

Switched Mode & Uninterruptible Power Supplies

Excellent Performance. Superior Efficiency.



LISTEN.
THINK.
SOLVE.®

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-U



1609-S



1609-U1500N



1609-P

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 [V DC]	Output Power [W]	Output Current [A]	Steady State Input Current			Bulletin 1489 Circuit Breaker (UL 489)	Surge Protection*		Cat. No.			
					120V AC	230V AC	400V AC – 480V AC		120V	230V**				
Bulletin 1606-XLS Performance Single-Phase ⌘ ↕	100...240V AC, 110...300V DC	24...28	80	3.3	1.42	0.82	-	1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS80E			
		24...28	120	5	1.10	0.62		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS120E			
		12...15	180	15	1.65	0.93		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS180B			
		24...28	240	10	2.22	1.22		1489-A1C040	4983-DS120-401	4983-DS230-401	1606-XLS240E			
		24...28	240	10	2.22	1.22		1489-A1C040	4983-DS120-401	4983-DS230-401	⌘ 1606-XLS240EC			
		48...56	240	5	2.22	1.22		1489-A1C040	4983-DS120-401	4983-DS230-401	1606-XLS240F			
		28...32	240	8	2.22	1.22		1489-A1C040	4983-DS120-401	4983-DS230-401	1606-XLS240K			
		24...28	480	20	4.56	2.48		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS480E			
		24...28	480	20	4.56	2.48		1489-A1C100	4983-DS120-401	4983-DS230-401	⌘ 1606-XLS480EC			
		200...240V AC	24...28	480	20	-		4.45	1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLS480EE		
		100...240V AC, 110...300V DC	48...56	480	10	4.56		2.48	1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS480F		
			36...42	480	13.3	4.56		2.48	1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS480G		
		200...240V AC, 220...300V DC	24...28	960	34.3	-		4.6	1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLS960EE		
		Three-Phase ⌘ ↕	380...480V AC, 600V DC	24...28	480	20		-	-	3x 0.65	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS480E-3
380...480V AC, 600V DC	24...28		480	20	3x 0.65	1489-A3C030	4983-DS277-404			4983-DS277-404	⌘ 1606-XLS480E-3C			
					3x 0.85	1489-A3C030	4983-DS277-404			4983-DS277-404	1606-XLS480E-D			
380...480V AC, 600V DC	24...28		480	20	3x 0.65	1489-A3C030	4983-DS277-404			4983-DS277-404	1606-XLS480F-3			
					3x 0.65	1489-A3C030	4983-DS277-404			4983-DS277-404	1606-XLS480G-3			
					3x 1.35	1489-A3C030	4983-DS277-404			4983-DS277-404	1606-XLS960E-3			
		3x 1.35			1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLS960F-3						
Bulletin 1606-XLE Essential Single-Phase *	100...120/200...240V AC	24...28	80	3.3	1.50	0.68	-	1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE80E			
		24...28	120	5	2.34	1.23		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE120E			
		24...28	120	5	2.34	1.23		1489-A1C060	4983-DS120-401	4983-DS230-401	⌘ 1606-XLE120EC			
	90...132V AC	24...28	120	5	1.23	-		1489-A1C060	4983-DS120-401	-	1606-XLE120EN			
	180...264V AC	24...28	120	5	-	1.17		1489-A1C060	-	4983-DS230-401	1606-XLE120EE			
	100...120/200...240V AC	24...28	240	10	4.34	2.23		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE240E			
		24...28	240	10	3.73	-		1489-A1C060	4983-DS120-401	-	1606-XLE240EN			
	180...264V AC	24...28	240	10	-	2.20		1489-A1C060	-	4983-DS230-401	1606-XLE240EE			
	100...120/200...240V AC	24...28	240	10	4.34	2.00		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLE240EP			
	100...120/200...240V AC	48...52	240	5	4.34	2.23		1489-A1C060	4983-DS120-401	4983-DS230-401	⌘ 1606-XLE240F			
Three-Phase *	380...480V AC, 600V DC	12...15	96	8	-	-	2x 0.56	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE96B-2			
	380...480V AC, 600V DC	48...56	240	5			3x 0.60	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE240F-3			
	380...480V AC, 600V DC	24...28	120	5			0.68	1489-A3C030	4983-DS277-404	4983-DS277-404	1606-XLE120E-2			
	380...480V AC, 600V DC	24...28	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			
Bulletin 1606-XLP Compact Single-Phase ⌘	100...240V AC, 85...375V DC	5...5.5	15	3	0.28	0.17	-	1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP15A			
		12...15	15	1.3	0.28	0.17		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP15B			
		24...28	15	0.6	0.28	0.17		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP15E			
		5...5.5	25	5	0.60	0.30		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP25A			
		10...12	30	3	0.60	0.25		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP30B			
		24...28	30	1.3	0.60	0.35		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP30E			
		± 12/15	36	2.8	0.65	0.40		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP36C			
		12...15	50	4.2	1.00	0.60		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP50B			
		24...28	50	2.1	0.77	0.44		1489-A1C060	4983-DS120-401	4983-DS230-401	1606-XLP50E			
		24...28	50	2.1	1.00	0.60		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP50EZ			
		48...56	50	1	1.00	0.60		1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP50F			
		100...120/220...240V AC, 220...375V DC	24...28	72	3	1.60		0.80	1489-A1C100	4983-DS120-401	4983-DS230-401	1606-XLP72E		
			12...15	90	7.5	1.90		0.90	1489-A1C100	4983-DS120-401	4983-DS230-401	⌘ 1606-XLP90B		
			24...28	95	3.9	2.00		0.95	1489-A1C060	4983-DS120-401	4983-DS230-401	⌘ 1606-XLP95E		
		100...200/200...240V AC, 220...375V DC	24...28	100	4.2	2.10		1.00	1489-A1C060	4983-DS120-401	4983-DS230-401	⌘ 1606-XLP100E		
			48...56	100	2.1	2.10		1.00	1489-A1C060	4983-DS120-401	4983-DS230-401	⌘ 1606-XLP100F		
			24...28	90	3.75	-		-	2x 0.36	1489-A2C060	4983-DS277-404	4983-DS277-404	1606-XLP90E-2	
		Two-Phase ⌘ ⌘ ↕	380...480V AC	24...28	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



	Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Steady State Input Current			Bulletin 1489 Circuit Breaker (UL 489)	Surge Protection*		Cat. No.	
					120V AC	230V AC	400V AC – 480V AC		120V	230V		
Bulletin 1606 Special Modules	100...240V AC, 110...300V DC	24	91	3.8	1.02	0.48	-	1489-A1C030	4983-DS120-401	4983-DS230-401	⌘ ◆ 1606-XLSDNET4	
		24	192	8	2.13	1.00		1489-A1C040	4983-DS120-401	4983-DS230-401	⌘ ◆ 1606-XLSDNET8	
	100...120/200...240V AC	24...28	80	3.3	1.50	0.68		1489-A1C060	4983-DS120-401	4983-DS230-401	⌘ ◆ 1606-XLEDNET3	
	100...120/200...240V AC, 160...375V DC	24	60	2.5	1.30	0.70		1489-A1C100	4983-DS120-401	4983-DS230-401	⊕ ⌘ 1606-XL60DR	
	100...120/200...240V AC, 210...375V DC	24	120	5	2.60	1.40		1489-A1C100	4983-DS120-401	4983-DS230-401	⊕ ⌘ 1606-XL120DR	
	100...120/200...240V AC, 240...375V DC	24	240	10	6.00	2.60		1489-A1C100	4983-DS120-401	4983-DS230-401	⊕ ⌘ 1606-XL240DR	
	24V DC	V _m - 0.5V typ	720	30	-	-		-	-	-	-	● 1606-XL4RED20-30
		V _m - 0.6V typ	960	40								◆ 1606-XLRED40
	10...60V DC	V _m - 0.9V typ	384	16								1606-XLPRED
	24...60V DC		480	20								1606-XLSRED
18...36V DC	480		20	1606-XLERED								
14...32.4V DC	5.1	40	8	1606-XLDC40A								
	24	92	3.8	1606-XLDC92D								
22.5...30V DC	22.5	240	10	◆ 1606-XLS240-UPS								
22.5...30V DC	22.5	240	10	1606-XLS240-UPSC								
24...28.8V DC	22.5...27.8	480	20	1606-XLSBUFFER24								
48...56V DC	45...54	960	20	1606-XLSBUFFER48								

*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).
- ⊕ 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

Bulletin 1607-XT ArmorPower On-Machine Power Supplies	Input Voltage	Output Voltage [V DC]	Output Power [W]	Output Current [A]	Inrush Current	Cat. No.	
	Single Output						
	100...240V AC, 100...353V DC	24 (+1%)	50.4	2.1	<25 A	1607-XT50D1A	
91.2			3.8	1607-XT100D1A			
192 (288 with bonus power)			8	1607-XT200D1A			
Dual Output							
100...240V AC, 100...353V 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

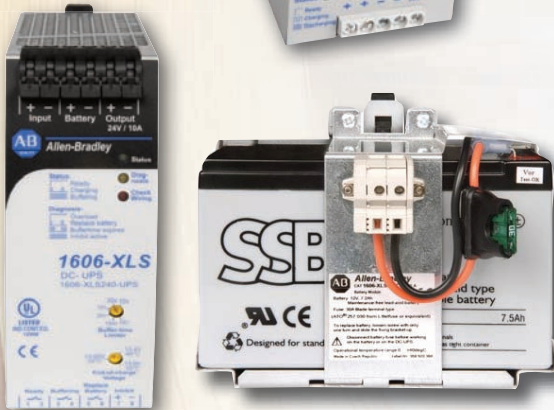


Bulletin 1606 Buffer modules

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



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
 - Network manageability
 - Predictive failure notification
 - USB connectivity
 - Front-access servicing



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.

Advantages

- 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

1609 - U 500 N H C
 a b c d e

a

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

b

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

c

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

e

Network Management	
Code	Description
c	NMC Included
	Can be left blank

d

Special Functions	
Code	Description
S	Standard Battery
H	High Temp Battery
	Can be left blank

BULLETIN 1609-S UNINTERRUPTIBLE POWER SUPPLIES

1609 - S 350 N S
 a b c d

a

Power Supply Type	
Code	Description
S	Line Interactive, Panel Mount Uninterruptible Power Supply

b

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

c

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

d

Battery Type	
Code	Description
S	40°C Battery



BULLETIN 1609-U COMMERCIAL UNINTERRUPTIBLE POWER SUPPLIES

1609 - U 750 N
 a b c

a

Power 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)

c

Input/Output Voltage	
Code	Description
N	120V AC

BULLETIN 1609-P UNINTERRUPTIBLE POWER SUPPLIES

1609 - P 3000 N
 a b c

a

Power Supply Type	
Code	Description
P	Double Conversion Online Uninterruptible Power Supply

b

Rated Output Power	
Code	Description
3000	3000 VA (2100 W)
5000	5000 VA (3500 W)
8000	8000 VA (6400 W)
10000	10000 VA (8000 W)

c

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

Allen-Bradley, ArmorPower, 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