



Page 20-2

#### MODULAR VERSION

- Single phase
- Output voltage: 12 or 24VDC
- Output power: 10-100W.



Page 20-3

#### DIN RAIL MOUNT VERSION

- Single, two and three phase
- Output voltage: 24VDC
- Output power: 5-960W.



- Versions: modular and 35mm DIN rail mount
- Output voltage adjustment by front potentiometer
- Short-circuit protection
- Built-in input voltage surge suppressor
- Used as power supply for DC electromechanical and electronic equipment.

	SEC. - PAGE
<b>Modular switching power supplies</b>	
Single phase .....	20 - 2
<b>Switching power supplies</b>	
Single phase .....	20 - 3
Two phase .....	20 - 3
Three phase .....	20 - 3
<b>Dimensions</b> .....	20 - 4
<b>Wiring diagrams</b> .....	20 - 5
<b>Technical characteristics</b> .....	20 - 6



PSL1M 010...



PSL1M 033 12  
PSL1M 036 24

Order code	Rated output voltage	Rated output current	Output power	Qty per pkg	Wt
	[V]	[A]	[W]	n°	[kg]
Single phase.					
<b>PSL1M 010 12</b>	12VDC	0.83	10	1	0.114
<b>PSL1M 024 12</b>		2	24	1	0.177
<b>PSL1M 033 12</b>		2.75	33	1	0.248
<b>PSL1M 054 12</b>		4.5	54	1	0.311
<b>PSL1M 072 12</b>		6	72	1	0.443
<b>PSL1M 010 24</b>	24VDC	0.42	10	1	0.114
<b>PSL1M 024 24</b>		1	24	1	0.177
<b>PSL1M 036 24</b>		1.5	36	1	0.248
<b>PSL1M 060 24</b>		2.5	60	1	0.311
<b>PSL1M 100 24</b>		4.2	100	1	0.443

NOTE: UL Listed for USA and Canada as Power Supplies in power circuit and motor-mounted apparatus category.

### General characteristics

Switching power supplies transform an AC input voltage into a DC output one. This type of equipment is used in industrial and domestic automation fields. The power supplies are equipped with switching technology offering very high efficiency in an extremely compact size.

Dimensions are compatible with modular consumer panels and its plastic housing is suitable for building automation installations as well as industrial automation applications.

The wide range of power supply voltages and the choice of DC current outputs provide for the best adaptability to supply voltage needs of the most common electronic and electromechanical devices.

#### Protections:

- Short circuit
- Overload
- Input voltage peaks.

#### Indications:

- LED indicator for low voltage conditions
- LED indicator for power on.

### Operational characteristics

- Rated supply voltage: 100-240VAC
- Rated output voltage: 12VDC for PSL1M...12 types; 24VDC for PSL1M...24 types
- Mains frequency: 50/60Hz
- Output voltage adjustment by front potentiometer
- High efficiency up to 89%
- 35mm DIN rail (IEC/EN 60715) mounting
- Screw connection terminals
- Modular DIN 43880 housing; number of modules:
  - 1 for PSL1M 010...
  - 2 for PSL1M 024...
  - 3 for PSL1M 033 12 and PSL1M 036 24
  - 4 for PSL1M 054 12 and PSL1M 060 24
  - 5 for PSL1M 072 12 and PSL1M 100 24
- IEC degree of protection: IP20 on terminals.

### Certifications and compliance

Certifications obtained: GOST, UL Listed for USA and Canada (File E318016).

Compliant with standards: IEC/EN 60950-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, UL508, CSA C22.2 n° 14.



PSL1 005 24  
PSL1 010 24  
PSL1 018 24

PSL1 030 24  
PSL1 060 24



PSL1 100 24  
PSL1 120 24

PSL1 240 24  
PSL1 300 24



PSL1 480 24



PSL2 100 24

PSL3 120 24



PSL3 240 24



PSL3 480 24



PSL3 960 24

Order code	Rated output voltage	Rated output current	Output power	Qty per pkg	Wt
	[V]	[A]	[W]	n°	[kg]
Single phase.					
PSL1 005 24	24VDC	0.21	5	1	0.190
PSL1 010 24		0.42	10	1	0.196
PSL1 018 24		0.75	18	1	0.226
PSL1 030 24		1.25	30	1	0.336
PSL1 060 24		2.5	60	1	0.400
PSL1 100 24		4.2	100	1	0.508
PSL1 120 24		5	120	1	1.018
PSL1 240 24		10	240	1	1.486
PSL1 300 24		12.5	300	1	1.496
PSL1 480 24		20	480	1	2.348

Two phase.					
PSL2 100 24	24VDC	4.2	100	1	0.570

Three phase <sup>①</sup> .					
PSL3 120 24	24VDC	5	120 <sup>①</sup>	1	0.910
PSL3 240 24		10	240 <sup>①</sup>	1	1.190
PSL3 480 24		20	480 <sup>①</sup>	1	1.995
PSL3 960 24		40	960 <sup>①</sup>	1	3.672

① Two-phase connection is admissible with a 25% output power derating.

NOTE: UL Listed for USA and Canada as Power Supplies in power circuit and motor-mounted apparatus category.

## General characteristics

This type of equipment is used to power supply electromechanical and electronic devices with DC control, such as contactors, time relays, sensors, PLCs, DC motors, displays, SSRs and other equipment normally found in automation systems and networks.

### Protections:

- Short circuit
- Overload
- Input voltage peaks.

### Indications:

- LED indicator for low voltage conditions
- LED indicator for power on.

## Operational characteristics

- Rated supply voltage:
  - 100-240VAC for PSL1 005 24 - PSL1 100 24 types
  - 115/230VAC self-configurable for PSL1 120 24... - PSL1 480 24 types
  - 400-500VAC for PSL2... and PSL3...<sup>①</sup> types
- Rated output voltage: 24VDC
- Mains frequency: 50/60Hz
- Output voltage adjustment by front potentiometer
- PFC function for types: PSL1 120 24 to PSL3 960 24
- Parallel connection for types: PSL1 120 24, PSL1 240 24, PSL1 300 24, PSL1 480 24, PSL2 100 24, PSL3 240 24, PSL3 480 24, PSL3 960 24
- High efficiency up to 92%
- 35mm DIN rail (IEC/EN 60715) mounting
- Screw connection terminals
- Plastic or metal housing depending on type
- IEC degree of protection: IP20 on terminals.

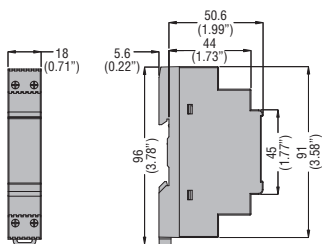
## Certifications and compliance

Certifications obtained: GOST, UL Listed for USA and Canada (File E318016).

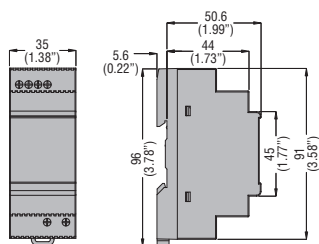
Compliant with standards: IEC/EN 60950-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, UL508, CSA C22.2 n° 14.

### MODULAR SWITCHING POWER SUPPLIES

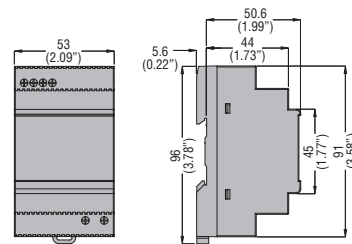
#### PSL1M 010...



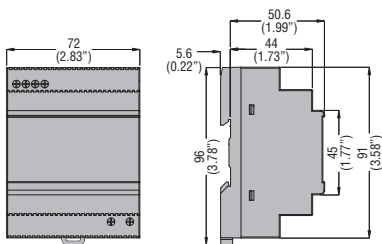
#### PSL1M 024...



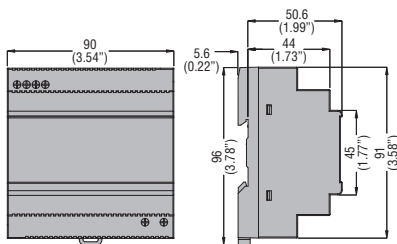
#### PSL1M 033 12 - PSL1M 036 24



#### PSL1M 054 12 - PSL1M 060 24



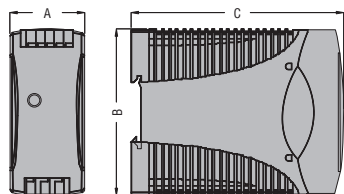
#### PSL1M 72 12 - PSL1M 100 24



### SWITCHING POWER SUPPLIES

#### PSL1 005 24 - PSL1 100 24

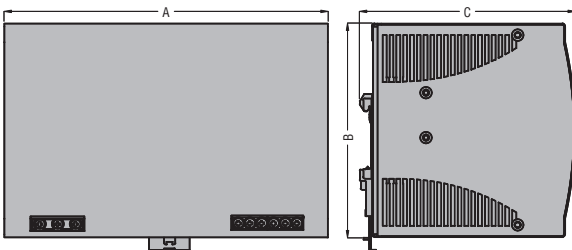
#### PSL2 100 24



TYPE	A	B	C
PSL1 005 24	22.5 (0.88")	90 (3.54")	115 (4.53")
PSL1 010 24	22.5 (0.88")	90 (3.54")	115 (4.53")
PSL1 018 24	22.5 (0.88")	90 (3.54")	115 (4.53")
PSL1 030 24	40.5 (1.59")	90 (3.54")	115 (4.53")
PSL1 060 24	40.5 (1.59")	90 (3.54")	115 (4.53")
PSL1 100 24	54 (2.12")	90 (3.54")	115 (4.53")
PSL2 100 24	54 (2.12")	90 (3.54")	115 (4.53")

#### PSL1 120 24 - PSL1 480 24

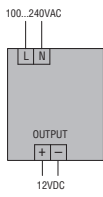
#### PSL3...



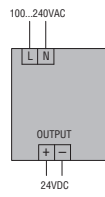
TYPE	A	B	C
PSL1 120 24	64 (2.52")	124.5 (4.90")	123.6 (4.87")
PSL1 240 24	83.5 (3.29")	124.5 (4.90")	123.6 (4.87")
PSL1 300 24	83.5 (3.29")	124.5 (4.90")	123.6 (4.87")
PSL1 480 24	175.5 (6.91")	124.5 (4.90")	123.6 (4.87")
PSL3 120 24	74.3 (2.92")	124 (4.88")	118.8 (4.68")
PSL3 240 24	89 (3.50")	124 (4.88")	118.8 (4.68")
PSL3 480 24	150 (5.90")	124 (4.88")	118.8 (4.68")
PSL3 960 24	275.8 (10.86")	126.2 (4.97")	118.8 (4.68")

### MODULAR SWITCHING POWER SUPPLIES

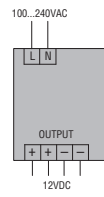
#### PSL1M 010 12



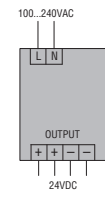
#### PSL1M 010 24



#### PSL1M 024 12 - PSL1M 033 12 PSL1M 054 12 - PSL1M 072 12

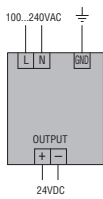


#### PSL1M 024 24 - PSL1M 036 24 PSL1M 060 24 - PSL1M 100 24

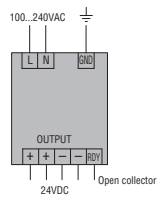


### SWITCHING POWER SUPPLIES

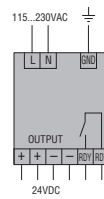
#### PSL1 005 24 PSL1 010 24 PSL1 018 24



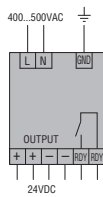
#### PSL1 030 24 PSL1 060 24



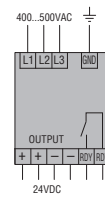
#### PSL1 100 24 - PSL1 120 24 PSL1 240 24 PSL1 300 24 PSL1 480 24



#### PSL2 100 24



#### PSL3 120 24 - PSL3 240 24 ⓘ PSL3 480 24 - PSL3 900 24 ⓘ



ⓘ Two-phase connection is admissible with a 25% output power derating.

TYPE	Single phase	PSL1M 010 12 - PSL1M 010 24	PSL1M 024 12 - PSL1M 024 24	PSL1M 033 12 - PSL1M 036 24	PSL1M 054 12 - PSL1M 060 24	PSL1M 072 12 - PSL1M 100 24
	Two phase	—	—	—	—	—
	Three phase	—	—	—	—	—
<b>INPUT CHARACTERISTICS</b>						
Rated supply voltage	Multivoltage 100...240VAC					
Operating range	90...264VAC / 120...375VDC					
Consumption	—					
Frequency range	47...63Hz					
PFC	—					
Insulation voltage Input/output	3000VAC (4242VDC)					
Internal fuse (250VAC) ❶	T1A	T2A			T3A	
<b>OUTPUT CHARACTERISTICS</b>						
Voltage	12VDC (PSL1M...12); 24VDC (PSL1M...24)					
Voltage trimming (potentiometer)	—	12-14VDC (PSL1M...12) 24-28VDC (PSL1M...24)				
Current	0.83A (PSL1M...12) 0.42A (PSL1M...24)	2A (PSL1M...12) 1A (PSL1M...24)	2.7A (PSL1M...12) 1.5A (PSL1M...24)	4.5A (PSL1M...12) 2.5A (PSL1M...24)	6A (PSL1M...12) 4.2A (PSL1M...24)	
Temperature coefficient	±0.03%/°C					
Line adjustment	±1%					
Load adjustment	±1%					
Efficiency	78% (PSL1M...12) 80% (PSL1M...24)	84% (PSL1M...12) 85% (PSL1M...24)	83% (PSL1M...12) 84% (PSL1M...24)	84% (PSL1M...12) 86% (PSL1M...24)	86% (PSL1M...12) 89% (PSL1M...24)	
Overload protection	110-165%	120-160%	110-150%	110-150%	110-150%	
Short-circuit protection	Fold forward	Hiccup	Fold forward			
Ripple noise	50mV					
Parallel connection (n° of units)	—					
<b>INDICATIONS</b>						
LED indicator for power on	Yes					
LED indicator for low voltage	Yes					
Power Rdy (Ready) (minimum limit)	—					
<b>CONNECTIONS</b>						
Type of terminal	Screw					
Conductor section min-max	Input	0.2...3.3mm <sup>2</sup> (24...12AWG)				
	Output					
Stripping length	4-5mm/0.15-0.2in			7mm/0.28in		
Tightening torque maximum	Input	0.6Nm/0.5lbft				
	Output					
<b>AMBIENT CONDITIONS</b>						
Operating temperature ❷	-25...+71°C					
Storage temperature	-25...+85°C					
Derating >60°C	2.5%/°C					
<b>HOUSING</b>						
Material	Plastic					

❶ No replacement by user.

❷ Two-phase connection is possible with 25% power derating.

❸ Maximum surrounding temperature of 50°C for use according to UL508.

PSL1 005 24	PSL1 010 24	PSL1 018 24	PSL1 030 24	PSL1 060 24	PSL1 100 24	PSL1 120 24	PSL1 240 24	PSL1 300 24	PSL1 480 24	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	PSL2 100 24	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	PSL3 120 24	PSL3 240 24	PSL3 480 24	PSL3 960 24

Multivoltage 100-240VAC						Self-configurable 115/230VAC					Multivoltage 400-500VAC <sup>Ⓜ</sup>			
90...264VAC / 120...375VDC			85...264VAC / 90...375VDC		90...264VAC / 120...375VDC	90...132VAC / 180-264VAC / 210...375VDC			90...264VAC / 120...375VDC	340...575VAC / 480...820VDC				
200mA	300mA	500mA	800mA	1.5A	2.4A	2.8A	5.4A	6A	7A	750mA	500mA	850mA	1.4A	2.4A
47-63Hz														
—						0.7			0.97	0.55			0.65	0.8
3000VAC (4242VDC)														
T2A					T3.15A		T6.3A	T8A	T10A	T2A			T3.15A	T5A

24VDC														
21.6-28.8VDC			24-28VDC			22.5-28.5VDC								
0.21A	0.42A	0.75A	1.25A	2.5A	4.2A	5A	10A	12.5A	20A	4.2A	5A	10A	20A	40A
0.03%/°C										0.03%/°C				
±1%			0.5%		±1%	±0.5%				±1%				
±2%			0.5%		±1%									
72%	76%	77%	86%	89%	88%	86%	89%	89%	87%	89%	90%	90%	92%	
110-135%		110-140%		110-150%	110-140%	110-145%	120-145%	110-140%	115-135%		120-140%	110-135%	125-145%	
Hiccup			Fold forward			Fold forward			Hiccup			Fold forward		Hiccup
50mV						100mV			50mV	100mV			80mV	
—						3			2	—		2	2	2

Yes														
Yes			—		Yes									
—			Yes (transistor output) (19.1VDC)			Yes (relay output) (17.6VDC)								

Screw														
0.4...3.3mm <sup>2</sup> (26...12AWG)					0.2...5.2mm <sup>2</sup> (24...12AWG)					0.2...5.2mm <sup>2</sup> (24...10AWG)				
4-5mm/0.15-0.2in					8mm/0.3in					10mm/0.4in				
0.5Nm/0.42lbft					1Nm/0.75lbft					1Nm/0.75lbft				
					0.6Nm/0.46lbft					0.6Nm/0.46lbft				

-20...+71°C					-25...+71°C									
-25...+85°C														
2.5%/°C										3.5%/°C				

Plastic					Metal					Plastic		Metal		
---------	--	--	--	--	-------	--	--	--	--	---------	--	-------	--	--