

SIMATIC

S5-135U/155U

System Manual

This manual has the
order number:

6ES5998-0SH21

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8.1 Technical Description

The description below applies to the following modules:

Type of Modules	Inputs/Outputs		Input/Output Current	Isolation/ Groups *)	
	Number	Rated Voltage			
Digital input modules					
6ES5 420-4UA13/14	32	24 V DC	8.5 mA	no	-
6ES5 430-4UA13/14	32	24 V DC	7.0 mA	yes	1
6ES5 431-4UA12	16	24 to 60 V DC	4.5 to 7.5 mA	yes	16
6ES5 432-4UA12	32	24 V DC/alarm	8.5 mA	yes	4
6ES5 434-4UA12	32	5 to 15 V DC	1.3 mA	yes	1
6ES5 435-4UA12	16	24 to 60 V AC	15 to 25 mA	yes	2
6ES5 436-4UA12	16	115 to 230 V AC	15 to 25 mA	yes	2
6ES5 436-4UB12	8	115 to 230 V AC	15 to 25 mA	yes	8
Digital output modules					
6ES5 441-4UA13/14	32	24 V DC	0.5 A	no	-
6ES5 451-4UA13/14	32	24 V DC	0.5 A	yes	1
6ES5 453-4UA12	16	24 V DC	2.0 A	yes	16
6ES5 454-4UA13/14	16	24 V DC	2.0 A	yes	1
6ES5 455-4UA12	16	24 to 60 V AC	2.0 A	yes	2
6ES5 456-4UA12	16	115 to 230 V AC	2.0 A	yes	2
6ES5 456-4UB12	8	115 to 230 V AC	2.0 A	yes	8
6ES5 457-4UA12	16	24 to 60 V DC	0.5 A	yes	16
6ES5 458-4UA12	16	60 V relay	0.5 A	yes	16
6ES5 458-4UC11	16	250 V AC relay	5 A	yes	2
Digital input/output modules					
6ES5 482-4UA11 6ES5-482-4UA20	16 inputs and 16 outputs or 24 inputs and 8 outputs	24 V DC	8.5 mA (inputs) 0.5 A (outputs)	yes	1

*) All inputs and outputs having a common 0 V ground form a group.

Technical specifications which are common to all modules are given in Section 8.3. The special technical specifications for all modules can be found in Section 8.4.

I/O Modules

Digital input and digital output modules are I/O modules which allow the processing of widely differing process signals with the S5-135U/155U programmable controller. They can also be used via an adapter casing in the S5-115U PLC.

8.4.12 6ES5 454-4UA13/4UA14 Digital Output Module

	-4UA13	-4UA14
Rated supply voltage L+	24 V DC	
Number of outputs	16, short-circuit protected ¹⁾	
Isolation	Yes, 1 group of 16 outputs	
Range for supply voltage	20 to 30 V DC	
Fusing	6.3 A, slow 1 fuse per 4 outputs	7 A, fast 1 fuse per 4 outputs
Output voltage for logic 1 for logic 0	L+ - 2 V min. 3 V max.	
Switching current (resistive, inductive load)	10 mA to 2 A ²⁾	
Residual current at logic 0	1 mA max.	
Switching current for lamps	0.45 A max. (10 W)	
Switching frequency with resistive load with inductive load	100 Hz max. 0.2 Hz max. at 1 A; 0.1 Hz at 2 A	
Breaking voltage (inductive)	Limited to L+ - 47 V	Limited to L+ -55 V
Total switching current	4 A max. per 4 outputs	
Coincidence factor (total load capability)	50 % (in relation to the total switching current)	
Permissible line length	400 m max., unshielded	
Power supply		
Digital section from system bus	5 V, 100 mA typical	
Current consumption from L+/L-	24 V, 100 mA typical	24 V, 120 mA typical
Power dissipation (rated operation)	17.5 W	10 W
Enable input (F+/F-)		
Rated input voltage	24 V DC	
Input voltage for logic 1 for logic 0	13 to 33 V - 33 to 5 V	
Rated input current	5 mA	
Permissible line length	200 m max.	
Short-circuit monitoring		
Short-circuit display	Red LED for 4 outputs	
Signaling output (H+)	Common for all outputs. The signal “1” is generated when a short circuit occurs at an output.	
Output voltage , referred to L- (with feed at 1L+) for logic 1 for logic 0	1L+ - 5 V min. 3 V max.	1L+ -1,5 V min.
Switching current	10 mA max., limited	
Voltage test to VDE 0160	Between group and ground point: 1250 V AC	
Mechanical specifications		
Dimensions (W x H x D)	40 mm x 255 mm x 195 mm	20 mm x 255 mm x 195 mm
Weight	Approx. 0.55 kg	

1) Short-circuit protection responds with line resistance $\leq 4,75 \text{ ohm}$, irrelevant for the -4UA14.

2) One digital input is permissible as minimum load.