

Front Panel



Rear Panel



Precision Pulse Control

The PCX-6425 is an air-cooled, high-power current source designed to drive laser diodes, bars, and arrays. The output current can be set from 1 A to 150 A. The load voltage for the PCX-6425 is 0 V to 120 V. The pulse width is adjustable from 100 μ s to 5 ms with a pulse repetition rate from single shot to 100 Hz.

System Operation

The PCX-6425 output current and output voltage is set with the encoder on the front of the system. The display allows the user to view all settings on the home screen. These settings are the current output, voltage output, current trip point, and voltage trip point. The pulse width and frequency is controlled with the trigger input at the front panel BNC Gate connection.

The PCX-6425 system also has the ability to set the current trip point and the voltage trip point.

The user should ensure the instrument is never operated outside of the SOA curves which are at the end of this datasheet.

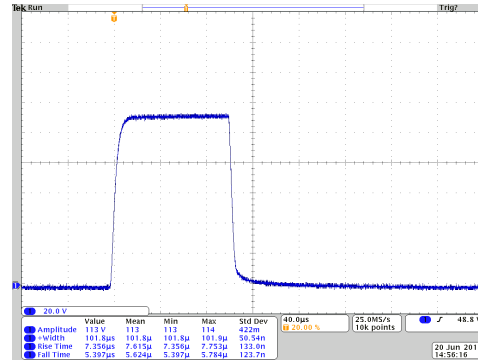
Complete System Integration

For automated applications, complete control of the instrument is provided through a Serial interface or a USB interface. The connections are on the rear of the instrument.

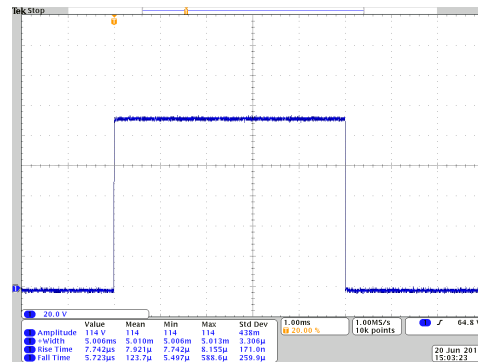
Ordering Information

PCX-6425 includes system and one output cable.

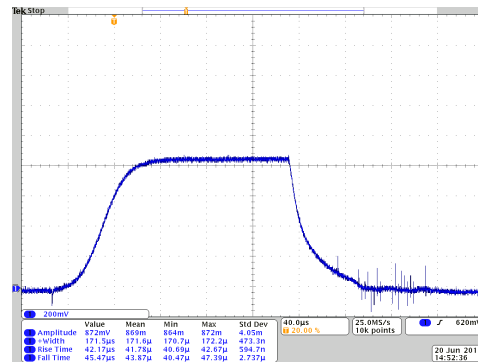
The below waveforms were taken using a PCX-6425 connected to a 0.7556 Ω load.



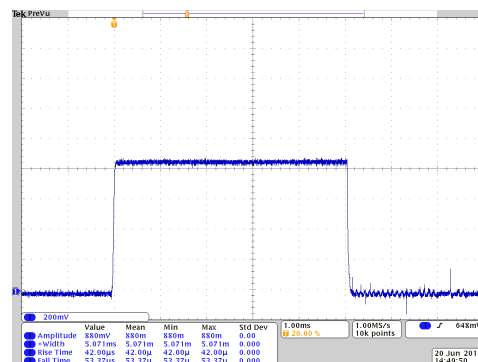
PCX-6425, Current 150 A, Pulse Width 100 μ s, 1 Hz



PCX-6425, Current 150 A, Pulse Width 5 ms, Single Shot



PCX-6425, Current 1 A, Pulse Width 100 μ s, 1 Hz



PCX-6425, Current 1 A, Pulse Width 5 ms, 1 Hz

For sales information or technical questions contact your local IXYS representative or IXYS Colorado directly at:

Sales: **970.493.1901** or sales@ixyscolorado.com
 Technical Support: techsupport@ixyscolorado.com

Pulse Amplitude

Output Current Range	1 A to 150 A
Setpoint Resolution	0.1 A
Setpoint Accuracy	± 1 % or 1 A whichever is greater
Current Overshoot	< 1.0 % (Typical)
Current Rise/Fall Time	≤ 25 μs

Polarity	Positive
Load Voltage	0 – 120 V
Setpoint Resolution	1 V

Maximum Output Power See SOA graphs¹

Trigger

Frequency Range	Single-shot to 100 Hz
Input Voltage Levels	0 V: output OFF 5 V: output ON
Trigger pulse width	100 μs to 5 ms
Termination Impedance	50 Ω
Gate Connector	BNC connector on front panel

Monitors

Current monitor	20 mV / A 150 A output current = 3.0 V (typical)
Current monitor termination	50 Ω
Current monitor connector	BNC connector on the front panel
Voltage monitor	50 mV / V 120 V output = 6.0 V (typical)
Voltage monitor termination	50 Ω
Voltage monitor connector	BNC connector on front panel

Output Connector

Output Connector	1 x Amp 1-770974-0
	Pins 1 through 8 = Out – (Top pins)
	Pins 9 through 16 = Out + (Bottom pins)

Power Specifications

Voltage requirements	100 V AC to 240 V AC
Line frequency	50 Hz to 60 Hz

Power requirements PCX-6425 is 500 W

Connector Type IEC 320-C14

General

Size (HxWxD)	10.2 cm x 43.2 cm x 41.2 cm
Weight	7.3 kg
Operating Temperature	15 °C to 35 °C
Cooling	Air cooled (Air flow from left to right when facing the front panel)

Notes

¹Operation of instrument outside of the listed load voltage and maximum power limits can cause permanent damage to the instrument and/or load. Please see the SOA graphs in the manual for more information.

Warranty: One year parts and labor on defects in materials and workmanship.

The PCX-6425 current source meets or exceeds these specifications.

All specifications are measured using the standard included output cable and a HPL-2400 (low-inductance, high-power resistive load). Load not included.

Specifications subject to change without notice.

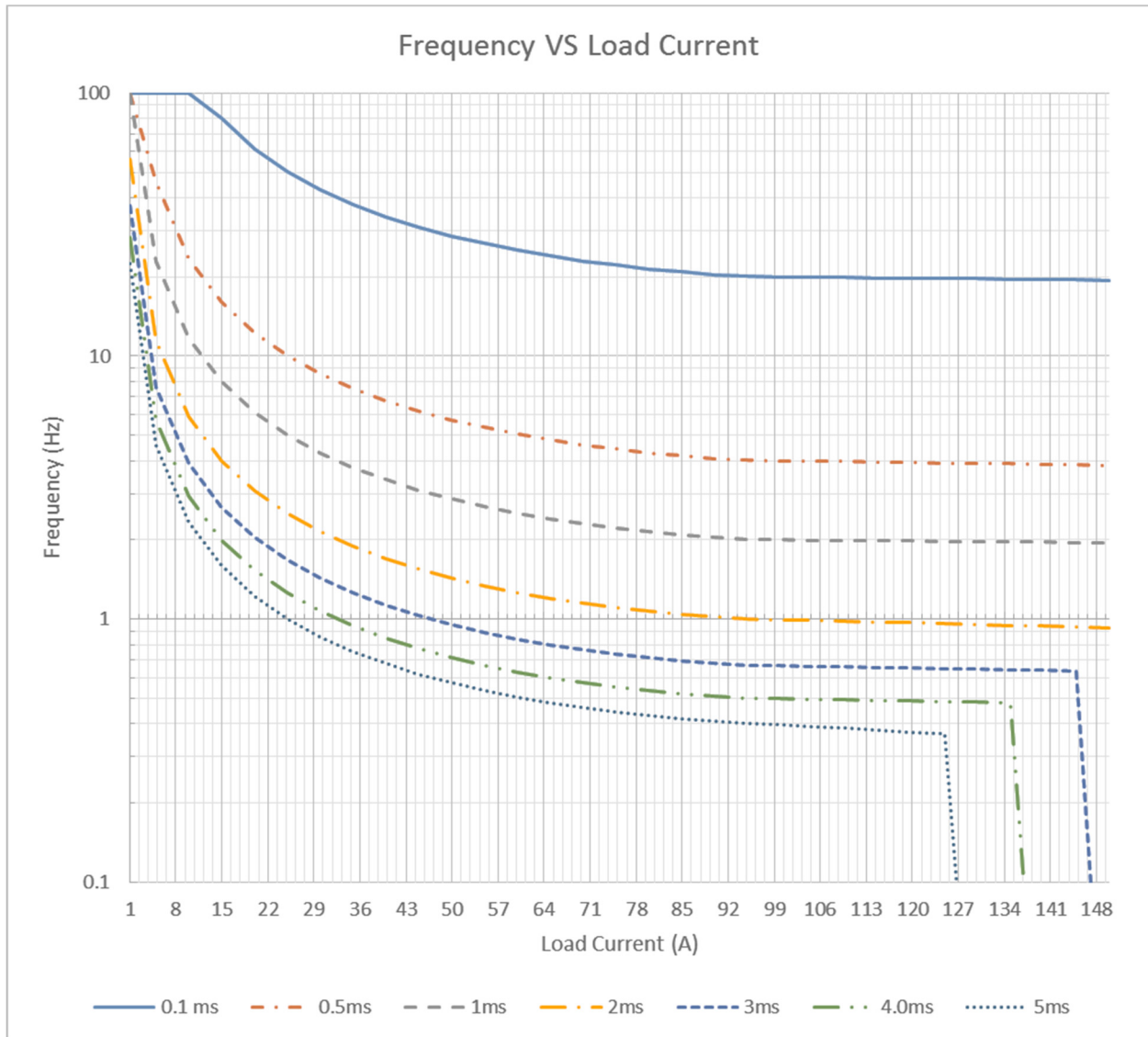
Document 7675-0018 Rev A01

Safe Operating Area Graphs

IMPORTANT: Do not operate the instrument outside of the Safe Operating Area!

Although the PCX-6425's external triggering system allows it to operate outside the Safe Operating Area, such operation will result in permanent damage to the PCX-6425, the laser diode, or both.

The Safe Operating Area is below the line of each graph. Only operate the instrument in this Safe Operating Area.



PCX-6425 SOA Graph, Frequency VS Load Current