



K30-16S

OEM Fully Programmable non isolated
DC/DC Converter

Main Features:

- Fully programmable DC/DC
 - CC/CV
 - Securities
 - Enable internal/external
 - Analog or digital control
- Low ripple
- Ultra-Fast cutoff time
- Dimensions (L x W x H) : 80mm x 50mm x 32mm
- Pattern generator
- *FixProg*® function
- Cooling over aluminum baseplate
- Fuse and temperature protection
- Errors detection
- 20A input physical fuse

Input Characteristics:

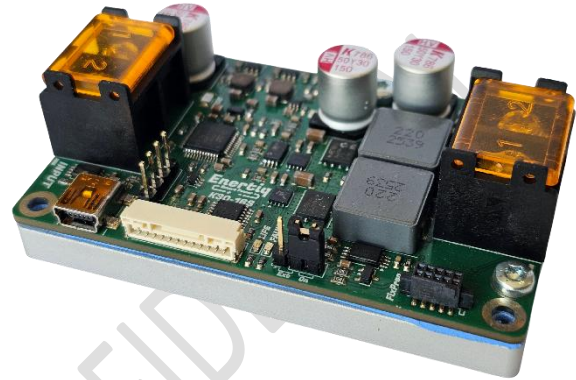
- DC voltage 6.0V to 30V

Output Characteristics:

- DC voltage 0.8V to $V_{in}-0.5V$
- Maximum current: 16A

Communication interface

- USB - computer interface available
- RS232 - (Not available HW Rev 0.1)
- Analog I & V 0-10V current setting
- Enable internal or external



Description:

The K30-16S is a fully programmable DC/DC power supply designed to convert an input voltage source into a wide range of regulated outputs. It supports both constant voltage (CV) and constant current (CC) operation modes, within the limits defined by the input voltage range.

Engineered for high-performance applications, the K30-16S delivers low output noise and features ultra-fast shutdown capabilities in response to controlled disable commands.

Advanced protection features can be configured, including overvoltage (OVP) and undervoltage (UVP) thresholds, allowing flexible adaptation to specific application requirements.

Electrical Characteristics

Absolute maximum ratings ¹			
	Min.	Max.	Units
Supply voltage (DC)	5.5V	32 V	Volts (V)
Output Voltage (DC)	0.6V	Vin - 0.4 V	Volts (V)
Input Current		20A	Ampere (A)
Ambiant temperature	-20°C ²	70 °C ²	Degrees Celsius (°C)
Baseplate temperature	-20°C ²	50°C ²	Degrees Celsius (°C)

Temperature Ratings			
	Min.	Max.	Units
Ambiant temperature	0°C ²	60°C ²	Degrees Celsius (°C)
Baseplate temperature	-15°C ²	50°C ²	Degrees Celsius (°C)
Storage	-20°C ²	80°C ²	Degrees Celsius (°C)

Electrical Characteristics						
Unless otherwise noted: TA = 25 °C						
	Symbol	Conditions	Min.	Typ.	Max.	Units
Supply voltage (DC)	Vin		5.8 ²		30	V
Output Voltage	Vout		0.8 ²		Vin - 1	V
Voltage Ripple	Vrpp	CV mode, Vin=24V, Vout=12V ²		0.1 ²	1	%
Output current	Iout				16	A
Current resolution	Ires			10 ²		mA
Output ripple	Irp	CC mode, Vin=24V, Iout= 4A ² , Resistive load		1 ²		mA
Current accuracy	Iacc	Iout > 1A ²		20 ²		mA
Output power	Pout	Vout=29.5V, Iout=16A			472	W
Rise time	Vrise	CV mode, Vin=24V, Vout=12V, PID(TBD ³ , TBD ³ , TBD ³), Resistive load			TBD ³	µs
Fall time	Vfall	CV mode, Vin=24V, Vout=12V, Resistive load			TBD ³	µs

Inputs & Outputs characteristics						
Unless otherwise noted: TA = 25 °C						
	Parameter	Conditions	Min.	Typ.	Max.	Units
Enable	Logic high input threshold		3			V
	Logic low input threshold				1	V
	Maximum input voltage				16	V
	Input impedance			11		kΩ
Fault	Logic high output voltage	Output Current 2mA	2.8	3.3	3.4	V
	Logic low output voltage				0.4	V
	Output impedance	Not in HW rev 0.1		510		Ω
+5.2V	Voltage		5.0	5.2	5.4	V
	Output impedance			22		Ω

¹ Exceeding the Absolute Maximum Ratings may permanently damage the device

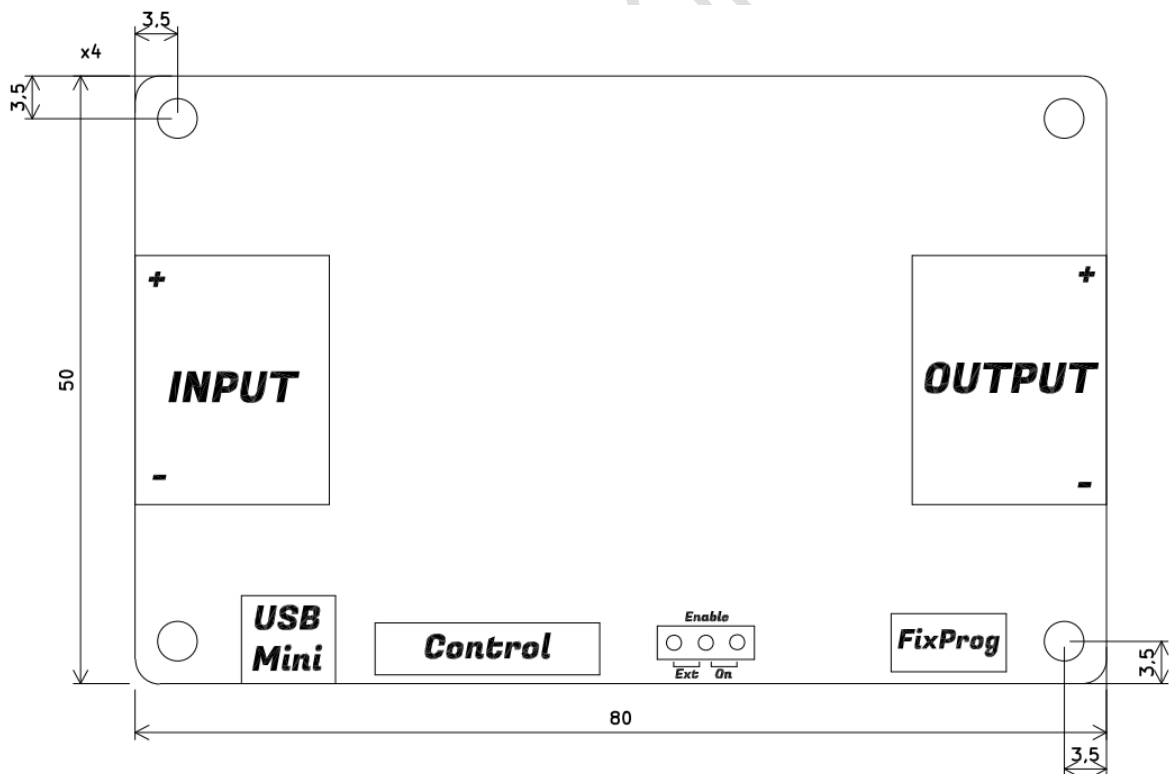
² Preliminary datasheet: Values are estimated and subject to change.

³ Preliminary datasheet: Values to be determined.

Analog characteristics						
Unless otherwise noted: TA = 25 °C						
	Parameter	Conditions	Min.	Typ.	Max.	Units
Current Setting “ISET”	Maximum Voltage applied		-0.6		11	V
	Nominal Voltage		0		10	V
	Input impedance			6.7		kΩ
Voltage Setting “VSET”	Maximum Voltage applied		-0.6		11	V
	Nominal Voltage		0		10	V
	Input impedance			6.7		kΩ
Current monitor “IMON”	Nominal Voltage		0		10	V
	Output impedance			510		Ω
Voltage monitor “VMON”	Nominal Voltage		0		10	V
	Output impedance	Not in HW rev 0.1		510		Ω

Dimensions :

Not to scale, dimensions in mm.



Interface connections :

INPUT Connector	
Mate with	Fork lug, M4, 7.5mm width maximum
1	Voltage input
2	GND

OUTPUT Connector	
Mate with	Fork lug, M4, 7.5mm width maximum
1	GND
2	Voltage Output

Control Connector J1	
Mate with	JST GH, plug: GHR-12V-S, contacts: SSHL-002T-P0.2
1	GND
2	Current setting “ISET”
3	Voltage setting, “VSET”
4	Current monitor “IMON”
5	Voltage monitor “VMON”
6	GND
7	RS232 RX
8	RS232 TX
9	GND
10	ENABLE
11	FAULT
12	+5.2V

Signal	Type	Description
Current setting “ISET”	Input	Apply analog signal from 0 to 10 volts to set current limit. The converter must be parameter on “External analog driving” $OutputCurrentLimit = 16 * \frac{ISET}{10}$
Voltage setting, “VSET”	Input	Apply analog signal from 0 to 10 volts to set the voltage. The converter must be parameter on “External analog driving” $OutputVoltage = 30 * \frac{VSET}{10}$
Current monitor “IMON”	Output	Monitors the measured current consumed by the output $OutputCurrent = 16 * \frac{IMON}{5}$
Voltage monitor “VMON”	Output	Monitors the measured voltage applied to the output $OutputVoltage = 16 * \frac{VMON}{5}$
RS232	Input/ Output	
ENABLE	Input	If the ENABLE jumper is on Ext. position, apply at least 3.3 volts to enable the converter. If the ENABLE jumper is on On position, do nothing.
FAULT	Output	If 0 volts is read on this pin, the converter run normally If 3.3V is read on this pin, the converter is faulty, please read the code on the red led and refer to “User Manual” or connect USB cable with interface to have details.
+5.2V	Output	Low power voltage source for external function.

Revision History

Date	Document version	Author	HW version
June, 2026	0.2	VL	0.1
• Correct IMON/VMON calculations			
May, 2026	0.1	VL	0.1
• Document creation, preliminary version			