



Switched Mode Power Supply Specifications

Bulletin 1606

| Topic | Page |
|--|------|
| Summary of Changes | 2 |
| Product Overview | 3 |
| Catalog Number Explanation | 4 |
| Product Selection | 5 |
| Specifications - 1606-XLS Performance Power Supplies | 13 |
| Specifications - 1606-XLE Essential Power Supplies | 21 |
| Specifications - 1606-XLD DC-DC Converters | 27 |
| Specifications - 1606-XLP Compact Power Supplies | 28 |
| Specifications- 1606-XLB Basic Power Supplies | 34 |
| Specifications - 1606-XX Regional Power Supplies | 37 |
| Certifications and Standards Compliance | 38 |
| Additional Resources | 42 |

Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

| Topic | Page | Topic | Page |
|--|------|--------------------------------------|------|
| Updated Product Overview Table | 3 | | |
| New Products: | | | |
| 1606-XLS Performance Power Supplies | | 1606-XLD DC-DC Converters | |
| 1606-XLS960BUFFER | 5 | 1606-XLDF120E | 9 |
| 1606-XLSBATASSY1W | 6 | 1606-XLDD240E | 9 |
| 1606-XLSBATBRTW | 6 | 1606-XLDF240F | 9 |
| 1606-XLSBATBR3 | 6 | 1606-XLB Basic Power Supplies | |
| 1606-XLSBATBR4 | 6 | 1606-XLB480E | 11 |
| 1606-XLSBATSEN | 6 | 1606-XLBRED20 | 11 |
| 1606-XLE Essential Power Supplies | | 1606-XLB36EH | 11 |
| 1606-XLE120E | 7 | 1606-XLB60BH | 11 |
| 1606-XLE120EC | 7 | 1606-XLB60EH | 11 |
| 1606-XLE240E | 7 | 1606-XLB60E | 11 |
| 1606-XLE240EP | 7 | 1606-XLB90EH | 11 |
| 1606-XLE480EP | 7 | 1606-XLB90E | 11 |
| 1606-XLE120B | 7 | 1606-XLB90EQ | 11 |
| 1606-XLE120EL | 7 | 1606 Accessories | |
| 1606-XLE120EH | 7 | 1606-XLA-S63 | 12 |
| 1606-XLE120ED | 7 | 1606-XLA-S76 | 12 |
| 1606-XLE120F | 7 | 1606-XLA-S85 | 12 |
| 1606-XLE260F | 7 | 1606-XLA-UPSC | 12 |
| 1606-XLE192BM | 7 | 1606-XLA-W45 | 12 |
| 1606-XLE192BDM | 7 | 1606-XLA-XLE | 12 |
| 1606-XLE240EC | 7 | 1606-XLA-S37 | 12 |
| 1606-XLE240EH | 7 | 1606-XLA-S44 | 12 |
| 1606-XLE240EL | 7 | | |
| 1606-XLE480EPC | 7 | | |
| 1606-XLE480EP-D | 7 | | |
| 1606-XLE480FP | 7 | | |
| 1606-XLERED20 | 7 | | |
| 1606-XLERED20Y | 7 | | |
| 1606-XLE480EL | 7 | | |
| 1606-XLE480EH | 7 | | |
| 1606-XLE480EM | 7 | | |
| 1606-XLE240EDRZ | 8 | | |
| 1606-XLE240ERL | 8 | | |
| 1606-XLE240ERZ | 8 | | |
| 1606-XLE240ECRZ | 8 | | |
| 1606-XLE480ERL | 8 | | |
| 1606-XLE480ERZ | 8 | | |
| 1606-XLE480ECRZ | 8 | | |
| 1606-XLE480EDRZ | 8 | | |






Product Overview

- Quick mounting and connecting, DIN rail mount, smallest in class
- UL Listed NEC Class 2 'Limited Power' options; Class 1, Div. 2; Semi F47; ODVA Approved
- Low inrush current limiting
- PFC Active or Passive
- Wide range input; auto-select input
- Enhanced overload design (continuous current, no hiccup)
- Selectable operating mode (single/parallel)
- Excellent efficiency and temperature rating



Special Modules

- Buffer Modules
- Redundancy Modules (1+1 or N+1 redundancies)
- DC UPS
 - Traditional UPS with battery
 - Capacitor-based UPS without batteries - Electrochemical Double Layer Capacitors (EDLC)

| Power Supply Family/ Attributes ⁽¹⁾ | Performance Power Supply 1606-XLS | Essential Power Supply 1606-XLE | DC-DC Converter 1606-XLD | Compact Power Supply 1606-XLP | Basic Power Supply 1606-XLB |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| Input Voltage | Single/multi-phase | Single/multi-phase | DC Voltage | Single/multi-phase | Single-phase |
| Watt Range | 80...960 W | 80...960 W | 92...240 W | 15...100 W | 36...480 W |
| Multiple Output Voltages | 12, 24, 30, 36, 48V DC | 12, 24, 48V DC | 24, 48V DC | 5, 12, 15, 24, 48V DC | 12, 24V DC |
| Terminations | Screw, Cam Lock Spring | Screw, Cam Lock Spring, Plug, and Push-in | Screw, Cam Lock Spring | Screw, Cam Lock Spring, Plug | Screw, Push-in |
| Auto Select Input | Yes | Yes | — | Yes | Yes |
| Power Boost | 150% / 5 s | 120% | 120% | — | — |
| DC OK Relay Output | Yes | Yes | Yes | Yes | Yes |
| DC OK Status Indicator | Yes | Yes | Yes | Yes | Yes |
| Wide Range | Yes | Yes | — | Yes | Yes |
| Product Selection Page | 5 | 7 | 9 | 10 | 11 |
| Specifications Page | 13 | 21 | 27 | 28 | 34 |
| Certifications and Standards Compliance Page | 38 | 39 | 40 | 41 | 41 |

(1) Not all features apply to all power supplies; see individual power supply descriptions for specifics.

Catalog Number Explanation

1606
-
XLE
480
E
-
P
-
D

a
b
c
d
e

| a | |
|--------------------------|--------------------------|
| Power Supply Type | |
| Code | Description |
| XLB | Basic Power Supply |
| XLD | DC-DC Converter |
| XLE | Essential Power Supply |
| XLP | Compact Power Supply |
| XLS | Performance Power Supply |
| XLX | Regional Power Supply |

| b | |
|---------------------|-------------|
| Rated Output | |
| Code | Description |
| 15 | 15 W |
| 25 | 25 W |
| 30 | 30 W |
| 36 | 36 W |
| 40 | 40 W |
| 50 | 50 W |
| 60 | 60 W |
| 72 | 72 W |
| 80 | 80 W |
| 90 | 90 W |
| 95 | 95 W |
| 100 | 100 W |
| 120 | 120 W |
| 180 | 180 W |
| 192 | 192 W |
| 240 | 240 W |
| 260 | 260 W |
| 480 | 480 W |
| 720 | 720 W |
| 960 | 960 W |

| c | |
|-----------------------|------------------------|
| Output Voltage | |
| Code | Description |
| A | 5V DC |
| B | 10...12 or 12...15V DC |
| C | Dual ± 12V and 15V DC |
| D | 24V |
| E | 24...28V DC |
| F | 48...56V DC |
| G | 36...43V DC |
| M | 48V DC |

| d | |
|-------------------------|---|
| Special Features | |
| Code | Description |
| blank | No special features |
| A | ATEX |
| C | Conformal Coated |
| CH | Push-in Terminal, Conformal Coated |
| CL | Spring Terminals, Conformal Coated |
| CR | Screw Terminals, Conformal Coated, Redundancy Built-in |
| CRH | Push-in Terminal, Conformal Coated, Redundancy Built-in |
| CRL | Spring Terminals, Conformal Coated, Redundancy Built-in |
| CRZ | Plug/Removable, Conformal Coated, Redundancy Built-in |
| CZ | Plug/Removable, Conformal Coated |
| D | Extended DC Input |
| DRZ | Plug/Removable, Redundancy Built-in, Extended DC input |
| E | Regional Unit - Europe |
| H | Push-in Terminals |
| L | Spring-clamp Terminals |
| M | Remote Shutdown |
| N | Regional Unit - North America |
| P | Power Factor Correction |
| Q | NEC Class 2 |
| R | Redundancy Built-in |
| RH | Push-in Terminal, Redundancy built-in |
| RL | Spring Terminals, Redundancy built-in |
| RZ | Plug / Removable, Redundancy built-in |
| S | Output Signal |
| T | Extended Temperature |
| X | Semi-regulated |
| Y | Load Sharing |
| Z | Plug / Removable Terminals |

| e | |
|-------------------------------|------------------------------------|
| Multi-phase Variations | |
| Code | Description |
| blank | — |
| 2 | Two phase |
| 3 | Three phase |
| 3C | Three-phase, conformal coating |
| 3E | Three-phase, input voltage 400V AC |
| 3N | Three-phase, input voltage 480V AC |
| D | 360...900V DC Only |

1606-XLS Performance Power Supplies



| Output | | Power | Input AC | Input DC | Special Features | Catalog Number |
|------------------------------------|--------|-------|-----------------------------|---------------|-------------------------|--------------------------------|
| 100...240V AC/DC Converters | | | | | | |
| 12V | 15 A | 180 W | AC 100...240V | DC 110...150V | — | 1606-XLS180B |
| 24V | 3.4 A | 80 W | AC 100...240V | DC 110...300V | — | 1606-XLS80E |
| 24V | 3.8 A | 91 W | AC 100...240V | DC 110...300V | DeviceNet/NEC Class 2 | 1606-XLSDNET4 |
| 24V | 5 A | 120 W | AC 100...240V | DC 110...300V | — | 1606-XLS120E |
| 24V | 8 A | 192 W | AC 100...240V | DC 110...150V | DeviceNet/NEC Class 1 | 1606-XLSDNET8 |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...150V | — | 1606-XLS240E |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...150V | — | 1606-XLS240EC ⁽¹⁾ |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...300V | — | 1606-XLS240E-D |
| 24V | 20 A | 480 W | AC 200...240V | — | — | 1606-XLS480EE |
| 24V | 20 A | 480 W | AC 100...240V | DC 110...150V | — | 1606-XLS480E |
| 24V | 20 A | 480 W | AC 100...240V | DC 110...150V | — | 1606-XLS480EC ⁽¹⁾ |
| 24V | 40 A | 960 W | AC 100...240V | — | — | 1606-XLS960E |
| 24V | 40 A | 960 W | AC 200...240V | — | — | 1606-XLS960EE |
| 30V | 8 A | 240 W | AC 100...240V | DC 110...150V | — | 1606-XLS240K |
| 36V | 13.3 A | 480 W | AC 100...240V | DC 110...150V | — | 1606-XLS480G |
| 48V | 5 A | 240 W | AC 100...120V/AC 200...240V | DC 110...150V | — | 1606-XLS240F |
| 48V | 5 A | 240 W | AC 100...240V | DC 110...300V | Extended DC input | 1606-XLS240F-D |
| 48V | 10 A | 480 W | AC 100...240V | DC 110...150V | — | 1606-XLS480F |
| 48V | 20 A | 960 W | AC 200...240V | — | — | 1606-XLS960F |
| 48V | 20 A | 960 W | AC 200...240V | — | — | 1606-XLS960FE |
| 380...480V AC/DC Converters | | | | | | |
| 24V | 20 A | 480 W | 3 AC 380...480V | — | — | 1606-XLS480E-3 |
| 24V | 20 A | 480 W | 3AC 380...480V | — | — | 1606-XLS480E-3C ⁽¹⁾ |
| 24V | 40 A | 960 W | 3 AC 380...480V | — | — | 1606-XLS960E-3 |
| 36V | 13.3 A | 480 W | 3 AC 380...480V | — | — | 1606-XLS480G-3 |
| 48V | 10 A | 480 W | 3 AC 380...480V | — | — | 1606-XLS480F-3 |
| 48V | 20 A | 960 W | 3 AC 380...480V | — | — | 1606-XLS960F-3 |
| DC/DC Converter | | | | | | |
| 24V | 20 A | 480 W | — | DC 600V | For intermediate DC-bus | 1606-XLS480E-D |

(1) Conformal Coated Power Supply

Diode Redundancy Modules

| Output | | Input DC | Description | Catalog Number |
|-------------|------|-------------|------------------------------------|----------------|
| DC 12...48V | 20 A | DC 12...48V | Dual-input diode redundancy module | 1606-XLSRED |

MOSFET Redundancy Modules

| Output | | Input DC | Special Features | Catalog Number |
|-------------|------|----------------------|---------------------------------------|------------------|
| DC 12...28V | 40 A | DC 12...28V, 2x 20 A | Dual-input MOSFET redundancy module | 1606-XLSRED4HE |
| DC 12...28V | 40 A | DC 24...28V, 2x 20 A | Dual-input MOSFET redundancy module | 1606-XLSRED40 |
| DC 12...28V | 40 A | 1 x 40 A | Dual-input MOSFET redundancy module | 1606-XLSREDS40HE |
| DC 12...28V | 80 A | DC 24...28V, 2x 40 A | Dual-input MOSFET redundancy module | 1606-XLSRED80 |
| DC 12...28V | 80 A | DC 12...28V, 2x 20 A | Single input MOSFET redundancy module | 1606-XLSRED80HE |
| DC 24...56V | 40 A | DC 24...56V, 2x 20 A | Dual-input MOSFET redundancy module | 1606-XLSRED40HF |

DC-UPS with Batteries

| Output | | Battery | Version | Catalog Number |
|--------|------|-----------------------------|--------------------------------|------------------|
| 24V | 10 A | External, 12V, 3.9...40 Ah | Battery DC-UPS | 1606-XLS240-UPS |
| | 10 A | External, 12V, 17...130 Ah | Battery DC-UPS | 1606-XLS240-UPSE |
| | 10 A | External, 12V, 3.9...40 Ah | With additional 12V output | 1606-XLS240-UPSD |
| | 10 A | Built-in 12V, 5 Ah | DC-UPS with integrated battery | 1606-XLS240-UPSC |
| | 20 A | External, 12V, 3.9...150 Ah | DC-UPS | 1606-XLS480-UPS |

Battery Modules for DC-UPS

| Description | Dimensions | Catalog Number |
|--|---|-------------------|
| 12V, 5Ah battery replacement for 1606-XLS240-UPSC | 90 x 106 x 70 mm (3.54 x 4.17 x 2.76 in.) | 1606-XLSBAT5 |
| 12V, 7Ah battery replacement for 1606-XLSBATASSY1, -XLSBATASSY1W, and -XLSBATASSY3 | 151 x 98 x 65 mm (5.94 x 3.85 x 2.56 in.) | 1606-XLSBAT1 |
| 12V, 7Ah battery module for 1606-XLS2408-UPS_ | 155 x 124 x 112 mm (6.10 x 4.88 x 4.41 in.) | 1606-XLSBATASSY1 |
| 12V, 7Ah battery module | 158 x 132 x 98 mm (6.22 x 5.20 x 3.86 in.) | 1606-XLSBATASSY1W |
| 12V, 26 Ah battery module for 1606-XLS240-UPS_ | 214 x 179 x 158 mm (8.42 x 7.05 x 6.22 in.) | 1606-XLSBATASSY2 |
| 24V, 7Ah battery module for 1606-XLS480-UPS_ | 137 x 186 x 143 mm (5.39 x 7.32 x 5.63 in.) | 1606-XLSBATASSY3 |
| 24V, 12 Ah battery module for 1606-XLS480-UPS_ | 203 x 186 x 143 mm (7.99 x 7.32 x 5.63 in.) | 1606-XLSBATASSY4 |
| Same as 1606-XLSBATASSY1 battery module but without battery | 155 x 124 x 112 mm (6.10 x 4.88 x 4.41 in.) | 1606-XLSBATBR1 |
| Same as 1606-XLSBATASSY1W battery module but without battery | 158 x 132 x 98 mm (6.22 x 5.20 x 3.86 in.) | 1606-XLSBATBR1W |
| Same as 1606-XLSBATASSY2 battery module but without battery | 214 x 179 x 158 mm (8.42 x 7.05 x 6.22 in.) | 1606-XLSBATBR2 |
| Same as 1606-XLSBATASSY3 battery module but without battery | 137 x 186 x 143 mm (5.39 x 7.32 x 5.63 in.) | 1606-XLSBATBR3 |
| Same as 1606-XLSBATASSY4 battery module but without battery | 203 x 186 x 143 mm (5.39 x 7.32 x 5.63 in.) | 1606-XLSBATBR4 |
| Sensor board with PT1000 temperature sensor and center-tap fuse | 23 x 15 x 110.5 mm (0.91 x 0.59 x 4.35 in.) | 1606-XLSBATSEN |

DC-UPS with Capacitor Storage

| Output | | Capacitor Storage | Catalog Number |
|--------|------|---|------------------|
| 24V | 20 A | 6 kW, typical buffer time 9 s at 15 A | 1606-XLSCAP24-6 |
| | 40 A | 12 kW, typical buffer time 18 s at 15 A | 1606-XLSCAP24-12 |

Buffer Modules with Capacitor Storage

| Output | | Capacitor Storage | Catalog Number |
|--------|------|---|-------------------|
| DC 24V | 20 A | 0.2 kW, typical buffer time 310 ms at 20 A | 1606-XLSBUFFER24 |
| | 40 A | 0.32 kW, typical buffer time 250 ms at 40 A | 1606-XLS960BUFFER |
| DC 48V | 20 A | 0.2 kW, typical buffer time 150 ms at 20 A | 1606-XLSBUFFER48 |

1606-XLE Essential Power Supplies



| Output | | Power | Input AC | Input DC | Special Features | Catalog Number |
|------------------------------------|-------|-------|----------------------------|---------------|-------------------|------------------|
| 100...240V AC/DC Converters | | | | | | |
| 12V | 10 A | 120 W | AC 100...120 / 220...240V | DC 110...150V | – | 1606-XLE120B |
| 12V | 16 A | 192 W | AC 100...120 / 220...240V | DC 110...150V | Shut-down input | 1606-XLE192BM |
| 12V | 16 A | 192 W | AC 100...240V | DC 110...300V | – | 1606-XLE192BDM |
| 24V | 3.3 A | 80 W | AC 100...240V | DC 110...300V | – | 1606-XLE80E |
| 24V | 5 A | 120 W | AC 100...240V | DC 110...150V | – | 1606-XLE120E |
| 24V | 5 A | 100 W | AC 100...120V / 200...240V | DC 100...150V | – | 1606-XLE120EC |
| 24V | 5 A | 120 W | AC 100...240V | DC 110...150V | Spring clamps | 1606-XLE120EL |
| 24V | 5 A | 120 W | AC 100...240V | DC 110...150V | Push-in clamps | 1606-XLE120EH |
| 24V | 5 A | 120 W | AC 100...240V | DC 110...300V | – | 1606-XLE120ED |
| 24V | 5 A | 120 W | AC 100...240V | – | – | 1606-XLE120EN |
| 24V | 5 A | 120 W | AC 100...240V | – | – | 1606-XLE120EE |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...150V | – | 1606-XLE240E |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...150V | – | 1606-XLE240EC |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...150V | Spring clamps | 1606-XLE240EL |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...150V | Push-in clamps | 1606-XLE240EH |
| 24V | 10 A | 240 W | AC 100...240V | DC 110...300V | Extended DC input | 1606-XLE240EP |
| 24V | 10 A | 240 W | AC 100...120V | – | – | 1606-XLE240EN |
| 24V | 10 A | 240 W | AC 100...240V | – | – | 1606-XLE240EE |
| 24V | 20 A | 480 W | AC 100...240V | DC 110...150V | – | 1606-XLE480EPC |
| 24V | 20 A | 480 W | AC 100...240V | DC 110...150V | – | 1606-XLE480EP |
| 24V | 20 A | 480 W | AC 100...240V | DC 110...150V | Spring clamps | 1606-XLE480EL |
| 24V | 20 A | 480 W | AC 100...240V | DC 110...150V | Push-in clamps | 1606-XLE480EH |
| 24V | 20 A | 480 W | AC 100...240V | DC 110...150V | Remote shutdown | 1606-XLE480EM |
| 48V | 2.5 A | 120 W | AC 100...240V | DC 110...150V | – | 1606-XLE120F |
| 48V | 5.4 A | 259 W | AC 100...240V | DC 110...150V | – | 1606-XLE260F |
| 48V | 10 A | 480 W | AC 100...240V | DC 110...150V | – | 1606-XLE480FP |
| 380...480V AC/DC Converters | | | | | | |
| 12V | 8 A | 96 W | 2 AC 380...480V | – | – | 1606-XLE96B-2 |
| 24V | 5 A | 120 W | 2 AC 380...480V | – | – | 1606-XLE120E-2 |
| 24V | 10 A | 240 W | 3 AC 380...480V | – | – | 1606-XLE240E-3 |
| 24V | 40 A | 960 W | 3 AC 400V | – | Semi-regulated | 1606-XLE960EX-3E |
| 24V | 40 A | 960 W | 3 AC 480V | – | Semi-regulated | 1606-XLE960DX-3N |
| 48V | 5 A | 240 W | 3 AC 380...480V | – | – | 1606-XLE240F-3 |
| 48V | 20 A | 960 W | 3 AC 400V | – | Semi-regulated | 1606-XLE960FX-3E |
| 48V | 20 A | 960 W | 3 AC 400V | – | Semi-regulated | 1606-XLE960MX-3N |

Diode Redundancy Modules

| Output | | Input DC | Description | Catalog Number |
|-------------|------|-------------|------------------------------------|----------------|
| DC 24...48V | 20 A | DC 24...48V | Dual-input diode redundancy module | 1606-XLERED |

MOSFET Redundancy Modules

| Output | | Input DC | Special Features | Catalog Number |
|-------------|------|----------------------|-------------------------------------|----------------|
| DC 12...28V | 20 A | DC 12...28V, 2x 20 A | Dual-input MOSFET redundancy module | 1606-XLERED20 |
| DC 24...28V | 20 A | DC 24...28V, 2x 10 A | Dual-input MOSFET redundancy module | 1606-XLERED20Y |

Power Supplies with Integrated Decoupling Function

| Output | | Power | Input DC | Special Features | Catalog Number |
|--------|------|-------|---------------|---------------------|-----------------|
| DC 24V | 10 A | 240 W | DC 110...150V | Spring clamps | 1606-XLE240ERL |
| DC 24V | 10 A | 240 W | DC 110...150V | Hot-swap connectors | 1606-XLE240ERZ |
| DC 24V | 10 A | 240 W | DC 110...150V | Hot-swap connectors | 1606-XLE240ECRZ |
| DC 24V | 10 A | 240 W | DC 110...300V | Hot-swap connectors | 1606-XLE240EDRZ |
| DC 24V | 20 A | 480 W | DC 110...150V | Spring clamps | 1606-XLE480ERL |
| DC 24V | 20 A | 480 W | DC 110...150V | Hot-swap connectors | 1606-XLE480ERZ |
| DC 24V | 20 A | 480 W | DC 110...300V | Hot-swap connectors | 1606-XLE480EDRZ |
| DC 24V | 20 A | 480 W | DC 110...150V | Hot-swap connectors | 1606-XLE480ECRZ |

1606-XLD DC-DC Converters



| Output | | Power | Input DC | Special Features | Catalog Number |
|--------|-------|-------|----------|------------------|----------------|
| 24V | 3.8 A | 92 W | DC 24V | NEC Class 2 | 1606-XLD92D |
| | 5 A | 120 W | DC 48V | — | 1606-XLDF120E |
| | 10 A | 240 W | DC 48V | — | 1606-XLDD240E |
| 48V | 5 A | 240 W | DC 48V | — | 1606-XLDF240F |

1606-XLP Compact Power Supplies



| Output | Power | Input AC | Input DC | Special Features | Catalog Number | |
|------------------------------------|--------|----------|-----------------------------|---------------------------|---------------------------|---------------------|
| 100...240V AC/DC Converters | | | | | | |
| 5V | 3 A | 15 W | AC 100...240V | DC 110...300V | 1606-XLP15A | |
| | 5 A | 25 W | | | 1606-XLP25A | |
| 12V | 1.3 A | 15 W | | | 1606-XLP15B | |
| | 2.5 A | 30 W | | | 1606-XLP30B | |
| | 4.2 A | 50 W | | | 1606-XLP50B | |
| | 4.5 A | 54 W | | | 1606-XLP60BQ | |
| | 4.5 A | | | | -40 °C (-40 °F) operation | 1606-XLP60BQT |
| ±12V | 7.5 A | 90 W | | | DC 290V | 1606-XLP90B |
| | 2.5 A | 36 W | | | DC 110...300V | Dual-output voltage |
| 24V | 0.63 A | 15 W | | | DC 110...300V | 1606-XLP15E |
| | 1.3 A | 30 W | DC 110...300V | 1606-XLP30E | | |
| | | | DC 110...300V | 1606-XLP30EQ | | |
| | 2.1 A | 50 W | DC 110...300V | 1606-XLP50E | | |
| | | | DC 110...300V | With plug connector | 1606-XLP50EZ | |
| | 2.5 A | 60 W | DC 110...300V | 1606-XLP60EQ | | |
| | | | DC 110...300V | -40 °C (-40 °F) operation | 1606-XLP60EQT | |
| | 3 A | 72 W | AC 100...120 / 220...240V | DC 290V | 1606-XLP72E | |
| | 3.9 A | 95 W | AC 100...120 / 220...240V | DC 290V | NEC Class 2 | 1606-XLP95E |
| | 4.2 A | 100 W | AC 100...240V | DC 290V | 1606-XLP100E | |
| 48V | 1.1 A | 50 W | AC 100...240V | DC 110...300V | 1606-XLP50F | |
| | 2.1 A | 100 W | AC 100...120V/AC 200...240V | DC 290V | 1606-XLP100F | |
| 100...240V AC/DC Converters | | | | | | |
| 24V | 3.75 A | 90 W | 2 AC 380...480V | – | NEC Class 2 | 1606-XLP90E-2 |
| | 4.2 A | 100 W | 2 AC 380...480V | – | – | 1606-XLP100E-2 |

Diode Redundancy Modules

| Output | Input DC | Description | Catalog Number |
|-------------|----------|------------------------------------|----------------|
| DC 12...48V | 10 A | Dual-input diode redundancy module | 1606-XLPRED |

1606-XLB Basic Power Supplies



| Output | | Power | Input AC | Input DC | Special Features | Catalog Number |
|--------|--------|-------|---------------|----------|------------------|----------------|
| 12V | 5 A | 60 W | AC 100...240V | — | Push-in clamps | 1606-XLB60BH |
| 24V | 1.5 A | 36 W | AC 100...240V | — | Push-in clamps | 1606-XLB36EH |
| 24V | 2.5 A | 60 W | AC 100...240V | — | Push-in clamps | 1606-XLB60EH |
| 24V | 2.5 A | 60 W | AC 100...240V | — | — | 1606-XLB60E |
| 24V | 3.75 A | 90 W | AC 100...240V | — | Push-in clamps | 1606-XLB90EH |
| 24V | 3.75 A | 90 W | AC 100...240V | — | — | 1606-XLB90E |
| 24V | 3.75 A | 90 W | AC 100...240V | — | NEC Class 2 | 1606-XLB90EQ |
| 24V | 5 A | 120 W | AC 100...240V | — | — | 1606-XLB120E |
| 24V | 10 A | 240 W | AC 100...240V | — | — | 1606-XLB240E |
| 24V | 20 A | 480 W | AC 100...240V | — | — | 1606-XLB480E |

Diode Redundancy Modules

| Output | | Input DC | Description | Catalog Number |
|-------------|------|-------------|------------------------------------|----------------|
| DC 12...28V | 20 A | DC 12...28V | Dual-input diode redundancy module | 1606-XLBRED20 |

1606-XLX - Regional Power Supplies

| Output | | Power | Input AC | Input DC | Special Features | Catalog Number |
|--------|------|-------|---------------|----------|------------------|----------------|
| 24V | 5 A | 120 W | AC 200...240V | — | — | 1606-XLX120EE |
| 24V | 10 A | 240 W | AC 200...240V | — | — | 1606-XLX240EE |

Mounting Brackets

| Description | Catalog Number |
|---|----------------|
| Mounting bracket for direct wall or panel mounting without DIN rail | 1606-XLA-UPSC |
| | 1606-XLA-W45 |
| | 1606-XLA-XLE |
| | 1606-XLB |
| | 1606-XLC |
| Mounting bracket for sideways installation with or without a DIN rail | 1606-XLA-S37 |
| | 1606-XLA-S44 |
| | 1606-XLA-S63 |
| | 1606-XLA-S76 |
| | 1606-XLA-S85 |

Specifications - 1606-XLS Performance Power Supplies

100....240V AC/DC

| Catalog Number | 1606-XLS180B | 1606-XLS80E | 1606-XLSNET4 | 1606-XLS120E 1606-XLS120EA | 1606-XLSNET8 | 1606-XLS240E 1606-XLS240EA 1606-XLS240EC 1606-XLS240E-D |
|---|---|---|---|---|---|--|
| Output Voltage, Nom | 12V | 24V | 24V | 24V | 24V | 24V |
| Output Current, Nom | 15 A | 3.4 A | 3.8 A | 5 A | 8 A | 10 A |
| Adjustment Range | 12...15V | 24...28V | 24V | 24...28V | 24...24.5V | 24...28V |
| Output Current Range | 15...13.5 A | 3.4...3A | 3.8 A | 5...4.5 A | 8 A | 10...9A |
| Output Power | 180 W | 80 W | 91.2 W | 120 W | 192 W | 240 W |
| Power Reserves | 50% | 50% | - | 50% | - | 50% |
| Ripple and Noise Max [mVPP] | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV |
| AC Input Voltage | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V |
| DC Input Voltage | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...150V | DC110...150V |
| Power Factor, Typ | 0.92 | 0.47 | 0.90 | 0.91 | 0.92 | 0.92 |
| Input Inrush Current Limiter | Active | Active | Active | Active | Active | Active |
| Input Inrush Current⁽¹⁾ | 4 A/7 A | 5A/10 A | 9A/11A | 9 A/11 A | 4 A/7 A | 4 A/7A |
| External Input Fuse, Min | B-6 A or C-4 A | B-6A or C-6A | B-6A or C-3A | B-6 A or C-3 A | B-6 A or C-4 A | B-6 A or C-4 A |
| Efficiency, Typ | 91.8% | 90.0% | 92.0% | 92.7% | 93.4% | 93.5% |
| Power Losses, Typ | 16.1 W | 9.1 W | 7.9 W | 9.4 W | 13.6 W | 16.7 W |
| MTBF⁽²⁾ | 631 kh | 1451 kh | 831 kh | 831 kh | 581 kh | 581 kh |
| Lifetime Min (+40 °C) | 76 kh | 79 kh | 94 kh | 89 kh | 81 kh | 71 kh |
| Temperature, operating | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating⁽³⁾ | 5 W/°C | 2W/°C | 2W/°C | 3 W/ °C | 5W/°C | 6 W/ °C |
| Connection Terminals | Spring | Spring | Spring | Spring | Spring | Spring |
| Dimensions W x H x D | 60 x 124 x 117 mm (2.36 x 4.88 x 4.61 in.) | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 40 x 124 x 117 mm (1.57 x 4.88 x 4.61 in.) | 40 x 124 x 117 mm (1.57 x 4.88 x 4.61 in.) | 60 x 124 x 117 mm (2.36 x 4.88 x 4.61 in.) | 60 x 124 x 117 mm (2.36 x 4.88 x 4.61 in.) |
| Weight | 930 g (2.05 lb) | 440 g (0.97 lb) | 620 g (1.37 lb) | 620 g (1.37 lb) | 900 g (1.98 lb) | 900 g (1.98 lb) |
| DC OK Relay Contact | Yes | - | Yes | Yes | Yes | Yes |
| Special Features | - | - | DeviceNet approved | - | DeviceNet approved | |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

100....240V AC/DC, Continued

| Catalog Number | 1606-XLS480E 1606-XLS480EA 1606-XLS480EC | 1606-XLS480EE | 1606-XLS960E | 1606-XLS960EE | 1606-XLS240K |
|-------------------------------------|--|---|--|--|---|
| Output Voltage, Nom | 24V | 24V | 24V | 24V | 30V |
| Output Current, Nom | 20 A | 20 A | 40 A | 40 A | 8 A |
| Adjustment Range | 24...28V | 24...28V | 24...28V | 24...28V | 28...32V |
| Output Current Range | 20...17A | 20...17A | 40...34.3A | 40...34.3A | 8.6...7.5A |
| Output Power | 480 W | 480 W | 960 W | 960 W | 240 W |
| Power Reserves | 50% | 50% | 50% | 50% | 50% |
| Ripple and Noise, Max [mVPP] | 100 mV | 100 mV | 100 mV | 100 mV | 50 mV |
| AC Input Voltage | AC 100...240V | AC 200...240V | AC 100...240V | AC 200...240V | AC 100...240V |
| DC Input Voltage | DC 110...150V | — | — | — | DC 110...150V |
| Power Factor, Typ | 0.90 | 0.50 | 0.99 | 0.96 | 0.92 |
| Input Inrush Current Limiter | Active | Active | Active | Active | Active |
| Input Inrush Current ⁽¹⁾ | 9 A/7 A | 40 A | 17 A/11 A | 14 A | 4 A/7 A |
| External Input Fuse, Min | B-10 A or C-10 A | B-10 A or C-6 A | B-16 A or C-16 A | B-10 A or C-8 A | B-6 A or C-4 A |
| Efficiency, Typ | 93.9% | 94.5% | 94.6% | 94.6% | 93.5% |
| Power Losses, Typ | 31.4 W | 28.3 W | 54.8 W | 54.8 W | 16.7 W |
| MTBF ⁽²⁾ | 469 kh | 577 kh | 300 kh | 366 kh | 581 kh |
| Lifetime, Min (+40 °C) | 71 kh | 62 kh | 84 kh | 59 kh | 71 kh |
| Temperature, operating | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating ⁽³⁾ | 12 W/ °C | 12 W/ °C | 24 W/ °C | 24 W/ °C | 6 W/ °C |
| Connection Terminals | Spring | Spring | Screw | Screw | Spring |
| Dimensions W x H x D | 82 x 124 x 127 mm (3.23 x 4.88 x 5 in.) | 70 x 124 x 127 mm (2.76 x 4.88 x 5 in.) | 125 x 124 x 127 mm (3.23 x 4.88 x 5 in.) | 125 x 124 x 127 mm (4.92 x 4.88 x 5 in.) | 60 x 124 x 117 mm (2.36 x 4.88 x 4.6 in.) |
| Weight | 1200 g (2.65 lb) | 880 g (1.94 lb) | 1900 g (4.19 lb) | 1800 g (3.97 lb) | 900 g (1.98 lb) |
| DC OK Relay Contact | Yes | Yes | Yes | Yes | Yes |

(1) Output transient current
 (2) +40 °C (104 °F), SN29500
 (3) From 60...70 °C (140...158 °F).

100...240V AC/DC, Continued

| Catalog Number | 1606-XLS480G | 1606-XLS240F 1606-XLS240F-D | 1606-XLS480F | 1606-XLS960F | 1606-XLS960FE |
|--------------------------------------|--|---|--|---|---|
| Output Voltage, Nom | 36V | 48V | 48V | 48V | 48V |
| Output Current, Nom | 13.3 A | 5 A | 10 A | 20 A | 20 A |
| Adjustment Range | 36...42V | 48...56V | 48...55V | 48...54V | 48...54V |
| Output Current Range | 13.3...11.4 A | 5...4.3 A | 10...8.7 A | 20...17.8 A | 20...17.8 A |
| Output Power | 480 W | 240 W | 480 W | 960 W | 960 W |
| Power Reserves | 50% | 50% | 50% | 50% | 50% |
| Ripple and Noise, Max [mVPP] | 100 mV | 100 mV | 100 mV | 150 mV | 150 mV |
| AC Input Voltage | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V | AC 200...240V |
| DC Input Voltage | DC 110...150V | DC 110...150V | DC 110...150V | — | — |
| Power Factor, Typ | 0.90 | 0.92 | 0.90 | 0.99 | 0.96 |
| Input Inrush Current ⁽¹⁾ | 9 A/7 A | 4 A/7 A | 9A/7A | 17A/11A | 14 A |
| Recommended External Input Fuse, Min | B-10 A or C-10 A | B-6 A or C-4 A | B-10 A or C-10 A | B-16 A or C-16 A | B-10 A or C-8 A |
| Efficiency, Typ | 94.0% | 92.0% | 94.3% | 95.0% | 95.0% |
| Power Losses, Typ | 30.6 W | 20.9 W | 29.0 W | 50.5 W | 50.5 W |
| MTBF ⁽²⁾ | 469 kh | 606 kh | 469 kh | 300 kh | 392 kh |
| Lifetime, Min (+40 °C) | 84 kh | 81 kh | 92 kh | 90 kh | 65 kh |
| Temperature, operating | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating ⁽³⁾ | 12 W / °C | 6 W / °C | 12 W/°C | 24 W/°C | 24 W/°C |
| Connection Terminals | Spring | Spring | Spring | Screw | Screw |
| Dimensions W x H x D | 82 x 124 x 127 mm (3.23 x 4.88 x 5 in.) | 60 x 124 x 117 mm (2.36 x 4.88 x 4.61 in.) | 82 x 124 x 127 mm (3.23 x 4.88 x 5 in.) | 125 x 124 x 127 mm (4.92 x 4.88 x 5 in.) | 125 x 124 x 127 mm (4.92 x 4.88 x 5 in.) |
| Weight | 1200 g (2.65 lb) | 900 g (1.98 lb) | 1200 g (2.65 lb) | 1900 g (4.19 lb) | 1800 g (3.97 lb) |
| DC-OK Relay Contact | — | — | Yes | Yes | Yes |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

380...480V AC/DC

| Catalog Number | 1606-XLS480E-3 1606-XLS480E-3C | 1606-XLS960E-3 | 1606-XLS480G-3 | 1606-XLS480F-3 | 1606-XLS960F-3 |
|-------------------------------------|--|---|--|--|---|
| Output Voltage, Nom | 24V | 24V | 36V | 48V | 48V |
| Output Current, Nom | 20 A | 40 A | 13.3...11.4 A | 10 A | 20 A |
| Adjustment Range | 24...28V | 24...28V | 36...42V | 48...55V | 48...54V |
| Output Current Range | 20...17.5 A | 40...34.3 A | 13.3...11.4 A | 10 A | 20...17.8A |
| Output Power | 480 W | 960 W | 480 W | 480 W | 960 W |
| Power Reserves | 50% | 50% | 50% | 50% | 50% |
| Ripple and Noise, Max [mVPP] | 100 mV | 100 mV | 100 mV | 100 mV | 150 mV |
| AC Input Voltage | 3 AC 380...480V | 3 AC 380...480V | 3 AC 380...480V | 3 AC 380...480V | 3 AC 380...480V |
| Power Factor, Typ | 0.94 | 0.88 | 0.94 | 0.94 | 0.88 |
| Input Inrush Current Limiter | Active | Active | Active | Active | Active |
| Input Inrush Current ⁽¹⁾ | 3 A/3 A | 4.5 A/4.5 A | 3 A/3 A | 3 A/3 A | 4.5 A/4.5 A |
| External Input Fuse, Min | B-6 A or C-3 A | B-6 A or C-6 A | B-6 A or C-3 A | B-6 A or C-3 A | B-6 A or C-6 A |
| Efficiency, Typ | 95.0% | 95.3% | 94.8% | 95.4% | 95.4% |
| Power Losses, Typ | 25.3 W | 47.3 W | 26.3 W | 23.1 W | 46.3 W |
| MTBF ⁽²⁾ | 690 kh | 375 kh | 690 kh | 690 kh | 375 kh |
| Lifetime, Min (+40 °C) | 105 kh | 69 kh | 51 kh | 51 kh | 86 kh |
| Temperature, operating | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) |
| Derating ⁽³⁾ | 12 W/ °C | 24 W/ °C | 12 W/ °C | 12 W/ °C | 24W/ °C |
| Connection Terminals | Spring | Screw | Spring | Spring | Screw |
| Dimensions W x H x D | 65 x 124 x 127 mm (2.56 x 4.88 x 5 in.) | 110 x 124 x 127 mm (4.33 x 4.88 x 5 in.) | 65 x 124 x 127 mm (2.56 x 4.88 x 5 in.) | 65 x 124 x 127 mm (2.56 x 4.88 x 5 in.) | 110 x 124 x 127 mm (4.33 x 4.88 x 5 in.) |
| Weight | 870 g (1.91 lb) | 1500 g (3.31 lb) | 870 g (1.92 lb) | 870 g (1.92 lb) | 1500 g (3.31 lb) |
| DC OK Relay Contact | Yes | Yes | Yes | Yes | Yes |
| Special Features | - | - | - | - | - |

(1) Output transient current
 (2) +40 °C (104 °F), SN29500
 (3) From 60...70 °C (140...158 °F).

DC/DC Converter

| | |
|-------------------------------------|--|
| Catalog Number | 1606-XLS480E-D |
| Input Voltage, Nom | DC 600V |
| Output Voltage Range | 24...28V |
| DC Input Voltage | DC 600V |
| Output Current Range | 20...17.5 A |
| Output Power | 480 W |
| Power Reserves | 25% |
| Ripple and Noise, Max [mVPP] | 100 mV |
| Efficiency, Typ | 95.0% |
| Power Losses, Typ | 25.5 W |
| MTBF⁽¹⁾ | 446 kh |
| Lifetime, Min (+40 °C) | 42 kh |
| Temperature, Operating | -25...+70°C (-13...+158 °F) |
| Derating⁽²⁾ | 12 W/°C |
| Connection Terminals | Spring |
| Dimensions W x H x D | 65 x 124 x 127 mm (2.56 x 4.88 x 5 in.) |
| Weight | 890 g (1.96 lb) |
| Special Features | Intermediate DC-bus |

(1) +40 °C (104 °F), SN29500

(2) From 60...70 °C (140...158 °F).

Redundancy Modules

| Catalog Number | 1606-XLSRED | 1606-XLSRED4HE | 1606-XLSRED4O | 1606-XLSREDS4OHE | 1606-XLSRED8O | 1606-XLSRED8OHE | 1606-XLSRED4OHF |
|--|---|--|--|--|--|--|--|
| Voltage, Nom | DC 12...48V | DC 12...28V | DC 12...28V | DC 12...28V | DC 12...28V | DC 12...28V | DC 24...56V |
| Input/Output | 2x 10 A / 20 A | 2x 20 A / 40 A | 2x 20 A / 40 A | 1x 40 A / 40 A | 2x 40 A / 80 A | 2x 40 A / 80 A | 2x 20 A / 40 A |
| Input Voltage Range | DC 9...60V | DC 8.4...36.4 V | DC 8.4...36.4V | DC 8.4...36.4V | DC 8.4...36.4V | DC 8.4...36.4V | DC 20.4...64.4V |
| Current, Nom per Input⁽¹⁾ | 10 A | 20 A | 20 A | 40 A | 40 A | 40 A | 20 A |
| Output Current Nom Current Short Circuit | 20 A 25 A max | 40 A 26 A max | 40 A 65 A max | 40 A 22 A max | 80 A 130 A max | 80 A 44 A max | 40 A 45 A max |
| Voltage Drop In-/ Output | 800 mV | 72 mV | 72 mV | 80 mV (at 1x20 A) 150 mV (at 40 A) | 49 mV | 65 mV | 60 mV |
| Decoupling | Diode | MOSFET | MOSFET | MOSFET | MOSFET | MOSFET | MOSFET |
| Power Losses No Load Load Nom⁽²⁾ | 0 W 8.0 W | 0.23 W 1.7 W | 0.7 W 2.15 W | 0.1 W 1.8 W (at 1x20A) 6.2 W (at 40 A) | 0.7 W 2.7 W | 0.2 W 2.9 W | 0.62 W 1.8 W |
| MTBF⁽³⁾ | 46 Mio. h | 4.5 Mio. h | 2.7 Mio. h | 6.4 Mio. h | 2.1 Mio. h | 2.5 Mio. h | 4.1 Mio. h |
| Lifetime Min (+40 | 218 kh | 255 kh | 246 kh | 134 kh | 143 kh | 85 kh | 222 kh |
| Temperature, Operating | -40...+70°C (-40...+158 °F) | -40...+70°C (-40...+158 °F) | -40...+ 70 °C (-40...+ 158 °F) | -40...+ 70 °C (-40...+ 158 °F) | -40...+ 70 °C (-40...+ 158 °F) | -40...+ 70 °C (-40...+ 158 °F) | -40...+ 70 °C (-40...+ 158 °F) |
| Derating⁽⁴⁾ | 0.5 A/°C | 1 A/°C | Not required | 1 A/°C | Not required | 2 A/°C | 1 A/°C |
| Dimensions W x H x D | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 36 x 124 x 127 mm (1.42 x 4.88 x 5 in.) | 36 x 124 x 127 mm (1.42 x 4.88 x 5 in.) | 46 x 124 x 127 mm (1.81 x 4.88 x 5 in.) | 46 x 124 x 127 mm (1.81 x 4.88 x 5 in.) | 46 x 124 x 127 mm (1.81 x 4.88 x 5 in.) | 46 x 124 x 127 mm (1.81 x 4.88 x 5 in.) |
| Weight | 290 g (0.64 lb) | 280 g (0.62 lb) | 340 g (0.75 lb) | 340 g (0.75 lb) | 440 g (0.97 lb) | 370 g (0.82 lb) | 360 g (0.79 lb) |
| Connection Terminals | Spring | Screw | Screw | Screw, plug connection | Screw | Screw | Screw |

(1) 50% higher currents are allowed up to 55 s

(2) 1+1-redundancy (= 50% of the nominal current) and symmetrical input currents

(3) +40 °C (104 °F), SN29500

(4) From 60...70 °C (140...158 °F).

24V DC-UPS with Batteries

| Catalog Number | 1606-XLS240-UPS | 1606-XLS240-UPSE | 1606-XLS240-UPSD | 1606-XLS480-UPS | 1606-XLS240-UPSC |
|---|---|---|---|---|--|
| Current, Nom | 10 A | 10 A | 10 A | 20 A | 10 A |
| Voltage, Nom | DC 24V | DC 24V | DC 24V | DC 24V | DC 24V |
| Storage Element | External battery | External battery | External battery | External battery | Built-in battery |
| Allowed Battery Size | 12V, 3.9...4.0Ah | 12V, 17...13.0Ah | 12V, 3.9...4.0Ah | 24V, 3.9...150Ah | 12V, 5 Ah |
| Output 1 in Normal-mode | 15 A | 15 A | 15 A | 25 A | 15 A |
| Buffer-mode 1 | 10 A/15 A | 10 A/15 A | 10 A/15A | 20 A/30 A | 10 A/15 A |
| Output 2 in Normal-mode | — | — | 12V 5 A | — | — |
| Buffer-mode | — | — | 12V 5 A | — | — |
| Output Power in Normal-mode | 360 W | 360 W | 360 W | 600 W | 360 W |
| Output Power in Buffer-mode | 240/360 W | 240/360 W | 240/360 W | 480 W/720 W | 240 W/360 W |
| Output Voltage in Normal-mode | Smaller than input voltage | Smaller than input voltage | Smaller than input voltage | Smaller than input voltage | Smaller than input voltage |
| Output Voltage in Buffer-mode | Regulated to 22.5V | Regulated to 22.5V | Regulated to 22.5V and 12.0V | Selectable: 22.5V/24V/25V/26V | Regulated to 22.5V |
| Temperature Tracking of the End-of-Charge Voltage | Manual select | Manual select/automatically | Manual select | Automatically with temperature sensor | Automatically with temperature sensor |
| Int. Current Consumption (incl. Charging Current) | 1.3 A | 2.2 A | 1.3 A | 2.1 A/4.0 A | 1.3 A |
| MTBF ⁽¹⁾ | 886 kh | 886 kh | 788 kh | 649 kh | 886 kh |
| Lifetime Min (+40 °C) | 137.4 kh | 137 kh min | 114 kh min | 122 kh | 137 kh min |
| Temperature Range, Operating | -25...+70 °C (-13...+158 °F) | -25...+50 °C (-13...+122 °F) | -25...+70 °C (-13...+158 °F) | -40... +70 °C (-40...+158 °F) | 0... +40 °C (32...104 °F) |
| Derating ⁽²⁾ | >60 °C 0.25 A/°C | — | >50 °C 0.25 A/°C | >60 °C 0.5A/°C | — |
| Dimensions W x H x D | 49 x 124 x 117 mm (1.93 x 4.88 x 4.61 in.) | 49 x 124 x 117 mm (1.93 x 4.88 x 4.61 in.) | 49 x 124 x 117 mm (1.93 x 4.88 x 4.61 in.) | 49 x 124 x 117 mm (1.93 x 4.88 x 4.61 in.) | 123 x 124 x 119 mm (4.84 x 4.88 x 4.69 in.) |
| Weight | 530 g (1.16 lb) | 545 g (1.20 lb) | 650 g (1.43 lb) | 750 g (1.65 lb) | 2.85 kg (6.28 lb) |
| Connection Terminals | Spring | Spring | Spring | Screw | Spring |
| Signals | Ready, buffering, inhibit, replace battery | Ready, buffering, inhibit, replace battery | Ready, buffering, inhibit, replace battery | Ready, buffering, inhibit, replace battery | Ready, buffering, inhibit, replace battery |

(1) +40 °C (104 °F), SN29500

(2) From 60...70 °C (140...158 °F).

Buffer Modules / DC-UPS with Capacitor Storage

| Catalog Number | 1606-XLSCAP24-6 | 1606-XLSCAP24-12 | 1606-XLSBUFFER24 | 1606-XLS960BUFFER | 1606-XLSBUFFER48 |
|---------------------------------------|--|--|---|---|---|
| Voltage, Nom | DC 24V | DC 24V | DC 24V | DC 24V | DC 48V |
| Storage Element | Electrochemical Double Layer Capacitors | Electrochemical Double Layer Capacitors | Electrolytic Capacitors | Electrolytic Capacitors | Electrolytic Capacitors |
| Integrated Storage Element | 6 kW | 12 kW | 0.2 kW | 0.32 kW | 0.2 kW |
| Current, Nom | 15 A | 15 A | — | — | — |
| Buffer Current Max | 15 A | 15 A | 20 A | 40 A | 20 A |
| Voltage in Buffer-mode | 22.5V | 22.5V | 22.5V | 22.5V | 45V |
| Separation of Input and Output | Yes | Yes | No | No | No |
| Charging Time | 16 minutes | 32 minutes | 18 seconds | 34 seconds | 22 seconds |
| Buffer Time | typ 16.5 s at 10 A typ 9 s at 15 A | typ 33 s at 10 A typ 18 s at 15 A | 310 ms at 20 A | 250 ms at 40 A 500 ms at 20 A | 150 ms at 20 A |
| Power Losses, Typ | 4.6 W at 10 A | 4.6 W at 10 A | 1.9 W in stand-by | 1.9 W in stand-by | 1.9 W in stand-by |
| MTBF⁽¹⁾ | 854 kh | 850 kh | 2327 kh | 2114 kh | 2348 kh |
| Lifetime (Min at +40 °C) | 96 kh | 96 kh | 166 kh | 189 kh | 161 kh |
| Temperature, Operating | -40...+60 °C (-40...+140 °F) | -40...+60 °C (-40...+140 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) |
| Connection Terminals | Spring | Spring | Spring | Screw | Spring |
| Dimensions, W x H x D | 126 x 124 x 117 mm (4.96 x 4.88 x 4.61 in.) | 198 x 124 x 117 mm (7.80 x 4.88 x 4.61 in.) | 64 x 124 x 102 mm (2.51 x 4.88 x 4.02 in.) | 64 x 124 x 142 mm (2.51 x 4.88 x 5.59 in.) | 64 x 124 x 102 mm (2.51 x 4.88 x 4.02 in.) |
| Weight | 1150 g (2.54 lb) | 1720 g (3.79 lb) | 740 g (1.63 lb) | 1040 g (2.29 lb) | 740 g (1.63 lb) |
| Signals | Ready, buffering, inhibit, PC-mode | Ready, buffering, inhibit, PC-mode | Ready, buffering, inhibit | Ready, buffering, inhibit | Ready, buffering, inhibit |

(1) +40 °C (104 °F), SN29500

Specifications - 1606-XLE Essential Power Supplies

100....240V AC/DC

| Catalog Number | 1606-XLE120B | 1606-XLE192BM 1606-XLE192BDM | 1606-XLE80E | 1606-XLE120E 1606-XLE120EC 1606-XLE120EL 1606-XLE120EH 1606-XLE120ED | 1606-XLE120EN | 1606-XLE120EE |
|-------------------------------------|---|---|---|--|---|---|
| Output Voltage, Nom | 12V | 12V | 24V | 24V | 24V | 24V |
| Output Current, Nom | 10 A | 16 A | 3.3 A | 5 A | 5 A | 5 A |
| Adjustment Range | 12...15V | 12...15V | 24...28V | 24...28V | 24...28V | 24...28V |
| Output Current Range | 10...8 A | 16...12.8 A | 3.3...2.7 A | 5...4.3 A | 5...4.3 A | 5...4.3 A |
| Output Power | 120 W | 192 W | 80 W | 120 W | 120 W | 120 W |
| Power Reserves | 20% | 20% | - | 20% | 20% | 20% |
| Ripple and Noise Max [mVPP] | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV |
| AC Input Voltage | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...120V | AC 200...240V |
| DC Input Voltage | DC 110...150V | DC 110...150V (-XLE192BM) DC 110...300V (-XLE192BDM) | DC 110...300V | DC 110...150V | — | — |
| Power Factor, Typ | 0.91 | 0.96 | 0.56 | 0.91 | 0.59 | 0.50 |
| Input Inrush Current Limiter | NTC | Active | NTC | Active | NTC | NTC |
| Input Inrush Current ⁽¹⁾ | 5 A/6 A | 6 A/9 A | 23A/45 A | 4 A/3 A | 45 A | 30 A |
| External Input Fuse, Min | B-6 A or C-6 A | B-6 A or C-6 A | B-10 A or C-6 A | B-6A or C-6 A | B-16 A or C-10 A | B-16 A or C-10 A |
| Efficiency, Typ | 94% | 94.3% | 89.8% | 94.3% | 90.0% | 90.2% |
| Power Losses, Typ | 7.7 W | 11.6 W | 9.1 W | 7.3 W | 13.5 W | 13.2 W |
| MTBF ⁽²⁾ | 732 kh | 690 kh | 2243 kh | 86 7kh | 740 kh | 940 kh |
| Lifetime Min (+40 °C) | 110 kh | 97 kh | 77 kh | 166 kh | 58 kh | 72 kh |
| Temperature Range, Operating | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -10...+70 °C (-14...+158 °F) | -10...+70 °C (-14...+158 °F) |
| Derating ⁽³⁾ | 3 W/°C | 4.8 W/°C | 1.8W/°C | 3 W/ °C | 3 W/ °C | 3 W/ °C |
| Connection Terminals | Screw | Screw | Screw | Screw/Spring | Screw | Screw |
| Dimensions W x H x D | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 39 x 124 x 117 mm (1.54 x 4.88 x 4.61 in.) | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 32 x 124 x 117 mm (1.26 x 4.88 x 4.61 in.) | 32 x 124 x 117 mm (1.26 x 4.88 x 4.61 in.) |
| Weight | 440 g (0.97 lb) | 600 g (1.32 lb) | 430 g (0.95 lb) | 440 g (0.97 lb) | 500 g (1.10 lb) | 500 g (1.10 lb) |
| DC OK Relay Contact | Yes | Yes | — | Yes | — | — |

(1) Output transient current

(2) +40 °C, SN29500

(3) From 60...70 °C (140...158 °F).

100...240V AC/DC, Continued

| Catalog Number | 1606-XLE240E 1606-XLE240EP 1606-XLE240EC 1606-XLE240EL 1606-XLE240EH | 1606-XLE240EN | 1606-XLE240EE | 1606-XLE480EP 1606-XLE480EPC 1606-XLE480EL 1606-XLE480EH 1606-XLE480EM | 1606-XLE480EP-D |
|---|--|---|---|--|--|
| Output Voltage, Nom | 24V | 24V | 24V | 24V | 24V |
| Output Current, Nom | 10 A | 10 A | 10 A | 20 A | 20 A |
| Adjustment Range | 24...28V | 24...28V | 24...28V | 24...28V | 24...28V |
| Output Current Range | 10...8.6A | 10...8.6A | 10...8.6A | 20...17.1 A | 20...17.1 A |
| Output Power | 240 W | 240 W | 240 W | 480 W | 480 W |
| Power Reserves | 20% | 20% | 20% | 20% | 20% |
| Ripple and Noise, Max [mVPP] | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV |
| AC Input Voltage | AC 100...240V | AC 100...120V | AC 200...240V | AC 100...240V | AC 100...240V |
| DC Input Voltage | DC 110...150V | — | — | DC 110...150V | DC 110...300V |
| Power Factor, Typ | 0.97 | 0.57 | 0.52 | 0.98 | 0.98 |
| Input Inrush Current Limiter | Active | NTC | NTC | Active | Active |
| Input Inrush Current ⁽¹⁾ | 6 A/9 A | 85 A | 48 A | 10 A/4.5A | 10 A/4.5A |
| External Input Fuse Recommendation, Min | B-6 A or C-6 A | B-16 A or C-10 A | B-10 A or C-6 A | B-10 A or C-10 A | B-10 A or C-10 A |
| Efficiency, Typ | 95.2% | 91.3% | 91.3% | 95.6% | 95.6% |
| Power Losses, Typ | 12.1 W | 23.4 W | 22.9 W | 22.1 W | 22.1 W |
| MTBF ⁽²⁾ | 661 kh (XLE240E) 661 kh (XLE240EP) 667 kh (XLE240EC) 667 kh (XLE240EL) 661 kh (XLE240EH) | 710 kh | 910 kh | 590 kh | 590 kh |
| Lifetime, Min (+40 °C) | 120 kh | 50 kh | 75 kh | 94 kh | 94 kh |
| Temperature, operating | -25...+70°C (-13...+158 °F) | 0...70°C (32...158 °F) | 0...70°C (32...158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating ⁽³⁾ | 6W/°C | 6W/°C | 6W/°C | 12 W/ °C | 12 W/ °C |
| Connection Terminals | Screw/Spring | Screw | Screw | Screw/Spring | Screw/Spring |
| Dimensions W x H x D | 39 x 124 x 117 mm (1.54 x 4.88 x 4.61 in.) | 60 x 124 x 117 mm (2.36 x 4.88 x 4.61 in.) | 60 x 124 x 117 mm (2.36 x 4.88 x 4.61 in.) | 48 x 124 x 127 mm (1.89 x 4.88 x 5 in.) | 48 x 124 x 127 mm (1.89 x 4.88 x 5 in.) |
| Weight | 600 g (1.32 lb) | 700 g (1.54 lb) | 700 g (1.54 lb) | 830 g (1.83 lb) | 830 g (1.83 lb) |
| DC OK Relay Contact | Yes | — | — | Yes | Yes |
| Special Features | — | — | — | — | — |

(1) Output transient current
 (2) +40 °C (104 °F), SN29500
 (3) From 60...70 °C (140...158 °F).

100...240V AC/DC, Continued

| Catalog Number | 1606-XLE120F | 1606-XLE240F | 1606-XLE260F | 1606-XLE480FP | 1606-XLE480FP-D |
|-------------------------------------|---|---|---|--|--|
| Output Voltage, Nom | 48V | 48V | 48V | 48V | 48V |
| Output Current, Nom | 2.5 A | 5 A | 5.4 A | 10 A | 10 A |
| Adjustment Range | 48...56V | 48...52V | 48...56V | 48...56V | 48...56V |
| Output Current Range | 2.5...2.1 A | 5...4.6 A | 5.4...4.6 A | 10...8.6 A | 10...8.6 A |
| Output Power | 120 W | 240 W | 260 W | 480 W | 480 W |
| Power Reserves | 20% | 20% | 20% | 20% | 20% |
| Ripple and Noise, Max [mVPP] | 50 mV | 100 mV | 50 mV | 50 mV | 50 mV |
| AC Input Voltage | AC 100...240V | AC 100...120V/ 200...240V auto-select | AC 100...240V | AC 100...240V | AC 100...240V |
| DC Input Voltage | DC 110...150V | — | DC 110...150V | DC 110...150V | DC 110...300V |
| Power Factor, Typ | 0.91 | 0.51 | 0.98 | 0.98 | 0.95 |
| Input Inrush Current ⁽¹⁾ | 4A/4A | 3 A/3 A | 6 A/9 A | 10 A/4.5A | 9A/7A |
| External Input Fuse, Min | B-6A or C-6 A | B-10 A or C-6 A | B-6 A or C-6 A | B-10 A or C-10 A | B-10 A or C-10 A |
| Efficiency, Typ | 93.5% | 91.6% | 95.5% | 96.3% | 94.6% |
| Power Losses, Typ | 8.4 W | 22.0 W | 12.3 W | 18.4 W | 27.4 W |
| MTBF ⁽²⁾ | 836 kh | 830 kh | 699 kh | 540 kh | 537 kh |
| Lifetime, Min (+40 °C) | 166 kh | 96 kh | 120 kh | 110 kh | 87 kh |
| Temperature, operating | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating ⁽³⁾ | 3 W / °C | 6 W / °C | 6.5 W / °C | 12 W/°C | 12 W/°C |
| Connection Terminals | Screw | Screw | Screw | Screw | Screw |
| Dimensions W x H x D | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 60 x 124 x 117 mm (2.36 x 4.88 x 4.61 in.) | 39 x 124 x 117 mm (1.54 x 4.88 x 4.61 in.) | 48 x 124 x 127 mm (1.89 x 4.88 x 5 in.) | 65 x 124 x 127 mm (2.56 x 4.88 x 5 in.) |
| Weight | 440 g (0.97 lb) | 700 g (1.54 lb) | 600 g (1.32 lb) | 830 g (1.83 lb) | 940 g (2.07 lb) |
| DC-OK Relay Contact | Yes | — | Yes | Yes | Yes |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

380...480V AC/DC

| Catalog Number | 1606-XLE96B-2 | 1606-XLE120E-2 | 1606-XLE240E-3 | 1606-XLE960EX-3E 1606-XLE960DX-3N | 1606-XLE240F-3 | 1606-XLE960FX-3E 1606-XLE960MX-3N |
|-------------------------------------|---|---|---|---|---|---|
| Output Voltage, Nom | 12V | 24V | 24V | 24V | 48V | 48V |
| Output Current, Nom | 8 A | 5 A | 10 A | 40 A | 5 A | 20 A |
| Adjustment Range | 12...15V | 24...28V | 24...28V | 24V | 48...56V | 48V |
| Output Current Range | 8...6.4 A | 5...4.3 A | 10...8.6 A | 40 A | 5...4.3A | 20 A |
| Output Power | 96 W | 120 W | 240 W | 960 W | 240 W | 960 W |
| Power Reserves | — | 20% | 20% | 25% | 20% | 25% |
| Ripple and Noise, Max [mVPP] | 100 mV | 50 mV | 50 mV | 1500 mV | 100 mV | 2500 mV |
| AC Input Voltage | 2 AC 380...480V | 2 AC 380...480V | 3 AC 380...480V | 3 AC 400V 3 AC 480V | 3 AC 380...480V | 3 AC 400V 3 AC 480V |
| Power Factor, Typ | 0.44 | 0.45 | 0.53 | 0.93 | 0.53 | 0.93 |
| Input Inrush Current Limiter | Active | Active | Active | Active | Active | Active |
| Input Inrush Current ⁽¹⁾ | 4 A/4 A | 4 A/4 A | 4 A/4 A | 2 A | 4 A/4 A | 2 A |
| External Input Fuse, Min | B-6 A or C-3 A | B-6 A or C-3 A | B-6 A or C-3 A | B-6 A or C-3 A | B-6 A or C-3 A | B-6 A or C-3 A |
| Efficiency, Typ | 85.4% | 90.4% | 92.8% | 95.5% | 92.8% | 96.0% |
| Power Losses, Typ | 16.4 W | 12.7 W | 18.6 W | 45.2 W | 18.6 W | 40.0 W |
| MTBF ⁽²⁾ | 983 kh | 1173 kh | 975 kh | 529 kh | 1019 kh | 541 kh |
| Lifetime, Min (+40 °C) | 51 kh | 92 kh | 54 kh | 51 kh | 114 kh | 77 kh |
| Temperature, operating | -25...+70°C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating ⁽³⁾ | 2.5 W/ °C | 3 W/ °C | 6 W/ °C | 24 W/ °C | 6 W/ °C | 24W/ °C |
| Connection Terminals | Screw | Screw | Screw | Screw | Screw | Screw |
| Dimensions W x H x D | 40 x 124 x 117 mm (1.57 x 4.88 x 4.61 in.) | 40 x 124 x 117 mm (1.57 x 4.88 x 4.61 in.) | 62 x 124 x 117 mm (2.44 x 4.88 x 4.61 in.) | 96 x 124 x 159 mm (3.78 x 4.88 x 6.26 in.) | 62 x 124 x 117 mm (2.44 x 4.88 x 4.61 in.) | 96 x 124 x 159 mm (3.78 x 4.88 x 6.26 in.) |
| Weight | 500 g (1.10 lb) | 500 g (1.10 lb) | 750 g (1.65 lb) | 1400 g (3.07 lb) | 750 g (1.65 lb) | 1400 g (3.07 lb) |
| DC OK Relay Contact | — | — | — | — | — | — |
| Special Features | — | — | — | Semi-regulated | — | Semi-regulated |

(1) Output transient current
 (2) +40 °C (104 °F), SN29500
 (3) From 60...70 °C (140...158 °F).

Power Supplies with Integrated Decoupling Function

| Catalog Number | 1606-XLE240ERL | 1606-XLE240ERZ 1606-XLE240ECRZ | 1606-XLE240EDRZ | 1606-XLE480ERL | 1606-XLE480ERZ 1606-XLE480ECRZ | 1606-XLE480EDRZ |
|-------------------------------------|---|---|---|--|--|--|
| Output Voltage, Nom | 24V | 24V | 24V | 24V | 24V | 24V |
| Output Current, Nom | 10 A | 10 A | 10 A | 20 A | 20 A | 20 A |
| Adjustment Range | Fixed | Fixed | Fixed | Fixed | Fixed | Fixed |
| Output Power | 240 W | 240 W | 240 W | 480 W | 480 W | 480 W |
| Power Reserves | 20% | 20% | 20% | 20% | 20% | 20% |
| Ripple and Noise Max [mVPP] | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV | 100 mV |
| AC Input Voltage | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V |
| Power Factor, Typ | 0.97 | 0.97 | 0.97 | 0.95 | 0.95 | 0.98 |
| Input Inrush Current Limiter | Active | Active | Active | Active | Active | Active |
| Input Inrush Current ⁽¹⁾ | 6 A/9 A | 6 A/9 A | 6 A/9 A | 10 A/4.5 A | 10 A/4.5 A | 10 A/4.5 A |
| Ext. Input Fuse Recommendation | B - 6 A or C - 6 A | B - 6 A or C - 6 A | B - 6 A or C - 6 A | B - 10 A or C - 10 A | B - 10 A or C - 10 A | B - 10 A or C - 10 A |
| DC Input Voltage | DC 110...150V | DC 110...150V | DC 110...300V | DC 110...150V | DC 110...150V | DC 110...300V |
| Efficiency, Typ | 94.7% | 94.7% | 94.7% | 95.2% | 95.2% | 95.2% |
| Power Losses, Typ | 13.4 W | 13.4 W | 13.4 W | 24.2 W | 24.2 W | 24.2 W |
| MTBF ⁽²⁾ | 641 kh | 641 kh | 641 kh | 543 kh | 543 kh | 543 kh |
| Lifetime Min (+40 °C) | 109 kh | 109 kh | 109 kh | 90 kh | 90 kh | 90 kh |
| Temperature, Operating | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -40...+70°C (-40...+158 °F) | -40...+70°C (-40...+158 °F) | -40...+70°C (-40...+158 °F) |
| Derating ⁽³⁾ | 6W/°C | 6W/°C | 6W/°C | 12W/°C | 12W/°C | 12W/°C |
| Dimensions W x H x D | 39 x 124 x 117 mm (1.54 x 4.88 x 4.61 in.) | 39 x 124 x 117 mm (1.54 x 4.88 x 4.61 in.) | 39 x 124 x 117 mm (1.54 x 4.88 x 4.61 in.) | 48 x 124 x 127 mm (1.89 x 4.88 x 5 in.) | 48 x 124 x 127 mm (1.89 x 4.88 x 5 in.) | 48 x 124 x 127 mm (1.89 x 4.88 x 5 in.) |
| Weight | 600 g (1.32 lb) | 600 g (1.32 lb) | 600 g (1.32 lb) | 830 g (1.83 lb) | 850 g (1.87 lb) | 850 g (1.87 lb) |
| DC-OK Relay Contact | Yes | Yes | Yes | Yes | Yes | Yes |
| Connection Terminals | Spring | Plug | Plug | Spring | Plug | Plug |
| Hot-Swap | No | Yes | Yes | No | Yes | Yes |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

Redundancy Modules

| Catalog Number | 1606-XLERED | 1606-XLERED20 | 1606-XLERED20Y |
|---|---|---|---|
| Voltage, Nom | DC 24...48V | DC 12...28V | DC 24...28V |
| Input/Output | 2x 10 A / 20 A | 2x 20 A / 20 A | 2x 10 A / 20 A |
| Input Voltage Range | DC 18...60V | DC 8.4...36.4 V | DC 18...35 V |
| Current, Nom per Input | 10 A | 10 A | 10 A |
| Output Current Nom Current Short Circuit | 20 A 25 A max | 20 A 26 A max | 20 A 26 A max |
| Voltage Drop/Output | 780 mV | 60 mV | 100...500 mV |
| Decoupling | Diode | MOSFET | MOSFET |
| Power Losses No Load Load Nom | 1 W 8.8 W | 0.21 W 0.6 W | 1.7 W 2.6...4.7 W |
| MTBF⁽¹⁾ | 9.1 Mio. h | 7.9 Mio. h | 2 Mio. h |
| Lifetime Min (+40 °C) | 218 kh | 355 kh | 182 kh |
| Temperature, Operating | -40...+70°C (-40...+158 °F) | -40...+70°C (-40...+158 °F) | -40...+70 °C (-40...+158 °F) |
| Derating⁽²⁾ | 0.5 A/°C | 1 A/°C | Not required |
| Dimensions W x H x D | 32 x 124 x 117 mm (1.26 x 4.88 x 4.61 in.) | 32 x 124 x 117 mm (1.26 x 4.88 x 4.61 in.) | 32 x 124 x 117 mm (1.26 x 4.88 x 4.61 in.) |
| Weight | 350 g (0.77 lb) | 250 g (0.55 lb) | 310 g (0.68 lb) |
| Connection Terminals | Screw | Screw | Screw |

(1) +40 °C (104 °F), SN29500

(2) From 60...70 °C (140...158 °F).

Specifications - 1606-XLD DC-DC Converters

DC-DC Converters

| Catalog Number | 1606-XLDC92D | 1606-XLDD240E | 1606-XLDF120E | 1606-XLDF240F |
|------------------------------|---|---|---|---|
| Input Voltage, Nom | DC 24V | DC 24V | DC 48V | DC 48V |
| Output Voltage Range | 24V | 24...28V | 24...28V | 48...56V |
| DC Input Voltage | DC 24V | DC 24V | DC 48V | DC 48V |
| Output Current Range | 3.8 A | 10...8.6 A | 5...4.3 A | 5...4.3 A |
| Output Power | 92 W | 240 W | 120 W | 240 W |
| Power Reserves | — | 20% | 20% | 20% |
| Ripple and Noise, Max [mVPP] | 50 mV | 50 mV | 50 mV | 100 mV |
| Efficiency, Typ | 90.5% | 94.2% | 90.3% | 95.1% |
| Power Losses, Typ | 9.7 W | 14.8 W | 12.9 W | 12.4 W |
| MTBF ⁽¹⁾ | 1487 kh | 731 kh | 951 kh | 853 kh |
| Lifetime, Min (+40 °C) | 134 kh | 80 kh | 64 kh | 160 kh |
| Temperature, Operating | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating ⁽²⁾ | — | 6 W/°C | 3 W/°C | 6 W/°C |
| Connection Terminals | Spring | Screw | Screw | Screw |
| Dimensions W x H x D | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 42 x 124 x 117 mm (1.65 x 4.88 x 4.61 in.) | 32 x 124 x 102 mm (1.26 x 4.88 x 4.02 in.) | 42 x 124 x 117 mm (1.65 x 4.88 x 4.61 in.) |
| Weight | 425 g (0.94 lb) | 500 g (1.10 lb) | 425 g (0.94 lb) | 500 g (1.10 lb) |
| Special Features | — | — | — | — |

(1) +40 °C (104 °F), SN29500

(2) From 60...70 °C (140...158 °F).

Specifications - 1606-XLP Compact Power Supplies

100....240V AC/DC

| Catalog Number/ Attribute | 1606-XLP15A | 1606-XLP25A | 1606-XLP15B | 1606-XLP30B | 1606-XLP50B | 1606-XLP60BQ | 1606-XLP60BQT |
|---|---|---|---|---|---|---|---|
| Output Voltage, Nom | 5V | 5V | 12V | 12V | 12V | 12V | 12V |
| Output Current, Nom | 3 A | 5 A | 1.3 A | 3.0 A | 4.2 A | 4.5 A | 4.5 A |
| Adjustment Range | 5...5.5V | 5...5.5V | 12...15V | 10...12V | 12...15V | 12...15V | 12...15V |
| Output Current Range | 3.0 A | 5.0 A | 1.3...1.0 A | 3...2.5 A | 4.2...3.4 A | 4.5...3.6 A | 4.5...3.6 A |
| Output Power | 15 W | 25 W | 15 W | 30 W | 50 W | 54 W | 54 W |
| Power Reserves | - | - | - | - | - | - | - |
| Ripple and Noise Max [mVpp] | 50 mV | 50 mV | 75 mV | 10 mV | 100 mV | 50 mV | 50 mV |
| AC Input Voltage | AC100...240V | AC100...240V | AC100...240V | AC 100...240V | AC100...240V | AC100...240V | AC100...240V |
| DC Input Voltage | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...300V |
| Power Factor, Typ | 0.44 | 0.44 | 0.44 | 0.53 | 0.52 | 0.5 | 0.44 |
| Input Inrush Current Limiter | NTC | NTC | NTC | NTC | NTC | NTC | Active |
| Input Inrush Current⁽¹⁾ | 16 A/31 A | 17 A/35 A | 16 A/31 A | 17 A/35 A | 17 A/35 A | 16 A/32 A | 16 A/32 A |
| External Input Fuse, Min | B - 6 A or C - 3 A | B - 10 A or C - 6 A | B - 6 A or C - 3 A | B - 10 A or C - 6 A | B - 10 A or C - 6 A | B - 10 A or C - 6 A | B - 6 A or C - 3 A |
| Efficiency, Typ | 77.2% | 80.0% | 82.5% | 84.0% | 90.0% | 87.2% | 87.6% |
| Power Losses, Typ | 4.5 W | 6.3 W | 3.2 W | 5.8 W | 6.0 W | 7.9 W | 7.6 W |
| MTBF⁽²⁾ | 2686 kh | 600 kh | 3811 kh | 650 kh | 600 kh | 1690 kh | 1571 kh |
| Lifetime Min (+40 °C) | 93 kh | - | 125 kh | - | - | 56 kh | 56 kh |
| Temperature Range, operating | -10...+70°C (14...158 °F) | -10...+70°C (14...158 °F) | -10...+70°C (14...158 °F) | -10...+70°C (14...158 °F) | -10...+70°C (14...158 °F) | -10...+70°C (14...158 °F) | -40...+70°C (-40...+158 °F) |
| Derating⁽³⁾ | 0.4 W/°C | 0.5 W/°C | 0.4 W/°C | 0.8 W/°C | 1.3 W/°C | 1.4 W/°C | 1.4 W/°C |
| Connection Terminals | Screw | Spring | Screw | Spring | Spring | Screw | Screw |
| Dimensions, W x H x D | 22.5 x 75 x 91 mm (0.86 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 22.5 x 75 x 91 mm (0.86 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) |
| Weight | 130 g (0.29 lb) | 240 g (0.53 lb) | 130 g (0.29 lb) | 250 g (0.55 lb) | 260 g (0.57 lb) | 250 g (0.55 lb) | 250 g (0.55 lb) |
| Special Features | - | - | - | - | - | - | -40 °C operation |

(1) Output transient current

(2) +40 °C, SN29500

(3) From 60...70 °C (140...158 °F).

100....240V AC/DC, Continued

| Catalog Number | 1606-XLP90B | 1606-XLP36C | 1606-XLP15E | 1606-XLP30E | 1606-XLP30EQ |
|-------------------------------------|--|---|---|---|---|
| Output Voltage, Nom | 12V | 12V | 24V | 24V | 24V |
| Output Current, Nom | 7.5 A | 2.5 A | 0.63 A | 1.3 A | 1.3 A |
| Adjustment Range | 12...15V | ± 12...15V | 24...28V | 24...28V | 24...28V |
| Output Current Range | 7.5...6 A | 2.5 A ⁽¹⁾ | 0.63...0.54 A | 1.3...1.1 A | 1.3...1.1 A |
| Output Power | 90 W | 36 W | 15 W | 30 W | 30 W |
| Power Reserves | — | — | — | — | — |
| Ripple and Noise Max [mVPP] | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV |
| AC Input Voltage | AC 100...120V/ 220...240V auto-select | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V |
| DC Input Voltage | DC 220...375V | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...300V |
| Power Factor, Typ | 0.55 | 0.53 | 0.44 | 0.53 | 0.49 |
| Input Inrush Current Limiter | NTC | NTC | NTC | NTC | NTC |
| Input Inrush Current ⁽²⁾ | 22 A/37 A | 17 A/35 A | 13 A/26 A | 17 A/35 A | 18 A/35 A |
| External Input Fuse, Min | B-10 A or C-6 A | B-10 A or C-6 A | B - 6 A or C - 3 A | B - 10 A or C - 6 A | B - 6 A or C - 3 A |
| Efficiency, Typ | 88.5% | 86.0% | 85.1% | 87.5% | 89.4% |
| Power Losses, Typ | 11.7 W | 5.9 W | 2.7 W | 4.5 W | 3.7 W |
| MTBF ⁽³⁾ | 500 kh | 600 kh | 4369 kh | 650 kh | 2405 kh |
| Lifetime Min (+40 °C) | — | — | 196 kh | — | 174 kh |
| Temperature Range, Operating | -25...+70 °C (-13...+158 °F) | -25...+70 °C (-13...+158 °F) | -10...+70 °C (14...158 °F) | -10...+70 °C (14...158 °F) | -10...+70 °C (14...158 °F) |
| Derating ⁽⁴⁾ | 2.5 W/°C | 1 W/°C | 0.4 W/°C | 0.8 W/°C | 0.8 W/°C |
| Connection Terminals | Spring | Spring | Screw | Spring | Screw |
| Dimensions W x H x D | 73 x 75 x 103 mm (2.87 x 2.95 x 4.06 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 23 x 75 x 91 mm (0.91 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 23 x 75 x 91 mm (0.91 x 2.95 x 3.58 in.) |
| Weight | 360 g (0.79 lb) | 240 g (0.53 lb) | 130 g (0.29 lb) | 230 g (0.51 lb) | 140 g (0.31 lb) |
| DC OK Relay Contact | — | — | — | — | — |

(1) Both outputs can flexibly be loaded up to this current as long as the output power remains less than 36 W. The current at the output with the lower load should be at least 5% of the output with the higher load.

(2) Output transient current

(3) +40 °C, SN29500

(4) From 60...70 °C (140...158 °F).

100...240V AC/DC, Continued

| Catalog Number | 1606-XLP50E | 1606-XLP50EZ | 1606-XLP60EQ | 1606-XLP60EQT | 1606-XLP72E |
|---|---|---|---|---|--|
| Output Voltage, Nom | 24V | 24V | 24V | 24V | 24V |
| Output Current, Nom | 2.1 A | 2.1 A | 2.5 A | 2.5 A | 3 A |
| Adjustment Range | 24...28V | 24...28V | 24...28V | 24...28V | 24...28V |
| Output Current Range | 2.1...1.8 A | 2.1...1.8 A | 2.5...2.1 A | 2.5...2.1 A | 3.2...6 A |
| Output Power | 50 W | 50 W | 60 W | 60 W | 72 W |
| Power Reserves | — | — | - | - | - |
| Ripple and Noise, Max [mVPP] | 50 mV | 50 mV | 50 mV | 50 mV | 50 mV |
| AC Input Voltage | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...120V 220...240V manual select |
| DC Input Voltage | DC 110...300V | DC 110...300V | DC 110...300V | DC 110...300V | DC 290V |
| Power Factor, Typ | 0.52 | 0.52 | 0.5 | 0.44 | 0.54 |
| Input Inrush Current Limiter | NTC | NTC | NTC | Active | NTC |
| Input Inrush Current⁽¹⁾ | 17 A/35 A | 17 A/35 A | 16/32 A | 6 A/6 A | 26 A/30 A |
| External Input Fuse, Min | B - 10 A or C - 6 A | B - 10 A or C - 6 A | B-10 A or C-6A | B-6A or C-3A | B-10 A or C-6A |
| Efficiency, Typ | 89.0% | 88.5% | 89.7% | 90.4% | 89.0% |
| Power Losses, Typ | 6.2 W | 6.8 W | 6.9 W | 6.4 W | 8.7 W |
| MTBF⁽²⁾ | 2613 kh | 600 kh | 1916 kh | 1866 kh | 600 kh |
| Lifetime Min (+40 °C) | 54 kh | - | 128 kh | 90 kh | — |
| Temperature Range, operating | -10...+70 °C (14...158 °F) | -10...+70 °C (14...158 °F) | -10...+70 °C (14...158 °F) | -40...+70 °C (-40...+158 °F) | -10...+70 °C (14...158 °F) |
| Derating⁽³⁾ | 1.3 W/°C | 1.3 W/°C | 1.5W/°C | 1.5W/°C | 1.8W/°C |
| Connection Terminals | Spring | Plug | Screw | Screw | Spring |
| Dimension W x H x D | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) |
| Weight | 240 g (0.53 lb) | 240 g (0.53 lb) | 250 g (0.55 lb) | 250 g (0.55 lb) | 260 g (0.57 lb) |
| DC-OK Relay Contact | Yes | Yes | — | — | — |
| Special Features | — | Parallel Option | — | -40 °C operation | — |

(1) Output transient current
 (2) +40 °C (104 °F), SN29500
 (3) From 60...70 °C (140...158 °F)

100...240V AC/DC, Continued

| Catalog Number | 1606-XLP95E | 1606-XLP100E | 1606-XLP50F | 1606-XLP100F |
|-------------------------------------|--|--|---|--|
| Output Voltage, Nom | 24V | 24V | 48V | 48V |
| Output Current, Nom | 3.9 A | 4.2 A | 1.05 A | 2.1 A |
| Adjustment Range | 24...28V | 24...28V | 48...56V | 48...56V |
| Output Current Range | 3.95...3.4 A | 4.2...3.6 A | 1.05...0.9 A | 2.1...1.8 A |
| Output Power | 95 W | 100 W | 50 W | 100 W |
| Power Reserves | — | — | — | — |
| Ripple and Noise, Max [mVPP] | 50 mV | 50 mV | 50 mV | 50 mV |
| AC Input Voltage | AC 100...120V/ 220...240V auto-select | AC 100...120V/ 220...240V auto-select | AC 100...240V | AC 100...120V/ 220...240V auto-select |
| DC Input Voltage | DC 290V | DC 290V | DC 110...300V | DC 290V |
| Power Factor, Typ | 0.55 | 0.55 | 0.52 | 0.55 |
| Input Inrush Current Limiter | NTC | NTC | 17 A/35 A | 22 A/37 A |
| Input Inrush Current ⁽¹⁾ | 22A/37 A | 22 A/37 A | 17 A/35 A | 22 A/37 A |
| External Input Fuse, Min | B-10 A or C-6 A | B-10 A or C-6 A | B-10 A or C-6 A | B-10 A or C-6 A |
| Efficiency, Typ | 90.0% | 90.0% | 90.0% | 91.0% |
| Power Losses, Typ | 10.5 W | 11.4 W | 6.0 W | 10.0 W |
| MTBF ⁽²⁾ | 500 kh | 500 kh | 600 kh | 500 kh |
| Lifetime, Min (+40 °C) | — | — | — | — |
| Temperature, Operating | -10...+70°C (-14...+158 °F) | -10...+70°C (-14...+158 °F) | -10...+70°C (14...158 °F) | -10...+70°C (14...158 °F) |
| Derating ⁽³⁾ | 2 W/ °C | 2.5 W/ °C | 1.3 W / °C | 2.5 W / °C |
| Connection Terminals | Spring | Spring | Spring | Spring |
| Dimensions W x H x D | 73 x 75 x 103 mm (2.87 x 2.95 x 4.06 in.) | 73 x 75 x 103 mm (2.87 x 2.95 x 4.06 in.) | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) | 73 x 75 x 103 mm (2.87 x 2.95 x 4.06 in.) |
| Weight | 360 g (0.79 lb) | 360 g (0.79 lb) | 240 g (0.53 lb) | 360 g (0.79 lb) |
| DC OK Relay Contact | — | — | — | — |
| Special Features | NEC Class 2 | — | — | — |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

380...480V AC/DC

| Catalog Number | 1606-XLP90E-2 | 1606-XLP100E-2 |
|-------------------------------------|--|--|
| Output Voltage, Nom | 24V | 24V |
| Output Current, Nom | 3.75 A | 4.2 A |
| Adjustment Range | 24...28V | 24...28V |
| Output Current Range | 3.75 ...3.2 A | 4.2...3.6 A |
| Output Power | 90 W | 100 W |
| Power Reserves | — | — |
| Ripple and Noise, Max [mVPP] | 50 mV | 50 mV |
| AC Input Voltage | 2 AC 380...480V | 2 AC 380...480V |
| Power Factor, Typ | 0.60 | 0.60 |
| Input Inrush Current Limiter | NTC | NTC |
| Input Inrush Current ⁽¹⁾ | 36/45 A | 36/45 A |
| External Input Fuse, Min | B- 10 A or C-6 A | B- 10 A or C-6 A |
| Efficiency, Typ | 89.5% | 89.5% |
| Power Losses, Typ | 10.5 W | 11.7 W |
| MTBF ⁽²⁾ | 1594 kh | 1594 kh |
| Lifetime, Min (+40 °C) | — | — |
| Temperature, operating | -10...+70 °C (14...158 °F) | -10...+70 °C (14...158 °F) |
| Derating ⁽³⁾ | 2 W/ °C | 2.5 W/ °C |
| Connection Terminals | Spring | Spring |
| Dimensions W x H x D | 73 x 75 x 103 mm (2.87 x 2.95 x 4.06 in.) | 73 x 75 x 103 mm (2.87 x 2.95 x 4.06 in.) |
| Weight | 360 g (0.79 lb) | 360 g (0.79 lb) |
| DC OK Relay Contact | — | — |
| Special Features | NEC Class 2 | — |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

Redundancy Modules

| | |
|---|---|
| Catalog Number | 1606-XLPRED |
| Voltage, Nom | DC 12...48V |
| Input/Output | 2x 5 A / 10 A |
| Input Voltage Range | DC 9...60V |
| Current, Nom per Input | 5 A |
| Output Current Nom Current Short Circuit | 10 A 16 A max |
| Voltage Drop/ Output | 800 mV |
| Decoupling | Diode |
| Power Losses No Load Load Nom | 0 W 4.0 W |
| MTBF⁽¹⁾ | 85 Mio. h |
| Lifetime Min (+40 °C) | 218 kh |
| Temperature, Operating | -40...+70°C (-40...+158 °F) |
| Derating⁽²⁾ | 0.25 A/°C |
| Dimensions W x H x D | 45 x 75 x 91 mm (1.77 x 2.95 x 3.58 in.) |
| Weight | 140 g (0.31 lb) |
| Connection Terminals | Spring |

(1) +40 °C (104 °F), SN29500

(2) From 60...70 °C (140...158 °F).

Specifications- 1606-XLB Basic Power Supplies

100....240V AC/DC

| Catalog Number | 1606-XLB60BH | 1606-XLB36EH | 1606-XLB60EH 1606-XLB60E | 1606-XLB90EH 1606-XLB90E 1606-XLB90EQ |
|-------------------------------------|---|---|---|---|
| Output Voltage, Nom | 12V | 24V | 24V | 24V |
| Output Current, Nom | 5 A | 1.5 A | 2.5 A | 3.8 A |
| Adjustment Range | 12...15V | 24...28V | 24...28V | 24...28V |
| Output Current Range | 5.0...4.0 A | 1.5...1.2 A | 2.5...2.1 A | 3.8...3.2 A |
| Output Power | 60 W | 36 W | 60 W | 90 W |
| Power Reserves | - | - | - | - |
| Ripple and Noise Max [mVPP] | 50 mV | 50 mV | 100 mV | 100 mV |
| AC Input Voltage | AC 100...240V | AC 100...240V | AC 100...240V | AC 100...240V |
| DC Input Voltage | - | DC 110...300V | - | - |
| Power Factor, Typ | 0.47 | 0.46 | 0.47 | 0.45 |
| Input Inrush Current Limiter | NTC | NTC | NTC | NTC |
| Input Inrush Current ⁽¹⁾ | 15 A/36 A | 14 A/40 A | 36 A | 18A/40A |
| External Input Fuse, Min | B-6 A or C-4 A | B - 6 A or C - 4 A | B-6A or C-4A | B-6A or C-6A |
| Efficiency, Typ | 90.7% | > 90.6% | 91.8% | 93.8% |
| Power Losses, Typ | 6.2 W | 3.7 W | 6.2/5.4 W | 7.9/6.0 W |
| MTBF ⁽²⁾ | 1673 kh | 2081 kh | 1982 kh | 1507 khr |
| Lifetime Min (+40 °C) | 89 kh | 161 kh | 148 kh | 102 kh |
| Temperature Range, Operating | -25...+70 °C (-13...+158 °F) | -10...+70 °C (14...158°F) | -10...+70 °C (14...158°F) | -10...+70 °C (14...158°F) |
| Derating ⁽³⁾ | 0.12 A/°C | 0.04 A/°C | 1.5W/°C | 2.3W/°C |
| Connection Terminals | Push-in | Push-in | Push-in | Push-in |
| Dimensions W x H x D | 36 x 90 x 91 mm (1.42 x 3.54 x 3.58 in.) | 22.5 x 90 x 91 mm (0.89 x 3.54 x 3.58 in.) | 36 x 90 x 91 mm (1.42 x 3.54 x 3.58 in.) | 36 x 90 x 91 mm (1.42 x 3.54 x 3.58 in.) |
| Weight | 225 g (0.50 lb) | 140 g (0.31 lb) | 220 g (0.49 lb) | 270 g (0.60 lb) |
| DC OK Relay Contact | - | - | - | - |

(1) Output transient current

(2) +40 °C, SN29500

(3) From 60...70 °C (140...158 °F).

100...240V AC/DC, Continued

| Catalog Number | 1606-XLB120E | 1606-XLB240E | 1606-XLB480E |
|-------------------------------------|---|---|--|
| Output Voltage, Nom | 24V | 24V | 24V |
| Output Current, Nom | 5 A | 10 A | 20 A |
| Adjustment Range | 24...28V | 24...28V | 24...28V |
| Output Current Range | 5...4.3 A | 10...8.6 A | 20...17.1A |
| Output Power | 120 W | 240 W | 480 W |
| Power Reserves | — | — | — |
| Ripple and Noise, Max [mVPP] | 100 mV | 100 mV | 100 mV |
| AC Input Voltage | AC 100...120V/ 200...240V auto-select | AC 100...240V | AC 100...240V |
| DC Input Voltage | — | - | — |
| Power Factor, Typ | 0.54 | 0.93 | 0.97 |
| Input Inrush Current Limiter | NTC | Active | Active |
| Input Inrush Current ⁽¹⁾ | 22 A/33 A | 14 A/26 A | 15 A/35 A |
| External Input Fuse, Min | B-10 A or C-6 A | B-10 A or C-6 A | B-10 A or C-6 A |
| Efficiency, Typ | 92.3% | 95.2% | 95.3% |
| Power Losses, Typ | 10.0 W | 12.1 W | 23.7 W |
| MTBF ⁽²⁾ | 1379 kh | 822 kh | 704 kh |
| Lifetime, Min (+40 °C) | 83 kh | 74 kh | 102 kh |
| Temperature, operating | -10...+70°C (-14...+158 °F) | -25...+70°C (-13...+158 °F) | -25...+70°C (-13...+158 °F) |
| Derating ⁽³⁾ | 3 W/ °C | 6 W/ °C | 12 W/ °C |
| Connection Terminals | Screw | Screw | Screw |
| Dimensions W x H x D | 39 x 124 x 124 mm (1.54 x 4.88 x 4.88 in.) | 49 x 124 x 124 mm (1.93 x 4.88 x 4.88 in.) | 59 x 124 x 127 mm (2.32 x 4.88 x 5 in.) |
| Weight | 370 g (0.82 lb) | 540 g (1.19 lb) | 810 g (1.79 lb) |
| DC OK Relay Contact | Yes | Yes | Yes |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

Redundancy Modules

| | |
|---|---|
| Catalog Number | 1606-XLBRED20 |
| Voltage, Nom | DC 12...28V |
| Input/Output | 2x 10 A / 20 A |
| Input Voltage Range | DC 9...35V |
| Current, Nom per Input | 10 A |
| Output Current Nom Current Short Circuit | 20 A 26 A max |
| Voltage Drop/Output | 460 mV |
| Decoupling | Diode |
| Power Losses No Load Load Nom | 0 W 4.6 W |
| MTBF⁽¹⁾ | 7.8 Mio. h |
| Lifetime Min (+40 °C) | 113 kh |
| Temperature, Operating | -40...+70°C (-40...+158 °F) |
| Derating⁽²⁾ | 0.5 A/°C |
| Dimensions W x H x D | 39 x 124 x 124 mm (1.54 x 4.88 x 4.88) |
| Weight | 280 g (0.62 lb) |
| Connection Terminals | Screw |

(1) +40 °C (104 °F), SN29500

(2) From 60...70 °C (140...158 °F).

Specifications - 1606-XLX Regional Power Supplies

100...240V AC/DC

| Catalog Number | 1606-XLX120EE | 1606-XLX240EE |
|-------------------------------------|---|---|
| Output Voltage, Nom | 24V | 24V |
| Output Current, Nom | 5 A | 10 A |
| Adjustment Range | 24...28V | 24...28V |
| Output Current Range | 5...4.3 A | 10...8.6 A |
| Output Power | 120 W | 240 W |
| Power Reserves | — | — |
| Ripple and Noise, Max [mVPP] | 100 mV | 100 mV |
| AC Input Voltage | AC 200...240V | AC 200...240V |
| DC Input Voltage | — | — |
| Power Factor, Typ | 0.54 | 0.52 |
| Input Inrush Current Limiter | NTC | NTC |
| Input Inrush Current ⁽¹⁾ | 28 A | 48 A |
| External Input Fuse, Min | B-10 A or C-6 A | B-16 A or C-10 A |
| Efficiency, Typ | 90.5% | 91.4% |
| Power Losses, Typ | 12.6 W | 22.6 W |
| MTBF ⁽²⁾ | 1720 kh | 791 kh |
| Lifetime, Min (+40 °C) | 47 kh | 38 kh |
| Temperature, Operating | -10...+70°C (-14...+158 °F) | -10...+70°C (-14...+158 °F) |
| Derating ⁽³⁾ | 3 W/ °C | 6 W/ °C |
| Connection Terminals | Screw | Screw |
| Dimensions W x H x D | 39 x 124 x 124 mm (1.54 x 4.88 x 4.88 in.) | 49 x 124 x 124 mm (1.93 x 4.88 x 4.88 in.) |
| Weight | 350 g (0.77 lb) | 550 g (1.21 lb) |
| DC OK Relay Contact | Yes | Yes |
| Special Features | — | — |

(1) Output transient current

(2) +40 °C (104 °F), SN29500

(3) From 60...70 °C (140...158 °F).

Certifications and Standards Compliance

| Catalog Number | CE | UL 508 | UL 60950-1 | UL 61010-2-201 | IEC 60950-1 CB-Scheme | IEC 61010-2-201 CB-Scheme | IECEX | ATEX | Class I Div. 2 HazLoc | DNV GL Marine | ABS Marine | EAC Registration | NEC Class 2 | EN 61000-3-2 Harmonics (PFC) Ⓢ | EN 61000-6-1 Immunity for residential | EN 61000-6-2 Immunity for industrial | EN 61000-6-3 Emission for residential | EN 61000-6-4 Emission for industrial environments | EN 55011 / EN 55022 class B Disturbance characteristics |
|--|----|--------|------------|----------------|-----------------------|---------------------------|-------|------|-----------------------|---------------|------------|------------------|-------------|--------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|---|---|
| 1606-XLS Performance Power Supplies | | | | | | | | | | | | | | | | | | | |
| 1606-XLS80E | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS120E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS120EA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSDNET4 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS180B | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240EA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240EC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240E-D | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240K | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240F | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240F-D | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSDNET8 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480EA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480EC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480EE | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | — | ✓ | ✓ | | ✓ | ✓ |
| 1606-XLS480G | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480F | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS960E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS960EE | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS960F | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS960FE | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480E-3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480E-3C | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480G-3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480F-3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS960E-3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS960F-3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480E-D | ✓ | ✓ | | | | | | | | | | ✓ | | 5 | ✓ | ✓ | | ✓ | |
| 1606-XLS240-UPS | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240-UPSE | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240-UPSD | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS480-UPS | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS240-UPSC | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSCAP24-6 | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSCAP24-12 | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBUFFER24 | ✓ | ✓ | ✓ | | ✓ | | | | | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |

Ⓢ 1= meets class A limits (passive) 2= meets class A limits (active) 3= not applicable (<75VA) 4= not applicable (<220V AC) 5= not applicable for this type of unit

| Catalog Number | CE | UL 508 | UL 60950-1 | UL 61010-2-201 | IEC 60950-1 CB-Scheme | IEC 61010-2-201 CB-Scheme | IECEX | ATEX | Class I Div. 2 HazLoc | DNV GL Marine | ABS Marine | EAC Registration | NEC Class 2 | EN 61000-3-2 Harmonics (PFC) Ⓢ | EN 61000-6-1 Immunity for residential | EN 61000-6-2 Immunity for industrial | EN 61000-6-3 Emission for residential | EN 61000-6-4 Emission for industrial environments | EN 55017 / EN 55022 class B Disturbance characteristics |
|-------------------|----|--------|------------|----------------|-----------------------|---------------------------|-------|------|-----------------------|---------------|------------|------------------|-------------|--------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|---|---|
| 1606-XLSBUFFER48 | ✓ | ✓ | ✓ | | ✓ | | | | | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLS960BUFFER | ✓ | ✓ | ✓ | | ✓ | | | | | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBAT5 | | | | | | | | | | | | ✓ | | 5 | | | | | |
| 1606-XLSBAT1 | | | | | | | | | | | | ✓ | | 5 | | | | | |
| 1606-XLSBAT2 | | | | | | | | | | | | ✓ | | 5 | | | | | |
| 1606-XLSBATASSY1 | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATASSY1W | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATASSY2 | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATASSY3 | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATASSY4 | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATBR1 | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATBR1W | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATBR2 | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATBR3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATBR4 | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSBATSEN | ✓ | | | ✓ | | ✓ | | | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSRED | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLERED20 | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLERED20Y | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSRED40 | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSRED4HE | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSREDS40HE | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSRED40HF | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSRED80 | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLSRED80HE | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |

1606-XLE Essential Power Supplies

| | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|--|---|--|---|---|---|---|---|---|
| 1606-XLE120B | ✓ | | | ✓ | | ✓ | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE120E | ✓ | | | ✓ | | ✓ | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE120EC | ✓ | | | | | | | | | | | | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE120EL | ✓ | | | | | | | | | | | | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE120EH | ✓ | | | | | | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE120ED | ✓ | | | | | | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE120F | ✓ | | | | | | | | | | | | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE192BM | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE192BDM | ✓ | | | ✓ | | ✓ | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240EC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240ERL | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240ERZ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240ECRZ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240EL | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240EH | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |

Ⓢ 1= meets class A limits (passive) 2= meets class A limits (active) 3= not applicable (<75VA) 4= not applicable (<220V AC) 5= not applicable for this type of unit

| Catalog Number | CE | UL 508 | UL 60950-1 | UL 61010-2-201 | IEC 60950-1 CB-Scheme | IEC 61010-2-201 CB-Scheme | IECEX | ATEX | Class I Div. 2 HazLoc | DNV GL Marine | ABS Marine | EAC Registration | NEC Class 2 | EN 61000-3-2 Harmonics (PFC) Ⓢ | EN 61000-6-1 Immunity for residential | EN 61000-6-2 Immunity for industrial | EN 61000-6-3 Emission for residential | EN 61000-6-4 Emission for industrial environments | EN 55017 / EN 55022 class B Disturbance characteristics |
|--------------------------------------|----|--------|------------|----------------|-----------------------|---------------------------|-------|------|-----------------------|---------------|------------|------------------|-------------|--------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|---|---|
| 1606-XLE240EP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240EDRZ | ✓ | | | ✓ | ✓ | | | | | | | | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE260F | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EPC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480ERL | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480ERZ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480ECRZ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EL | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EH | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EM | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EP-D | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EDRZ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480FP | ✓ | | | ✓ | | ✓ | ✓ | ✓ | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EPC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480EP-D | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480FP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE480FP-D | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | 5 | | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE96B-2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE120E-2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240E-3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE240F-3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE960EX-3E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE960DX-3N | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE960FX-3E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLE960MX-3N | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLERED | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLD DC-DC Power Supplies | | | | | | | | | | | | | | | | | | | |
| 1606-XLDC92D | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLDF120E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLDD240E | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLDF240F | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |

Ⓢ 1= meets class A limits (passive) 2= meets class A limits (active) 3= not applicable (<75VA) 4= not applicable (<220V AC) 5= not applicable for this type of unit

| Catalog Number | CE | UL 508 | UL 60950-1 | UL 61010-2-201 | IEC 60950-1 CB-Scheme | IEC 61010-2-201 CB-Scheme | IECEX | ATEX | Class I Div. 2 HazLoc | DNV GL Marine | ABS Marine | EAC Registration | NEC Class 2 | EN 61000-3-2 Harmonics (PFC) Ⓢ | EN 61000-6-1 Immunity for residential | EN 61000-6-2 Immunity for industrial | EN 61000-6-3 Emission for residential | EN 61000-6-4 Emission for industrial environments | EN 55017 / EN 55022 class B Disturbance characteristics |
|---|----|--------|------------|----------------|-----------------------|---------------------------|-------|------|-----------------------|---------------|------------|------------------|-------------|--------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|---|---|
| 1606-XLP Compact Power Supplies | | | | | | | | | | | | | | | | | | | |
| 1606-XLP15A | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP15B | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP15E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP30E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP25A | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP30B | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP36C | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP30EQ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP50E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP50B | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP50F | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP50EZ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP60BQ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP60BQT | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP60EQ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP60EQT | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP72E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP90E-2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP95E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP100E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP90B | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP100F | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLP100E-2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLPRED | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB - Basic Power Supplies | | | | | | | | | | | | | | | | | | | |
| 1606-XLB480E | ✓ | | | ✓ | | ✓ | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB36EH | ✓ | | | | | | | | | | | | | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB60BH | | | | | | | | | | | | ✓ | | | | | | | |
| 1606-XLB60EH | ✓ | | | | | | | | | | | ✓ | | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB60E | ✓ | | | | | | | | | | | ✓ | | 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB90EH | ✓ | | | | | | | | | | | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB90E | ✓ | | | | | | | | | | | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB90EQ | ✓ | | | | | | | | | | | | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB120E | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLB240E | ✓ | | | ✓ | | ✓ | | | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLBRED20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | | 5 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLX - Regional Power Supplies | | | | | | | | | | | | | | | | | | | |
| 1606-XLX120EE | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1606-XLX240EE | ✓ | | | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | | - | ✓ | ✓ | ✓ | ✓ | ✓ |

Ⓢ 1= meets class A limits (passive) 2= meets class A limits (active) 3= not applicable (<75VA) 4= not applicable (<220V AC) 5= not applicable for this type of unit

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

| Resource | Description |
|--|---|
| Power Supply Reference Manuals, 1606-RM___ | Provides detailed specifications on specific power supply or accessory. |
| Power Supply Installation Instructions, 1606-IN___ | Provides product description, installation instructions, functional descriptions and wiring diagrams. |
| EtherNet/IP Network Devices User Manual, ENET-UM006 | Describes how to configure and use EtherNet/IP devices to communicate on the EtherNet/IP network. |
| Ethernet Reference Manual, ENET-RM002 | Describes basic Ethernet concepts, infrastructure components, and infrastructure features. |
| System Security Design Guidelines Reference Manual, SECURE-RM001 | Provides guidance on how to conduct security assessments, implement Rockwell Automation products in a secure system, harden the control system, manage user access, and dispose of equipment. |
| Industrial Components Preventive Maintenance, Enclosures, and Contact Ratings Specifications, publication IC-TD002 | Provides a quick reference tool for Allen-Bradley industrial automation controls and assemblies. |
| Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication SGI-1.1 | Designed to harmonize with NEMA Standards Publication No. ICS 1.1-1987 and provides general guidelines for the application, installation, and maintenance of solid-state control in the form of individual devices or packaged assemblies incorporating solid-state components. |
| Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1 | Provides general guidelines for installing a Rockwell Automation industrial system. |
| Product Certifications website, rok.auto/certifications . | Provides declarations of conformity, certificates, and other certification details. |

You can view or download publications at rok.auto/literature.

Rockwell Automation Support

Use these resources to access support information.

| | | |
|---|--|--|
| Technical Support Center | Find help with how-to videos, FAQs, chat, user forums, and product notification updates. | rok.auto/support |
| Knowledgebase | Access Knowledgebase articles. | rok.auto/knowledgebase |
| Local Technical Support Phone Numbers | Locate the telephone number for your country. | rok.auto/phonesupport |
| Literature Library | Find installation instructions, manuals, brochures, and technical data publications. | rok.auto/literature |
| Product Compatibility and Download Center (PCDC) | Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes. | rok.auto/pcdc |

Documentation Feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.





Allen-Bradley, expanding human possibility, and Rockwell Automation are trademarks of Rockwell Automation, Inc.

EtherNet/IP is a trademark of ODVA, Inc.

Trademarks not belonging to Rockwell Automation are property of their respective companies.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.    

rockwellautomation.com ————— expanding **human possibility**[™]

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, 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