

SERIES: VGS-100C | **DESCRIPTION:** INTERNAL AC-DC POWER SUPPLY

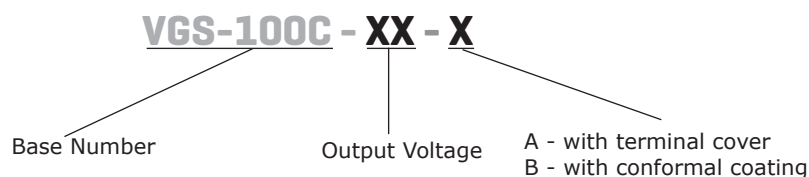
FEATURES

- universal input range (85 ~ 264 VAC)
- UL/EN/IEC 62368 certified
- designed to meet IEC/EN 61558, IEC/EN 60335, and GB4943 system requirements
- short-circuit, over-current, over-voltage protections
- CISPR/EN55032 Class B radiated/conducted emissions
- output adjustable via trimpot +/- 10%



MODEL	output voltage	output current	output power	ripple and noise ¹	efficiency ²
	(Vdc)	max (A)	max (W)	typ (mVp-p)	typ (%)
VGS-100C-5	5	18	90.0	100	86
VGS-100C-12	12	8.5	102.0	120	88
VGS-100C-15	15	7.0	105.0	120	88
VGS-100C-24	24	4.5	108.0	150	90
VGS-100C-36	36	2.8	100.8	200	90
VGS-100C-48	48	2.3	110.4	200	91

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

PART NUMBER KEY


INPUT

parameter	conditions/description	min	typ	max	units
voltage	ac input	85		264	Vac
	dc input	120		373	Vdc
frequency		47		63	Hz
current	at 115 Vac			3	A
	at 230 Vac			1.5	A
inrush current	at 115 Vac, cold start		35		A
	at 230 Vac, cold start		65		A
leakage current	at 240 Vac			0.75	mA
no load power consumption	5V, 12V, 15V, 24V at 230 Vac			0.3	W
	36V, 48V at 230 Vac			0.5	W

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output			10,000	μF
	12 Vdc output			6,800	μF
	15 Vdc output			3,300	μF
	24 Vdc output			2,200	μF
	36 Vdc output			1,000	μF
	48 Vdc output			470	μF
initial set point accuracy	5 Vdc output at full load		±2		%
	other outputs at full load		±1		%
line regulation			±0.5		%
load regulation	5 Vdc output 0%~100% load		±1		%
	other outputs 0%~100% load		±0.5		%
adjustability	built in trim pot	±10			%
hold-up time	at 115 Vac	5			ms
	at 230 Vac	45			ms
switching frequency			65		kHz
temperature coefficient			±0.03		%/°C

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	5 Vdc output, output shut-down, auto-recovery			7.5	Vdc
	12 Vdc output, output shut-down, auto-recovery			19.2	Vdc
	15 Vdc output, output shut-down, auto-recovery			24.0	Vdc
	24 Vdc output, output shut-down, auto-recovery			38.4	Vdc
	36 Vdc output, output shut-down, auto-recovery			57.6	Vdc
	48 Vdc output, output shut-down, auto-recovery			60.0	Vdc
over current protection	auto-recovery	110		160	%
short circuit protection	hiccup, continuous, auto-recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to ground	2,000			Vac
	input to output	4,000			Vac
	output to ground	1,250			Vac
safety approvals	certified to:	62368:	IEC/EN/UL		
	designed to meet:	60335:	IEC/EN		
	designed to meet:	61558:	IEC/EN		
	designed to meet:	4943:	GB		
safety class	Class I				
EMI/EMC	CISPR32/EN55032 Class B, IEC/EN61000-3-2 Class A				
ESD	IEC/EN 61000-4-2 Contact ±6KV /Air ±8KV, perf. Criteria A				

SAFETY & COMPLIANCE

radiated immunity	IEC/EN 61000-4-3 10V/m, perf. Criteria A		
EFT/burst	IEC/EN 61000-4-4 ±2KV, perf. Criteria A		
surge	IEC/EN 61000-4-5 line to line ±2KV/line to ground ±4KV, perf. Criteria A		
conducted immunity	IEC/EN61000-4-6 10 Vr.m.s, perf. Criteria A		
voltage dips and interruptions	IEC/EN61000-4-11 0%, 70%, perf. Criteria B		
MTBF	as per MIL-HDBK-217F at 25°C	300,000	hours
RoHS	yes		

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		-30		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	10		95	%

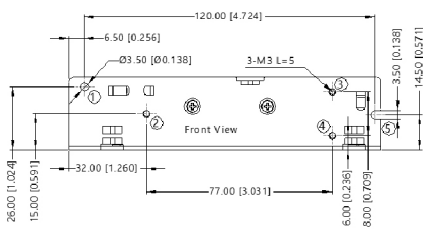
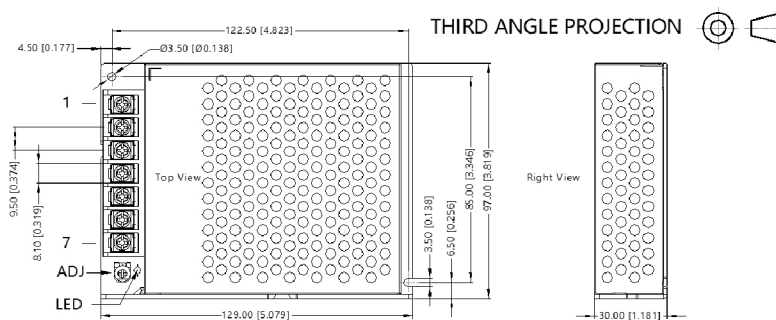
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	129.00 x 97.00 x 30.00				mm
weight	5 Vdc output other outputs		350 305		g g
cooling	natural convection				
case material	metal (AL1100, SGCC)				

MECHANICAL DRAWING

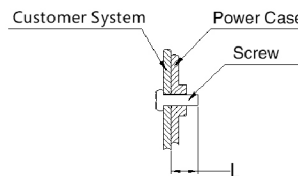
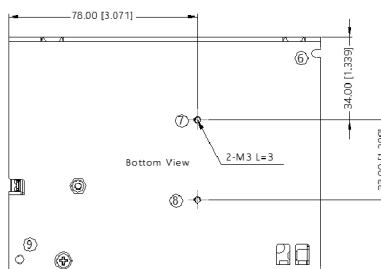
units: mm [inch]
 tolerance: ±1.0 [±0.039]
 wire range: 22-12 AWG
 connector tightening torque: M3.5, 0.8 N·m

PIN CONNECTIONS	
PIN	Function
1	AC(L)
2	AC(N)
3	
4	-Vo
5	-Vo
6	+Vo
7	+Vo



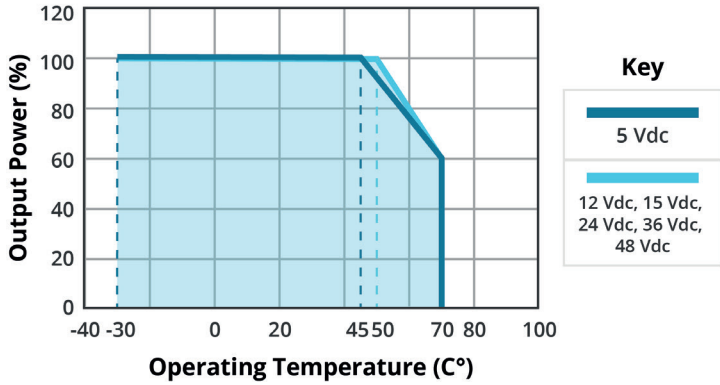
Position	Screw spec.	L (max)	Torque (max)
② - ④	M3	5 mm	0.4 N·m
⑦ - ⑧	M3	3 mm	0.4 N·m

Note: At least one hole position, ①~⑨, must be securely connected to Protective Earth (PE) ⊕

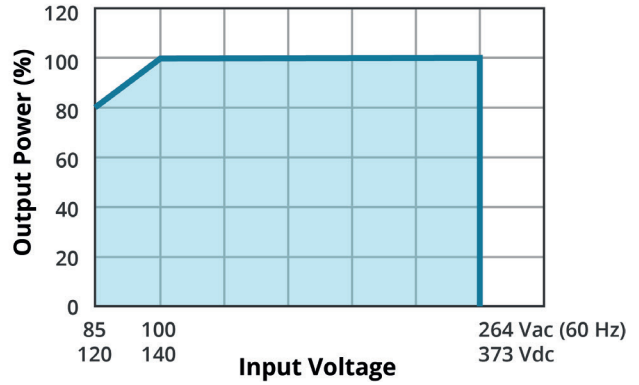


DERATING CURVE

TEMPERATURE DERATING CURVE

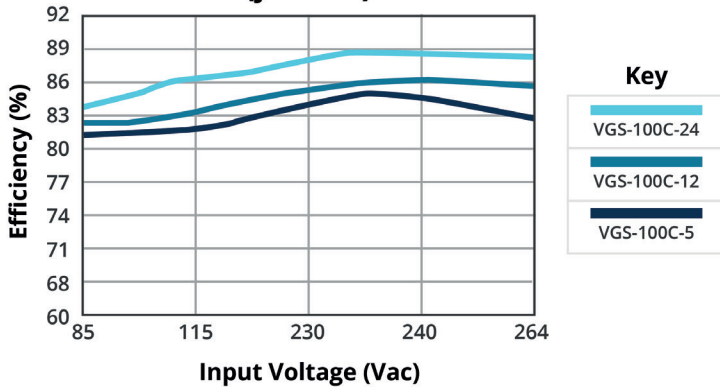


INPUT VOLTAGE DERATING CURVE (25°C)

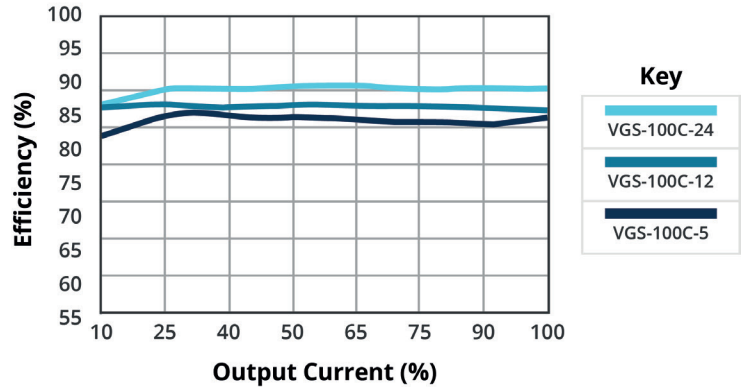


EFFICIENCY CURVES

EFFICIENCY VS INPUT VOLTAGE (full load)



EFFICIENCY VS OUTPUT LOAD



REVISION HISTORY

rev.	description	date
1.0	initial release	09/28/2020
1.01	derating and efficiency curves updated	02/09/2022
1.02	UKCA mark added	06/06/2022

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



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