

SIMATIC S7-1500 Advanced Controllers

Power supplies

System power supplies

Overview



- System power supplies for SIMATIC S7-1500
- For conversion of AC or DC line voltages to the operating voltages required for the internal electronics
- 25 or 60 W output power
- Can be used for S7-1500 or ET 200MP
- Engineering and configuration via STEP 7 V12 and higher (PS 60W 24/48/60V DC HF: from STEP 7 V14 SP1)
- In addition with PS 60W 24/48/60V DC HF: Retentive storage of CPU work memory (data) for all S7-1500 CPUs

Ordering data

Article No.

System power supply

For supplying the backplane bus of the S7-1500 Controller

24 V DC input voltage, power 25 W

6ES7505-0KA00-0AB0

24/48/60 V DC input voltage, power 60 W

6ES7505-0RA00-0AB0

24/48/60 V DC input voltage, power 60 W, buffering functionality

6ES7505-0RB00-0AB0

120/230 V AC input voltage, power 60 W

6ES7507-0RA00-0AB0

Accessories

SIMATIC S7-1500 DIN rail

Fixed lengths, with grounding elements

- 160 mm
- 245 mm
- 482 mm
- 530 mm
- 830 mm

6ES7590-1AB60-0AA0
6ES7590-1AC40-0AA0
6ES7590-1AE80-0AA0
6ES7590-1AF30-0AA0
6ES7590-1AJ30-0AA0

For cutting to length by customer, without drill holes; grounding elements must be ordered separately

- 2 000 mm

6ES7590-1BC00-0AA0

PE connection element for 2 000 mm DIN rail

6ES7590-5AA00-0AA0

Spare part, 20 units

Power plug

6ES7590-8AA00-0AA0

With coding element for power supply module; spare part, 10 units

Technical specifications

Article number	6ES7505-0KA00-0AB0	6ES7505-0RA00-0AB0	6ES7505-0RB00-0AB0	6ES7507-0RA00-0AB0
	S7-1500, PS 25W 24V DC	S7-1500, PS 60W 24/48/60V DC	S7-1500, PS 60W 24/48/60V DC HF	S7-1500, PS 60W 120/230V AC/DC
General information				
Product type designation	PS 25W 24VDC	PS 60 W 24/48/60 V DC	PS 60 W 24/48/60 V DC HF	PS 60 W 120/230 V AC/DC
Engineering with				
• STEP 7 TIA Portal configurable/integrated from version	V12 / V12	V12 / V12	V14 SP1	V12 / V12
• STEP 7 configurable/integrated from version	V5.5 SP3 or higher	V5.5 SP3 or higher		V5.5 SP3 or higher
Installation type/mounting				
Rail mounting		Yes		Yes
Supply voltage				
Rated value (DC)	24 V	24 V / 48 V / 60 V	24 V / 48 V / 60 V	120 V / 230 V
Rated value (AC)				120 V / 230 V
Reverse polarity protection	Yes	Yes	Yes	
Short-circuit protection	Yes	Yes	Yes	Yes
Line frequency				
• Rated value 50 Hz				Yes
• permissible range, lower limit				47 Hz
• permissible range, upper limit				63 Hz
Mains buffering				
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms	20 ms

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Input current				
Rated value at 24 V DC	1.3 A	3 A	3 A	
Rated value at 48 V DC		1.5 A	1.5 A	
Rated value at 60 V DC		1.2 A	1.2 A	
Rated value at 120 V DC				0.6 A
Rated value at 230 V DC				0.3 A
Rated value at 120 V AC				0.6 A
Rated value at 230 V AC				0.34 A
Inrush current, max.			≤ 8 A for t ≤ 1 s	
Output current				
Short-circuit protection	Yes	Yes	Yes	Yes
Power				
Infeed power to the backplane bus	25 W	60 W	60 W	60 W
Power loss				
Power loss at nominal rating conditions	6.2 W	12 W	12 W	12 W
Interrupts/diagnostics/status information				
Status indicator	Yes	Yes	Yes	Yes
Potential separation				
primary/secondary	Yes	Yes; Electrical isolation for 230 V AC (reinforced isolation)		Yes
EMC				
Interference immunity against voltage surge				
<ul style="list-style-type: none"> Interference immunity on supply lines acc. to IEC 61000-4-5 	Yes; ±1 kV (acc. to IEC 61000-4-5; 1995; surge symm.), ±2 kV (acc. to IEC 61000-4-5; 1995; surge asymm.), no external protective circuit required	Yes; ±1 kV (acc. to IEC 61000-4-5; 1995; surge symm.), ±2 kV (acc. to IEC 61000-4-5; 1995; surge asymm.), no external protective circuit required	Yes; ±1 kV (acc. to IEC 61000-4-5; 1995; surge symm.), ±2 kV (acc. to IEC 61000-4-5; 1995; surge asymm.), no external protective circuit required	Yes; ±1 kV (acc. to IEC 61000-4-5; 1995; surge symm.), ±2 kV (acc. to IEC 61000-4-5; 1995; surge asymm.), no external protective circuit required
Degree and class of protection				
Equipment protection class	III, with protective conductor	I, with protective conductor	I, with protective conductor	I, with protective conductor
Ambient conditions				
Altitude during operation relating to sea level				
<ul style="list-style-type: none"> Installation altitude above sea level, max. 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual			
Dimensions				
Width	35 mm	70 mm	105 mm	70 mm
Height	147 mm	147 mm	147 mm	147 mm
Depth	129 mm	129 mm	129 mm	129 mm
Weights				
Weight, approx.	350 g	600 g	865 g	600 g