

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM S-3
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Flux Power Holdings, Inc.

(Exact name of registrant as specified in its charter)

Nevada
(State or jurisdiction of
incorporation or organization)

3690
(Primary Standard Industrial
Classification Code Number)

92-3550089
(I.R.S. Employer
Identification No.)

2685 S. Melrose Drive
Vista, CA 92081
(877) 505-3589
(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

Ronald F. Dutt
Chief Executive Officer
Flux Power Holdings, Inc.
2685 S. Melrose Drive,
Vista, CA 92081
(877) 505-3589
(Name, address, including zip code, and telephone number,
Including area code, of agent for service)

Copies to:

John P. Yung, Esq.
Daniel B. Eng, Esq.
Lewis Brisbois Bisgaard & Smith LLP
333 Bush Street, Suite 1100
San Francisco, CA 94104
(415) 362-2580

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.



EXPLANATORY NOTE

Pursuant to Rule 415(a)(5) under the Securities Act of 1933 (the “Securities Act”), Flux Power Holdings, Inc. (the “Company”) intends to continue to offer and sell securities under the Company’s registration statement on Form S-3 (File No. 333-249521) originally filed on October 16, 2020 and declared effective on October 26, 2020 (the “Prior Registration Statement”), until the earlier of (i) the date on which the registration statement of which this prospectus forms a part (this “Registration Statement”) is declared effective by the Securities and Exchange Commission, and (ii) April 23, 2024, which is 180 days after the third-year anniversary of the effective date of the Prior Registration Statement (the “Expiration Date”). Until the Expiration Date, the Company may continue to use the Prior Registration Statement and related prospectus supplements for its offerings thereunder. In particular, the Company may continue to offer and sell under the Prior Registration Statement its shares of common stock in its at-the-market offering through H.C. Wainwright & Co., LLC as sales agent, which offering shall remain registered under the Prior Registration Statement using a prospectus supplement filed on December 21, 2020, and as amended on May 27, 2021 until the Expiration Date. The Prior Registration Statement covering the offer and sale of securities by the Company and all offers and sales thereunder by the Company will be deemed terminated on the Expiration Date, except to the extent covered by this Registration Statement. The Prior Registration Statement for resale by the named selling shareholders thereunder will not be effected by the Expiration Date.

Pursuant to Rule 415(a)(6) under the Securities Act, this Registration Statement includes unsold securities under the Prior Registration Statement, in addition to new securities being registered on this Registration Statement. Pursuant to Rule 415(a)(6), on or before the Expiration Date, the Company may file a pre-effective amendment to this Registration Statement to update the amount of unsold securities previously registered by the Prior Registration Statement being registered hereby, and continue to offer and sell such unsold securities under this Registration Statement, including without limitation by continuing to conduct the at-the-market offering referenced above. If applicable, such pre-effective amendment shall identify such unsold securities to be included in this Registration Statement, and the amount of any new securities to be registered on this Registration Statement.

The information in this prospectus is not complete and may be changed. The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission of which this prospectus is a part becomes effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, Dated September 25, 2023

PROSPECTUS

Flux Power Holdings, Inc.
\$100,000,000
Common Stock
Preferred Stock
Warrants
Debt Securities
Units



From time to time, we may offer up to \$100,000,000 of our common stock, preferred stock, warrants to purchase common stock or preferred stock, debt securities and units consisting of common stock, preferred stock, warrants, or debt securities or any combination of these securities, in one or more transactions.

Each time we sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the terms of the securities. The supplement may also add, update or change information contained in this prospectus. We may also authorize one or more free writing prospectuses to be provided in connection with a specific offering. You should read this prospectus, any prospectus supplement and any free writing prospectus carefully before you invest in any of our securities being offered.

We may sell the securities independently or together with any other securities registered hereunder to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods, on a continuous or delayed basis. See “Plan of Distribution.” If any underwriters, dealers or agents are involved in the sale of any of the securities, their names, and any applicable purchase price, fee, commission or discount arrangements between or among them, will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement.

Our common stock is listed on The NASDAQ Capital Market under the symbol “FLUX.” On September 22, 2023, the last reported sales price of our common stock was \$4.08 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, of the securities covered by the applicable prospectus supplement. As of July 31, 2023, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$67,438,082 based on 16,478,237 shares of outstanding common stock, of which 4,499,892 shares are held by affiliates, and a price of \$5.63 per share, which was the last reported sale price of our common stock as quoted on The NASDAQ Capital Market on such date.

INVESTING IN OUR SECURITIES INVOLVES RISKS. YOU SHOULD REVIEW CAREFULLY THE RISKS AND UNCERTAINTIES DESCRIBED UNDER THE HEADING “RISK FACTORS” CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT AND ANY RELATED FREE WRITING PROSPECTUS, AND UNDER SIMILAR HEADINGS IN THE OTHER DOCUMENTS THAT ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is _____, 2023.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. The forward-looking statements are contained principally in the sections entitled “Prospectus Summary,” “Risk Factors,” and “Description of Business” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” which are incorporated by reference. These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. These risks and uncertainties include, but are not limited to, the factors described in the section captioned “Risk Factors” below. In some cases, you can identify forward-looking statements by terms such as “anticipates,” “believes,” “could,” “estimates,” “expects,” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “would,” and similar expressions intended to identify forward-looking statements. Forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. You should read these factors and the other cautionary statements made in this prospectus and in the documents which we incorporate by reference into this prospectus as being applicable to all related forward-looking statements wherever they appear in this prospectus or the documents we incorporate by reference into this prospectus. If one or more of these factors materialize, or if any underlying assumptions prove incorrect, our actual results, performance or achievements may vary materially from any future results, performance or achievements expressed or implied by these forward-looking statements.

Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements include, among other things, statements relating to:

- our ability to secure sufficient funding to support our current and proposed operations;
- our ability to manage our working capital requirements efficiently;
- our ability to obtain the necessary funds from our credit facilities;
- our ability to obtain raw materials and other supplies for our products at existing or competitive prices and on a timely basis;
- our anticipated growth strategies and our ability to manage the expansion of our business operations effectively;
- our ability to maintain or increase our market share in the competitive markets in which we do business;
- our ability to grow our revenue, increase our gross profit margin and become a profitable business;
- our ability to fulfill our backlog of open sales orders due to delays in the receipt of key component parts and other potential manufacturing disruptions;
- our ability to keep up with rapidly changing technologies and evolving industry standards, including our ability to achieve technological advances;
- our dependence on the growth in demand for our products;
- our ability to compete with larger companies with far greater resources than us;
- our ability to shift to new suppliers and incorporate new components into our products in a manner that is not disruptive to our business;
- our ability to obtain and maintain UL Listings and OEM approvals for our energy storage solutions;
- our ability to diversify our product offerings and capture new market opportunities;
- our ability to source our needs for skilled labor, machinery, parts, and raw materials economically;
- our ability to retain key members of our senior management;
- our dependence on our major customers.

Also, forward-looking statements represent our estimates and assumptions only as of the date of this prospectus. You should read this prospectus and the documents that we reference and file as exhibits to this prospectus completely and with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we assume no obligation to update any forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, even if new information becomes available in the future.

ABOUT THIS PROSPECTUS

This document is called a prospectus and is part of a registration statement that we have filed with the Securities and Exchange Commission (“SEC”), using a “shelf” registration process. Under this shelf registration process, we may, from time to time, offer shares of our common stock, preferred stock, warrants to purchase common stock or preferred stock, debt securities and units either individually or a combination thereof, in one or more offerings, in amounts we will determine from time to time, up to a total dollar amount of \$100,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain certain specific information about the terms of that offering, including a description of any risks related to the offering, if those terms and risks are not described in this prospectus. A prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the information in the prospectus supplement. The registration statement we filed with the Securities and Exchange Commission includes exhibits that provide more details on the matters discussed in this prospectus. You should read this prospectus and the related exhibits filed with the Securities and Exchange Commission and the accompanying prospectus supplement together with additional information described under the headings “Where You Can Find Additional Information,” before buying any of the securities being offered.

We may sell securities to or through underwriters or dealers, and also may sell securities directly to other purchasers or through agents. To the extent not described in this prospectus, the names of any underwriters, dealers or agents employed by us in the sale of the securities covered by this prospectus, the principal amounts or number of shares or other securities, if any, to be purchased by such underwriters or dealers and the compensation, if any, of such underwriters, dealers or agents will be set forth in the accompanying prospectus supplement.

The information in this prospectus is accurate as of the date on the front cover. Information incorporated by reference into this prospectus is accurate as of the date of the document from which the information is incorporated. You should not assume that the information contained in this prospectus is accurate as of any other date.

You should rely only on the information provided or incorporated by reference in this prospectus. We have not authorized anyone to provide you with additional or different information. This document may only be used where it is legal to sell these securities. You should not assume that any information in this prospectus is accurate as of any date other than the date of this prospectus.

You should rely only on the information we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus. We have not authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus.

In this prospectus, unless the context otherwise requires, references to “we,” “us,” “our” or similar terms, as well as references to “Flux,” “Flux Power” or the “Company,” refers to Flux Power Holdings, Inc., a Nevada corporation, and its consolidated subsidiary.

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ABOUT FLUX POWER HOLDINGS, INC.

We design, develop, manufacture, and sell a portfolio of advanced lithium-ion energy storage solutions for electrification of a range of industrial commercial sectors which include material handling, airport ground support equipment (“GSE”), and other commercial and industrial applications. We believe our mobile and stationary energy storage solutions provide our customers a reliable, high performing, cost effective, and more environmentally friendly alternative as compared to traditional lead acid and propane-based solutions.

Our modular and scalable design allows different configurations of lithium-ion battery packs to be paired with our proprietary wireless battery management system to provide the level of energy storage required and “state of the art” real time monitoring of pack performance. We believe that the increasing demand for lithium-ion battery packs and more environmentally friendly energy storage solutions in the material handling sector should continue to drive our revenue growth.

We operate our business through our wholly-owned subsidiary, Flux Power, Inc. (Flux Power). Our principal executive office is located at 2685 S. Melrose Drive, Vista, CA 92081. The telephone number at our principal executive office is (760) 741-3589 (FLUX).

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INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is an important part of this prospectus, and certain information that we will later file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below, as well as any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act from the date of the initial registration statement and prior to the effectiveness of this registration statement, and any filings made after the date of this prospectus until we sell all of the securities under this prospectus, except that we do not incorporate any document or portion of a document that was furnished and deemed by the rules of the SEC not to have been filed:

- Our Annual Report on Form 10-K for the fiscal year ended June 30, 2023, filed with the SEC on September 21, 2023 (“Form 10-K”); and
- the description of Registrant’s Common Stock contained in the Description of Securities filed as Exhibit 4(vi) to the Registrant’s Form 10-K.

Additionally, all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the effective date of this prospectus and prior to the termination or completion of this offering, shall be deemed to be incorporated by reference in this prospectus and to be part hereof from the date of filing of such reports and other documents. Any information that we subsequently file with the SEC that is incorporated by reference as described above will automatically update and supersede any previous information that is part of this prospectus.

We hereby undertake to provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request of any such person, a copy of any and all of the information that has been or may be incorporated by reference in this prospectus, other than exhibits to such documents. Requests for such copies should be directed to our Secretary at 2685 S. Melrose Drive, Vista CA, 92081; Telephone (877) 505-3589.

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RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks and uncertainties described in this prospectus and any accompanying prospectus supplement, including the risk factors set forth in our filings we make with the SEC from time to time, that are incorporated by reference herein, including the risk factors set forth in our Annual Report on Form 10-K for the year ended June 30, 2023 before making an investment decision pursuant to this prospectus and any accompanying prospectus supplement relating to a specific offering.

Our business, financial condition and results of operations could be materially and adversely affected by any or all of these risks or by additional risks and uncertainties not presently known to us or that we currently deem immaterial that may adversely affect us in the future.

USE OF PROCEEDS

Unless we specify otherwise in an accompanying prospectus supplement, we intend to use the net proceeds from the issuance or sale of our securities for working capital and for general corporate purposes. Any specific allocation of the net proceeds of an offering of securities to a specific purpose will be determined at the time of such offering and will be described in the accompanying prospectus supplement to this prospectus. We will retain broad discretion over the use of the net proceeds from the issuance or sale of our securities.

PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus from time to time in one or more transactions, including, without limitation:

- Through agents;
- To or through underwriters;
- Through broker-dealers (acting as agent or principal);
- Directly by us to purchasers (including our affiliates and shareholders), through a specific bidding or auction process, a rights offering, or other method;
- Through a combination of any such methods of sale; or
- Through any other methods described in a prospectus supplement.

The distribution of securities may be effected, from time to time, in one or more transactions, including:

- Block transactions (which may involve crosses) and transactions on The NASDAQ Capital Market or any other organized market where the securities may be traded;
- Purchases by a broker-dealer as principal and resale by the broker-dealer for its own account pursuant to a prospectus supplement;
- Ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- Sales “at the market” to or through a market maker or into an existing trading market, on an exchange or otherwise; and
- Sales in other ways not involving market makers or established trading markets, including direct sales to purchasers.

The securities may be sold at a fixed price or prices, which may be changed, or at market prices prevailing at the time of sale, at prices relating to the prevailing market prices or at negotiated prices. The consideration may be cash, extinguishment of debt or another form negotiated by the parties. Agents, underwriters or broker-dealers may be paid compensation for offering and selling the securities. That compensation may be in the form of discounts, concessions or commissions to be received from us or from the purchasers of the securities. Dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and compensation received by them on resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. If such dealers or agents were deemed to be underwriters, they may be subject to statutory liabilities under the Securities Act.

We may also make direct sales through subscription rights distributed to our existing shareholders on a pro rata basis, which may or may not be transferable. In any distribution of subscription rights to our shareholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

Some or all of the securities that we offer through this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell our securities for public offering and sale may make a market in those securities, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities that we offer.

Agents may, from time to time, solicit offers to purchase the securities. If required, we will name in the applicable prospectus supplement, document incorporated by reference or free writing prospectus, as applicable, any agent involved in the offer or sale of the securities and set forth any compensation payable to the agent. Unless otherwise indicated, any agent will be acting on a best efforts basis for the period of its appointment. Any agent selling the securities covered by this prospectus may be deemed to be an underwriter of the securities.

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If underwriters are used in an offering, securities will be acquired by the underwriters for their own account and may be resold, from time to time, in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale, or under delayed delivery contracts or other contractual commitments. Securities may be offered to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. If an underwriter or underwriters are used in the sale of securities, an underwriting agreement will be executed with the underwriter or underwriters at the time an agreement for the sale is reached. The applicable prospectus supplement will set forth the managing underwriter or underwriters, as well as any other underwriter or underwriters, with respect to a particular underwritten offering of securities, and will set forth the terms of the transactions, including compensation of the underwriters and dealers and the public offering price, if applicable. This prospectus, the applicable prospectus supplement and any applicable free writing prospectus will be used by the underwriters to resell the securities.

If a dealer is used in the sale of the securities, we, or an underwriter, will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. To the extent required, we will set forth in the prospectus supplement, document incorporated by reference or free writing prospectus, as applicable, the name of the dealer and the terms of the transactions.

We may directly solicit offers to purchase the securities and may make sales of securities directly to institutional investors or others. These persons may be deemed to be underwriters with respect to any resale of the securities. To the extent required, the prospectus supplement, document incorporated by reference or free writing prospectus, as applicable, will describe the terms of any such sales, including the terms of any bidding or auction process, if used.

Agents, underwriters and dealers may be entitled under agreements which may be entered into with us to indemnification by us against specified liabilities, including liabilities incurred under the Securities Act, or to contribution by us to payments they may be required to make in respect of such liabilities. If required, the prospectus supplement, document incorporated by reference or free writing prospectus, as applicable, will describe the terms and conditions of such indemnification or contribution. Some of the agents, underwriters or dealers, or their affiliates may be customers of, engage in transactions with or perform services for us or our subsidiaries or affiliates in the ordinary course of business.

Under the securities laws of some states, the securities offered by this prospectus may be sold in those states only through registered or licensed brokers or dealers.

Any person participating in the distribution of securities registered under the registration statement that includes this prospectus will be subject to applicable provisions of the Exchange Act, and the applicable SEC rules and regulations, including, among others, Regulation M, which may limit the timing of purchases and sales of any of our securities by any such person. Furthermore, Regulation M may restrict the ability of any person engaged in the distribution of our securities to engage in market-making activities with respect to our securities.

These restrictions may affect the marketability of our securities and the ability of any person or entity to engage in market-making activities with respect to our securities.

Certain persons participating in an offering may engage in over-allotment, stabilizing transactions, short-covering transactions and penalty bids in accordance with Regulation M under the Exchange Act that stabilize, maintain or otherwise affect the price of the offered securities. If any such activities will occur, they will be described in the applicable prospectus supplement.

If more than ten percent (10%) of the net proceeds of any offering of securities made under this prospectus will be received by Financial Industry Regulatory Authority (“FINRA”) members participating in the offering or affiliates or associated persons of such FINRA members, the offering will be conducted in accordance with FINRA Conduct Rule 5110(h).

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution.

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MARKET INFORMATION

Our common stock is traded on The NASDAQ Capital Market under the stock symbol “FLUX.”

Holders of Common Stock

As of September 18, 2023, we had approximately 1,367 record holders of our common stock, based on information provided by our transfer agent. The foregoing number of record holders does not include an unknown number of stockholders who hold their stock in "street name."

Dividend Policy

We have never declared or paid any cash dividends. We presently do not expect to declare or pay such dividends in the foreseeable future and expect to reinvest all undistributed earnings to expand our operations, which the management believes would be of the most benefit to our stockholders. The declaration of dividends, if any, will be subject to the discretion of our Board of Directors, which may consider such factors as our results of operations, financial condition, capital needs and acquisition strategy, among others. Therefore, there can be no assurance that any dividends on our common stock will ever be paid.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our amended and restated articles of incorporation (Articles of Incorporation) and Amended and Restated Bylaws (Bylaws) are summaries, are not intended to be complete and are qualified in their entirety by reference such Articles of Incorporation and Bylaws, copies of which have been filed as exhibits to our registration statement, of which this prospectus forms a part.

Common Stock

We are authorized to issue up to 30,000,000 shares of common stock, par value \$0.001 per share. Each outstanding share of common stock entitles the holder thereof to one vote per share on all matters. As of September 18, 2023, there were 16,478,237 shares of common stock issued and outstanding.

The holders of shares of our common stock are entitled to dividends out of funds legally available when and as declared by our Board of Directors. In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to receive, ratably, the net assets available to stockholders after payment of all creditors.

To the extent that additional shares of our common stock are issued, the relative interests of existing stockholders will be diluted.

Voting Rights

Our common stock is entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and does not have cumulative voting rights.

Economic Rights

Except as otherwise expressly provided in our Articles of Incorporation or required by applicable law, all shares of common stock will have the same rights and privileges and rank equally, share ratably, and be identical in all respects for all matters, including those described below.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, the holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by our Board of Directors out of legally available funds.

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Liquidation Rights

In the event of our liquidation, dissolution or winding-up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

No Preemptive or Similar Rights

The holders of our shares of common stock are not entitled to preemptive rights, and are not subject to conversion, redemption or sinking fund provisions. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Removal of Directors by Stockholders

Our Bylaws provide that subject to any limitations in our Articles of Incorporation, directors may be removed by a vote not less than two-thirds of the voting power of the issued and outstanding stock entitled to vote thereon, at a special meeting of the stockholders called for that purpose.

Preferred Stock

We may issue up to 500,000 shares of preferred stock, par value \$0.001 per share in one or more classes or series within a class pursuant to our Articles of Incorporation. There are no shares of preferred stock issued and outstanding. Preferred stock may be issued from time to time by the Board of Directors as shares of one or more classes or series. One of the effects of undesignated preferred stock may be to enable the Board of Directors to render more difficult or to discourage an attempt to obtain control of us by means of a tender offer, proxy contest, merger or otherwise, and thereby to protect the continuity of our management. The issuance of shares of preferred stock pursuant to the Board of Directors' authority described above may adversely affect the rights of holders of common stock. For example, preferred stock issued by us may rank prior to the common stock as to dividend rights, liquidation preference or both, may have full or limited voting rights and may be convertible into shares of common stock. Accordingly, the issuance of shares of preferred stock may discourage bids for the common stock at a premium or may otherwise adversely affect the market price of the common stock.

Nevada Laws

Sections 78.378 to 78.3793 of the Nevada Revised Statutes (NRS) (Acquisition of Controlling Interest) provide generally that any person or entity that acquires at least one-fifth of all the voting power in the election of directors of a Nevada corporation, which has 200 or more stockholders of record and does business in the State of Nevada, may be denied voting rights with respect to the acquired shares, unless a majority of the disinterested stockholders of the corporation elects to restore such voting rights in whole or in part.

Section 78.3785 of the NRS provides that a person or entity acquires "control shares" whenever it acquires shares that, but for the operation of the control share acquisition act, would bring its voting power within any of the following three ranges:

- One-fifth or more but less than one-third;
- One-third or more but less than a majority; or
- A majority or more.

A “control share acquisition” is generally defined as the direct or indirect acquisition of either ownership or voting power associated with issued and outstanding control shares. The stockholders or board of directors of a corporation may elect to exempt the stock of the corporation from the provisions of the control share acquisition act through adoption of a provision to that effect in the articles of incorporation or bylaws of the corporation.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Issuer Direct Corporation, 1981 Murray Holladay Rd Suite 100, Salt Lake City, Utah 84117.

Exchange Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol “FLUX.”

Description of Warrants

The following is a general description of the terms of the warrants we may issue from time to time. Particular terms of any warrants we offer will be described in the prospectus supplement relating to such warrants, as well as any warrant agreement that contains the terms of the warrants. We urge you to read the applicable prospectus supplements related to the warrants that we may sell under this prospectus, as well as the complete warrant agreements that will contain the terms of any warrants.

We may issue warrants to purchase shares of our common stock or preferred stock. Such warrants may be issued in one or more series, independently or together with shares of common stock or preferred stock or other equity or debt securities and may be attached or separate from such securities. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We may issue warrants directly or under a separate warrant agreement to be entered into between us and a warrant agent. We will name any warrant agent in the applicable prospectus supplement. Any warrant agent will act solely as our agent in connection with the warrants of a particular series and will not assume any obligation or relationship of agency or trust for or with holders or beneficial owners of warrants.

The applicable prospectus supplement and the applicable warrant agreement will describe the particular terms of any series of warrants we may issue, including the following:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the date on which the right to exercise such warrants shall commence and the date on which such right will expire;
- whether such warrants will be issued in registered form or bearer form;
- if applicable, the minimum or maximum amount of such warrants which may be exercised at any one time;
- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- information with respect to book-entry procedures, if any;
- the terms of the securities issuable upon exercise of the warrants;
- the anti-dilution provisions of the warrants, if any;
- any redemption or call provisions;
- if applicable, a discussion of certain federal United States income tax considerations; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange and exercise of such warrants.

We and the warrant agent, if any, may amend or supplement the warrant agreement for a series of warrants without the consent of the holders of the warrants issued thereunder to effect changes that are not inconsistent with the provisions of the warrants and that do not materially and adversely affect the interests of the holders of the warrants.

Prior to exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including the right to receive distributions or dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise any voting rights.

Description of Debt Securities

General

We may issue debt securities which may or may not be converted into ordinary shares or preferred shares. We may issue the debt securities independently or together with any underlying securities, and warrants may be attached or separate from the underlying securities. In connection with the issuance of any debt securities, we do not intend to issue them pursuant to a trust indenture upon reliance of Section 304(a)(8) of the Trust Indenture Act and Rule 4a-1 promulgated thereunder.

The following description is a summary of selected provisions relating to the debt securities that we may issue. The summary is not complete. When debt securities are offered in the future, a prospectus supplement, information incorporated by reference or a free writing prospectus, as applicable, will explain the particular terms of those securities and the extent to which these general provisions may apply. The specific terms of the debt securities as described in a prospectus supplement, information incorporated by reference, or free writing prospectus will supplement and, if applicable, may modify or replace the general terms described in this section.

This summary and any description of debt securities in the applicable prospectus supplement, information incorporated by reference or free writing prospectus is subject to and is qualified in its entirety by reference to all the provisions of any specific debt securities document or agreement. We will file each of these documents, as applicable, with the SEC and incorporate them by reference as an exhibit to the registration statement of which this prospectus is a part on or before the time we issue a series of warrants. See “Where You Can Find Additional Information” and “Incorporation of Documents by Reference” above for information on how to obtain a copy of a warrant document when it is filed.

When we refer to a series of debt securities, we mean all debt securities issued as part of the same series under the applicable indenture.

Terms

The applicable prospectus supplement, information incorporated by reference or free writing prospectus, may describe the terms of any debt securities that we may offer, including, but not limited to, the following:

- The title of the debt securities;
- The total amount of the debt securities;
- The amount or amounts of the debt securities will be issued and interest rate;
- The conversion price at which the debt securities may be converted;
- The date on which the right to exercise the debt securities will commence and the date on which the right will expire;
- If applicable, the minimum or maximum amount of debt securities that may be exercised at any one time;
- If applicable, the designation and terms of the underlying securities with which the debt securities are issued and the amount of debt securities issued with each underlying security;
- If applicable, a discussion of material United States federal income tax consideration;
- If applicable, the terms of the payoff of the debt securities;
- The identity of the indenture agent, if any;
- The procedures and conditions relating to the exercise of the debt securities; and
- Any other terms of the debt securities, including terms, procedure and limitation relating to the exchange or exercise of the debt securities.

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Form, Exchange and Transfer

We may issue the debt securities in registered form or bearer form. Debt securities issued in registered form, i.e., book-entry form, will be represented by a global security registered in the name of a depository, which will be the holder of all the debt securities represented by the global security. Those investors who own beneficial interests in global debt securities will do so through participants in the depository's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depository and its participants. In addition, we may issue warrants in non-global form, i.e., bearer form. If any debt securities are issued in non-global form, debt securities certificates may be exchanged for new warrant certificates of different denominations, and holders may exchange, transfer, or exercise their warrants at the warrant agent's office or any other office indicated in the applicable prospectus supplement, information incorporated by reference or free writing prospectus.

Prior to the exercise of their debt securities, holders of debt securities exercisable for shares of debt securities will not have any rights of holders of ordinary shares or preferred shares, and will not be entitled to dividend payments, if any, or voting rights of the ordinary shares or preferred shares.

Conversion of Debt Securities

A debt security may entitle the holder to purchase, in exchange for the extinguishment of debt, an amount of securities at an exercise price that will be stated in the debt security. Debt securities may be converted at any time up to the close of business on the expiration date set forth in the terms of such debt security. After the close of business on the expiration date, debt securities not exercised will be paid in accordance with their terms.

Debt securities may be converted as set forth in the applicable offering material. Upon receipt of a notice of conversion properly completed and duly executed at the corporate trust office of the indenture agent, if any, or to us, we will forward, as soon as practicable, the securities purchasable upon such exercise. If less than all of the debt security represented by such security is converted, a new debt security will be issued for the remaining debt security.

Description of Units

The following is a general description of the terms of the units we may offer from time to time. Particular terms of the units will be described in the applicable unit agreements and the applicable prospectus supplement for the units. We urge you to read the applicable prospectus supplements related to the units that we may sell under this prospectus, as well as the complete unit agreements that will contain the terms of any units.

We may issue units comprised of common stock, preferred stock, warrants, debt securities or any combination thereof. Units may be issued in one or more series, independently or together with common stock, preferred stock, warrants or debt securities, or the units may be attached to or separate from such securities. We may issue units directly or under a unit agreement to be entered into between us and a unit agent. We will name any unit agent in the applicable prospectus supplement. Any unit agent will act solely as our agent in connection with the units of a particular series and will not assume any obligation or relationship of agency or trust for or with any holders or beneficial owners of units.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time, or at any time before a specified date. We may issue units in such amounts and in such numerous distinct series as we determine.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

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LEGAL MATTERS

The validity of the securities to be offered hereby will be passed upon by Lewis Brisbois Bisgaard & Smith LLP, San Francisco, California.

EXPERTS

The consolidated financial statements of Flux Power Holdings, Inc. as of June 30, 2023 and 2022 and for the years then ended incorporated in this Registration Statement and Prospectus by reference from the Flux Power Holdings, Inc. Annual Report on Form 10-K for the year ended June 30, 2023, have been audited by Baker Tilly US, LLP, an independent registered public accounting firm, as stated in their report thereon, incorporated herein by reference, and have been incorporated in this Registration Statement and Prospectus in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all the information set forth in the registration statement, some of which is contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our securities, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. You may obtain copies of this information by mail from the Public Reference Section of the SEC, 100 F Street, N.E., Room 1580, Washington, D.C. 20549, at prescribed rates. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet website that contains reports and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov. You may also request a copy of these filings, at no cost, by writing us at:

Flux Power Holdings, Inc.
2685 S. Melrose Drive
Vista, California 92081
Attention: Corporate Secretary

We are subject to the information and reporting requirements of the Exchange Act and, in accordance with this law, file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at www.fluxpower.com. Information contained in, or accessible through, our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is only as an inactive textual reference. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC.

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You should rely only on the information contained in this document. We have not authorized anyone to provide you with information that is different. This document may only be used where it is legal to sell these securities. The information in this document may only be accurate on the date of this document.

Additional risks and uncertainties not presently known may also impair our business operations. The risks and uncertainties described in this document and other risks and uncertainties which we may face in the future will have a greater impact on those who purchase our common stock. These purchasers will purchase our common stock at the market price or at a privately negotiated price and will run the risk of losing their entire investment.

Flux Power Holdings, Inc.
\$100,000,000
Common Stock
Preferred Stock
Warrants
Debt Securities
Units
_____, 2023

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PART II - INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The estimated expenses payable by us in connection with the offering described in this registration statement will be as follows. With the exception of the filing fees for the U.S. Securities Exchange Commission and the FINRA filing fee, all amounts are estimates.

SEC registration fee	\$	11,020.00
NASDAQ listing fee	\$	*
Legal fees and expenses	\$	*
Accounting fees and expenses	\$	*
Miscellaneous expenses	\$	*
Total	\$	<u>11,020.00</u>

*These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time. The applicable prospectus supplement will set forth the estimated amount of expenses of any offering of securities.

Item 15. Indemnification of Directors and Officers

We are a corporation organized under the laws of the State of Nevada. Section 78.138 of the Nevada Revised Statutes (NRS) provides that, unless the corporation's articles of incorporation or an amendment thereto provide otherwise, a director or officer will not be individually liable to the corporation or its stockholders or creditor for any damages as a result of any act or failure to act in his or her capacity as a director or officer, unless (i) the presumption that the director and officer acted in good faith, on an information basis and with a review to the interest of the corporation, is rebutted, and (ii) it is proven that the director's or officer's acts or omissions constituted a breach of his or her fiduciary duties, and such breach involved intentional misconduct, fraud, or a knowing violation of the law.

Section 78.7502 of the NRS permits a corporation to indemnify its directors and officers against expenses, including attorney's fees, judgments, fines, and amounts paid in settlement actually and reasonably incurred in connection with a threatened, pending, or completed action, suit, or proceeding, if the officer or director (i) is not liable pursuant to NRS 78.138, or (ii) acted in good faith and in a manner the officer or director reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the conduct was unlawful. Section 78.7502 of the NRS requires a corporation to indemnify a director or officer who has been successful on the merits or otherwise in defense of any action or suit. Section 78.7502 of the NRS precludes indemnification by the corporation if the officer or director has been adjudged by a court of competent jurisdiction, after exhaustion of all appeals, to be liable to the corporation or for amounts paid in settlement to the corporation, unless and only to the extent that the court determines that in view of all the circumstances, the person is fairly and reasonably entitled to indemnity for such expenses.

Section 78.751 of the NRS permits a Nevada corporation to indemnify its officers and directors against expenses incurred by them in defending a civil or criminal action, suit, or proceeding as they are incurred and in advance of final disposition thereof, upon determination by the stockholders, the disinterested board members, or by independent legal counsel. If so provided in the corporation's articles of incorporation, bylaws, or other agreements, Section 78.751 of the NRS requires a corporation to advance expenses as incurred upon receipt of an undertaking by or on behalf of the officer or director to repay the amount if it is ultimately determined by a court of competent jurisdiction that such officer or director is not entitled to be indemnified by the corporation. Section 78.751 of the NRS further permits the corporation to grant its directors and officers additional rights of indemnification under its articles of incorporation, bylaws, or other agreements.

Section 78.752 of the NRS provides that a Nevada corporation may purchase and maintain insurance or make other financial arrangements on behalf of any person who is or was a director, officer, employee, or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise, for any liability asserted against him or her and liability and expenses incurred by him or her in his or her capacity as a director, officer, employee, or agent, or arising out of his or her status as such, whether or not the corporation has the authority to indemnify him or her against such liability and expenses.

Charter Provisions

Article XI of our Amended and Restated Articles of Incorporation (Articles) provide that the Company shall indemnify any person who incur expenses by reason of the fact that he or she is or was an officer, director, employee or agent of the company and that this indemnification shall be mandatory on all circumstances in which indemnification is permitted by law. Article XII of our Articles provide that the Company shall indemnify its directors and officers from personal liability for lawful acts of the Company has permitted by law. The foregoing provisions shall not eliminate or limit the liability of a director for (i) any breach of the director's duty of loyalty to us or our stockholders, (ii) acts or omissions not in good faith or, which involve intentional misconduct or a knowing violation of law, (iii) the payment of dividends in violation of Section 78.300 of the Nevada Revised Statutes; or (iv) any transaction from which the director derived an improper personal benefit.

Article VII of our Amended and Restated Bylaws (Bylaws) provide for indemnification of our directors, officers, and employees in most cases for any liability suffered by them or arising out of their activities as directors, officers, and employees if they acted in good faith and in a manner they reasonably believed to be in, or not opposed to, the best interests of the Company, and with respect to any criminal action to proceeding, have no reasonable cause to believe their conduct was unlawful. To the extent that our directors and officers have been successful on the merits of otherwise in defense of any action, suit, or proceeding, the Company shall indemnify them against expenses, including attorneys' fees, actually and reasonably incurred. Any other indemnification, unless ordered by a court, shall be made by the Company only in the specific case on a determination that the indemnification has met the applicable standard or conduct set forth in the Bylaws. The determination shall be made by disinterested directors, stockholders, or independent legal counsel. Our Bylaws, therefore, limit the liability of directors to the maximum extent permitted by Nevada law (Section 78.751 of the NRS).

Indemnification Agreements

The Company has entered into Indemnification Agreements with all of the Company's directors. Under the Indemnification Agreement, the Company agrees to indemnify the director against any and all expenses incurred if the director acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interest of the Company and, in the case of a criminal proceeding, had no reasonable cause to believe that his conduct was unlawful.

The Company also maintains directors' and officers' liability insurance under which its directors and officers are insured against loss (as defined in the policy) as a result of certain claims brought against them in such capacities.

At present, there is no pending litigation or proceeding involving any of our directors or officers in which indemnification or advancement is sought. We are not aware of any threatened litigation that may result in claims for advancement or indemnification.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits

The following exhibits are filed herewith or incorporated by reference in this prospectus:

<u>Exhibit No.</u>	<u>Description</u>
5.1	Opinion of Lewis Brisbois Bisgaard & Smith LLP
23.1	Consent of Baker Tilly US, LLP, independent public accounting
23.2	Consent of Lewis Brisbois Bisgaard & Smith LLP (included in Exhibit 5.1)
24.1	Power of Attorney (included on the signature page in Part II of this Registration Statement)
107	Filing fee table

Item 17. Undertakings

- (a) The undersigned registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
 - a. each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - b. each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

- (5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
 - (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (b) That, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Exchange Act and will be governed by the final adjudication of such issue.
- (d) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.



September 25, 2023

Flux Power Holdings, Inc.
2685 S. Melrose Drive
Vista, CA 92081

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

At your request, we have examined the registration statement on Form S-3 (the "Registration Statement") to be filed by Flux Power Holdings, Inc., a Nevada corporation (the "Company") on the date hereof with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), relating to the offer and sale from time to time by the Company of up to a maximum of \$100,000,000 aggregate initial offering price of a presently indeterminate amount of the following securities (each a "Company Security" and collectively, or in any combination, the "Company Securities"):

- (i) shares of the Company's common stock, \$0.001 par value per share (the "Common Stock");
- (ii) one or more classes or series of shares of the Company's preferred stock, \$0.001 par value per share (the "Preferred Stock");
- (iii) warrants to purchase common stock, preferred stock, debt securities, other securities or any combination of those securities;
- (iv) debt securities (which may be senior or subordinated, convertible or non-convertible, secured or unsecured); and
- (v) units consisting of any combination of the foregoing securities.

The Company Securities may be issued and sold by the Company pursuant to applicable provisions of Rule 415 under the Securities Act, in amounts, at prices and on terms to be determined in light of market conditions at the time of sale, and as set forth in the Registration Statement, any amendment thereto, the prospectus contained therein (the "Prospectus") and any supplements to the Prospectus (each, a "Prospectus Supplement"). The Company Securities may be issued from time to time on a delayed or continuous basis, and this opinion is limited to the laws, including the rules and regulations, as in effect on the date hereof, which laws are subject to change with possible retroactive effect.

You have requested our opinion as to the matters set forth below in connection with the Registration Statement. For purposes of rendering the opinions set forth below, we have examined such documents and reviewed such questions of law as we have considered necessary and appropriate for the purposes of our opinion including (i) the Registration Statement, including the exhibits filed therewith, (ii) the Prospectus, (iii) the Company's amended and restated articles of incorporation, as amended (the "Articles of Incorporation"), (iv) the Company's amended and restated bylaws, as amended (the "Bylaws"), (v) the corporate resolutions and other actions of the Company that authorize and provide for the filing of the Registration Statement, and (vi) the Officers' Certificate dated September 25, 2023, and we have made such other investigation as we have deemed appropriate. We have not independently established any of the facts so relied on.

ARIZONA • CALIFORNIA • COLORADO • CONNECTICUT • DELAWARE • FLORIDA • GEORGIA • ILLINOIS • INDIANA • KANSAS • KENTUCKY • LOUISIANA
MARYLAND • MASSACHUSETTS • MINNESOTA • MISSOURI • NEVADA • NEW JERSEY • NEW MEXICO • NEW YORK • NORTH CAROLINA
OHIO • OREGON • PENNSYLVANIA • RHODE ISLAND • TEXAS • UTAH • VIRGINIA • WASHINGTON • WASHINGTON D.C. • WEST VIRGINIA

Flux Power Holdings, Inc.
September 25, 2023
Page 2

For purposes of this opinion letter, we have assumed the accuracy and completeness of each document submitted to us, the genuineness of all signatures on original documents, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as facsimile, electronic, certified, conformed or photostatic copies thereof, and the due execution and delivery of all documents where due execution and delivery are prerequisites to the effectiveness thereof. We have further assumed the legal capacity of natural persons, that persons identified to us as officers of the Company are actually serving in such capacity, that the representations of officers and employees of the Company are correct as to questions of fact, that the board of directors will have taken all action necessary to set the issuance price of the Company Securities to be offered and sold and that each party to the documents we have examined or relied on (other than the Company) has the power, corporate or other, to enter into and perform all obligations thereunder and also have assumed the due authorization by all requisite action, corporate or other, the execution and delivery by such parties of such documents, and the validity and binding effect thereof on such parties. We have not independently verified any of these assumptions.

The opinions expressed in this opinion letter are limited to the Nevada Revised Statutes (the "NRS"). We are not opining on, and we assume no responsibility for, the applicability to or effect on any of the matters covered herein of (a) any other laws; (b) the laws of any other jurisdiction; or (c) the laws of any county, municipality or other political subdivision or local governmental agency or authority.

Based on the foregoing and in reliance thereon, and subject to the assumptions, qualifications, limitations and exceptions set forth below, we are of the opinion that:

1. With respect to shares of Common Stock, when (a) the board of directors of the Company has taken all necessary corporate action to approve the issuance and terms of the offering thereof and related matters, including without limitation the due reservation of any Common Stock for issuance, and (b) certificates representing the shares of Common Stock have been duly executed, countersigned, registered and delivered, in each case in accordance with the Articles of Incorporation and Bylaws, either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the board of directors of the Company upon payment of the consideration therefor (which consideration shall not be less than the par value of the Common Stock) provided for in such definitive purchase, underwriting or similar agreement, as applicable, or (ii) upon conversion, exchange or exercise of any other Company Security in accordance with the terms of such Company Security or the instrument governing such Company Security providing for the conversion, exchange or exercise as approved by the board of directors of the Company, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company, which consideration shall not be less than the par value of the Common Stock, such shares of

Common Stock will be validly issued, fully paid, and non-assessable.

2. With respect to shares of any class or series of Preferred Stock, when (a) the board of directors of the Company has taken all necessary corporate action to approve the issuance and terms of the shares of such class or series, the terms of the offering thereof and related matters, including the adoption of a certificate of designation or amendment to the Articles of Incorporation fixing and determining the terms of such Preferred Stock conforming to the NRS, the filing of a certificate or amendment, as applicable, with the Secretary of State of Nevada, the payment in full of any filing fees attendant thereto, and the due reservation of any Common Stock and Preferred Stock for issuance, and (b) certificates representing the shares of such class or series of Preferred Stock have been duly executed, countersigned, registered and delivered, in each case in accordance with the Articles of Incorporation and Bylaws, either (i) in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the board of directors of the Company upon payment of the consideration therefor (which consideration shall not be less than the par value of the Preferred Stock) provided for in such definitive purchase, underwriting or similar agreement, as applicable, or (ii) upon conversion, exchange or exercise of any other Company Security in accordance with the terms of such Company Security or the instrument governing such Company Security providing for the conversion, exchange or exercise as approved by the board of directors of the Company, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company, which consideration shall not be less than the par value of the Preferred Stock, the shares of such class or series of Preferred Stock will be validly issued, fully paid, and non-assessable.

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3. With respect to the issuance of any warrants, when (a) the board of directors of the Company has taken all necessary corporate action to approve the warrant agreement to be entered into in connection with the issuance of any warrants and such warrant agreement has been validly executed and delivered by the warrant agent, if any, and the Company, (b) the board of directors of the Company has taken all necessary corporate action to approve the specific issuance and terms of any warrants duly established in accordance with the applicable warrant agreement and (c) such warrants have been duly executed, countersigned, registered, issued and delivered in accordance with the warrant agreement and the applicable definitive purchase, underwriting or similar agreement, as applicable, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company (assuming the securities issuable upon exercise of the warrants have been duly authorized and reserved for issuance by all necessary corporate action and in accordance with applicable law), such warrants will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability.

4. With respect to any debt securities, when (a) the board of directors of the Company has taken all necessary corporate action to approve an applicable indenture, if any, or any amendment or supplement thereto or other agreement in respect thereof, if any, and such indenture, if any, or any amendment or supplement thereto or other agreement in respect thereof, if any, has been validly executed and delivered by the Company, (b) any applicable indenture, if required, has been duly qualified under the Trust Indenture Act of 1939, as amended, if qualification is required thereunder, (c) the board of directors of the Company has taken all necessary corporate action to approve the specific issuance and terms of any series of debt security duly established in accordance with the applicable indenture, if any, and (d) such debt security have been duly executed, countersigned, registered, issued and delivered either (i) in accordance with the indenture, if any, or any amendment or supplement thereto or other agreement in respect thereof, if any, the applicable definitive purchase, underwriting or similar agreement, as applicable, or (ii) upon conversion, exchange or exercise of any other Company Security in accordance with the terms of such Company Security or the instrument governing such Company Security providing for the conversion, exchange or exercise as approved by the board of directors of the Company, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company, such debt securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability, provided that we express no opinion as to (x) the enforceability of any waiver of rights under any usury or state law, (y) the validity, legally binding effect or enforceability of any provision of the indenture that requires or relates to adjustments to the conversion rate at a rate or in an amount that a court would determine in the circumstances under applicable law to be commercially unreasonable or a penalty or forfeiture or (z) the validity, legally binding effect or enforceability of any provision that permits holders to collect any portion of stated principal amount upon acceleration of the debt securities to the extent determined to constitute unearned interest.

5. With respect to the issuance of any units, when (a) the board of directors of the Company has taken all necessary corporate action to approve the unit agreement, if any, to be entered into in connection with the issuance of any units and such unit agreement, if any, has been validly executed and delivered by the unit agent, if any, and Company, (b) the board of directors of the Company has taken all necessary corporate action to approve the specific issuance and terms of any units duly established in accordance with the applicable unit agreement, if any, and (c) such units have been duly executed, countersigned, registered, issued and delivered in accordance with the unit agreement, if any, and the applicable definitive purchase, underwriting or similar agreement, as applicable, for the consideration therefor set forth in the applicable agreement and approved by the board of directors of the Company, such units will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability.

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The opinions set forth above are subject to the following additional assumptions:

(i) the Registration Statement, any amendments thereto (including post-effective amendments), will have been declared effective under the Securities Act and such effectiveness shall not have been terminated, suspended or rescinded;

(ii) all Company Securities will be issued and sold in compliance with applicable federal and state securities laws, rules and regulations and solely in the manner provided in the Registration Statement and the appropriate Prospectus Supplement and there will not have occurred any change in law or fact affecting the validity of any of the opinions rendered herein;

(iii) a definitive purchase, underwriting or similar agreement and any other necessary agreements with respect to any Company Securities offered or issued will have been duly authorized and duly executed and delivered by the Company and the other parties thereto;

(iv) the final terms of any of the Company Securities (including any Company Securities comprising the same or subject thereto), and when issued, the issuance, sale and delivery thereof by the Company, and the incurrence and performance of the Company's obligations thereunder or respect thereof in accordance with the terms thereof, and any consideration received by the Company for any such issuance, sale and delivery, will comply with, and will not violate, the Articles of Incorporation or Bylaws or any applicable law, rule or regulation, or result in a default under or breach of any agreement or instrument binding upon the Company and will comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or to which the issuance, sale and delivery of such Company Securities or the incurrence and performance of such obligations may be subject or violate any applicable public policy, or be subject to any defense in law or equity;

(v) the Company shall have taken any action required to be taken by the Company, based on the type of Company Security being offered, to authorize the offer and

issuance thereof, and such authorization shall remain in effect and unchanged at all times during which the Company Securities are offered and issued and shall not have been modified or rescinded (subject to the further assumption that the sale of any Company Security takes place in accordance with such authorization), the board of directors of the Company shall have duly established the terms of such Company Security and duly authorized and taken any other necessary corporate action to approve the issuance and sale of such Company Security in conformity with the Articles of Incorporation and Bylaws (subject to the further assumption that neither the Articles of Incorporation nor Bylaws have been amended from the date hereof in a manner that would affect the validity of any of the opinions rendered herein), and such authorization shall remain in effect and unchanged at all times during which the Company Securities are offered and issued and shall not have been modified or rescinded (subject to the further assumption that the sale of any Company Security takes place in accordance with such authorization);

(vi) there will exist, under the Articles of Incorporation, the requisite number of authorized but unissued shares of Common Stock or Preferred Stock (and securities of any class into which any of the Preferred Stock may be convertible), as the case may be; and

(vii) to the extent they purport to relate to liabilities resulting from or based upon gross negligence, recklessness or other conduct committed or omitted willfully or in bad faith or any violation of federal or state securities or blue sky laws, we express no opinions concerning the enforceability of indemnification provisions.

The opinions above are subject to the effects of (i) bankruptcy, insolvency, fraudulent conveyance, fraudulent transfer, reorganization, receivership, moratorium and other similar laws relating to or affecting enforcement of creditors' rights or remedies generally, (ii) general principles of equity, whether such principles are considered in a proceeding of law or at equity, and (iii) an implied covenant of good faith, reasonableness and fair dealing and standards of materiality.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the use of our name under the caption "Legal Matters" in the Prospectus. In giving our consent, we do not thereby admit that we are experts with respect to any part of the Registration Statement, the Prospectus, or any Prospectus Supplement within the meaning of the term "expert," as used in Section 11 of the Securities Act or the rules and regulations promulgated thereunder by the Commission, nor do we admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Lewis Brisbois Bisgaard & Smith LLP
Lewis Brisbois Bisgaard & Smith LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement and Prospectus on Form S-3 of Flux Power Holdings, Inc. of our report dated September 21, 2023, relating to the consolidated financial statements of Flux Power Holdings, Inc. as of June 30, 2023 and 2022 and for the years then ended appearing in the Annual Report on Form 10-K of Flux Power Holdings, Inc. for the year ended June 30, 2023.

We also consent to the reference to our firm under the heading "Experts" in such Registration Statement and Prospectus.

/s/ Baker Tilly US, LLP

San Diego, CA
September 25, 2023

CALCULATION OF FILING FEE TABLE

Form S-3
(Form Type)

Flux Power Holdings, Inc.

(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered and Carry Forward Securities

Security Type	Security Class Title (1)	Fee Calculation or Carry Forward Rule	Amount Registered (1)	Proposed Maximum Offering Price Per Unit (1)	Maximum Aggregate Offering Price (1)	Fee Rate	Amount of Registration Fee (1)	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forward
Newly Registered Securities											
Fees to be Paid	Equity	Common Stock, par value \$0.001 per share	457(o)								
Fees to be Paid	Equity	Preferred Stock, par value \$0.001 per share	457(o)								
Fees to be Paid	Other	Warrants	457(o)								
Fees to be Paid	Other	Debt Securities	457(o)								
Fees to be Paid	Other	Units(2)	457(o)								
Fees to be Paid	Unallocated (Universal) Shelf	Unallocated (Universal) Shelf	457(o)		\$ 88,428,332(3)	0.0001102	\$ 9,744.80(3)				
Fees Previously Paid	Unallocated (Universal) Shelf	Unallocated (Universal) Shelf	457(o)		\$ 0(3)	0.0001102	\$ 0(3)				
Carry Forward Securities											
Carry Forward Securities	Equity	Common Stock, par value \$0.001 per share	415(a)(6)					S-3	333-249521	October 26, 2020	
Carry Forward Securities	Equity	Preferred Stock, par value \$0.001 per share	415(a)(6)					S-3	333-249521	October 26, 2020	
Carry Forward Securities	Other	Warrants	415(a)(6)					S-3	333-249521	October 26, 2020	
Carry Forward Securities	Other	Debt Securities	415(a)(6)								
Carry Forward Securities	Other	Units(2)	415(a)(6)					S-3	333-249521	October 26, 2020	
Carry Forward Securities	Unallocated (Universal) Shelf	Unallocated (Universal) Shelf	415(a)(6)		\$ 11,571,668 (3)(4)			S-3	333-249521	October 26, 2020	\$ 1,262.46(3)
Total Offering Amounts					\$ 100,000,000		\$ 11,020.00				
Total Fees Previously Paid							\$ 1,262.46				
Total Fee Offsets							\$ 0				
Net Fee Due							\$ 9,757.54(3)				

(1) The aggregate maximum offering price of all securities issued or issuable by Flux Power Holdings, Inc. (the "Registrant") that are registered pursuant to this Registration Statement shall not exceed \$100,000,000. The proposed maximum aggregate offering price is estimated solely for the purpose of computing the registration fee pursuant to Rule 457(o) under the Securities Act of 1933 (the "Securities Act").

(2) Units may consist of one or more shares of common stock, preferred stock, debt securities, or warrants issued by the Registrant, other property, or any combination thereof.

(3) Pursuant to Rule 415(a)(6) under the Securities Act, the Registrant is registering hereby \$11,571,668 of unsold securities (the "Unsold Securities") previously registered under the Registrant's prior registration statement on Form S-3 (File No. 333-249521) filed on October 16, 2020 (the "Prior Registration Statement"). The registration fee of \$1,262.46 relating to the Unsold Securities, which the Registrant previously paid, will continue to be applied to those Unsold Securities pursuant to Rule 415(a)(6), and an additional registration fee of \$12.74 is being paid as to those Unsold Securities. Pursuant to Rule 415(a)(6), the offering of such Unsold Securities under the Prior Registration Statement will be deemed terminated as of the date of effectiveness of this Registration Statement. In addition to Unsold Securities being carried forward from the Prior Registration Statement, the Registrant is also registering hereby the offer and sale of an additional \$88,428,332 of new securities for which the Registrant is paying a registration fee of \$9,757.54.

(4) Pursuant to Rule 415(a)(5) under the Securities Act, the Registrant may continue to offer and sell Unsold Securities under the Prior Registration Statement until the earlier of (i) the date on which this Registration Statement is declared effective by the Securities and Exchange Commission, and (ii) April 23, 2024, which is 180 days after the third-year anniversary of the effective date of the Prior Registration Statement (the "Expiration Date"). Pursuant to Rule 415(a)(6) under the Securities Act, if on or prior to the Expiration Date the Registrant sells Unsold Securities under the Prior Registration Statement, the Registrant shall file a pre-effective amendment to this Registration Statement to update the amount of Unsold Securities which are being registered under this Registration Statement, and upon effectiveness of this Registration Statement may continue to offer and sell such Unsold Securities under this Registration Statement.
