

SIMATIC

S7-400 S7-400 Automation System Module Data

Reference Manual

Preface

General specifications

1

Rack

2

Power supply modules

3

Digital modules

4

Analog modules

5

Interface modules

6

S5 interface IM 463-2

7

PROFIBUS DP master
interface IM 467/IM 467 FO

8

Cable duct and fan
subassemblies

9

RS 485 repeater

10

Parameter sets of signal
modules

A

Diagnostic data of signal
modules

B

Accessories and spare parts

C

Directive on handling
electrostatic sensitive
devices (ESD)

D

List of abbreviations

E

3.5 Fault/Error messages via LEDs

INTF LED	LED DC5V	LED DC24V	Cause of fault	Remedy
D	B	B	Dynamic overload on 5 V and 24 V	Check load on the power supply module. Possibly remove modules.
D = LED is dark; H = LED lights up; B = LED flashing;				

* If the power supply module does not start up again after a few seconds once the overload has been removed, remove power to the module for 5 minutes and then switch it on again. If the module still does not start up, you must replace it. This applies to the following power supply modules:

- 6ES7407-0KA01-0AA0, Release 3
- 6ES7407-0KR00-0AA0, Release ≤ 5
- 6ES7407-0KA01-0AA0, Release ≥ 10
- 6ES7405-0DA02-0AA0, 6ES7407-0DA02-0AA0
- 6ES7405-0KA02-0AA0, 6ES7407-0KA02-0AA0
- 6ES7405-0KR02-0AA0, 6ES7407-0KR02-0AA0
- 6ES7405-0RA02-0AA0, 6ES7407-0RA02-0AA0

The same characteristic is displayed by the built-in overtemperature protection is triggered.

If either the 5 VDC or 24 VDC LEDs remains dark after switching on, the system has not powered up.

If either of the 5 VDC or 24 VDC LEDs of the PS 407 10AR remains dark for longer than 1 or 2 seconds after it is switched on, the power supply module will not start up.

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)

3.11 Power supply module PS 407 20A (6ES7407-0RA02-0AA0)

Function

The power module PS 407 20A is designed for connection to an 85-264 V AC network or an 88-300 V DC network, and supply 5 V/20 A DC and 24 V/1 A DC at the secondary side.

PS 407 20A operator control and monitoring elements

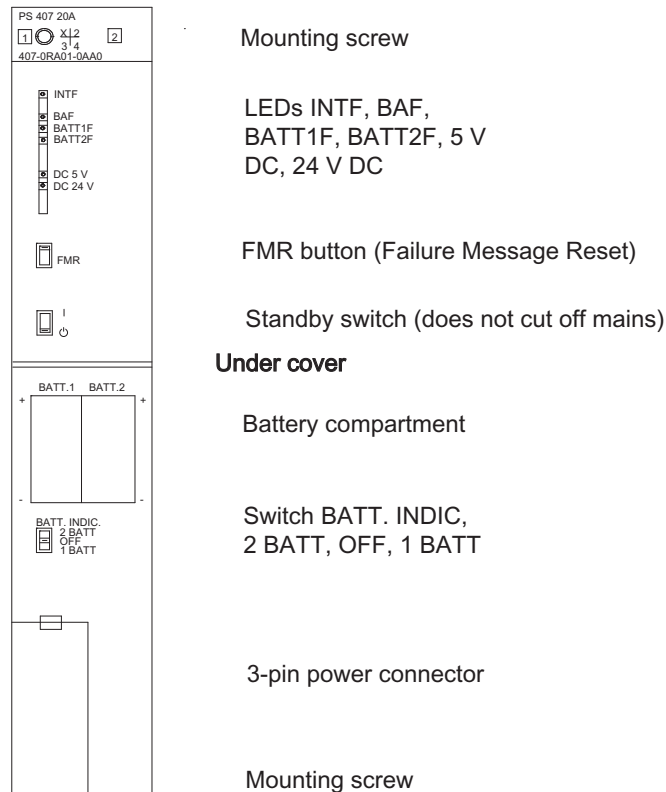


Figure 3-7 PS 407 20A power module operator control and monitoring elements

Mains connection

An AC power plug is used with PS 407 20A both 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 88 V DC to 300 V DC does not affect the function of the power supply. The connection must comply with the instructions in the *installation manual*.

PS 407 20A technical specifications

Dimensions, weight and cable cross-sections	
Dimensions W x H x D (mm)	25x290x217
Weight	1.3 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	120/230 V DC 120/230 V AC
• 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	
• At 120 V AC/120 V DC	1.4 A
• At 230 V AC/230 V DC	0.7 A
Inrush current	Peak value 88 A full width at half maximum 1.1 ms
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: 20 A 24 V DC: 1.0 A
Parameters	
Protection class pursuant to IEC 60536	I, with protective conductor
Overvoltage category	II
Pollution degree	2
Rated voltage U_e $0 < U_e \leq 50 \text{ V}$ $150 \text{ V} < U_e \leq 300 \text{ V}$	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	158 W
Power loss	35 W
Backup current	maximum of 100 μA when power off
Back-up batteries (option)	2 x lithium AA, 3.6 V/2.3 Ah
Protective separation in accordance with IEC 61131-2	Yes