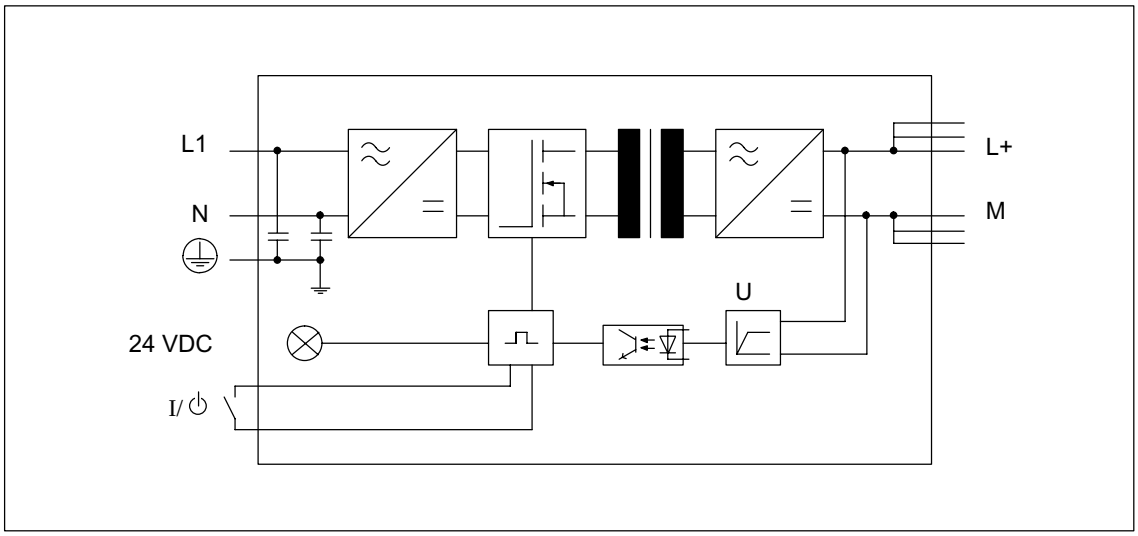

Figure 2-6 Basic Circuit Diagram of the PS 307 Power Supply Module (5 A)

Line protection

We recommend that you install a miniature circuit-breaker (MCB) (for example Siemens 5SN1 series) with the following rating to protect the incoming supply cable of the PS 307 power supply module (5 A):

- Rated current at 230 VAC: 10 A
- Tripping characteristic (type): C.

Reaction to atypical operating conditions

Table 2-3 Reaction of the PS 307 Power Supply Module (5 A) to Atypical Operating Conditions

If ...	... Then ...	24 VDC LED
... the output circuit is overloaded: • I > 6.5 A (dynamic) • 5 A < I ≤ 6.5 A (static)	 Voltage dip, autom. volt. recovery Voltage drop, shortening of service life	Flashes
... the output is short-circuited	Output voltage 0 V; automatic voltage recovery after short circuit has been eliminated	Dark
An overvoltage occurs on the primary side	Possible destruction	–
There is an undervoltage on the primary side	Automatic disconnection; automatic voltage recovery	Dark

Technical specifications of the PS 307; 5 A (6ES7307-1EA00-0AA0)

Dimensions and Weight	
Dimensions W x H x D (in millimeters)	80 x 125 x 120
Weight	Approx. 740 g
Input Rating	
Input voltage	
• Rated value	120 / 230 VAC
System frequency	
• Rated value	50 Hz or 60 Hz
• Permitted range	47 Hz to 63 Hz
Rated input current	
• At 120 V	2 A
• At 230 V	1 A
Inrush current (at 25 °C)	45 A
I^2t (at inrush current)	1.2 A^2s
Output Rating	
Output voltage	
• Rated value	24 VDC
• Permitted range	24 V ± 5 %, stable at no load
• Ramp-up time	max. 2.5 s
Output current	
• Rated value	5 A Cannot be connected in parallel
Short-circuit protection	Electronic, nonlatching, from 1.1 to 1.3 x I_N
Residual ripple	max. 150 mV_{ss}

Other Parameters	
Protection class according to IEC 536 (DIN VDE 0106, Part 1)	I, with protective grounding conductor
Insulation	
• Rated insulation level (24 V to L1)	250 VAC
• Tested with	2800 VDC
Reliable isolation	SELV circuit
Bridging of power failures (at 93 and/or 187 V)	min. 20 ms
• Repeat rate	min 1 s
Efficiency	87 %
Power input	138 W
Power loss	typ. 18 W
Diagnostics	
LED for output voltage available	Yes, green LED

Technical specifications of the PS 307; 5 A (6ES7307-1EA80-0AA0)

Dimensions and Weight	
Dimensions W x H x D (in millimeters)	80 x 125 x 120
Weight	Approx. 570 g
Input Rating	
Input voltage	
• Rated value	120/230 VDC
System frequency	
• Rated value	50 Hz or 60 Hz
• Permitted range	47 Hz to 63 Hz
Rated input current	
• At 120 V	2.1 A
• At 230 V	1.2 A
Inrush current (at 25 °C)	45 A
I^2t (at inrush current)	1.8 A^2s
Output Rating	
Output voltage	
• Rated value	24 VDC
• Permitted range	24 V ± 3 %
• Ramp-up time	max. 3 s
Output current	
• Rated value	5 A; cannot be connected in parallel
Short-circuit protection	Electronic, nonlatching, from 1.1 to 1.3 x I_N
Residual ripple	max. 150 mV_{ss}

Other Parameters	
Protection class according to IEC 536 (DIN VDE 0106, Part 1)	I, with protective grounding conductor
Insulation	
• Rated insulation level (24 V to L1)	250 VAC
• Tested with	2800 VDC
Reliable isolation	SELV circuit
Bridging of power failures (at 93 and/or 187 V)	min. 20 ms
• Repeat rate	min. 1 s
Efficiency	84%
Power input	143 W
Power loss	23 W
Diagnostics	
LED for output voltage available	Yes, green LED