CUI INC
a bel group

SERIES: VGS-200D | DESCRIPTION: AC-DC POWER SUPPLY

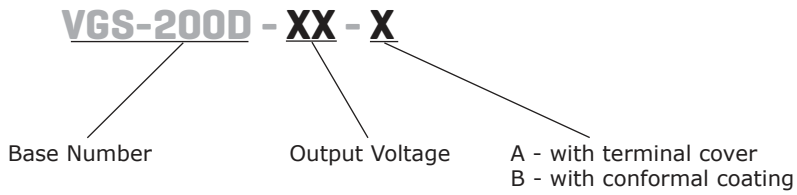
FEATURES

- wide input range (85 ~ 305 VAC)
- available with conformal coating or terminal cover options
- active Power Factor Correction (PFC)
- certified to IEC/EN/UL 62368
- designed to meet IEC/EN 60335 and GB4943
- output over voltage, over current, over temperature, short circuit protection
- CISPR/EN55032 Class B radiated/conducted emissions

MODEL	output voltage		output current	output power	ripple and noise[1]	efficiency[2]
	typ (Vdc)	range (Vdc)	max (A)	max (W)	typ (mVp-p)	typ (%)
VGS-200D-5	5	4.5~5.5	40.0	200.0	150	85
VGS-200D-12	12	11.4~12.6	16.7	200.4	150	88
VGS-200D-15	15	14.25~15.75	13.4	201.0	150	88
VGS-200D-24	24	22.8~25.2	8.4	201.6	150	90
VGS-200D-48	48	45.6~50.4	4.2	201.6	240	89

Notes: 1. Ripple and noise are measured at 20 MHz BW with 47 uF aluminum electrolytic capacitor and 0.1 uF ceramic capacitor on the output.
2. Measured at 230 Vac.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage range	ac input dc input	85 120		305 430	Vac Vdc
frequency range		47		63	Hz
current	at 115 Vac at 230 Vac			3.0 2.0	A A
inrush current	at 115 Vac, cold start at 230 Vac, cold start		35 65		A A
no load power consumption	at 230 Vac			1.0	W
power factor	at 115 Vac, full load at 230 Vac, full load		0.98 0.95		

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 V model 12 V model 15 V model 24 V model 48 V model			3,000 4,000 3,300 1,500 470	µF µF µF µF µF
initial set point acuracy	5 V model, full load range all other models, full load range		±2 ±1		% %
line regulation	rated load		±0.5		%
load regulation	5 V model at 230 Vac, 0~100% load all other models at 230 Vac, 0~100% load		±1 ±0.5		% %
hold-up time	at 115 Vac, full load at 230 Vac, full load		8 8		ms ms

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over current protection	auto recovery	105		200	%
over voltage protection	5 V model, auto recovery, hiccup 12 V model, output shut down, latching 15 V model, output shut down, latching 24 V model, output shut down, latching 48 V model, output shut down, latching			7.0 16.2 21.8 32.4 60.0	Vdc Vdc Vdc Vdc Vdc
short circuit protection	continuous, auto recovery, hiccup				
over temperature protection	protection activation, full load protection deactivation	 55		85	°C °C

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, 1 min, <10 mA input to ground, 1 min, <10 mA output to ground, 1 min, <10 mA	4,000 2,000 500			Vac Vac Vac
safety approvals	certified to 62368: IEC, EN, UL designed to meet 60335: IEC, EN (excludes 5 V model) designed to meet 4943: GB				
conducted emissions	CISPR32/EN55032 CLASS B				
radiated emissions	CISPR32/EN55032 CLASS B				
harmonic current	IEC/EN61000-3-2 CLASS A				
voltage flicker	IEC/EN61000-3-3				
ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV, perf. Criteria A				

SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
radiated immunity	IEC/EN61000-4-3 10V/m, perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ±4KV, perf. Criteria A, (5 V model: +/- 2KV, perf. Criteria A)				
surge	5 V model: IEC/EN61000-4-5 ±1KV/±2KV, perf. Criteria A all other models: IEC/EN61000-4-5 ±2KV/±4KV, perf. Criteria A				
conducted immunity	IEC/EN61000-4-6 10Vr.m.s, perf. Criteria A				
voltage dips and interruption	IEC/EN61000-4-11 0%, 70%, perf. Criteria B				
RoHS compliant	yes				
MTBF	as per MIL-HDBK-217F at 25 °C	250,000			hrs

Note: One magnetic bead (nickel-zinc ferrite) should be coupled with the output load line during conducted/radiated emissions testing.

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-30		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	10		95	%
temperature coefficient	0 ~ 45 °C		0.03		%/°C

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	5V model: 215.00 x 115.00 x 30.00 all other models: 179.00 x 99.00 x 30.00				mm mm
weight	5V model all other models		750 475		g g
cooling	natural convection				
case material	metal (AL1100)				

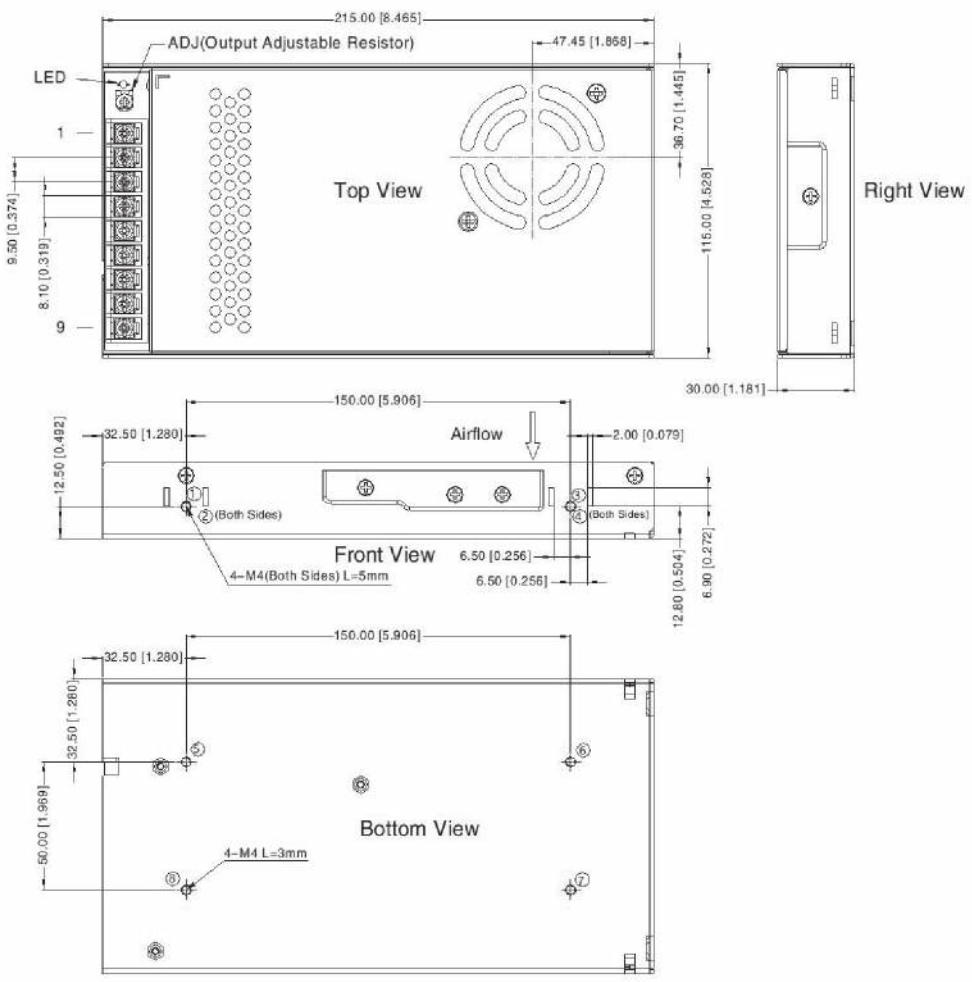
MECHANICAL DRAWING

units: mm [inches]
tolerance: ±1.00 [±0.039]
wire range: 22~12 AWG
connector tightening torque: M3.5, 0.8 N·m

PIN OUT	
PIN	Function
1	+Vo
2	+Vo
3	+Vo
4	-Vo
5	-Vo
6	-Vo
7	⏚
8	AC (N)
9	AC (L)

Note: At least one position ①~ ⑧ must be securely connected to the GND. ⏚

5V model



Position	Screw Spec.	L (max)	Torque (max)
① ~ ④	M4	5 mm	0.9 N·m
⑤ ~ ⑧	M4	3 mm	0.9 N·m

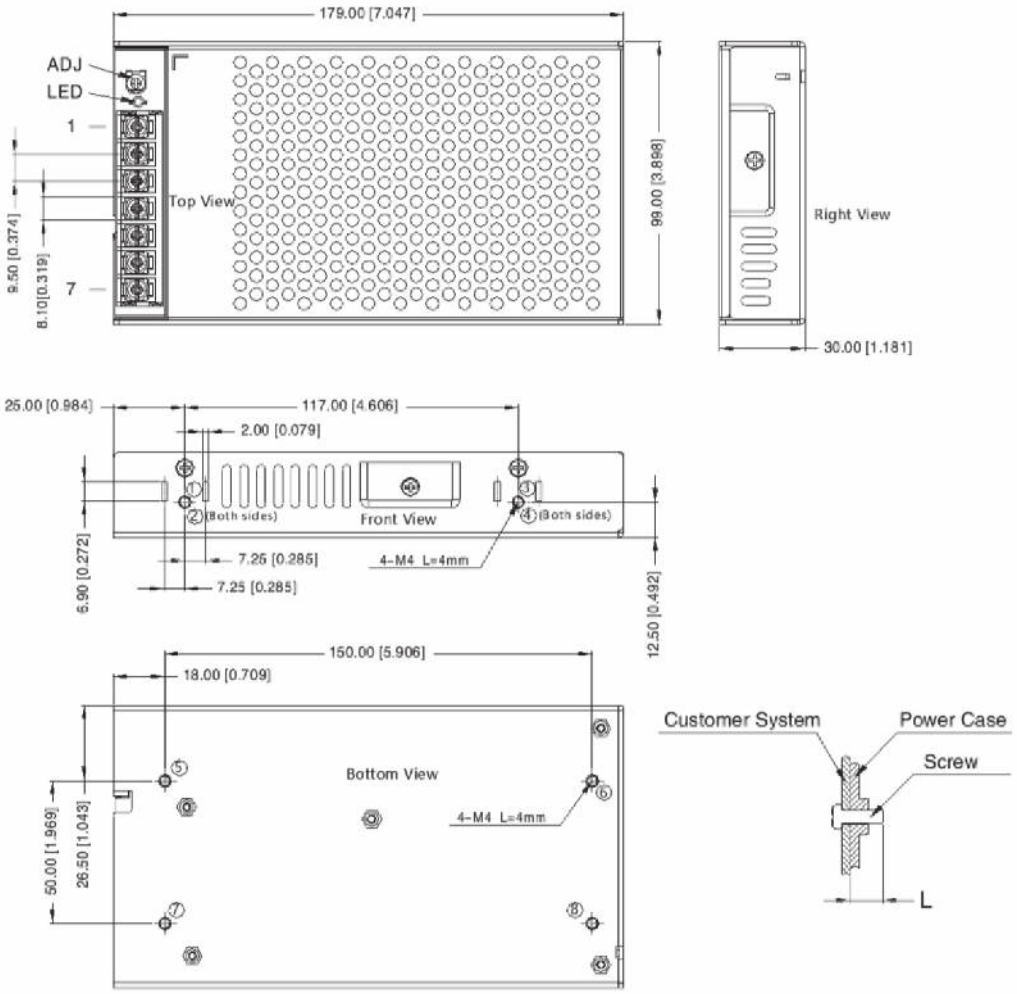
MECHANICAL DRAWING

units: mm [inches]
tolerance: ±1.00 [±0.039]
wire range: 22~12 AWG
connector tightening torque: M3.5, 0.8 N·m

PIN OUT	
PIN	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo
5	⏚
6	AC (N)/DC (-)
7	AC (L)/DC (+)

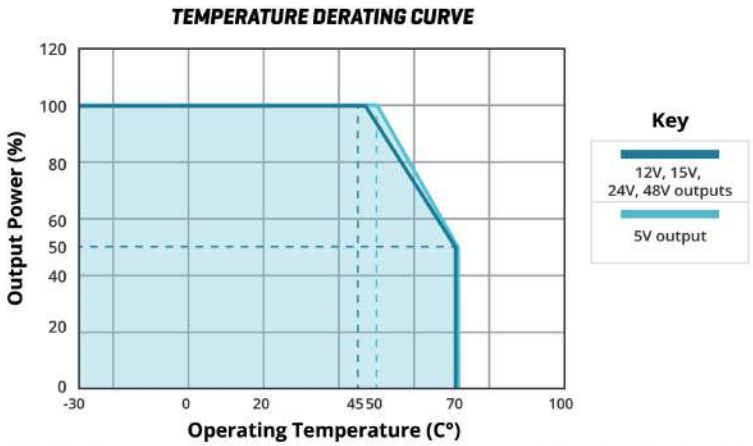
Note: At least one position ①~ ⑧ must be securely connected to the GND. ⏚

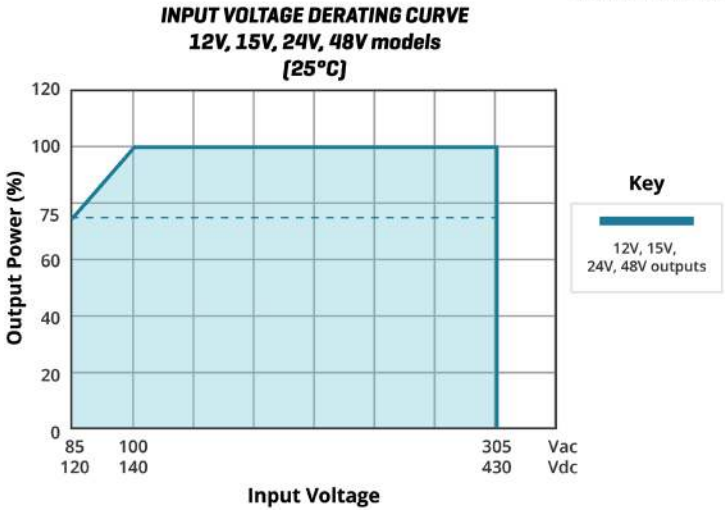
12V, 15V, 24V, 48V models

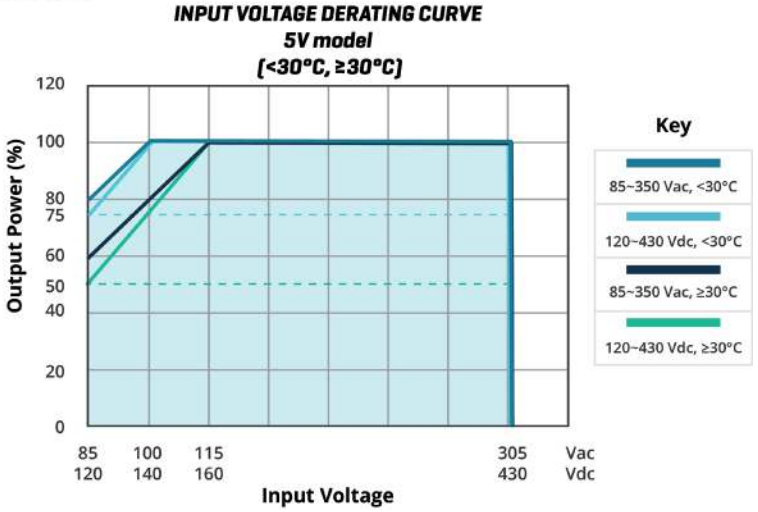


Position	Screw Spec.	L (max)	Torque (max)
① ~ ⑧	M4	4 mm	0.9 N·m

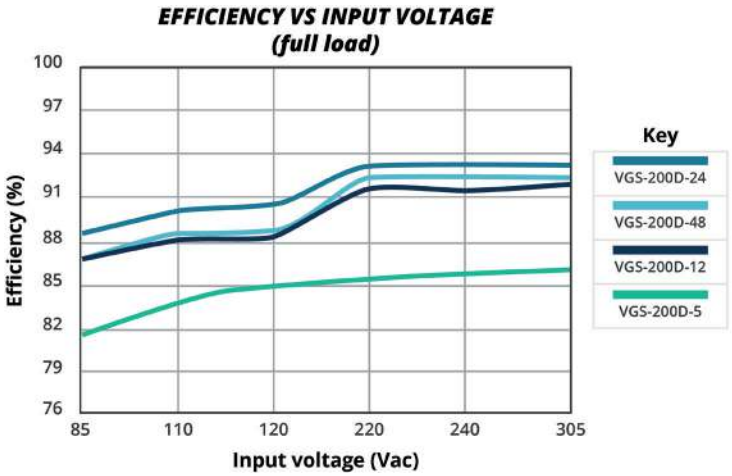
DERATING CURVES

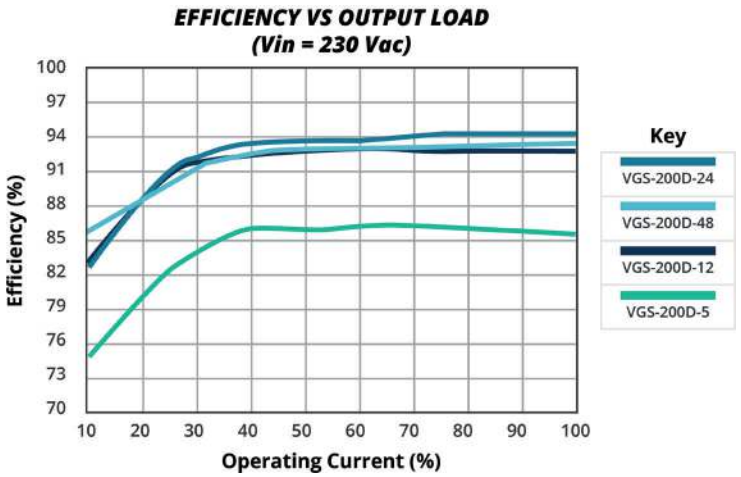






EFFICIENCY CURVES





REVISION HISTORY

rev.	description	date
1.0	initial release	03/09/2021
1.01	derating and efficiency curves updated	01/31/2022
1.02	UKCA mark added	06/10/2022

The revision history provided is for informational purposes only and is believed to be accurate.

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