1606-XL Single Phase Specifications

					
	1606-XL60D	**1606-XL120D**	**1606-XL240E**	**1606-XL240EP**	**1606-XL240FP**
Watts	24V/60 W	24...28V/120 W	24...28V/240 W	24...28V/240 W	48...56V/240 W
Input Voltage ❷	AC 100...120/ 200...240V, Manual select, DC 160...375V	AC 100...120/ 200...240V, Manual select, DC 210...375V	AC 100...120/200...240V, Manual select, DC 240...375V		
Operational Range	85...132/176...264 V AC				
Hold-up Time	>20 ms (AC 196V)	>37 ms (AC 196V)	>25 ms (AC 196V)	>20 ms (AC 196V)	>25 ms (AC 196V)
Rated Input Current	<1.3 A/<0.7 A	<2.6 A/<1.4 A	<6 A/<2.8 A		
Efficiency	typ. 87.5%	typ. 90%	typ. 90%	typ. 89%	typ. >90%
Output Voltage	24V	24V	24...28V 24.5V preset	24...28V 24.5V preset	48...56V 48.5V preset
Rated Output Current	2.5 A	5 A	10 A (at 24V), 8.6 A (at 28V)	10 A (at 24V), 8.6 A (at 28V)	5 A (at 48V), 4.3 A (at 56V)
Power Boost		6 A	12 A	12 A	
Ripple/Noise (20 MHz)	<25 mV_{pp}	<50 mV_{pp}	<30 mV_{pp}	<30 mV_{pp}	<50 mV_{pp}
Operating Temperature range (T_{amb})	-10...+70°C >60°C with derating		0...+70°C >60°C with derating		
MTBF ❺	740 000 hours	520 000 hours	425 000 hours	225 000 hours	425 000 hours
Dimensions (W x H x D)	49 x 124 x 102 mm	64 x 124 x 102 mm	120 x 124 x 102 mm		
Weight	460 g	620 g	980 g	1195 g	980 g
Approvals/Standards ❶	1, 2, 3, 5, 6, 7		1, 2, 3, 5, 6	1, 2, 3, 5, 6, 7	
Special Features			❹	PFC choke, ❹	

					
	1606-XL480E	**1606-XL480EP**	**1606-XL480EPT**	**1606-XL480GP**	**1606-XL480F**
Watts	24...28V/480 W			36...43V/480 W	48...56V/480 W
Input Voltage ❷	AC 200...240V DC 270...370V	AC 100...120/200...240V Auto select			
Operational Range	184...264 V AC	85...132/184...264 V AC			
Hold-up Time	30 ms (AC 230V)			>27 ms (AC 230V)	30 ms (AC 230V)
Rated Input Current	5 A	10 A/5 A			
Efficiency	typ. 91%	typ. 90%	typ. 90.5%	typ. 92%	typ. 93%
Output Voltage	24...28V Front panel potentiometer			36...43V/480W front panel potentiometer	48...56V Front panel potentiometer
Rated Output Current	20 A (at 24V), 18 A (at 28V)			13.0 A (at 36V), 11.2 A (at 43V)	10 A (at 48V), 8.6 A (at 56V)
Power Boost	25 A (22 A)			16.6 A (14 A)	12.5 A (10.7 A)
Ripple/Noise (20 MHz)	<20 mV_{pp} (single operation) <40 mV_{pp} (parallel operation)			<30 mV_{pp} (single operation) <80 mV_{pp} (parallel operation)	<40 mV_{pp} (single operation) <80 mV_{pp} (parallel operation)
Operating Temperature range (T_{amb})	0...+70°C >60°C with derating				
MTBF ❺	519 000 hours				
Dimensions (W x H x D)	220 x 124 x 102 mm				
Weight	1800 g	2500 g			1800 g
Approvals/Standards ❶	1, 2, 3, 5, 6	1, 2, 3, 5, 6, 7			1,2, 3, 5, 6
Special Features	Single/parallel operation (inclined characteristic) selectable (jumper), ❸	PFC choke, Overload behavior selectable (hiccup/continuous current), ❸	PFC choke, ❸	Single/parallel operation (inclined characteristic) selectable (jumper), PFC choke, ❸	❸

❶ 1) = CE, 2) = UL508 (cULus LISTED), 3) = UL1950 (cURus), 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
❷ 47...63Hz
❸ Low inrush current
❹ FM Class 1 Div. 2, Groups A, B, C, D T3A
❺ MTBF determined by Siemens norm SN 29500 at full load current and 40° C

Power Supplies Selection Guide

Standard Three Phase Specifications

1606-XL Three Phase Specifications

				
	1606-XL120E-3	**1606-XL240E-3**	**1606-XL480E-3**	**1606-XL480E-3W**
Watts	24...28V/120 W	24...28V/240 W	24...28V/480 W	24...28V/490 W
Input Voltage ❷	3Ø AC 400...500V wide range DC 450...820V	3Ø AC 400...500V wide range DC 450...820V	3Ø AC 480V DC 550...820V	3Ø AC 400...500V wide range DC 450...820V
Operational Range	340...576 V AC		408...576 V AC	340...576 V AC
Hold-up Time	>16ms(3ØAC400V) >10 ms (2Ø AC 400V)	>24ms(3ØAC400V) >20 ms (2Ø AC 400V)	>11 ms	>11 ms (3Ø AC 400V)
Rated Input Current	3 x 0.5 A	3 x 0.8/0.7 A @400/500V	3 x 1.5 A	
Efficiency	typ. 89% (400V)	typ. 91.2% (400V) typ. 92% (500V)	typ. 92%	typ. 92% (400V)
Output Voltage	24...28V 24.5V preset	24...28V 24.5V preset	24...28V 24V preset	24...28V 24.5V preset
Rated Output Current	5 A (at 24V), 4.3 A (at 28V)	10 A (at 24V) 8.6 A (at 28V)	20 A (at 24V), 18 A (at 28V)	
Power Boost	6 A	12 A (up to 288 W)	25 A	
Ripple/Noise (20 MHz)	<25 mV_{pp}	<30 mV_{pp}	<20 mV_{pp}	<30 mV_{pp}
Operating Temperature range (T_{amb})	-10...+70°C >60°C with derating	0...+70°C >60°C with derating		
MTBF ❹	410 000 hours	543 000 hrs. (3-ph), 525 000 hrs. (2-ph.)	310 000 hours	504 000 hours
Dimensions (W x H x D)	73 x 124 x 117 mm	89 x 124 x 117 mm	220 x 124 x 102 mm	150 x 124 x 121 mm
Weight	730 g	980 g	1800 g	
Approvals/Standards ❶	1, 2, 3, 5, 6, 7			
Special Features	PFC choke	Overload behavior selectable (FUSE Mode/continuous current), 2-phase operation admissible, Single/parallel operation (inclined characteristic) select on front panel, PFC choke, ❸	Single/parallel operation (inclined characteristic) selectable (jumper), PFC choke, ❸	Single/parallel operation (inclined characteristic) selectable, Overload behavior selectable (FUSE Mode/ continuous current), PFC choke, ❸

❶ 1) = CE, 2) = UL508 (cULus LISTED), 3) = UL1950 (cURus), 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
❷ 47...63Hz
❸ Low inrush current
❹ MTBF determined by Siemens norm SN 29500 at full load current and 40° C

1606-XL Three Phase Specifications, Continued

				
	1606-XL480F-3H	**1606-XL720E-3**	**1606-XL960E-3**	**1606-XL960E-3S ❺**
Watts	48...56V/480 W	24...28V/720 W	24...28V/960 W	
Input Voltage ❷	3Ø AC 400V DC 450...700V	3Ø AC 400...500V wide range DC 450...820V	3Ø AC 400...500V wide range	
Operational Range	340...479 V AC	340...576 V AC		
Hold-up Time	>11 ms	>10 ms (3Ø AC 400V)	>15 ms (3Ø AC 400V)	
Rated Input Current	3 x 1.5 A	3 x 2.0 A	3 x 3.0 A	
Efficiency	typ. 92%	typ. 92.5% (400V)	typ. 92.5% (400V)	
Output Voltage	48...56V 48.1V preset	24...28V front panel potentiometer	24...28V front panel potentiometer	
Rated Output Current	10 A (at 48V), 9 A (at 56V)	30 A (at 24V), 26 A (at 28V)	40 A (at 24V), 35 A (at 28V)	
Power Boost	12.5 A	33 A	46 A	
Ripple/Noise (20 MHz)	<50 mV_{pp}	<20 mV_{pp} (single operation) <40 mV_{pp} (parallel operation)	<50 mV_{pp}	
Operating Temperature range (T_{amb})	0...+70°C >60°C with derating			
MTBF ❹	310 000 hours	425 000 hrs. @ AC 400V, 360 000 hrs. @ AC 480V	305 000 hours	268 000 hours
Dimensions (W x H x D)	220 x 124 x 102 mm	240 x 124 x 112 mm	275 x 124 x 117 mm	
Weight	1800 g	2000 g	3300 g	
Approvals/Standards ❶	1, 2, 3, 5, 6, 7			
Special Features	Single/parallel operation (inclined characteristic) selectable (jumper), PFC choke, ❸	PFC choke, ❸	Single/parallel operation (inclined characteristic) selectable (jumper), passive load sharing, PFC choke, ❸	Parallel operation through active current sharing; Output signals (Power-Fail, Shut-Down, internal current measurement, over-temperature warning), PFC choke, ❸ ❺

❶ 1) = CE, 2) = UL508 (cULus LISTED), 3) = UL1950 (cURus), 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
❷ 47...63Hz ❸ Low inrush current ❹ MTBF determined by Siemens norm SN 29500 at full load current and 40° C ❺ 1606-XL960E-3S Signalling details below:

"Shut Down" Input

Function: Turning the unit on or off using logic signal (remote monitoring)

Unit switches off when Input is connected to "Signal GND" terminal (DU < 1V) or the input has a voltage of +20...28V with respect to the "Signal GND" terminal (max. 20 mA).

"DC Ok" Output

Function: Indicating whether the unit is operating properly. Output can directly energize a relay or a control light.

Signalling: Output signal is at a "high" level (24V, current source) in normal operation (no overload, overheating, short circuit). When the output signal switches to "low" level (no power at output), Vout remains for 5 ms (nominal) at nominal load.

Connection (signal common):
Connection is made with respect to the "Signal GND" terminal (signal output).
Important: Do not connect to the power output (terminals ⊕ and ⊖).

Permissible load: resistance - min. 300 Ω e.g. 24V relay, control lights (LEDs need no series resistance), Evaluation logic.

For 5V signal:
In order to receive a 5V signal: switch a 5V Zener diode (0.5 W) and 1 kΩ resistance in parallel between this output and the "Signal GND" terminal.

"Thermal Alarm" Output

Function: Output gives warning shortly before and while overtemperature state occurs. Output can directly control a relay or a control light.

Signalling: Output signal is at a "high" level (24V, current source) in normal operation (no overtemperature).
At overtemperature, the output switches to "low". Only when the temperature in the unit increases further will the unit reduce its output current (power output).

Connection and permissible load:
same as for "DC ok" output.

"Current Monitor" Output

Function: Measuring the output current (power output). Output signal is proportional to the output current of the unit.

Connection: Made with respect to the "Signal GND" terminal (signal output).
Important: Do not connect to the power output (terminals ⊕ and ⊖).

Signalling:
Voltage measuring: Voltage at signal output is 1V per 10 A output current (Ri(voltmeter) > 100 kΩ)
Current measurement: Current at signal output is 1 mA per 10 A output current (Ri(ammeter) < 100 W)

"Current Balance" In-/Output

Function: Using these terminals, parallel operating units ensure an equal load sharing (active balancing).
Balancing also works reliably with decoupling diodes at the power output (redundancy).

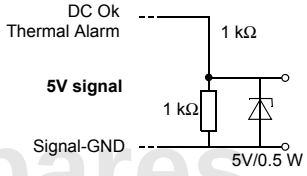
Connection: Connect together "Current Balance" outputs of all units involved.
Important: Signal common here is the ⊖ terminal of the power output, **not** the "Signal GND". Do not connect the "Signal GND" terminals to each other!

"Signal GND" Terminal

Function: grounding terminal for all signal terminals (not for "Current Balance").

Connection instructions: Do not connect this terminal with terminals ⊕ or ⊖ of the unit (not even over a load: risk of overload). Do not connect this terminal with terminals of *other* units (not even with the "Signal GND" terminal of another unit).

Permissible load: Maximum current load: 0.3 A. Terminal is fused internally with a self-healing fuse (polyswitch).



Special Module Specifications

1606-XL Special Modules

					
	Buffer Module	**DC/DC Converter**	—	—	**N+1 Redundancy**
	1606-XLBUFFER	**1606-XLDC40A**	**1606-XLDNET4**	**1606-XLDNET8**	**1606-XL60DR**
Watts	22.5V...27.8V/480 W	DC 5.1V ±1%	24V/120 W	24V/240 W	24V/60 W
Input Voltage ❷	DC 24V (DC 24...28.8V)	DC 18...36V	AC 100...120V/ 200...240V Manual select DC 210...375V	AC 100...120V/ 200...240V Manual select DC 240...375V	AC 100...120V/ 200...240V Manual select DC 160...375V
Operational Range	23...35 V DC	18...36 V DC	85...132/176...264 V AC		
Hold-up Time	>0.2 s (20 A)	>10 ms (DC 24 Vin)	>37 ms (AC 196V)	>25 ms (AC 196V)	>20 ms (AC 196V)
Rated Input Current	charging current <600 mA	<2.9 A/<1.5 A	<2.6 A/<1.4 A	<6 A/<2.8 A	<1.3 A/<0.7 A
Efficiency	N/A	typ. 82%	typ. 90%	typ. 89%	typ. 86.5%
Output Voltage	Vin -1V: 23...27.8V 22.5V fixed	DC 5.1V ±1% selectable 4.5 to 5.5V	24V	24V	24V
Rated Output Current	0...20 A	8 A	*4 A	*8 A	2.5 A
Power Boost	—	N/A	N/A	N/A	—
Ripple/Noise (20 MHz)	<200 mV_{pp}	<50 mV_{pp}	<50 mV_{pp}	<30 mV_{pp}	<30 mV_{pp}
Operating Temperature range (T_{amb})	-10°C...+70°C >60°C with derating	0...+70°C >60°C with derating	-10...+70°C >60°C with derating	0...+70°C >60°C with derating	-10...+70°C >60°C with derating
MTBF ❹	480 000 hours	510 000 hours	520 000 hours	390 000 hours	700 000 hours
Dimensions (W x H x D)	64 x 124 x 102 mm	49 x 124 x 102 mm	64 x 124 x 102 mm	120 x 124 x 102 mm	49 x 124 x 102 mm
Weight	740 g	470 g	620 g	980 g	470 g
Approvals/Standards ❶	under preparation: 1, 2, 3, 5 (6, 7)	1, 5, 6	1, 2, 3, 5, 6, 7	1, 2, 3, 5, 6	1, 2, 3, 5, 6, 7
Special Features	Selectable buffered voltage, ❸	MOSFET inverse battery protection, ❸	* Electronically limited to 4 A	*Electronically limited to 8 A; RDY relay contact, N+1 redundancy, plug connectors	RDY relay contact, N+1 redundancy, plug connectors

				
	N+1 Redundancy	**N+1 Redundancy**	**N+1 Redundancy**	**N+1 Redundancy**
	1606-XL120DR	**1606-XL240DR**	**1606-XLRED20-30**	**1606-XLRED40**
Watts	24V/120 W	24V/240 W	30 A Dual redundancy module	40 A Single redundancy module
Input Voltage ❷	AC 100...120V/ 200...240V Manual select DC 210...375V	AC 100...120V/ 200...240V Manual select DC 240...375V	DC 24V (max. 35V)	
Operational Range	85...132/176...264 V AC		18...36 V DC	
Hold-up Time	>37 ms (AC 196V)	>25 ms (AC 196V)	—	—
Rated Input Current	<2.6 A/<1.4 A	<6 A/<2.8 A	20...30 A (max. 35 A)	0...40 A (max. 50 A)
Efficiency	typ. 89%	typ. 89%	>97%	>97%
Output Voltage	24V	24V	V_{in} -0.5V typ.	V_{in} -0.6V typ.
Rated Output Current	5 A	10 A	20...30 A (max. 35 A)	0...40 A (max. 50 A)
Power Boost	6 A	12 A	—	—
Ripple/Noise (20 MHz)	<30 mV_{pp}	<30 mV_{pp}	—	—
Operating Temperature range (T_{amb})	-10°C...+70°C >60°C with derating	0...+70°C >60°C with derating	-10...+70°C	
MTBF ❹	480 000 hours	390 000 hours	—	—
Dimensions (W x H x D)	64 x 124 x 102 mm	120 x 124 x 102 mm	48 x 124 x 102 mm	48 x 124 x 117 mm
Weight	620 g	980 g	625 g	646 g
Approvals/Standards ❶	1, 2, 3, 5, 6, 7	1, 2, 3, 5, 6	1, 2, 3, 6	
Special Features	RDY relay contact, N+1 redundancy, plug connectors		Dual redundancy module for 2x35 A, N+1 redundancy	Single redundancy module for 2.5-50 A, N+1 redundancy

❶ 1) = CE, 2) = UL508 (cULus LISTED), 3) = UL1950 (cURus), 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
❷ 47...63Hz ❸ Low inrush current ❹ MTBF determined by Siemens norm SN 29500 at full load current and 40° C

Approximate Dimensions and Wire Size

Approximate dimensions are shown in inches (mm) unless otherwise indicated. Dimensions are not to be used for manufacturing purposes.

Bulletin 1606 Dimensions Table

Catalog Number	W	H	D ❶	Wire Size ❷
				(Input and Output unless otherwise noted)
1606-XLP25A	1.77" (45 mm)	2.95" (75 mm)	3.58" (91 mm)	**Input/Output ❷** Stranded 28...12 AWG (0.3...2.5 mm²) Solid 28...12 AWG (0.3...4 mm²)
1606-XLP30B				
1606-XLP30E				
1606-XLP36C				
1606-XLP50B				
1606-XLP50E				
1606-XLP50F				
1606-XLP72E				
1606-XLP100E	2.87" (73 mm)		4.06" (103 mm)	
1606-XLP100F				
1606-XL60D	1.93" (49 mm)	4.88" (124 mm)	4.02" (102 mm)	**Input/Output ❷** Stranded 20...10 AWG (0.5...4 mm²) Solid 20...10 AWG (0.5...6 mm²)
1606-XL120D	2.56" (64 mm)			
1606-XL240E	4.72" (120 mm)			
1606-XL240EP				
1606-XL240FP				
1606-XL480E	8.6" (220 mm)			
1606-XL480EP				
1606-XL480EPT				
1606-XL480GP				
1606-XL480F				
1606-XL120E-3	2.87" (73 mm)	4.88" (124 mm)	4.61" (117 mm)	**Input/Output ❷** Stranded 20...10 AWG (0.5...4 mm²) Solid 20...10 AWG (0.5...6 mm²)
1606-XL240E-3	3.50" (89 mm)	4.88" (124 mm)	4.61" (117 mm)	
1606-XL480E-3	8.66" (220 mm)	4.88" (124 mm)	4.02" (102 mm)	
1606-XL480E-3W	5.91" (150 mm)	4.88" (124 mm)	4.76" (121 mm)	
1606-XL480F-3H	8.66" (220 mm)	4.88" (124 mm)	4.02" (102 mm)	
1606-XL720E-3	9.45" (240 mm)	4.88" (124 mm)	4.41" (112 mm)	
1606-XL960E-3	10.83" (275 mm)	4.88" (124 mm)	4.61" (117 mm)	**Input ❷** Stranded 20...10 AWG (0.5...4 mm²) Solid 20...10 AWG (0.5...6 mm²)
1606-XL960E-3S				**Output ❷** Stranded 22...8 AWG (0.5...10 mm²) Solid 22...8 AWG (0.5...16 mm²)
1606-XLBUFFER	2.56" (64 mm)	4.88" (124 mm)	4.02" (102 mm)	**Input/Output ❷** Stranded 20...10 AWG (0.5...4 mm²) Solid 20...10 AWG (0.5...6 mm²)
1606-XLDC40A	1.93" (49 mm)	4.88" (124 mm)	4.02" (102 mm)	
1606-XLDNET4	2.56" (64 mm)	4.88" (124 mm)	4.02" (102 mm)	
1606-XLDNET8	4.72" (120 mm)	4.88" (124 mm)	4.02" (102 mm)	**Input/Output ❷** Stranded 22...10 AWG (0.2...2.5 mm²) Solid 22...10 AWG (0.2...2.5 mm²)
1606-XL60DR	1.93" (49 mm)	4.88" (124 mm)	4.02" (102 mm)	**Input/Output ❷** Stranded 22...12 AWG (0.2...2.5 mm²) Solid 22...12 AWG (0.2...2.5 mm²)
1606-XL120DR	2.56" (64 mm)	4.88" (124 mm)	4.02" (102 mm)	
1606-XL240DR	4.72" (120 mm)	4.88" (124 mm)	4.02" (102 mm)	
1606-XLRED20-30	1.89" (48 mm)	4.88" (124 mm)	4.02" (102 mm)	**Input/Output ❷** Stranded 20...10 AWG (0.5...4 mm²) Solid 20...10 AWG (0.5...6 mm²)
1606-XLRED40	1.89" (48 mm)	4.88" (124 mm)	4.61" (117 mm)	

❶ Depth measurement does not include DIN rail.
❷ The wire sizes indicated refer only to the connection capability of the terminal.
For proper operation, the correct wire size must be used (based on accurate determination of the electrical characteristics and loading of the system).

Accessories

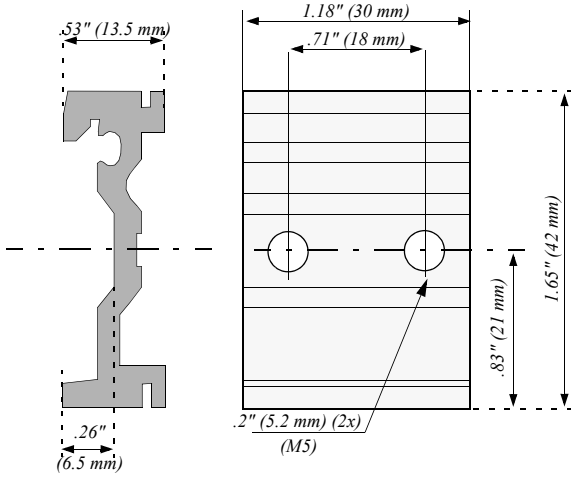
Back of Panel Mounting Bracket for XL Power Supplies

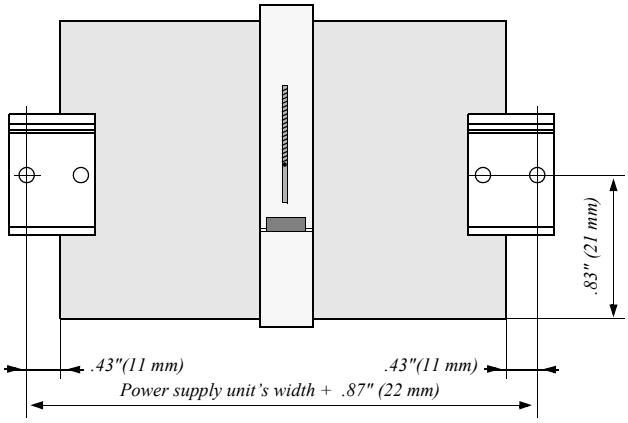
Instead of snapping the power supply onto a DIN-rail, you also can mount it to the back of the panel. This set consists of two aluminum profiles which replace the existing profiles at the back of the unit.

Note:

- You need one set per unit.
- In addition, two screws are required per set (e.g. M5 x 12 or corresponding sheet-metal screws; they are not included in the set.)

Approximate Dimensions (mm)





Circuit Protection Suggestions

If you intend to protect the primary side of the power supply with a fuse or a circuit breaker, this section can provide guidance on the proper Allen-Bradley product to use. In order to meet local requirements, please consult local codes and regulations for proper installation.

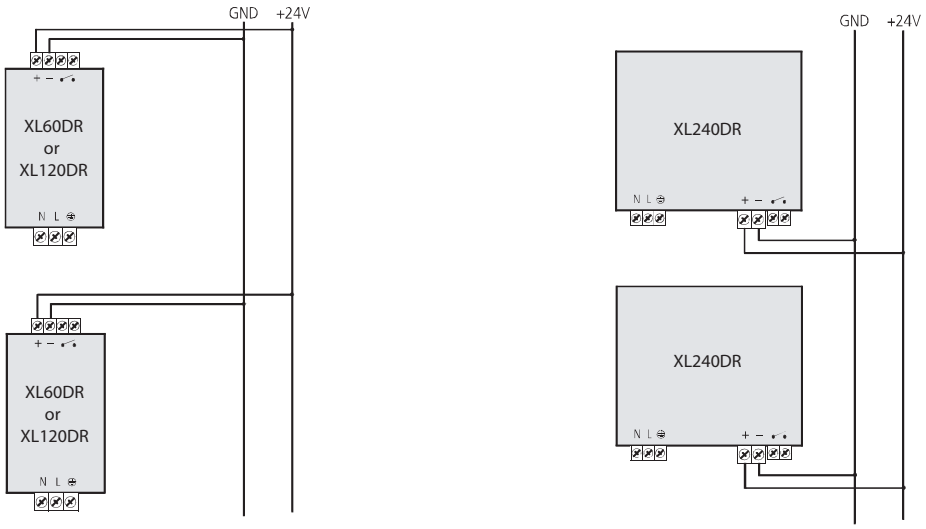
Power Supply Type ❶	Recommended Fuse	Supplementary Protector
XL480E-3W	6 A (x3) Slow acting fuse (HBC)	1492-SP3C060
XL120E-3, XL240E-3, XL480F-3H, XL480E-3, XL720E-3, XL960E-3, XL960E-3S	10 A (x3) Slow acting fuse (HBC)	1492-SP3C100
XL60D, XL60DR, XL120D, XL120DR, XL240E, XL240EP, XL240DR, XL480E, XLDNET8, XLDNET4	10 A Slow acting fuse (HBC)	1492-SPU1C100
XL480EPT, XL480F, XL480GP, XL480EP	15 A Slow acting fuse (HBC)	1492-SPU1C150 ❷

❶ Products not listed have an internal input fuse. No additional product protection is required.
❷ For European applications, 1492-SP1C160 is recommended.

1606-XL Redundancy Capabilities

The 1606-XL family has two cost effective methods for providing redundancy to applications that are critical and can not risk failure.

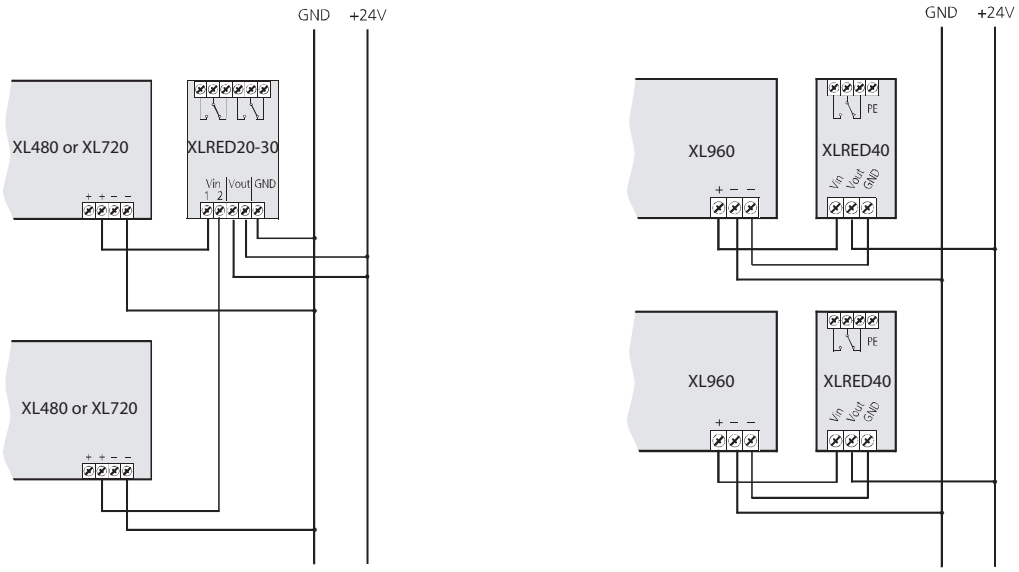
1606-XL60DR, XL120DR and XL240DR Redundant Power Supplies



The 1606-XL60DR, XL120DR and XL240DR are enhanced versions of the standard power supplies.

- Each device has internal diodes which provide isolation against DC bus problems corrupting working supplies.
- Provides "DC ok" output relay to allow remote monitoring of DC power status.
- Utilizes pluggable terminals for easy installation.

1606-XLRED20-30 and 1606-XLRED40 Redundancy Modules



The 1606-XLRED20-30 and 1606-XLRED40 allow redundant wiring of 20 to 40 amp power supplies.

- Devices provide isolation of power supplies via diodes.
- Provide remote monitoring of DC power status of each power supply.
- A single XLRED20-30 can be used per pair of identical 20 or 30 amp power supplies.
- One XLRED40 is required for every 40 amp power supply.

1606-XLBuffer

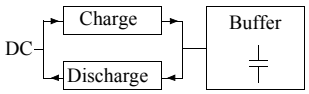
Features

- Buffering for 24V loads
- Guaranteed hold-up time: 0.2 s/20 A to 3.6 s/1 A
- Fit for industrial use: Energy storage in electrolytic caps.
- Clear status indication by Status LED and signalling terminals
- No batteries requiring replacement

Short Description

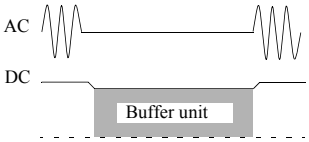
The buffer unit is a supplementary device for regulated DC 24V power supplies. It buffers load currents during typical mains faults and switching events or load peaks.

Working principle



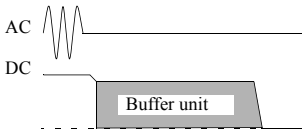
In times when the power supply provides sufficient voltage, the buffer unit stores energy in integrated electrolytic capacitors. In case of a mains voltage fault, this energy is released again in a regulated process.

Bridges mains faults without interruption



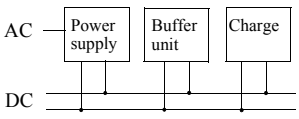
Statistics show that 80 percent of all mains faults last less than 0.2 s. These mains faults are completely bridged by the buffer unit and will have no influence on the DC power. This increases the reliability of the system as a whole.

Extended hold-up time



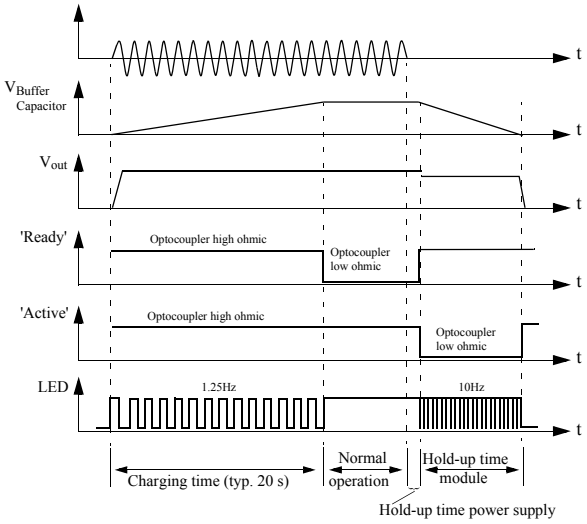
Once the main power fails or is switched off, the buffer unit will continue to provide the load current for a defined period of time. Process data can be saved and processes can be terminated before the DC power switches off. Controlled restarts are subsequently possible.

Easy to handle, expandable and maintenance-free



The buffer unit does not require any control wiring. It can be added in parallel to the load circuit at any given point. Any given number of buffer units can be installed in parallel to increase the output capacity or the hold-up time. The dual terminals allow for easy wiring.

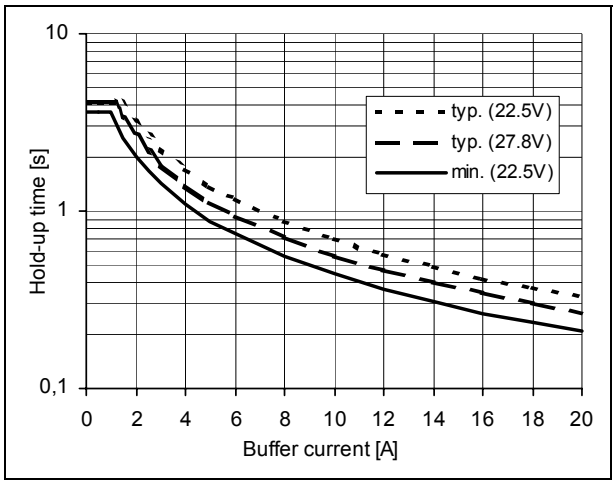
Operating Modes



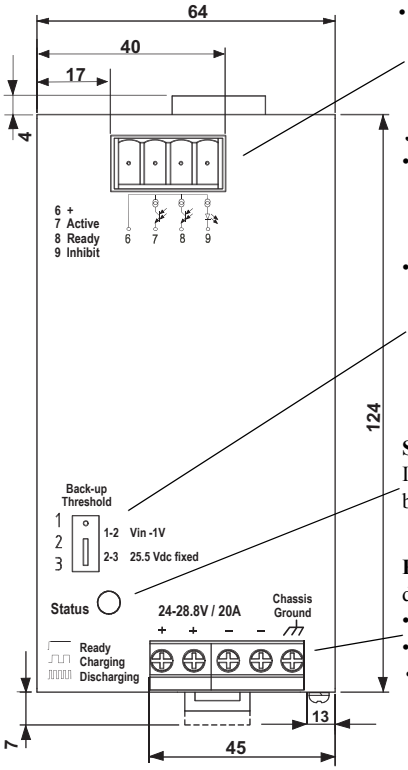
Activation Threshold

"22.5V fixed"	Buffering starts if terminal voltage <22.5V, voltage is kept at 22.5V.
"V_{in} -1V"	Buffering starts if terminal voltage decreases by more than 1V, faster than typ. 0.54V/s. Voltage is kept at that level. Buffering ends when voltage increases once more by 1V.
Noise (spikes)	<200mV_{pp} (20 MHz bandwidth, 50 Ω measurement, buffer operation only)
Over voltage protection	limited to max. ±35V

Hold-up Time



Operating Indicators and Elements



Signalling terminals:

- 7 Active: unit is buffering
- 8 Ready: unit is on stand-by
- 9 Inhibit: initiates buffer discharging, inhibits recharging of capacitor array

Jumper back-up threshold:

- Pos. 1-2: variable: V_{in} -1V. Buffering if voltage decreases faster than typ. 0.54V/s and > 1V
- Pos. 2-3: DC22.5V fixed. Voltage buffering starts at V_{in} <22.5V

Status LED
Indicates charge status of buffer capacitor array

Power In/Out terminals:
dual terminals

- + (positive)
- – (negative)
- Housing connection 'Chassis Ground'