

4AV Non-Stabilized Power Supplies

Filtered for Supply of Electronic Controls

General data

Technical specifications

Single-phase and three-phase DC power supplies

24 V DC voltage Limit values	EN 61131-2	Typical value				Conditions
		4AV2	4AV3	4AV4	4AV5	
Ripple	≤ 5 %	2.2 ... 2.7 %	4.2 %	3.0 ... 3.7 %	4.2 %	at rated current
24 V DC voltage						
• Upper limit	30 V	≤ 28.8 V	≤ 28.8 V	≤ 30 V	≤ 30 V	for mains overvoltage +6 % and no-load operation
• Lower limit						for mains undervoltage –10 % and rated current
- arithmetic mean value	20.4 V	20.4 V	20.5 V	20.4 V	20.4 V	
- lower peak value	19.2 V	19.3 V	19.3 V	19.2 V	19.2 V	
• Rated value		23.5 V	23.5 V	23.5 V	23.5 V	for rated mains voltage and rated current

Current-carrying capacity of the power supplies with 3RT1 contactors for DC operation

- Sizes S00 to S3 with DC solenoid systems:
power at closing = power when closed. The DC power supplies can be loaded up to their rated currents.
- Sizes S6 to S12:
when operating the rectifiers at –10 % mains undervoltage.

Contactor	Number of 3RT1 ¹⁾ contactors that can be operated simultaneously with preloading																											
	4AV20/ 4AV21		4AV23		4AV22		4AV24		4AV26		4AV30		4AV31		4AV32		4AV33		4AV34		4AV35		4AV36		4AV38			
Type	①	②	①	②	①	②	①	②	①	②	①	②	①	②	①	②	①	②	①	②	①	②	①	②	①	②		
3RT1. 5	--	--	--	--	1	1	2	1	3	1	2	1	3	2	4	2	7	5	8	5	14	10	22	16	42	30		
3RT1. 6	--	--	--	--	1	1	1	1	2	1	1	1	2	1	2	1	4	3	4	3	7	5	11	8	22	15		
3RT1. 7	--	--	--	--	--	--	1	--	1	--	1	--	1	1	2	1	3	2	3	2	5	4	9	6	16	12		

① No-load operation

② Rated current

¹⁾ The number of contactors can be significantly increased by using additional banks of capacitors which must be connected externally.

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Primary-side short-circuit protection, secondary-side short-circuit and overload protection

Rectifier unit	Ambient temperature t_a	Rated output current I_d	Primary-side protection against short-circuits (line protection) by means of motor starter protector ¹⁾ or fuse, gL/gG operational class								Secondary-side protection against short-circuit and overload by means of motor starter protector or fuse, operational class	
			Type	Rated input voltage U_{1N}								Type
Type	°C	DC A		575 V (600 V)	500 V	460 V (480 V)	400 V (415 V)	230 V (240 V)	200 V	115 V (120 V)		
Single-phase												
4AV21	60	1	3RV10 11-□□□10 Set value in A	--	--	--	0CA	0FA	--	0JA	Built-in electrical short-circuit/overload protection fuse	--
	40	1.2	3RV10 11-□□□10 Set value in A	--	--	--	0DA	0FA	--	0KA		
4AV20	60	2.5	3RV10 11-□□□10 Set value in A	--	--	--	0FA	0HA	--	1BA	3RV10 11-□□□10 Set value in A	1DA
	40	3	Set value in A	--	--	--	0.4	0.6	--	1.6		2.5
4AV23	60	3.5	3RV10 11-□□□10 Set value in A	--	--	--	0HA	0JA	--	1CA	Built-in electrical short-circuit/overload protection fuse	--
	40	4.2	Set value in A	--	--	--	0.55	0.7	--	2		
4AV22	60	5	3RV10 11-□□□10 Set value in A	--	--	--	0HA	1AA	--	1DA	3RV10 11-□□□10 Set value in A	1GA
	40	6	Set value in A	--	--	--	0.6	1.1	--	2.4		5
4AV24	60	10	3RV10 11-□□□10 Set value in A	--	--	--	1CA	1DA	--	1GA	3RV10 11-□□□10 Set value in A	1KA
	40	12	Set value in A	--	--	--	2.2	2.9	--	6		10
4AV26	60	15	3RV10 11-□□□10 Set value in A	--	--	--	1CA	1EA	--	1HA	3RV10 21-□□□10 Set value in A	4BA
	40	18	Set value in A	--	--	--	2	3.2	--	6		15
4AV41 01	40	1.5	3RV10 11-□□□10 Set value in A Fuse gL/gG A	--	--	--	0BA	0DA	--	--	Integrated blade-type fuse FK2	4 A
4AV41 03	40	3	3RV10 11-□□□10 Set value in A Fuse gL/gG A	--	--	--	0.15	0.27	--	--		7.5 A
4AV41 06	40	6	3RV10 11-□□□10 Set value in A Fuse gL/gG A	--	--	--	0.5	0.7	--	--	Integrated blade-type fuse FK2	15 A
4AV41 10	40	10	3RV10 11-□□□10 Set value in A Fuse gL/gG A	--	--	--	1	2	--	--		25 A
				--	--	--	0.8	1.2	--	--		
				--	--	--	2	1	--	--		
				--	--	--	1BA	1CA	--	--		
				--	--	--	1.6	2.4	--	--		
				--	--	--	4	4	--	--		
Three-phase												
4AV30	60	9/10	3RV10 11-□□□10 Set value in A	0FA	0FA	0FA	0HA	0KA	0KA	--	3RV10 11-□□□10 Set value in A	1KA
	40	11/12	Set value in A	0.4	0.4	0.4	0.6	1	1	--		9/10
4AV31	60	13.5/15	3RV10 11-□□□10 Set value in A	0HA	0HA	0HA	0KA	1BA	1CA	--	3RV10 21-□□□10 Set value in A	4BA
	40	16/18	Set value in A	0.6	0.6	0.6	1	1.6	2	--		14/15
4AV32	60	18/20	3RV10 11-□□□10 Set value in A	0HA	0KA	0KA	0KA	1BA	1DA	--	3RV10 31-□□□10 Set value in A	4DA
	40	21.5/24	Set value in A	0.72	1	1	1.2	1.9	2.4	--		18/20
4AV33	60	27/30	3RV10 11-□□□10 Set value in A	1CA	1CA	1CA	1CA	1EA	1FA	--	3RV10 31-□□□10 Set value in A	4FA
	40	32.5/36	Set value in A	1.8	1.8	1.8	2	3.2	4	--		28/30
4AV34	60	36/40	3RV10 11-□□□10 Set value in A	1CA	1CA	1CA	1DA	1GA	1GA	--	3RV10 41-□□□10 Set value in A	4HA
	40	43/48	Set value in A	2	2	2	2.4	5	5	--		36/40
4AV35	60	45/50	3RV10 11-□□□10 Set value in A	1DA	1DA	1EA	1FA	1HA	1HA	--	3RV10 41-□□□10 Set value in A	4JA
	40	54/60	Set value in A	2.4	2.4	3.2	4	6	6	--		45/50
4AV36	60	80	3RV10 11-□□□10 Set value in A	--	1HA	--	1HA	--	--	--	3RV10 41-□□□10 Set value in A	4MA
4AV38	40	96	Set value in A	--	6	--	6	--	--	--		80
4AV51 25	60	150	3RV10 11-□□□10 Set value in A	--	7.2	--	72	--	--	--	3VF27 16-1DC33-0AA0 Set value in A	150/800
	40	180	Set value in A	--	1KA	--	1KA	--	--	--		
4AV51 35	60	25	3RV10 21-□□□10 Set value in A	--	10	--	12	--	--	--	3VF37 16-1DC36-0AA0 Set value in A	180/1000
	40	35	Set value in A	--	4AA	--	4AA	--	--	--		
				--	12	--	14	--	--	--		
4AV51 25	40	25	3RV10 11-□□□10 Set value in A Fuse gL/gG A	--	--	--	1BA	--	--	--	3RV10 31-□□□10 Set value in A Fuse gL/gG A	4EA
				--	--	--	1.6	--	--	--		25
4AV51 35	40	35	3RV10 11-□□□10 Set value in A Fuse gL/gG A	--	--	--	2	--	--	--	3RV10 31-□□□10 Set value in A Fuse gL/gG A	4FA
				--	--	--	2.4	--	--	--		35
				--	--	--	4	--	--	--		35

¹⁾ In the event of a short-circuit on the feeder lines between the protective device and the input side of the unit, the rated short-circuit breaking capacity of the protection equipment must be taken into account with regard to the maximum possible prospective short-circuit current at the place of installation.