

# Product Details and Certifications

Cross Reference RA Part Number: PN-39630



Product: **1606-XLSBUFFER24**

Description: Buffer Module, 24-28.8V DC, 480 W, 24-28.8V DC Input Voltage



Representative Photo Only (actual product may vary based on configuration sections)

## POWER SUPPLY DATA

Bulletin Number	1606 Switched Mode Power Supplies
Input Voltage	24...28.8V DC
Output Voltage	22.5...27.8V DC
Rated Output Watts	480 W
Input Current	80 mA typ. / 600 mA max.
No. of Phases	3 Phase
Rated Output Current	20 A




## CERTIFICATIONS AND APPROVALS

UL  
CE  
EN  
RoHS

For UL Certifications Directory:

<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>



			
Bulletin	<b>1606-XLS</b>	1606-XLE	1606-XLP
Type	<b>Performance Single/Three-Phase</b>	<b>Essential Single/Three-Phase</b>	<b>Compact Single/Two-Phase</b>
Output Power	80...960 W	80...960 W	15...100 W
Input Voltage/ Primary Voltage	100...240, 323...576V AC		
Efficiency	91.6...95%	90...92%	80...90%
Output Voltage/ Secondary Voltage	12...15, 24, 30, 36, 48V DC	12, 24, 48V DC	5, 10...12, 12, 15, 24, 48V DC
Rated Output Current	3.3...40 A	3.3...40 A	0.6...4.5 A
Operating Temperature Range	-25...+70 °C >60 °C with derating	-25...+70 °C >60 °C with derating	-40...+70 °C >60 °C with derating
Non-Operating Temperature Range	-40...+85 °C		
Certifications	cULus, CE, GL, ATEX	UL, CE, CSA, GL	cULus, CE, CSA, GL
Standards Compliance	EN 55011 (Class B), EN 55022 (Class B), EN 61000-6-2, EN 61000-3-2 (A14), EN 50081-1, UL 508, UL 1950, RoHS, Class 1 Div. 2	EN 55011 (Class B), EN 55022 (Class B), EN 61000-6-2, EN 61000-3-2 (A14), EN 50081-1, UL 508, UL 1950, CAN/CSA C22.2 No. 107-1, RoHS, Class 1, Div. 2	EN 50081-1, EN 61000-6-2, EN 61000-3-2 (A14), UL 508, UL 60950, CAN/CSA C22.2 No. 60950, RoHS Class 1, Div. 2
Special Application Products	- Compact redundancy module for 10...60V DC - Buffer module for extended ride-through - Redundancy modules - Redundant power supplies - DC UPS - DC converter		
Product Selection	Page 8-9	Page 8-10	Page 8-11

1606 Special Modules

Input Voltage	Output Power [W]	Output Voltage	Output Current [A]	Input Circuit Protection	Steady State Input Current 120/230 [V AC]	Parallel Operation	DC OK Relay	Cat. No.
18...36V DC	40	5.1	8	N/A	N/A	Yes	—	1606-XLDC40A
14...32.4V DC	92	24	3.8	N/A	N/A	—	—	1606-XLDC92D
100...240V AC, 110...300V DC	91	24	3.8	6 A SLOW BLOW FUSE OR 1489-A1C060/20 A♣	1.02/0.48	Yes	✓	1606-XLSDNET4
100...240V AC, 110...300V DC	192	24	8	6 A SLOW BLOW FUSE OR 1489-A1C060/20 A♣	2.13/1.00	Yes	✓	1606-XLSDNET8
100...120/200...240V AC	80	24...28	3.3	10 A SLOW BLOW FUSE OR 1489-A1C100/20 A♣	1.50/0.68	No	—	1606-XLEDNET3
100...120/200...240V AC, 160...375V DC	60	24	2.5	10 A SLOW BLOW FUSE OR 1489-A1C100/16 A♣	1.30/0.70	Yes‡	✓	1606-XL60DR
100...120/200...240V AC, 210...375V DC	120		5	10 A SLOW BLOW FUSE OR 1489-A1C100/16 A♣	2.60/1.40	Yes‡	✓	1606-XL120DR
100...120/200...240V AC, 240...375V DC	240		10	10 A SLOW BLOW FUSE OR 1489-A1C100/10 A♣	6.00/2.60	Yes‡	✓	1606-XL240DR
24V DC	720	V <sub>in</sub> -5V typ	30	N/A	N/A⊛	—	—	1606-XLRED20-30
24V DC	960	V <sub>in</sub> -6V typ	40	N/A	N/A§	—	—	1606-XLRED40
10...60V DC	384	V <sub>in</sub> 1 -.9V typ	16➤	N/A	N/A	—	—	1606-XLPRED
10...60V DC	480	V <sub>in</sub> 1 -.9V typ	20➤	N/A	N/A	—	—	1606-XLSRED
24...28	960	V <sub>in</sub> 2.15 typ.	40	N/A	N/A	—	—	1606-XLSRED40
24...28	1920	V <sub>in</sub> 2.7 typ.	80	N/A	N/A	—	—	1606-XLSRED80
24...60V DC	480	V <sub>in</sub> 1 -.9V typ	20➤	N/A	N/A	—	✓	1606-XLERED

1606 Special Modules with UPS

Input Voltage	Output Power [W]	Output Voltage	Output Current [A]	Cat. No.
22.5...30V DC	240	22.5	10	⊛ 1606-XLS240-UPS
22.5...30V DC	240	22.5	10	1606-XLS240-UPSC
22.5...30V DC	240	12/22.5	5/10	1606-XLS240-UPSD
22.5...30V DC	240	22.5	10	1606-XLS240-UPSE
24...28.8V DC	480	22.5...27.8	20	1606-XLSBUFFER24
48...56V DC	960	45...54	10	1606-XLSBUFFER48

Bulletin 1606 Special Module Accessories

Description	Cat. No.
7 Ah/12V Battery Assembly with Bracket, for use with DC UPS	1606-XLSBATASSY1
7 Ah/12V Battery	1606-XLSBAT1
Battery bracket for 7 Ah/12V battery	1606-XLSBATBR1
26 Ah/12V Battery Assembly with Bracket, for use with DC UPS	1606-XLSBATASSY2
26 Ah/12V Battery	1606-XLSBAT2
Battery bracket for 26 Ah/12V battery	1606-XLSBATBR2

⊛ To be used alongside 20, 30, and 40 A power supplies.

‡ Single/parallel operation (inclined characteristic) selectable (jumper).

§ To be used alongside 40 A power supplies (or smaller).

♣ Unit has internal (not accessible/replaceable) input fuse. Additional protection is not required if used on branch circuits ≤ UL test levels.

➤ See product specifications for proper use.

⊛ **Cat. No. 1606-XLS240-UPS** is a charging module, used along side a power supply and a battery assembly. **The battery assembly must be ordered separately.** Order **Cat. No. 1606-XLSBATASSY1** for 7 Ah/ 12V battery assembly or **Cat No. 1606-XLSBATASSY2** for 26 Ah/ 12V battery assembly. Consult local codes and regulations for installation.



## Bulletin 1606-XLSBUFFER



	Buffer Module	Buffer Module
	1606-XLSBUFFER 24	1606-XLSBUFFER 48
Output Volts	22.5V DC	45V DC
Input Current	80 mA typ. 600 mA max.	40 mA typ. 500 mA max.
Hold-up Time	200 ms @ 20 A	100 ms @ 20 A
Output Voltage	V <sub>in</sub> -1V: 22.5V fixed	V <sub>in</sub> -2V: 45V fixed
Rated Output Current	20 A	20 A
Operating Temperature Range (T <sub>amb</sub> )	-25...+70 °C	
Non-Operating Temperature Range	-40...+85 °C	
Dimensions (W x H x D)	64 x 124 x 102 mm	64 x 124 x 102 mm
Weight	740 g	740 g
Certifications/Standards*	1, 2, 3, 5, 6	
Special Features	Selectable buffered voltage; ‡	

\* 1) = CE, 2) = UL 508 (cULus LISTED), 3) = UL 1950 (cURus), 4) = CSA C22.2, No. 60950, 5) Safety standards = IEC/EN 60950, EN 50178, 6) EMC standards = EN 55011 (Class B), EN 55022 (Class B), EN 61000-6-2, 7) EMC standards = EN 61000-3-2 (A14), EN 50081-1

‡ Low inrush current

## Bulletin 1606-XLS UPS

	UPS	UPS	UPS	UPS
	1606-XLS240-UPS	1606-XLS240-UPSC	1606-XLS240-UPSD	1606-XLS240-UPSE
Output Volts/Watts	22.5V...30V/240 W	22.25V/240 W	22.25V and 12V/240 W	
Input Voltage (47...63 Hz)	24V DC (22.5...30V DC)	24V DC (22.5...30V DC)	24V DC (22.5...30V DC)	
Rated Input Current Voltage stand-by mode/charging mode	typ. 0.12 A/ max. 1.3 A	typ. 0.12 A/ max. 1.3 A	—	typ. 0.12 A/ max. 1.3 A
Operational Range	22.5...30V DC	22.5...30V DC	22.5...30V DC	22.5...30V DC
Hold-up Time	battery dependent			
Output Voltage	22.4V	22.25V	22.25V	22.25V
Rated Output Current	10 A	10 A	10 A	10 A
Power Boost	15 A	15 A	15 A	15 A
Operating Temperature Range (T <sub>amb</sub> )	-25...+60 °C		-25...+40 °C	
Non-Operating Temperature Range	-40...+85 °C		-20...+50 °C	
MTBF♣	886 000 hours	886 000 hours	788 000 hours	886 000 hours
Dimensions (W x H x D)	49 x 124 x 117	123 x 124 x 119	49 x 124 x 117	49 x 124 x 117
Weight	530 g	2850 g	650 g	545 g
Certifications/Standards*	1, 2, 3, 5, 6			
Special Features	Inhibit replacement battery buffering			

\* 1) = CE, 2) = UL 508 (cULus LISTED), 3) = UL 1950 (cURus), 4) = CSA C22.2, No. 60950, 5) Safety standards = IEC/EN 60950, EN 50178, 6) EMC standards = EN 55011 (Class B), EN 55022 (Class B), EN 61000-6-2, 7) EMC standards = EN 61000-3-2 (A14), EN 50081-1

♣ MTBF determined by Siemens norm SN 29500 at full load current and 40 °C