

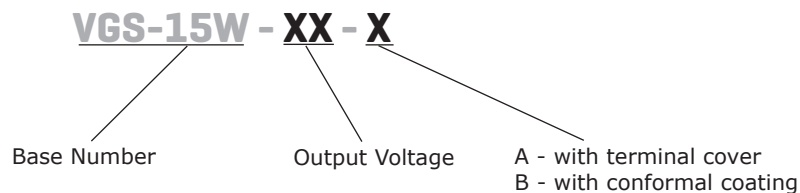
**SERIES: VGS-15W | DESCRIPTION: AC-DC POWER SUPPLY**
**FEATURES**

- wide input range (85 ~ 305 Vac)
- available with conformal coating or terminal cover options
- UL/EN/IEC 62368 certified
- designed to meet IEC/EN 61558 system requirements
- short-circuit, over-current, over-voltage protections
- input over voltage category III design
- CISPR/EN55032 Class B radiated/conducted emissions



MODEL	output voltage		output current	output power	ripple and noise <sup>1</sup>	efficiency <sup>2</sup>
	typ (Vdc)	range (Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VGS-15W-3	3.3	2.85~3.6	3.0	9.9	80	73
VGS-15W-5	5	4.5~5.5	3.0	15.0	80	78
VGS-15W-12	12	10.2~13.8	1.3	15.6	120	82
VGS-15W-15	15	13.5~18.0	1.0	15.0	120	82
VGS-15W-24	24	21.6~28.8	0.625	15.0	150	83
VGS-15W-48	48	42.0~54.0	0.32	15.36	150	83

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

**PART NUMBER KEY**


## INPUT

parameter	conditions/description	min	typ	max	units
voltage range	ac input	85		305	Vac
	dc input	100		430	Vdc
frequency range		47		63	Hz
current	at 115 Vac			0.35	A
	at 230 Vac			0.25	A
inrush current	at 115 Vac		30		A
	at 230 Vac		50		A
leakage current	at 277 Vac			0.5	mA
no load power consumption	at 230 Vac			0.35	W
	5 V, 12 V & 24 V models all other models			0.5	W

## OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	3.3 V models			3,000	μF
	5 V models			2,400	μF
	12 V models			1,800	μF
	15 V models			1,200	μF
	24 V models			600	μF
	48 V models			300	μF
initial set point accuracy	3.3 V models, full load		±3		%
	5 V models, full load		±2		%
	all other models, full load		±1		%
line regulation	3.3 & 5 V models, rated load		±1.0		%
	all other models, rated load		±0.5		%
load regulation	3.3 & 5 V models, 0~100% load		±1.0		%
	all other models, 0~100% load		±0.5		%
switching frequency			65		kHz
hold-up time	at 115 Vac		7		ms
	at 230 Vac		48		ms

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over current protection	auto recovery	110		200	%
over voltage protection	3.3 & 5 V models, hiccup or clamp			6.75	Vdc
	12 V models, hiccup or clamp			16.2	Vdc
	15 V models, hiccup or clamp			21.8	Vdc
	24 V models, hiccup or clamp			33.6	Vdc
	48 V models, hiccup or clamp			60.0	Vdc
short circuit protection	continuous, auto recovery, hiccup				

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, 1 min, <10 mA	4,000			Vac
	input to ground, 1 min, <10 mA	2,000			Vac
	output to ground, 1 min, <10 mA	1,250			Vac
safety approvals	certified to	62368: IEC, EN, UL			
	designed to meet	61558: IEC, EN			
safety class	class I				
conducted emissions	CISPR32/EN55032 CLASS B				
radiated emissions	CISPR32/EN55032 CLASS B				
ESD	IEC/EN 61000-4-2 Contact ±6KV/Air ±8KV, perf. Criteria B				

## 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 ±2KV, perf. Criteria A				
surge	IEC/EN61000-4-5 line to line ±1KV/line to ground ±2KV, 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		700,000		hrs

## 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	0		95	%
temperature coefficient			0.03		%/°C

## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	65.00 x 55.00 x 25.00				mm
weight			90		g
cooling	natural convection				
case material	metal (AL5052, SGCC)				

## MECHANICAL DRAWING

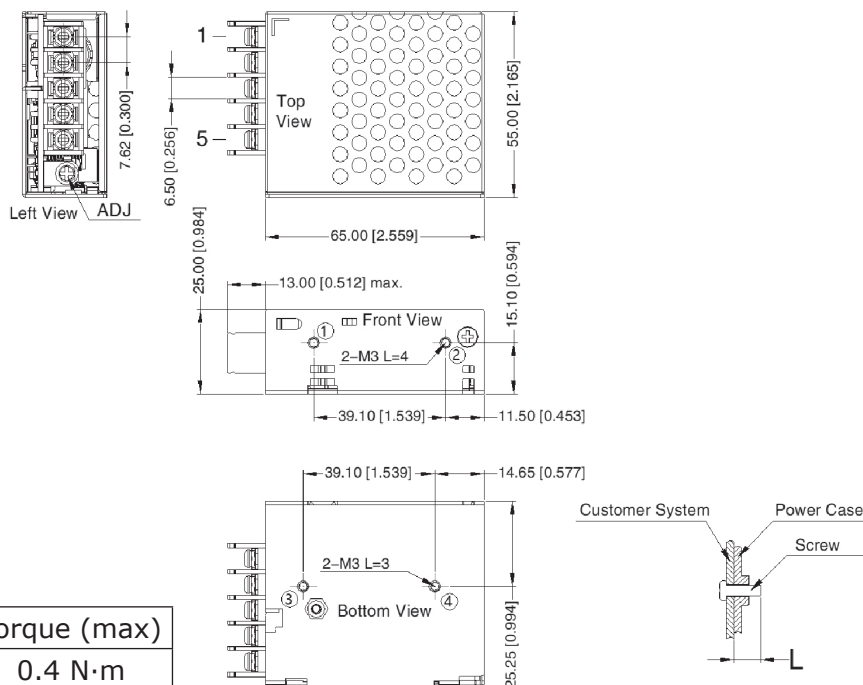
### Standard Model

units: mm [inches]  
 tolerance: ±1.00 [±0.039]  
 wire range: 22~14 AWG  
 connector tightening torque: M3, 0.4 N·m

PIN OUT	
PIN	Function
1	AC (L)
2	AC (N)
3	⊥
4	-Vo
5	+Vo

Note: At least one position ①~④ must be securely connected to the GND. ⊥

Position	Screw Spec.	L (max)	Torque (max)
① ~ ②	M3	4 mm	0.4 N·m
③ ~ ④	M3	3 mm	0.4 N·m



## MECHANICAL DRAWING (CONTINUED)

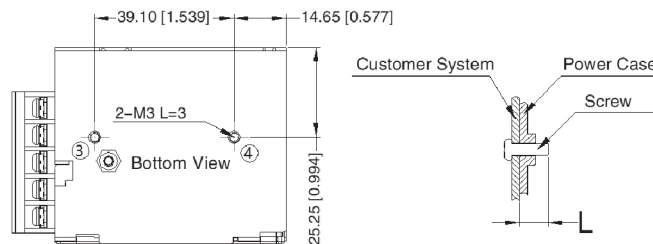
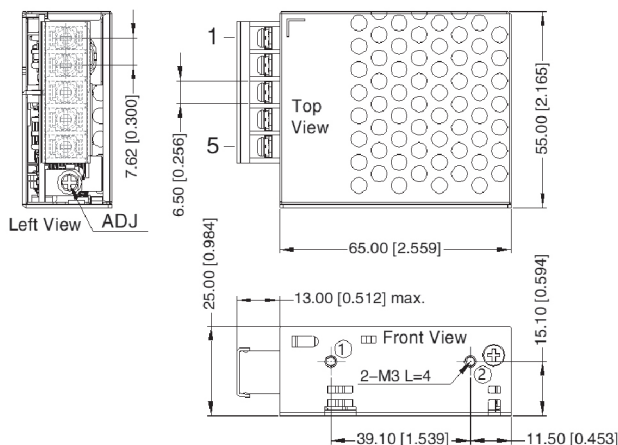
### Terminal Cover Option

units: mm [inches]  
 tolerance:  $\pm 1.00$  [ $\pm 0.039$ ]  
 wire range: 22~14 AWG  
 connector tightening torque: M3, 0.4 N·m

PIN OUT	
PIN	Function
1	AC (L)
2	AC (N)
3	$\oplus$
4	-Vo
5	+Vo

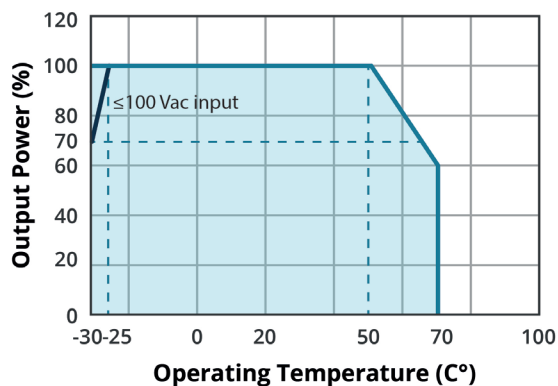
Note: At least one position (1~4) must be securely connected to the GND.  $\oplus$

Position	Screw Spec.	L (max)	Torque (max)
① ~ ②	M3	4 mm	0.4 N·m
③ ~ ④	M3	3 mm	0.4 N·m

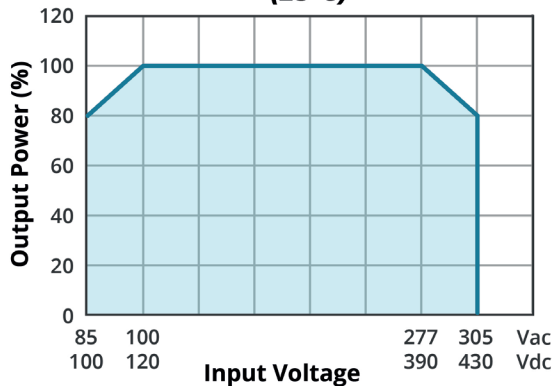


## DERATING CURVES

TEMPERATURE DERATING CURVE

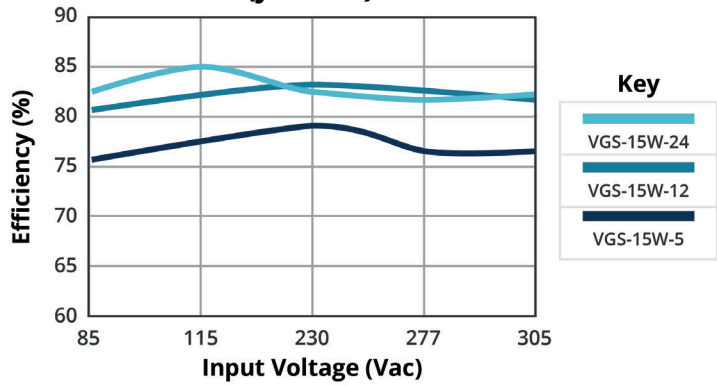


INPUT VOLTAGE DERATING CURVE (25°C)

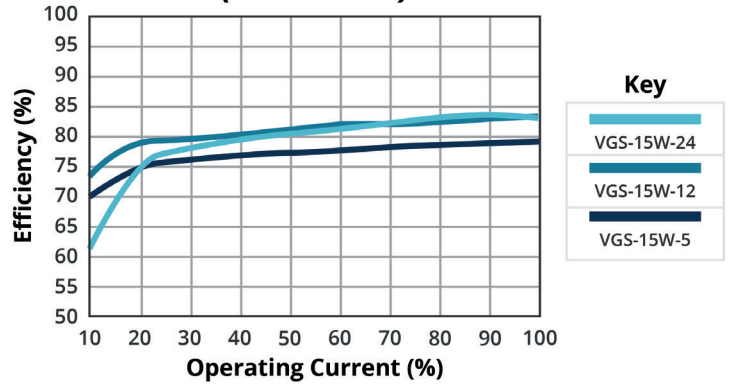


## EFFICIENCY CURVES

**EFFICIENCY VS INPUT VOLTAGE**  
(full load)



**EFFICIENCY VS OUTPUT LOAD**  
( $V_{in} = 230 \text{ Vac}$ )



## REVISION HISTORY

rev.	description	date
1.0	initial release	02/10/2021
1.01	derating and efficiency curves updated	02/11/2022
1.02	UKCA mark added, mechanical drawing section updated	06/06/2022
1.03	no load power consumption updated	07/06/2022

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



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