

LDQCW Quasi-CW Diode Laser Drivers



The LDQCW series is a new family of OEM diode laser pulsars designed for the emerging high power diode laser industry. Lumina Power LDQCW diode drivers can be configured for compliance voltage requirements up to 100V. Maximum efficiency is realized with circuitry that minimizes losses across the output pulsing circuit. Compact size is possible due to the low-loss Zero Voltage Switching inverter and incorporation of planar magnetics. Leakage current is less than 250uA, power factor is greater than 0.99 and conducted emissions meet stringent European regulations. No additional line filter is required to meet EN 55011 emission requirements.

ADVANTAGES

- <25uSec rise/fall times
- 200A pulsing capability
- Power factor correction
- Auxiliary +/-15V outputs
- Compliance voltage capability up to 100V
- Ideal for OEM applications
- ROHS Compliant

AVAILABLE POWER OUTPUTS ARE:

- LDQCW-50: 50Wavg
- LDQCW-250: 250Wavg
- LDQCW-600: 600Wavg
- Pulsed output current up to 200A

For more details, contact sales@newsourcetechnology.com.

LDQCW Quasi-CW Diode Laser Drivers

Model	$P_{out_{max}}$	$I_{out_{max}}$	Input Voltage	Size (L x W x H)
LDQCW-50-XX-YY-ZZ	50W	120A _{max}	90-264VAC	9.9" x 7.3" x 2.6" 25.2 x 18.6 x 6.6 cm
LDQCW-250-XX-YY-ZZ	250W	200A _{max}	90-264VAC	10.9" x 7.3" x 4.81" 27.2 x 18.5 x 12.2 cm
LDQCW-600-XX-YY-ZZ	600W	200A _{max}	90-264VAC	
XX = Maximum pulsed output current YY = Required compliance voltage (unit will drive a load between 75% and 100% of this voltage) ZZ = Maximum pulse width at maximum pulsed output current - specified by customer				
Note 1: Average power must not exceed $P_{out_{avg}}$ Note 2: Output current and voltage compliance can be configured for individual requirements Auxiliary Outputs: +/-15V @0.5A (Auxiliary output on LDQCW-50: +12V @50mA) Other configurations available upon request				

INPUT

Voltage: See table above
 Power Factor: >.98

OUTPUT

$P_{out_{avg}}$: See table above
 $I_{pulse_{max}}$: 200A_{peak}
 $I_{avg_{max}}$: 80A
 $V_{compliance_{max}}$: Configurable up to 100V

INTERFACE

Interface Connector: 15 Pin "D" Sub Female
 Pulse Enable: +5V TTL to +15V CMOS
 Current Program: 0-10V for 0- $I_{out_{max}}$
 Current Monitor: 0-10V for 0- $I_{out_{max}}$
 Voltage Monitor: 0-10V for 0- $V_{out_{max}}$

PERFORMANCE

Pulse Width Range: 50usec to 2msec
 Max Rep Rate: 10kHz
 Rise/Fall Time: <25uSec
 Current Regulation: 1.0% of Maximum output current
 Current Ripple: <0.5% of maximum output current
 Current Overshoot: <5% of maximum output current
 Power Limit: Limited to maximum average power with power fold-back circuit

ENVIRONMENT

Operating Temp: 0 to 40°C
 Storage: -20 to 85°C
 Humidity: to 90% non-condensing
 Cooling: Forced air

REGULATORY

Safety: Compliant with UL60950

MECHANICAL

Dimensions: See table above
 Input Power Connector: Phoenix DMKDS 2,5 Terminal Block
 Output Connector: Ampower Wavecrimp Connector #765608-1 (Strip Line system)

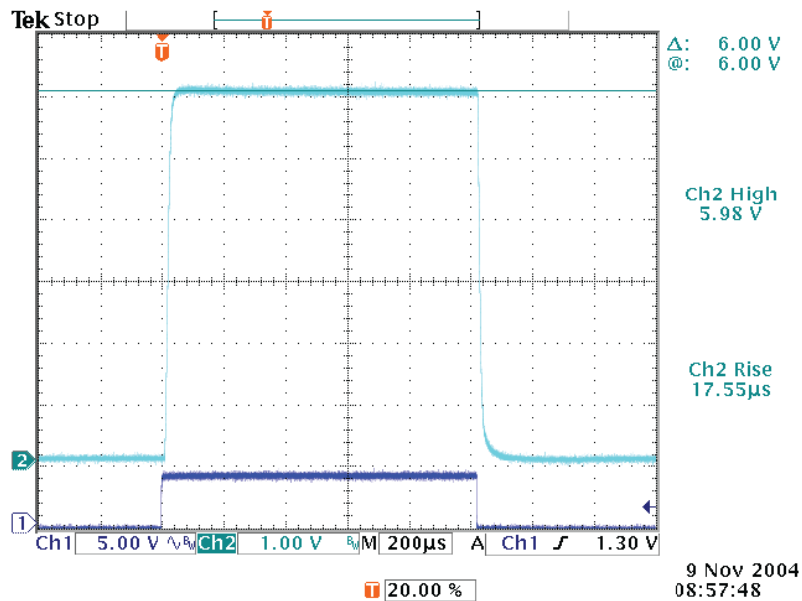
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LDQCW Interface

LQCW-250/600-XX-YY-ZZ INTERFACE	
Connector Type: 15 pin D-sub Female	
Pin	#Pin Name
1	Pulse Control
2,3,8	GND
4	Temp Fault
5	Iout Monitor
6	Iprogram (+)
7	Poor Load Match
11	+15V @0.25A
12	Ready Status
13	N/C
14	Enable
15	-15V @0.25A

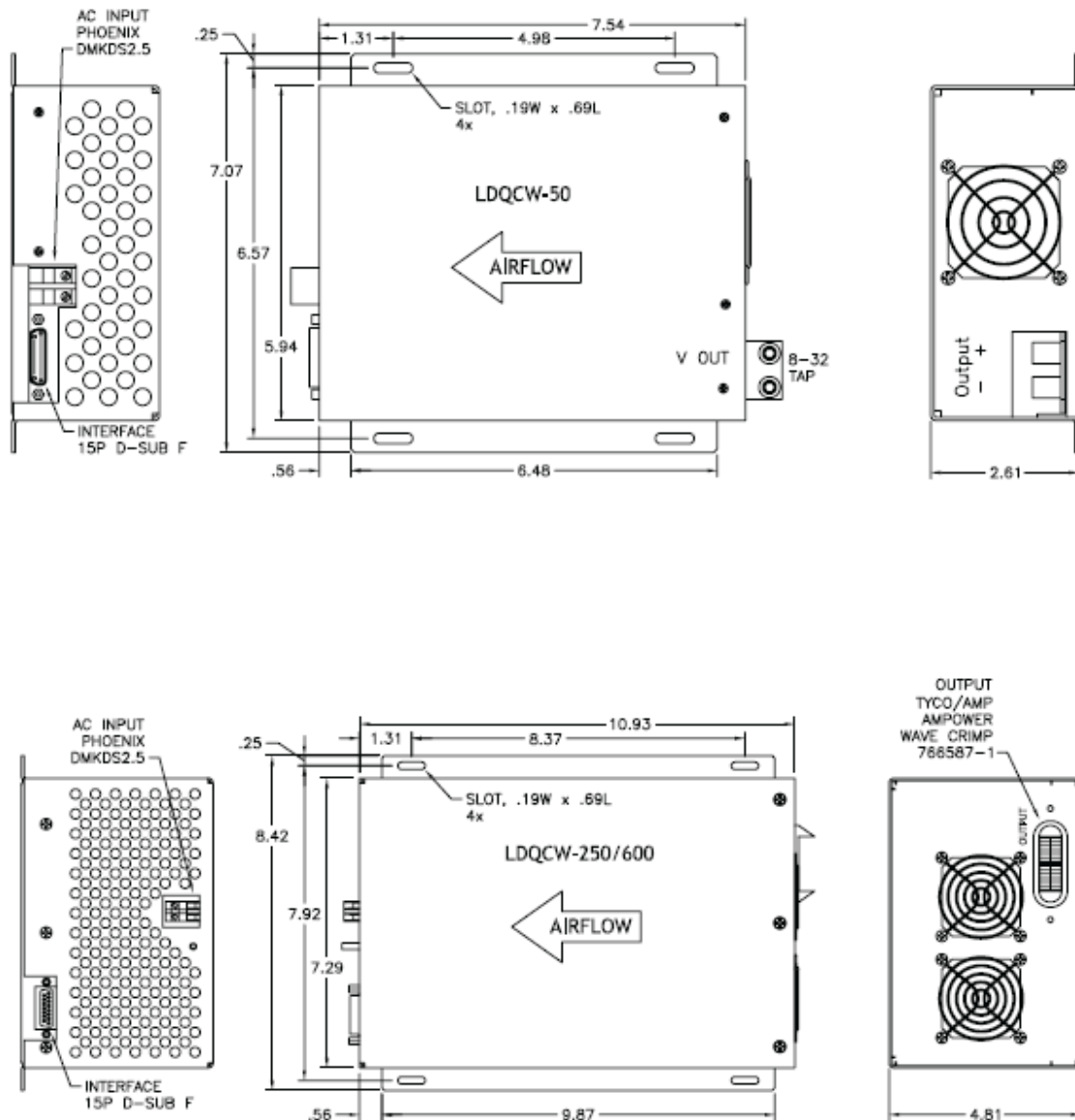
LDQCW-50-XX-YY-ZZ INTERFACE	
Connector Type: 15 pin D-sub Female	
Pin	#Pin Name
1	Enable
3	Interlock
4,9	GND
5	Vout Monitor:
6	Iout Monitor
7	Iprogram(+):
8	Pulse Control
10,11,12	N/C
13,14	+12V @50mA



TYPICAL PULSING CHARACTERISTICS
CH: 1 - PULSE CONTROL
CH: 2 - Iout 20A/DIV

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LDQCW Outline Drawings



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