Switched Mode & Uninterruptible Power Supplies



Excellent Performance. Superior Efficiency.







INTRODUCING

INDUSTRY-LEADING POWER SUPPLIES



1606-XLS120E



1606-XLE120E



1606-XLP30E



1607-XT

POWER SUPPLIES

There is no doubt about it - the world is changing. In today's competitive global arena, you are challenged to do more with less. More quality with less cost, more control with less people, and more output with less time.

To help you overcome these challenges, Rockwell Automation is committed to providing you with the most reliable power supply solutions that help power the world.

From switched mode to industrial uninterruptible power supplies, every product is designed with what matters most to help you achieve your goals.

BULLETIN 1606 & 1607 **Switched Mode Power Supplies**

Leading the industry in performance and reliability, the Bulletin 1606 and 1607 family offers four switched mode power supply families that meet most worldwide single and three-phase application requirements. These Allen-Bradley® units from Rockwell Automation are designed and manufactured to accept wide ranges of both AC and DC input voltages and are tested to meet global safety standards.

In addition, the 1607-XT ArmorPower On-Machine Power Supplies are the ideal solution for applications where voltage drop occurs due to line loss from long wire lengths, along with any application where compact size, high efficiency, and high reliability are critical

The industry-leading efficiency and service life of these units can be attributed to the intelligent circuit design with long life electrolytic capacitors along with industry leading high efficiency. These products generate minimal heat and allow up to 50% additional power reserve without reducing output voltage while minimizing ripple and noise.

So, whether you are looking for a standard product covering a broad range of applications or a compact unit to save precious space and costs, there is sure to be an excellent fit for your unique power needs.



BULLETIN 1609 Uninterruptible Power Supplies (UPSs)

Designed specifically for the industrial market, the Bulletin 1609 family of UPSs include three distinct series to meet worldwide industrial application requirements up to 10 kVA. These units are globally certified to provide backup AC power to bridge dips, sags, or brief power losses.

With an Allen-Bradley UPS from
Rockwell Automation in place, you can spend
less time dealing with lost data, extended
downtime and damaged equipment, and more
time focusing on your mission critical activities.
Regardless if you need performance inside or
outside of your control panel, the Bulletin 1609
family offers a reliable power solution that can
help your operations succeed and grow.





1609-U1500N



BULLETIN 1606 Switched Mode Power Supplies

Bulletin 1606-XLS

Building on the successful design of its predecessors, the XLS line couples a new technology that significantly reduces unit size yet delivers a 150% power boost. Sleek and compact, these highly efficient devices have enough reserve current available to start even your most stubborn loads.

Advantages

- Rated outputs between 80...960 W (3.3...40 A at 24V DC)
- Multiple single and three-phase inputs available for global applications
- Small size for panel space savings
- "Elite" performance for special applications









Bulletin 1606-XLE

Designed with simplicity in mind, the XLE line offers high performing, ultraslim power supplies with the most basic feature set. These products contain the essential features for long service life and high reliability. This line is ideal if you are interested in a cost-effective solution to power your operations.

Advantages

- Rated outputs between 80...960 W (3.3...40 A at 24V DC)
- Multiple single and three-phase inputs available for global applications
- Cost-effective solution for all applications

Bulletin 1606-XLP

When saving critical space is one of your main objectives, the XLP line is an excellent alternative. Although these devices are equipped with many of the same features and certifications as the XL devices, they support low-power applications. This line is ideal if you require a cost-effective way to save space while delivering safe and reliable power.

Advantages

- Rated outputs between 15...100 W (0.6...4.2 A at 24V DC)
- Multiple output voltages available
- Multiple single and three-phase inputs available for global applications
- Smaller, cost-effective solution for low power applications







Bulletin 1607-XT

If you are looking for power supplies that are extremely resistant to harsh environmental conditions, look to Bulletin 1607-XT ArmorPower On-Machine power supplies. All models are vacuum encapsulated in potting material, which is thermally conductive and helps to provide maximum resistance to shock, vibration, and humidity.

Advantages

- IP67 rating Designed and rated to be mounted directly on-machine so no enclosure is needed
- NEC Class 2 rating
- Reduces voltage drop due to line loss when power supply is placed closer to actual load

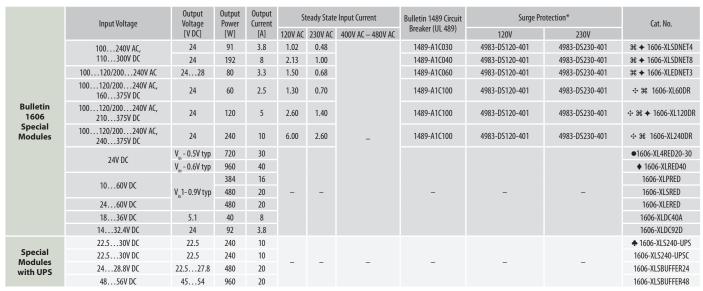


PRODUCT SELECTION BULLETIN 1606 SWITCHED MODE POWER SUPPLIES

	Input Voltage	Output Voltage	Output Power	Output Current	St	eady State	Input Current	Bulletin 1489 Circuit	Surge Pr	otection*	Cat. No.
	,	[V DC]	[W]	[A]	120V AC	230V AC	400V AC - 480V AC	Breaker (UL 489)	120V	230V**	
		2428	80	3.3	1.42	0.82		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS80E
		2428	120	5	1.10	0.62		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS120E
		1215	180	15	1.65	0.93		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS180B
Bulletin		2428	240	10	2.22	1.22		1489-A1C040	4983-DS120-401	4983-DS230-401	1606-XLS240E
1606-XLS	100240V AC,	2428	240	10	2.22	1.22		1489-A1C040	4983-DS120-401	4983-DS230-401	
Performance	110300V DC	4856	240	5	2.22	1.22		1489-A1C040	4983-DS120-401	4983-DS230-401	1606-XLS240F
Single-Phase		2832	240	8	2.22	1.22	_	1489-A1C040	4983-DS120-401	4983-DS230-401	1606-XLS240K
# ♦		2428	480	20	4.56	2.48		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS480E
		2428	480	20	4.56	2.48		1489-A1C100	4983-DS120-401	4983-DS230-401	
	200240V AC				4.30	4.45					
		2428	480	20				1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS480EE
	100240V AC, 110300V DC	4856	480	10	4.56	2.48		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS480F
		3642	480	13.3	4.56	2.48		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS480G
	200240V AC, 220300V DC	2428	960	34.3	-	4.6	2.075	1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS960EE
	380480V AC, 600V DC	2428	480	20			3x 0.65	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS480E-3
	380480V AC, 600V DC	2428	480	20			3x 0.65	1489-A3C030	4983-DS277-404	4983-DS277-404	
Three-Phase	360900V DC	2428	480	20			3x 0.85	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS480E-D
# ♦		4856	480	10	-	-	3x 0.65	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS480F-3
	380480V AC, 600V DC	3642	480	13.3			3x 0.65	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS480G-3
		2428	960	40			3x 1.35	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS960E-3
		4854	960	20			3x 1.35	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS960F-3
		2428	80	3.3	1.50	0.68		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE80E
	100120/200240V AC	2428	120	5	2.34	1.23		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE120E
		2428	120	5	2.34	1.23		1489-A1C060	4983-DS120-401	4983-DS230-401	◆ 1606-XLE120EC
Bulletin 1606-XLE	90132V AC	2428	120	5	1.23	-		1489-A1C060	4983-DS120-401	-	1606-XLE120EN
Essential	180264V AC	2428	120	5	-	1.17	_	1489-A1C060	-	4983-DS230-401	1606-XLE120EE
Single-Phase	100120/200240V AC	2428	240	10	4.34	2.23		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE240E
	90132V AC	2428	240	10	3.73	_		1489-A1C060	4983-DS120-401	-	1606-XLE240EN
	180264V AC	2428	240	10	-	2.20		1489-A1C060	-	4983-DS230-401	1606-XLE240EE
	100120/200240V AC	2428	240	10	4.34	2.00		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE240EP
	100120/200240V AC	4852	240	5	4.34	2.23		1489-A1C060	4983-DS120-401	4983-DS230-401	◆ 1606-XLE240F
	380480V AC, 600V DC	1215	96	8			2x 0.56	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE96B-2
	380480V AC, 600V DC	4856	240	5			3x 0.60	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE240F-3
Three-Phase	380480V AC, 600V DC	2428	120	5			0.68	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE120E-2
	380480V AC, 600V DC	2428	240	10	-	-	3x 0.60	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE240E-3
	480 V AC	24	960	40			3x 1.40	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE960DX-3N
	480 V AC	48	960	20			3x 1.40	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE960MX-3N
		55.5	15	3	0.28	0.17		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP15A
		1215	15	1.3	0.28	0.17		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP15B
		2428	15	0.6	0.28	0.17		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP15E
		55.5	25	5	0.60	0.30		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP25A
		1012	30	3	0.60	0.25		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP30B
	100240V AC,	2428	30	1.3	0.60	0.35		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP30E
Bulletin	85375V DC	± 12/15	36	2.8	0.65	0.40		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP36C
1606-XLP		1215	50	4.2	1.00	0.60		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP50B
Compact Single-Phase		2428	50	2.1	0.77	0.44	-	1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP50E
_		2428	50	2.1	1.00	0.60		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP50EZ
#		4856	50	1	1.00	0.60		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP50F
	100 120/220 240/ 46	2428	72	3	1.60	0.80		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP72E
	100120/220240V AC, 220375V DC	1215	90	7.5	1.90	0.90		1489-A1C100	4983-DS120-401	4983-DS230-401	+ + 1606-XLP90E
	220111373700										
	100200/200240V AC,	2428	95	3.9	2.00	0.95		1489-A1C060 1489-A1C060	4983-DS120-401	4983-DS230-401	◆ 1606-XLP95E
	220375V DC	2428	100	4.2	2.10	1.00			4983-DS120-401	4983-DS230-401	+ + 1606-XLP100
Two Dhase		4856	100	2.1	2.10	1.00	240.20	1489-A1C060	4983-DS120-401	4983-DS230-401	+ + 1606-XLP100I
Two-Phase	380480V AC	2428	90	3.75	-	-	2x 0.36	1489-A2C060	4983-DS277-404	4983-DS277-404	1606-XLP90E-2
7 00 ₹		2428	100	4.2	-	-	2x 0.40	1489-A2C060	4983-DS277-404	4983-DS277-404	1606-XLP100E-2

^{*}For additional surge and filter protection, see Bulletin 4983 products.

^{**} Requires 2PCS, 1 per phase



^{*}For additional surge and filter protection, see Bulletin 4983 products.

- The C suffix of the cat. no. indicates that the product has conformal coating.
- To be used alongside 20, 30 and 40 A power supplies.
- To be used alongside 40 A power supplies (or smaller).
- ₩ Parallel operation (inclined characteristic).
- 4- Single/parallel operation (inclined characteristic) selectable via jumper.
- The cat. no. 1606-XLS240-UPS is a charging module, used alongside a power supply and a battery assembly, which must be ordered separately.
- **★** Parallel operation is for 1 + 1 redundancy only.
- ♦ Meets EN 61000-3-2 PFC harmonics.

Consult local codes and regulations for installation.

Accessories for UPS Modules

Description	Cat. No.
7 Ah/12V battery assembly with bracket, for use with DC UPS	1606-XLSBATASSY1
7 Ah/12V replacement battery	1606-XLSBAT1
26 Ah/12V battery assembly with bracket, for use with DC UPS	1606-XLSBATASSY2
26 Ah/12V replacement battery	1606-XLSBAT2

1606 Accessories

Description	Cat. No.
Back-of-panel bracket for XL	1606-XLA
Back-of-panel bracket for XLS or XLE	1606-XLB

1607-XT ArmorPower™ On-Machine™ Power Supplies

	Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Inrush Current	Cat. No.
Bulletin			Single	Output		
1607-XT	400 2401/46		50.4	2.1		1607-XT50D1A
ArmorPower	100240V AC, 100353V DC	24 (+1%)	91.2	3.8	<25 A	1607-XT100D1A
On-Machine Power	1005554 DC		192 (288 with bonus power)	8		1607-XT200D1A
Supplies			Dual C	Output Output		
	100240V AC, 100353V DC	24 (+1%)	91.2 per output	3.8 per output	<25 A	1607-XT200D2A



BULLETIN 1606 MODULES

Bulletin 1606 Redundancy modules

The N+1 redundancy modules provide a cost effective means for providing back-up power in the event the primary power supply fails.

Advantages

- Available for all switched mode power supply lines
- Status indication for each switched mode power supply

Bulletin 1606 Buffer modules

Buffer modules are supplementary devices for regulated DC 24V power supplies. These devices buffer load currents during typical mains faults, switching events or load peaks.

Advantages

- Applications are not interrupted due to voltage dips and drops or inrush spikes
- Clear status indication by status LED and signaling terminals
- Provides additional power for short and heavy peak loads
- Any number of units can be installed in parallel to increase power buffer or back-up time



Bulletin 1606 DC UPS modules

The DC UPS is a supplementary device for a 24V power supply. It provides back-up power to bridge dips, sags, or loss of power.

Advantages

- When the power supply provides sufficient voltage, DC UPS charges the battery
- Sophisticated battery management system
- Extensive diagnostic and monitoring functions to aid in troubleshooting



Bulletin 1607-XT

Available in 50 and 100 W models, these IP67 power supplies address a growing trend in the industrial automation marketplace for on-machine and factory floor installations where the traditional enclosure has been eliminated.

Advantages

- Minimizes voltage drop Reduces voltage drop due to line loss when power supply is placed closer to actual load
- Vacuum encapsulation technology Increases protection against intense shock and vibration
- Quick connectors Helps reduce installation costs and simplify connectivity
- Smooth surface Suitable for washdown in food, beverage, and pharmaceutical applications

BULLETIN 1609 **Uninterruptible Power Supplies**

Bulletin 1609-U and S Industrial

With the most comprehensive set of industrial features for single-phase applications up to 500 VA, the U and S series were specifically designed for industrial environment control panels. In addition, the U and S series perform a surge and filter protective functions along with bridging dips, sags, and brief power losses to help insure efficiency in your operations.

Advantages

- DIN rail and panel mount capabilities
- Integrated dry contact I/O communicates to the PLC (battery status)
- Optional 50°C battery
- Hardwired input/output connections
- Comprehensive network management capabilities (Ethernet, RS232)
- Line interactive design with pure sine wave output
- Optional dry contact I/O communication cables
- Serial communication capabilities (RS232)
- Line interactive design with pure sine wave output



Allen-Bradley

Bulletin 1609-U Commercial

The 1609-U Uninterruptible Power Supplies (UPSs) are designed to increase protection and reduce downtime of critical process applications by supplying consistent, clean power in a traditional tower frame. Available in 750, 1000, and 1500 VA models, these UPSs are ideal for helping to protect PCs, PLCs, servers, and data networks. High wattage, pure sine wave output, 16-segment LED visual display, and intelligent battery management make these exceptional UPSs.

Advantages

Automatic voltage regulation (AVR)

- Intelligent battery management USB connectivity
- Network manageability
- Front-access servicing
- Predictive failure notification

Bulletin 1609-P

The P series features powerful high density double conversion on-line UPSs for the industrial environment and are available in a 3...10 kVA power range for both 208/230V applications. Additionally, the 3 kVA is also available in 120 V. These units are typically assembled in a tower configuration and installed outside of a control panel.

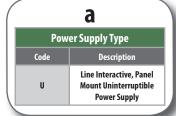
Advantaaes

- Hot swappable battery packs
- Rack convertible
- Network management capabilities (Ethernet, RS232)
- Extended runtimes
- Double conversion online topology



CATALOG NUMBER EXPLANATIONS

BULLETIN 1609-U UNINTERRUPTIBLE POWER SUPPLIES



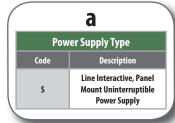
Rated Output Power			
Code	Description		
500	500 VA (325 W)		

Input/Output Voltage		
Code	Description	
N	115V AC	
E	208/230V AC	

٠		е	١
	Netwo	ork Management	
	Code	Description	
	C	NMC Included	
		Can be left blank	
/			4

d			
ial Functions			
Description			
Standard Battery			
High Temp Battery			
Can be left blank			

BULLETIN 1609-S UNINTERRUPTIBLE POWER SUPPLIES



Rated	l Output Power
Code	Description
350	350 VA (280 W)

_		C
	Input	/Output Voltage
	Code	Description
	N	120V AC
	E	208/230V AC
/_		

В	attery Type
Code	Description
S	40°C Battery



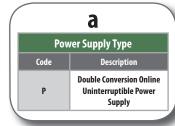
	a
Pow	er Supply Type
Code	Description
U	Line Interactive, Panel Mount Uninterruptible Power Supply

b			
Rated Output Power			
Code	Description		
750	750 VA (500 W)		
1000	1000 VA (670 W)		
1500	1500 VA (980 W)		

Inpu	t/Output Voltage
Code	Description
N	120V AC

BULLETIN 1609-P UNINTERRUPTIBLE POWER SUPPLIES

$$\frac{1609}{a} - \frac{P}{a} = \frac{3000}{b} = \frac{N}{c}$$



_		b	_ `
	Rate	d Output Power	
	Code	Description	
	3000	3000 VA (2100 W)	
	5000	5000 VA (3500 W)]
	8000	8000 VA (6400 W)	1
	10000	10000 VA (8000 W)	1
/			7

Input/	Output Voltage
Code	Description
N	115V AC
E	208/230V AC
A	230V AC

Allen-Bradley, Armor Power, On-Machine, and Rockwell Software are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.
www.rockwellautomation.com
Power, Control and Information Solutions Headquarters Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444 Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640 Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846