Product Information

Flush mounted switching power supply

A. u. K. Müller

Solenoid valves
Control valves
Special valves and systems

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Series UPS-01

Characteristics

- Flush mounted switching power supply
- Wide voltage range on the primary side (90-264VAC / 47-63Hz)
- Secondary output (12V DC ± 5%) with built-in short circuit protection
- Potted in durable polycarbonate housing (V0)
- Efficiency class V
- Max. Power 20 W
- Approvals on request

Applications

- Supply of up to five sensor / valve units (eg. IRS-WT-x / 50 .007.101)
- Flush mounting in municipal facilities

Description

Flush mounting power supply for infrared sensors.

The power supply allows the operation of up to five sensor / valve units simultaneously.

On the primary side, two power lines (L & N) are potted to prevent the risk of electric shock.

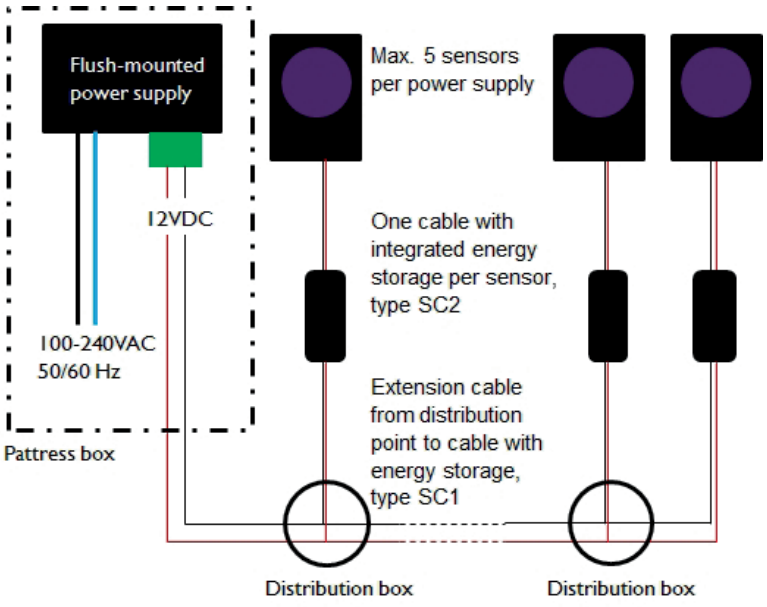
On the secondary side, screw terminals allow the flexibility of choosing the correct cabling for the sensor / valve units.

An electronic short circuit protector is provided which automatically reverts to the normal function when the cause of the short circuit is removed.

In the flush mounted power supply there is no energy storage, so for failsafe operation, it is recommended to use the SC2 cable for each sensor / valve unit. This has a built in energy store that provides a closing pulse to the valve in the event of a power failure.

For other connections our SC1 cables are recommended.

The following schematic diagram shows a typical installation.



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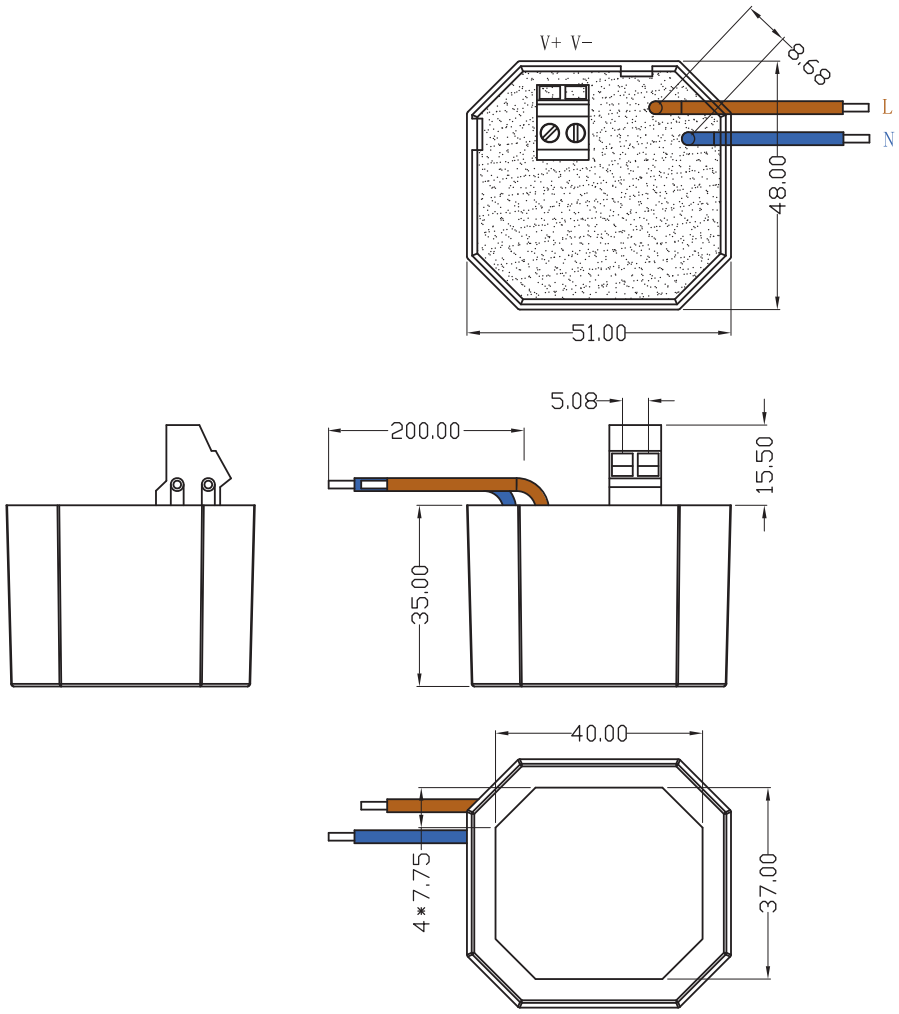
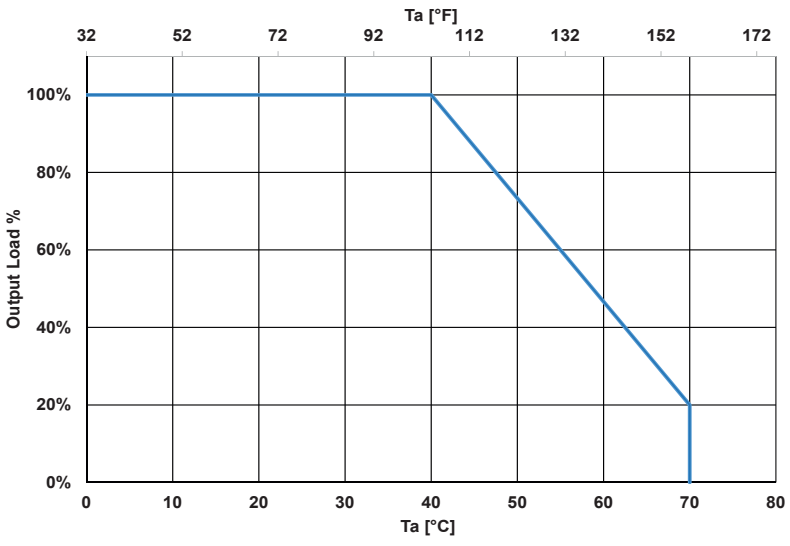


Technical Data

Type	flush-mounted switching power supply
Efficiency classification	V
Dielectric Strength	4242 VDC, primary to secondary
Primary	
Nominal input voltage	100 - 240 V
Input working voltage	90 - 264 V
Nominal frequency	50 - 60 Hz
Working frequency	47 - 63 Hz
Input current AC	max. 0,6 A
Input protection	Protection in phase (l) and neutral (N)
Inrush current	30 A max. cold start at 240 V input voltage
Input wires	2 x 200 mm stranded UL style 1015 neutral - blue line - brown
Protection	Internal, potted fuse, not exchangeable
Secondary	
Output voltage	12 V DC ± 5%
Output current	0 – 1,67 A
Output rating	20 W max.
Ripple	1 % of output voltage
Short circuit protection	Electronically protected, automatic recovery function
Overvoltage protection	15 V max.
Output connector	2 position terminal block
Environment	
Working temperature	0 – 40 °C (32 – 104 °F)
Storage temperature	-10 – 80 °C (14 – 176 °F)
Humidity at operation	0 – 90 % RH
Humidity at storage	0 – 90 % RH
Protection class	IP 00
Mechanical	
Weight	155 g

Power derating depending on ambient temperature



Materials

Housing	PC 66 UL 94: V0

Series UPS-01

Efficiency data (EC/278/2009)

Description	Load condition				
	100%	75%	50%	25%	0%
RMS Output current [mA]	1675,66	1255,66	838,22	418,85	-
RMS. Output voltage [V]	12,06	12,06	12,07	12,07	-
Active output power [W]	20,20	15,14	10,11	5,05	-
RMS. Input voltage [V AC]	**115**				
RMS. Input power [W]	24,58	18,30	12,19	6,26	0,12
Total Harmonic distortion (THD)	78,34%	81,21%	84,40%	87,96%	35,23%
True power factor	0,58	0,55	0,51	0,44	0,03
Power consumed [W]	4,37	3,15	2,08	1,22	0,12
Efficiency	82,20%	82,75%	82,88%	80,57%	-
Average Efficiency	82,10%				

Description	Load condition				
	100%	75%	50%	25%	0%
RMS Output current [mA]	1676,13	1256,04	838,46	419,27	-
RMS. Output voltage [V]	12,06	12,15	12,07	12,07	-
Active output power [W]	20,20	15,25	10,10	5,05	-
RMS. Input voltage [V AC]	**230**				
RMS. Input power [W]	24,06	18,31	12,30	6,41	0,20
Total Harmonic distortion (THD)	87,81%	89,00%	90,13%	90,55%	19,30%
True power factor	0,45	0,42	0,38	0,31	0,02
Power consumed [W]	3,86	3,06	2,20	1,36	0,20
Efficiency	84,00%	82,69%	82,13%	78,78%	-
Average Efficiency	81,90%				

Proposal for installation

The installation and connection can be implemented as shown in this example:

1. Assembly in pattress box according to VDE 0606
2. Primary connection e.g. with WAGO 273
3. Line distribution with surface or flush mounted boxes and connection by e.g. WAGO 222 (2 to 5 poles)
4. For the connection between UPS-01 and distribution boxes (max. 50 m) use cables with a higher cross section (for example, 0,35mm²)
5. Use the cable SC1 for the last meters from the distribution box to the sensor
6. Use the calbe SC2 with integrated energy storage directly in front of the sensor

Connectors and cables with integrated energy storage, 2-core

A. u. K. Müller

Series SC2

Characteristics

- Increased security with energy storage in case of power failure
- IP 67 for plug / socket connection (72 h / 1 m)
- Protected against polarity reversal by visible and tactile guide contour (guide marks for assembly and flattening on plug and socket)
- Anti twist protected
- RoHS compliant
- PVC encapsulation of plug and socket complies with EN 60335-1 glow wire test (750 °C)

Application

- Cable connections for low voltage valves and sensors (SELV)

Description

In the case of a power failure, the energy store integrated into cable SC2 provides a last pulse to the sensor system IRS-WT-x, IRS-UWS-x or IRS-WT-Mx. This closes the low voltage solenoid valve and prevents wasting water or flooding.

The plug and socket connectors are specially designed to prevent both twisting and reverse polarity and conform to protection class IP67.

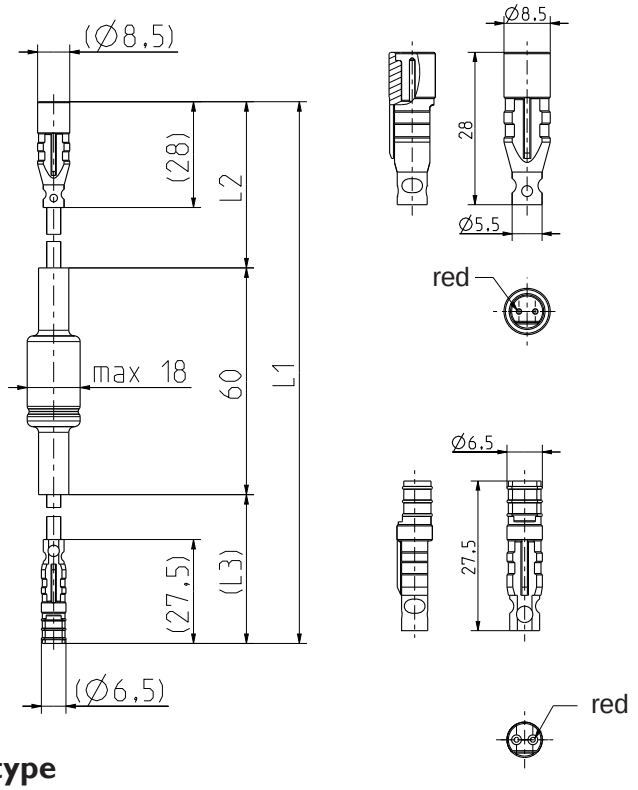
The PVC cable sleeve material complies with the EN60335-1 standard for unattended devices with a current greater than 200 mA (tested 750 ° C, VDE).

Valve | Sensor | Cable with integrated energy storage SC2 | Cable SC1 | Central power supply, flush-mounted

Series SC2

Technical Data		
Maximum operating voltage	16	VDC
Nominal current (25°C)	5	A
Contact resistance	10	mOhm
Protection type	IP 67 according to EN 60529	

Cable length L1 [mm] *	Cable length L2 [mm]*	Cable length L3 [mm] *
300 ± 10	160 ± 10	80 ± 10
*others on request		



SC2-F-R

SC2-M-R

Cable type

		Cable type	Cable colours	Cross-Section			Sleeve	
				[mm²]	AWG	UL Style	Cable outer insulation	D OD Ø
SC2-M-R SC2-F-R		Round cable LIYY	red/black	2 x 0,23	2 x AWG 24	2464/1061		PVC Ø 4 mm

Customized extension cables

Using the standard cable SC1 simple extensions can be realized.

On request, customer specific connectors appropriate to the cable type are possible.

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