The following power supply modules will switch off in the event of a short-circuit or overload after 1 to 3 seconds. The module will try to restart after no more than 3 seconds. If the error has been eliminated by then, the module will start up. This applies to the following modules:

Modules	
PS 405 4A (6ES7405-0DA01-0AA0)	PS 407 4A (6ES7407-0DA01-0AA0)
PS 405 4A (6ES7405-0DA02-0AA0)	PS 407 4A (6ES7407-0DA02-0AA0)
PS 405 10A (6ES7405-0KA01-0AA0)	PS 407 10A (6ES7407-0KA01-0AA0), release ≥5
PS 405 10A (6ES7405-0KA02-0AA0)	PS 407 10A (6ES7407-0KA02-0AA0)
PS 405 10A R (6ES7405-0KR00-0AA0)	PS 407 10A R (6ES7407-0KR00-0AA0), release ≥7
PS 405 10A R (6ES7405-0KR02-0AA0)	PS 407 10A R (6ES7407-0KR02-0AA0)
PS 405 20A (6ES7405-0RA01-0AA0)	PS 407 20A (6ES7407-0RA01-0AA0)
PS 405 20A (6ES7405-0RA02-0AA0)	PS 407 20A (6ES7407-0RA02-0AA0)

Overload at 24 V

In the event of overload at 24 V the output current is electronically limited to a value between 100% and 150% of the rated value. If the voltage then goes below the undervoltage threshold of 19.2 V (-0/+ 5% corresponds to 19.2 V to 20.16 V), the modules respond as follows:

- For the power supply modules, the 24 V voltage is disconnected and reconnected at a repeat rate of approx. 0.5 to 1 seconds until there is an output voltage that exceeds the undervoltage threshold.
- For the power supply modules 6ES7407-0KA01-0AA0, 6ES740x-0KR00-0AA0 and 6ES740x-0KR01-0AA0, the voltage reaches the level determined by the load impedance, the module is in the characteristic operating range.

After the overload has been eliminated, the voltage returns to the nominal range and the green 24 V LED flashes. The CPU sets the EXTF LED (external fault) and saves the fault in the diagnostic buffer. You can trigger other responses, such as CPU STOP or a message to a control room, in OB 81 (power supply error). If OB 81 is not configured, the CPU continues as normal.

Overload at 5 V

In the event of an overload at 5 V, the power supply modules with 10 A or 20 A output current can retain an output current of 16 A or 26 A for 300 ms. The power supply modules with 4 A output current can retain an output current of 6 A for 300 ms. The CPU will then go to DEFECT afterwards. If the 5 VDC LED flashes on the power supply and can be reset with the FMR button, you will be able to perform a restart. The CPU will remain in STOP afterwards and will then require a memory reset.

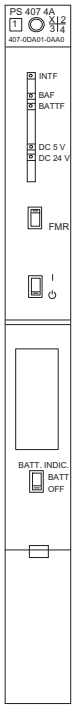
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3.6 Power supply module PS 407 4A (6ES7407-0DA01-0AA0)

Function

The power module PS 407 4A is designed for connection to an 85 to 264 V AC network or an 88 to 300 V DC network, and supplies DC 5 V/4 A and DC 24 V/0.5 A at the secondary side.

PS 407 4A operator control and monitoring elements



Mounting screw

LEDs INTF, BAF,
BATTF,
5 V DC, 24 V DC

FMR button (Failure Message Reset)

Standby switch (does not cut off mains)

Under cover

Battery compartment

Switch BATT. INDIC, BATT,
OFF

3-pin power connector

Mounting screw

Figure 3-2 PS 407 4A operator control and monitoring elements

Mains connection

An AC power plug is used with PS 407 4A for connection to an AC network and for connection to a DC network.

Reverse polarity of L+ and L-

Reverse polarity of L+ and L with a supply voltage of DC 88 V to DC 300 V does not affect the function of the power supply. The connection should comply with the instructions in the installation manual.

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PS 407 4A technical specifications

Dimensions, weight and cable cross-sections	
Dimensions W x H x D (mm)	25 x290x217
Weight	0.76 kg
Cable cross-section	3x1.5 mm^2 (stranded wire with wire end ferrule with insulating sleeve; use hose line only)
Cable diameter	3 to 9 mm
Input variables	
Input voltage	
• Rated value	DC 120/240 V AC 120/240 V
• Permitted range	88 to 300 V DC 85 to 264 V AC (wide range input)
Line frequency	
• Rated value	50/60 Hz
• Permitted range	47 to 63 Hz
Rated input current	
• With 120 V AC	0.38 A
• With 120 V DC	0.37 A
• With 240 V AC	0.22 A
• With 240 V DC	0.19 A
Leakage current	< 3.5 mA
Output variables	
Output voltage	
• Rated values	5.1 V DC/24 V DC
Output current	
• Rated values	5 V DC: 4 A 24 V DC: 0.5 A
Parameters	
Protection class pursuant to IEC 60536	I, with protective conductor
Overvoltage category	II
Pollution degree	2
Rated voltage U_e $0 < U_e \leq 50$ V $150 V < U_e \leq 300$ V	Test voltage 700 V DC (secondary <-> PE) 2200 V DC (primary <-> secondary/PE)
Backup for power failures	> 20 ms at a repeat rate of 1 s, meets NAMUR recommendation NE 21
Power consumption 240 V AC	52 W
Power loss	20 W
Backup current	maximum of 100 µA when power off

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Back-up battery (option)	1 x lithium AA, 3.6 V/2.3 Ah
Protective separation in accordance with IEC 61131-2	Yes

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PRODUCT: 6ES7407-0DA01-0AA0 / SIMATIC S7-400 PS 407 4A POWER SUPPLY MODULE

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