



Switching power supplies

Switching



- ◆ Single, two and three-phase types
- ◆ Versions in industrial modular housing
- ◆ Protection against short circuits, overloads and voltage peaks
- ◆ High efficiency
- ◆ Parallel connection using switch placed on model fronts (some only)



Version	Single phase	Single, two and three phase
Output voltage	12-24VDC	24VDC
Output current	0.42-6A	0.21-40A
Output power	10-100W	5-960W

power supplies



Certifications
obtained:



Compliant with standards:
IEC/EN 60950-1,
IEC/EN 61000-6-2,
IEC/EN 61000-6-3.

Lovato Electric switching power supplies, intended for industrial, commercial and residential automation, transforms an input alternating (AC) voltage into an output direct (DC) one.

Thanks to the switching technology, very high levels of efficiency, extremely compact-sized devices and reduced heat dissipation are obtained.

The wide operating range of power supply voltages and the wide choice of output current allow to satisfy power supply requirements of the most common electromechanical and electronic elements, such as PLCs, timers, DC motors, displays, SSRs and other equipment normally found in automation systems.

The Lovato electric logo, featuring the word 'Lovato' in a bold, white, sans-serif font on an orange rectangular background, with a registered trademark symbol (®) to the left. Below this, the word 'electric' is written in a bold, black, sans-serif font on a white background.

Modular single-phase switching power supplies

Switching power supplies, type PSL1M, are used in building automation installations in addition to industrial automation systems, because of the compatible dimensions with modular panel boards and the plastic housing.

- ◆ Rated output voltage: 12VDC or 24VDC
- ◆ High efficiency up to 89%
- ◆ Adjustable output voltage

Single phase



PSL1M 010 12
PSL1M 010 24



PSL1M 033 12
PSL1M 036 24

PSL1M 054 12
PSL1M 060 24

PSL1M 072 12
PSL1M 100 24

General characteristics

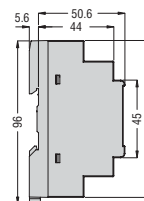
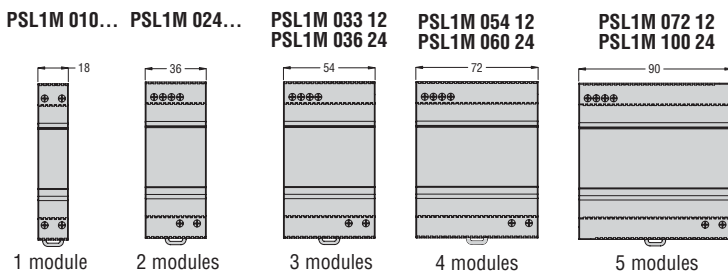
Single phase	Operating range	Overload protection	Short-circuit protection
PSL1M 010 ...	90-264VAC 120-370VDC	110/160%	Hiccup
PSL1M 024 ...		120/160%	
PSL1M 033 ...		110/150%	Fold forward
PSL1M 036 ...			
PSL1M 054 ...			
PSL1M 060 ...			
PSL1M 072 ...			
PSL1M 100 ...			

Technical characteristics

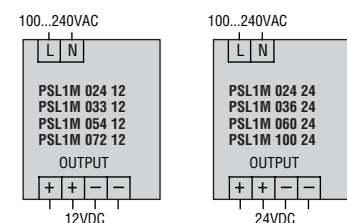
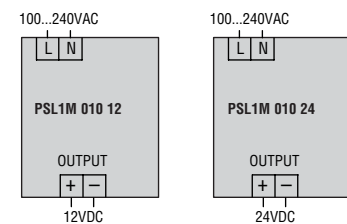
- Mains frequency: 50/60Hz
- Output voltage adjustment by front potentiometer
- High efficiency up to 89%
- 35mm (IEC/EN 60715) DIN rail mounting
- Screw connection terminals
- Modular DIN 43880 housing
- Degree of protection: IP20 on terminals
- Operating temperature: -25...+70°C.

MODULAR DIN 43880 HOUSING

DIMENSIONS



WIRING SCHEMES



One, two and three-phase switching power supplies

Switching power supplies, types PSL1, PSL2 and PSL3, are made with plastic or metal housing.

Special ventilation grills avoid device overheating.

- ◆ Rated output voltage: 24VDC
- ◆ High efficiency up to 92%
- ◆ Adjustable output voltage

Single phase



Two phase



Three phase



General characteristics

Single phase	Operating range	Overload protection	Short-circuit protection	Power Ready	
PSL1 005 24	90-265VAC 120-370VDC	110/135%	Hiccup	-	
PSL1 010 24		110/145%			
PSL1 018 24		110/140%			
PSL1 030 24	85-264VAC	110/140%	Fold forward	Yes (transistor output)	
PSL1 060 24	90-375VDC	110/150%			
PSL1 100 24	90-264VAC/120-375VDC	110/140%			
PSL1 120 24	90-132VAC/186-264VAC 210-370VDC	110/145%		Yes (relay output)	
PSL1 240 24		120/145%			
PSL1 300 24		120/145%			
PSL1 480 24	90-264VAC/120-375VDC	110/140%			
Two phase	PSL2 100 24	340-575VAC/480-820VDC	115/135%	Current limitation	Yes (relay output)
Three phase	PSL3 120 24	340-575VAC 480-820VDC	115/135%	Current limitation	Yes (relay output)
PSL3 240 24	120/140%				
PSL3 480 24	110/135%		Fold forward		
PSL3 960 24	110/130%				

Technical characteristics

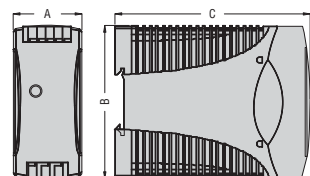
- Mains frequency: 50/60Hz
- Output voltage adjustment by front potentiometer
- High efficiency up to 92%
- 35mm (IEC/EN 60715) DIN rail mounting
- Screw connection terminals
- Plastic or metal housing
- Degree of protection: IP20 on terminals
- Operating temperature: -20...+70°C for PSL1 005 24, PSL1 010 24 and PSL1 018 24 only
- Operating temperature: -25...+70°C for all other types not mentioned above.



FIXING ON MOUNTING PLATE AND DIN RAIL

DIMENSIONS

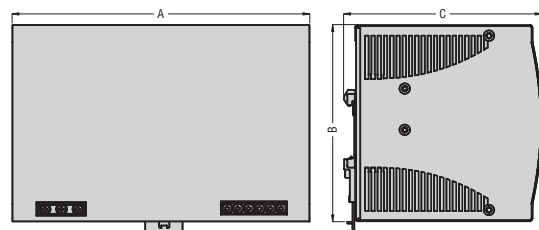
PSL1 005 24 - PSL1 100 24
PSL2 100 24



Plastic housing

TYPE	A	B	C
PSL1 005 24	22,5	90	115
PSL1 010 24	22,5	90	115
PSL1 018 24	22,5	90	115
PSL1 030 24	40,5	90	115
PSL1 060 24	40,5	90	115
PSL1 100 24	54	90	115
PSL2 100 24	54	90	115

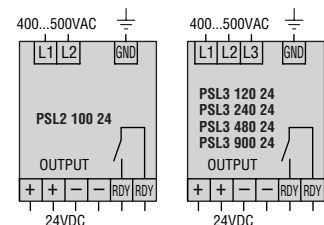
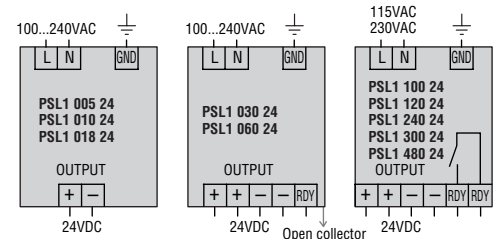
PSL1 120 24 - PSL1 480 24 - PSL3...



Metal housing

TYPE	A	B	C
PSL1 120 24	64	124,5	123,6
PSL1 240 24	83,5	124,5	123,6
PSL1 300 24	83,5	124,5	123,6
PSL1 480 24	175,5	124,5	123,6
PSL3 120 24	74,3	124	118,8
PSL3 240 24	89	124	118,8
PSL3 480 24	150	124	118,8
PSL3 960 24	275,8	126,2	118,8

WIRING SCHEMES



How to order

SWITCHING POWER SUPPLIES MODULAR 1 PH

Order code	Auxiliary supply voltage	Rated output voltage	Rated output current	Output power	Qty per pkg	Wt
	50/60Hz					
	[V]	[V]	[A]	[W]	n°	[kg]
Monofase						
PSL1M 010 12	100-240VAC	12VDC	0.83	10	1	0.060
PSL1M 024 12			2	24	1	0.130
PSL1M 033 12			2.75	33	1	0.185
PSL1M 054 12			4.5	54	1	0.250
PSL1M 072 12			6	72	1	0.320
PSL1M 010 24	100-240VAC	24VDC	0.42	10	1	0.060
PSL1M 024 24			1	24	1	0.130
PSL1M 036 24			1.5	36	1	0.185
PSL1M 060 24			2.5	60	1	0.250
PSL1M 100 24			4.2	100	1	0.320

SWITCHING POWER SUPPLIES 1 PH, 2 PH, 3 PH

Order code	Auxiliary supply voltage	Rated output voltage	Rated output current	Output power	PFC function	Parallel connection for p/supplies	Qty per pkg	Wt	
	50/60Hz								
	[V]	[V]	[A]	[W]			n°	[kg]	
Single phase									
PSL1 005 24	100-240VAC	24VDC	0.21	5	–	–	1	0.115	
PSL1 010 24			0.42	10	–	–	1	0.120	
PSL1 018 24			0.75	18	–	–	1	0.150	
PSL1 030 24			1.25	30	–	–	1	0.290	
PSL1 060 24			2.5	60	–	–	1	0.360	
PSL1 100 24			4.2	100	–	–	1	0.520	
PSL1 120 24			115/230VAC configurable	5	120	●	●	1	0.920
PSL1 240 24				10	240	●	●	1	1.000
PSL1 300 24				12.5	300	●	●	1	1.000
PSL1 480 24				20	480	●	●	1	1.800
Two phase									
PSL2 100 24	400-500VAC	24VDC	4.2	100	–	–	1	0.520	
Three phase									
PSL3 120 24	400-500VAC	24VDC	5	120	–	–	1	0.800	
PSL3 240 24			10	240	–	●	1	1.100	
PSL3 480 24			20	480	–	●	1	1.750	
PSL3 960 24			40	960	–	●	1	3.200	



new
2009



Switch disconnectors
16 to 1250A



Contactors



Signal towers and beacons











Digital multimeters and
power analyzers DMG series








Automatic transfer switch controllers
ATL 10 type

Lovato
electric
100% electricity










PLANET Switch

-  Motor protection circuit breakers
-  Switch disconnectors
-  Contactors
-  Motor protection relays
-  Electromechanical starters
-  Control and signalling units
-  Limit, micro and foot switches
-  Rotary cam switches

PLANET Din

-  Modular contactors
-  Time relays
-  Protection relays
-  Level control relays
-  Earth leakage relays

PLANET Logic

-  Metering instruments and current transformers
-  Soft starters
-  AC motor drives
-  Automatic power factor controllers
-  Automatic battery chargers
-  Automatic transfer switch controllers
-  Programmable logic relays
-  Switching power supplies
-  Engine and generator controllers

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