

MC4U

Power Supplies

The PSM3U line of power supplies generates all drive and control voltages for a MC4U system. Available Power Supplies:

- 8 kW power supply. 120Vdc to 320Vdc nominal drive voltage is generated by rectifying the AC input. It includes an internal 100W shunt/regeneration resistor. If required, an external shunt resistor of 300W or 600W can be connected to absorb more energy.
- 0.7 kW, 48-51Vdc regulated supply with Power Factor Correction (PFC). It is suitable for applications with demanding constant speed regulation and low position jitter requirements. This power supply does not include regeneration circuit.

The MC4U can accommodate one or two supplies, to provide two voltage levels for different motors or to increase the total power.

The PSM3U are fed from a single or three-phase AC source in the range of 100-230Vac nominal voltage (or 141-325Vdc) and from a 24Vdc. The supply derives the DC voltage for the motor drives from the AC input and all logic and control voltages from the 24Vdc input. During emergency conditions it is sufficient to remove only the AC input, thus keeping all the logic and control circuitry alive. When using high current encoders (such as SIN-COS encoders), it is recommended to feed the encoders from a separate power supply.

Logic Supply Input Specification

- Nominal input voltage: 24 Vdc
- Maximum input power: 144W
- Maximum input current: 5.5A

Standards and Environment Specification

- All power supplies are CE (EMC, Safety) and UL certified and RoHS compliant.

Ambient Temperature

- Operating range: 0 to + 40°C
- Storage and transportation range: -25 to +60°C
- Humidity (operating range): 20% to 95% non-condensing

CE, UL, RoHS



PSM3U-48V-0.7kW
PSM3U-28V-0.5kW



PSM3U-320V-8kW
PSM3U-560V-7kW
PSM3U-320V-4kW
PSM3U-100V-3kW



PSM3U-320/48V-8/0.7kW



PSM3U-48V-1.4kW



PSM3U-320V-10kW
PSM3U-320V-11kW
PSM3U-320V-20kW

Specifications

Part Number	PSM3U-28V-0.5kW	PSM3U-48V-0.7kW	PSM3U-48V-1.4kW	PSM3U-100V-3kW	PSM3U-320V-4kW	PSM3U-320V-8kW	PSM3U-320V-10kW	PSM3U-320V-11kW	PSM3U-320/48V-0.7/8kW	PSM3U-320V-20kW	PSM3U-560V-7kW			
Certification Type	CE / UL	CE / UL	CE / UL		CE / UL	CE	UL	CE / UL	CE	UL	CE / UL			
Input voltage [Vac] range	85-265			60-80V	85-265						400 ±10%			
Singe phase	230 ±10%			70V ±10%	230 ±10%									
Three phase														
Input Voltage [Vdc]	120-375			85-113	120-375						565			
Input frequency, nominal [Hz]	50 - 60													
Drive bus voltage(s) at nominal load [Vdc]	@ 110Vac 1ø / 230Vac 1ø			@ 110Vac 1ø / 230Vac 1ø / 230Vac 3ø						Two outputs @ 110Vac 1ø / 230Vac 1ø / 230Vac 3ø		@ 400Vac		
@ 110Vac Singe phase input	28	51	51	-	133	133	119	133	51/133	119	543			
@ 230Vac Singe phase input*	28	51	51	88	302	302	283	302	51/302	283				
@ 230Vac Three phase input*	-	-	-	92	313	313	300	313	51/313	300				
Output power, cont. (nominal load) [kW]														
@ 110Vac Singe phase input	0.5	0.51	1	-	1.1	2.1	2.1	1.9	2.6	2.1	2.6	2.6	2x1.9**	6.5
@ 230Vac Singe phase input*	0.5	0.714	1.4	1,360	2.6	4.7	4.4	4.4	5.5	4.4	5.4	4.4	2x4.4**	-
@ 230Vac Three phase input*	-	-	-	2,110	3.6	7.2	7.2	10.2	10.2	8.1	7.9	7.9	2x10.2**	-
Output power, peak for 1 second (peak load) [kW]														
@ 110Vac Singe phase input	0.5	0.714	1.4	-	1.8	3.6	2.5	7.2	4.3	2x2.5**	27.8			
@ 230Vac Singe phase input*	0.5	0.714	1.4	2,465	4.4	8.8	7.6	17.5	9.5	2x7.6**	-			
@ 230Vac Three phase input*	-	-	-	4,040	9.2	18.4	19.2	36.7	19.1	2x19.2**	-			
Output current, cont [A]														
@ 110Vac Singe phase input	18	10.0	20.0	-	8	16.0	16	16	20	16	10/16	10/16	2x16**	12
@ 230Vac Singe phase input*	18	14.0	28.0	15.5	7.5	15.5	15	15	18	15	14/15.5	14/15	2x15**	-
@ 230Vac Three phase input*	-	-	-	23	12	23	23	34	32	26	14/23	14/23	2x34**	-
Output current, peak for 1 second [A]														
@ 110Vac Singe phase input	18	14.0	28.0	-	16	32.0	32	64	14/32	2x32**	60			
@ 230Vac Singe phase input*	18	14.0	28.0	31	15	31	31	62	14/31	2x31**	-			
@ 230Vac Three phase input*	-	-	-	46	31	62	70	124	14/62	2x70**	-			
Input current at nominal load [Arms]														
@ 110Vac Singe phase input	6.2	5.7	11.4	-	12	24.2	24.5	30	24	29.9	24.0	49	11	
@ 230Vac Singe phase input*	3.2	3.1	6.2	28.6	13	25.4	27	30	24	28.5	24.0	54	-	
@ 230Vac Three phase input*	-	-	-	25.6	11	21.3	38	30	24	24.4	24.0	76	-	
Input current at peak load [Arms]														
@ 110Vac Singe phase input	6.2	8.0	16.0	-	20	40.7	31	81.5	48.7	62	47			
@ 230Vac Singe phase input*	3.2	3.1	6.2	48.9	23	47.7	43	95.4	50.8	86	-			
@ 230Vac Three phase input*	-	-	-	46.3	27	54.2	67	108.4	57.3	134	-			
Input power at nominal load [kW]														
@ 110Vac Singe phase input	0.6	0.6	1.3	-	1.4	2.7	2.6	2.8	3.3	2.6	3.3	2.6	5.6	7.7
@ 230Vac Singe phase input*	0.6	0.9	1.8	2,000	3	5.9	5.5	5.3	6.9	5.5	6.7	5.5	10.6	-
@ 230Vac Three phase input*	-	-	-	3,109	4.2	8.5	8.5	15	12.0	9.6	9.4	9.2	30	-
Input power at peak load [kW]														
@ 110Vac Singe phase input	0.6	0.9	1.8	-	2.3	4.51	3.5	9	5.4	7.0	32.6			
@ 230Vac Singe phase input*	0.6	0.9	1.8	3,423	5.5	11.0	8.4	22	11.8	16.8	-			
@ 230Vac Three phase input*	-	-	-	5,612	11	21.6	22	43	22	44	-			
Efficiency														
Singe phase input	81%	81%	81%	68	80%	80%	68%	80%	80%	80%	68%	85%		
Three phase input	-	-	-	68	85%	85%	68%	85%	80%	85%	68%	85%		
											(for 8kW only)			
Power Supply Dissipation at nominal load [W]														
Singe phase input	180w	160	320	63	48	95	90	131	255	2x90	-			
Three phase input	-	-	-	100	70	135	235	186	295	2x235	95			
Dimensions: Height, Width, Length [mm]	129x91x242	129x91x242	129x178x242	129x178x242	129x91x242	129x91x242	129x91x242	129x178x242	129x178x242	129x178x242	129x178x242	129x178x242		
Weight [gram]	1,270	1,270	2,540	1,630	1,630	1,630	1,630	3,260	2,900	3,260	1,600			
Internal Regeneration resistor	-	-	-	100W	100W	100W	100W	100W	100W	200W	100W			
Power supply protection types														
Power supply missing	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES			
Temperature too high	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES			
Over current protection	YES	YES	YES	-	-	-	-	-	YES (for 0.7kW only)	-	-			
Over voltage protection	YES	YES	YES	-	-	-	-	-	YES (for 0.7kW only)	-	-			
Power supply not ready	-	-	-	YES	YES	YES	YES	YES	YES (for 8kW only)	YES	YES			
Regeneration fault	-	-	-	YES	YES	YES	YES	YES	YES (for 8kW only)	YES	YES			
Phase lost (for 3 ophase input only)	-	-	-	YES	YES	YES	YES	YES	YES (for 8kW only)	YES	YES			

* 70Vac for PSM3U-100V-3KW

** The power supply consists of 2 independent supplies, which feed the drives connected to them independently.

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