Compact Ultra-Short LED Source C435

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The C435 is an ultra-short pulsed LED driver that can generate pulses from 2ns to 200ns (LED dependent) with a repetition rate of up to 3MHz.

Peak currents of 500mA (5V compliance) or 300mA (10V) compliance can be achieved. This device can be configured and controlled via SCPI over USB or RS485.

This driver can be customized with a variety of compatible LEDs with optimization for their performance.

Over-current and over-temperature protection are provided to prevent damage to the LED.

This driver can be LVTTL externally triggered and two options are available for the synchronized output pulse, LVTTL over SMA or LVDS via the multi-purpose connector.

A configurable delay is available for the synchronized output pulse from 0 to 1us in 100ns steps.

Collimating optics are integrated into the compact packaging allowing this instrument to be used for various spectroscopic and OEM applications.

Specification

Features	Software-configurable LED modulation (performance dependent on LED)
Supported wavelengths and applications	-255nm (sterilization, forensics, inspecting semiconductor wafers, photoluminescence and absorption) -330nm (fluorescence, phototherapy, material curing, pest control) -375nm (fluorescence, biomedical studies) -385nm (curing, fluorescence, photolithography, counterfeit detection, bioanalysis) -405nm (Raman, biomedical, optogenics, Blu-ray, 3D printing) -465nm (excited dies in biomedical imaging, phototherapy (neonatal jaundice and acne), Li-Fi, stimulated photosynthesis, photocatalysis) * other wavelength on request
Pulse width	2ns to 200ns
Pulse width resolution	1ps (100ps to 5ns), 318ps (5ns to 200ns)
Pulse repetition	up to 3MHz
Safety features	Overtemperature and overcurrent safety LED shutdown
Internal trigger	Internal trigger
External trigger	LVTTL for pulses up to 200ns.
Peak LED current	500mA (up to 5V compliance) or 300mA(up to 10V compliance)
Power supply	5V and 15V
Communication interface	SCPI (Standard Commands for Programmable Instruments) over USB and RS485 for configuration
Control	GUI available for USB configuration. Configuration parameters include: - Current amplitude (0.65mA to 300mA) - Pulse width (2ns to 200ns) - Pulse repetition frequency - Synchronized pulse delay
Synchronization output	LVTTL and LVDS outputs available with programmable delay of 450ps - 950ps (1ps resolution) for Time-of-flight applications and an additional 0 to 1us delay feature in 100ns steps for fluorescence spectroscopy.

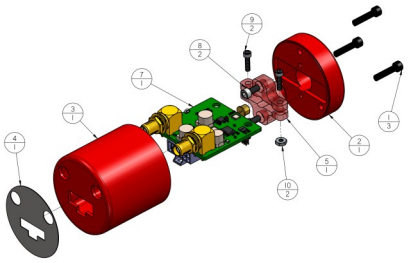
LED types	Examples
TO Can Unmounted LEDs Ball lens Pigtailed	THORLABS, Marktech Optoelectronics, Crystal IS, LUMEX

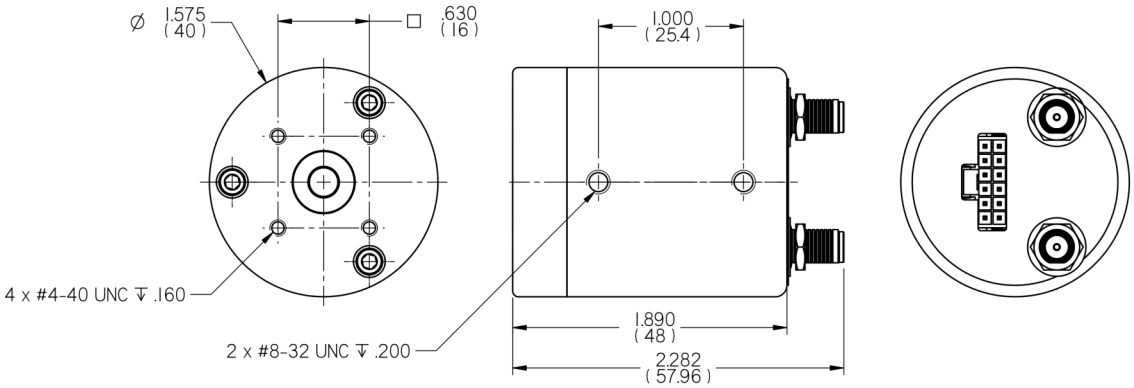
*RedWave Labs Ltd keeps improving its products and therefore some specifications can vary.

Mechanical Information

Compact Ultra-short Diode Laser C435, housing type 1

Item Number	Description	Quantity
1	4-40 x 0p5 in SHCS	3
2	C430 Pulse Driver Port - Top	1
3	C430 Pulse Driver Port - Bottom	1
4	C430 Label R1	1
5	C430 TO 46 Can holder R1	1
7	C430 R1 07022023	1
8	4-40 0p25 in SHCS	2
9	2-56 x 0p313 in SHCS	2
10	2-56 Nut	2





Compact Ultra-short Diode Laser C435, housing type 2

Item Number	Description	Quantity
1	4-40 x 0p5 in SHCS	4
2	C430 Pulse Driver Port - Rectangular - Top R1	1
3	C430 Pulse Driver Port - Rectangular - Bottom R1	1
4	C430 Pulse Driver Port - Rectangular - Label R1	1
5	TO 46 Can holder R1	1
7	C430 R1 07022023	1
8	4-40 0p25 in SHCS	2
9	2-56 x 0p313 in SHCS	2
10	2-56 Nut	2