

ED4U SERIES DRIVER
LASER SYSTEM & LASER DIODE DRIVER

> FEATURES AND BENEFITS



- Operates in either CW or QCW modes
- 0-350V compliance voltage range
- Water or Air cooled versions available
 - CE marked version available
- Integrated power supply (optional)
- Integrated RF driver (optional)
 - 19" rack mountable
 - Labview compatible*
RS232 and RS485

With all of the standard drive specifications of the eDrive™, the eDrive Nitro integrates optional power supplies, RF drivers, and other accessories in a single rack-mounted housing. Configurable for driving diodes in either CW or QCW operating modes, all aspects of your laser system can be managed with one unit. The eDrive Nitro is equipped with multiple control options, an easy to use local front panel interface along with a host of digital remote control options, including Labview* compatibility, which are all offered as standard.

The eDrive Nitro has been designed to maximize reliability. All system components are conservatively rated. High power circuits are physically separated from low power circuits. Minimal internal interconnect wiring increases reliability. A variety of power supplies, single or dual-axis Q-switch drivers/controllers, and temperature controller options are available. Please contact us for more information.

*Labview™ is the property of National Instruments Corporation.

SPECIFICATIONS

| Amplitude: | Air Cooled | | Water Cooled | |
|--------------------|-------------|-------------|--------------|-------------|
| | CW | QCW | CW | QCW |
| Output Current | 0-50 A | 0-300 A ** | 0-70 A | 0-300 A ** |
| Display Resolution | 100 mA | 100 mA | 100 mA | 100 mA |
| Accuracy | ± 2% | ± 2% | ± 2% | ± 2% |
| Noise | < 50 mA p-p | < 50 mA p-p | < 50 mA p-p | < 50 mA p-p |

**See chart on page 3 for duty cycle ratings

| Pulse Rate: | CW | QCW | CW | QCW |
|---------------------------|----|----------------|----|----------------|
| Range | — | 0 - 50 kHz | — | 0 - 50 kHz |
| Display Resolution (1 Hz) | — | 0 - 100 Hz | — | 0 - 100 Hz |
| (10 Hz) | — | 100 Hz - 1 kHz | — | 100 Hz - 1 kHz |
| (100 Hz) | — | 1 kHz - 50 kHz | — | 1 kHz - 50 kHz |
| Accuracy | — | ± 2% | — | ± 2% |

| Pulse Width: | CW | QCW | CW | QCW |
|--------------------|----|---|----|---|
| Range | — | 10 µs - 500 ms | — | 10 µs - 500 ms |
| Display Resolution | — | 100 ns | — | 100 ns |
| Transition Time | — | 5 µs Typical (100 A) 40 µs Typical (300 A) | — | 5 µs Typical (100 A) 40 µs Typical (300 A) |

| Trigger In: | CW | QCW | CW | QCW |
|-----------------|----|-----------------------|----|-----------------------|
| Type | — | Positive Edge Trigger | — | Positive Edge Trigger |
| Signal Input | — | TTL or 5 V CMOS | — | TTL or 5 V CMOS |
| Minimum Width | — | 50 µs | — | 50 µs |
| Input Impedance | — | 50 Ω | — | 50 Ω |

| Trigger Out: | CW | QCW | CW | QCW |
|-----------------|----|--|----|--|
| Type | — | User configurable for EO Q-switched operation | — | User configurable for EO Q-switched operation |
| Characteristics | — | TTL of 5V CMOS | — | TTL of 5V CMOS |

| Compliance Voltage: | CW | QCW | CW | QCW |
|---------------------|-----------|-----------|-----------|-----------|
| Range | 0 - 350 V | 0 - 350 V | 0 - 350 V | 0 - 350 V |
| Display Resolution | 0.1 V | 0.1 V | 0.1 V | 0.1 V |
| Accuracy | ± 2% | ± 2% | ± 2% | ± 2% |

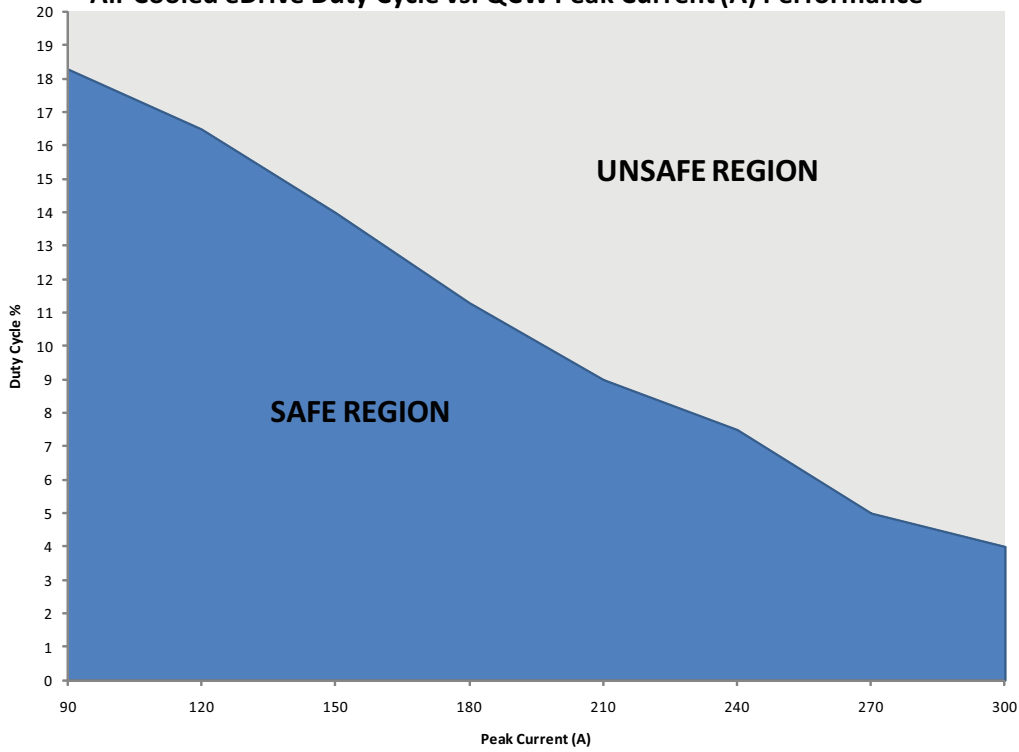
| Current Monitor: | CW | QCW | CW | QCW |
|------------------|--------------|--|--------------|--|
| Type | 10 A/V 0-5 V | 20 A/V 0-5 V (0-15 V for high current models) | 10 A/V 0-7 V | 20 A/V 0-5 V (0-15 V for high current models) |
| Accuracy | ± 2% | ± 2% | ± 2% | ± 2% |

| Interlocks: | CW | QCW | CW | QCW |
|-----------------------|--|--|--|--|
| Open Circuit Voltage | 5 VDC nominal | 5 VDC nominal | 5 VDC nominal | 5 VDC nominal |
| Short Circuit Current | 1 mA nominal | 1 mA nominal | 1 mA nominal | 1 mA nominal |
| Type | Switch contact closure or TTL or 5 V CMOS compatible | Switch contact closure or TTL or 5 V CMOS compatible | Switch contact closure or TTL or 5 V CMOS compatible | Switch contact closure or TTL or 5 V CMOS compatible |

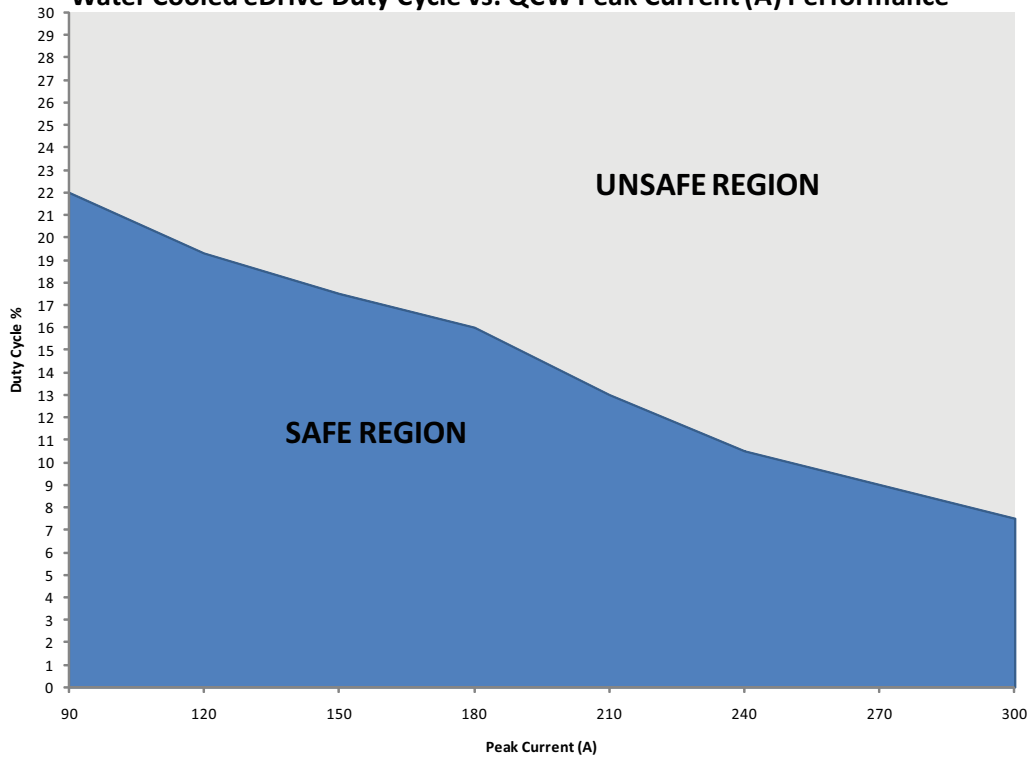
| General: | CW | QCW | CW | QCW |
|-----------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Operating Temperature | 0 - 40°C, non condensing | 0 - 40°C, non condensing | 0 - 40°C, non condensing | 0 - 40°C, non condensing |
| Power Input | 100 - 240 VAC, 50/60 Hz, 15A max | 100 - 240 VAC, 50/60 Hz, 15A max | 100 - 240 VAC, 50/60 Hz, 15A max | 100 - 240 VAC, 50/60 Hz, 15A max |

> **DUTY CYCLE RATINGS**

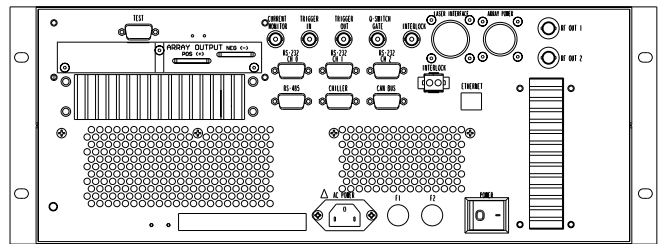
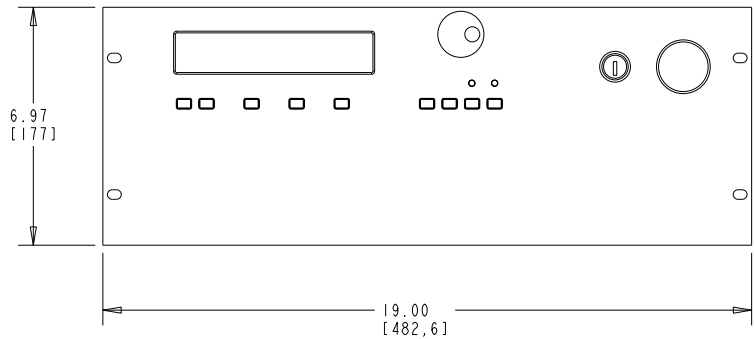
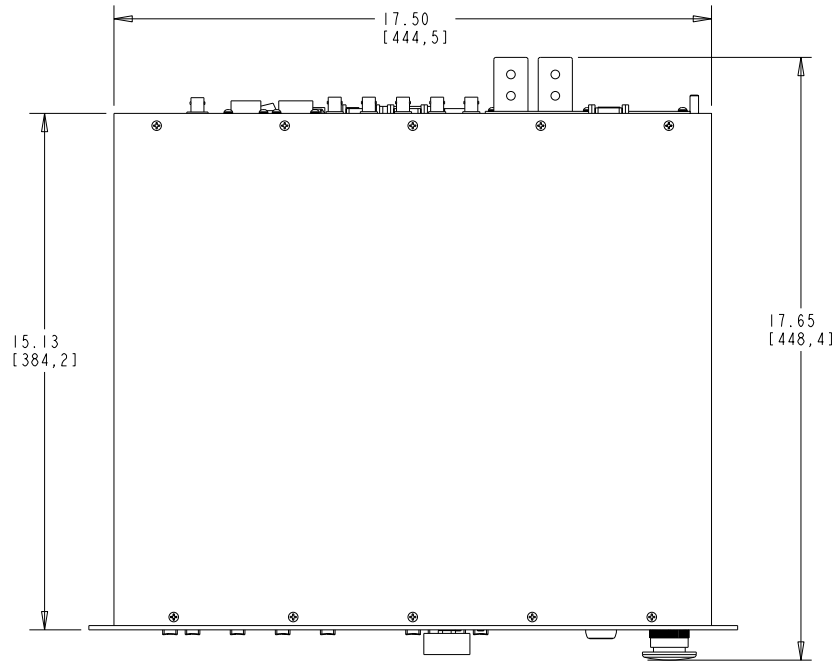
Air Cooled eDrive Duty Cycle vs. QCW Peak Current (A) Performance



Water Cooled eDrive Duty Cycle vs. QCW Peak Current (A) Performance



> MECHANICAL DRAWINGS



REAR VIEW

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