ComPAC™

DC-DC Switchers
50 to 600W
1-3 Outputs

Product Highlights

ComPAC meets Bellcore, British Telecom and IEC specifications for transient protection; Bellcore, British Telecom and FCC/VDE specifications for EMI/RFI; and benefits from the proven field performance, high efficiency and inherent high reliability of our VI-200 component-level power converters. With input voltage ranges optimized for industrial and telecommunication applications, ComPAC provides extended input overvoltage capability, input reverse polarity protection, undervoltage lockout, and master disable. In a package just .99" (25,2mm) in height, ComPAC delivers up to 600W from one, two or three outputs of 1 to 95Vdc.

Use the configuration chart at the right to define your Vicor part number(s).

Conduction Cooled Models Available
Add "-CC" to the end of the part number

Features

- Inputs 24, 48, and 300Vdc
- Any Output: 1 to 95Vdc
- High Surge Withstand: Bellcore, British Telecom BTR 2511, EN-61000-4-5
- EMI/RFI Specifications: Bellcore TR-TSY-000513, British Telecom BTR 2511, FCC Class A, EN55022 Class B
- UL, CSA, TÜV (IEC 950)
- 80-90% Efficiency
- Up to 10W/Cubic Inch
- Reverse Polarity Protected
- Master Disable
- Overvoltage Shutdown

ComPAC Configuration Chart

	Total Power	Part No.	Dimensions
Single Outputs:	50-200W	VI-LC	8.6"L x 2.5"W x 0.99"H (218,4 x 63,5 x 25,2mm)
	100-400W	VI-MC	8.6"L x 4.9"W x 0.99"H (218,4 x 124,5 x 25,2mm)
	300-600W	VI-NC	8.6"L x 7.3"W x 0.99"H (218,4 x 185,4 x 25,2mm)
Dual Outputs:	100-400W	VI-PC	8.6"L x 4.9"W x 0.99"H (218,4 x 124,5 x 25,2mm)
	150-600W	VI-QC	8.6"L x 7.3"W x 0.99"H (218,4 x 185,4 x 25,2mm)
Triple Outputs:	150-600W	VI-RC	8.6"L x 7.3"W x 0.99"H (218,4 x 185,4 x 25,2mm)

Input Voltage

Nominal	Range
1 = 24V	21 - 32V (1)
W = 24V	18 - 36V (1)
3 = 48V	42 - 60V (2)
N = 48V	36 - 76V (2)
6 = 300V	200 - 400V (2)

Output Voltage

Z = 2V	2 = 15V
Y = 3.3V	3 = 24V
0 = 5V	L = 28V
M = 10V	4 = 48V
1 = 12V	

(1 to 95V, consult factory)

Product Grade

E = -10°C to +85°C
C = -25°C to +85°C
I = -40°C to +85°C
M = -55°C to +85°C

Output Power/Current

$V_{out} \geq 5V$	$V_{out} < 5V$
Y = 50W	10A
X = 75W	15A
W = 100W	20A
V = 150W	30A
U = 200W	40A

Output Power/Current

$V_{out} \geq 5V$	$V_{out} < 5V$
W = 100W	20A
V = 150W	30A
U = 200W	40A
S = 300W	60A
Q = 400W	80A

Output Power/Current

$V_{out} \geq 5V$	$V_{out} < 5V$
S = 300W	60A
P = 450W	90A
M = 600W	120A

Max output for	*5V Outputs*	*>5V Outputs*	*<5V Outputs*
(1)	*150W*	*150W*	*30A*
(2)	*200W*	*200W*	*40A*

ComPAC Specifications

(Typical at 25°C, nominal line and 75% load, unless otherwise specified)

	E-GRADE			C-, I-, M-GRADE						
PARAMETER	**MIN**	**TYP**	**MAX**	**MIN**	**TYP**	**MAX**	**BROWNOUT***	**TRANSIENT****	**UNITS**	**NOTES**
Input Characteristics										
24V (21-32V)	21	24	32	21	24	32	18	36	Volts	See Fusing Information below
24V Wide (18-36V)	18	24	36	18	24	36	n/a	n/a	Volts	See Fusing Information below
48V (42-60V)	42	48	60	42	48	60	36	72	Volts	See Fusing Information below
48V Wide (36-76V)	36	48	76	36	48	76	n/a	n/a	Volts	See Fusing Information below
300V (200-400V)	200	300	400	200	300	400	170	425	Volts	See Fusing Information below
Input surge withstand	(Up to 200 mS, Z_S = .5Ω, no interruption of performance, see: Long Term Safe Operating Area Curves)									
Transient specification	24V & 48V Bellcore, British Telecom BTR 2511 300V, EN-61000-4-5									
EMI/RFI	24V & 48V Bellcore TR-TSY-000513, Issue 2, Rev. 1 British Telecom BTR 2511, Issue 2 300V FCC Pt. 15 Subpart J, Class "A" VDE 0871 Class "A"									
No load power dissipation[4]	1.35		2	1.35		2			Watts	
Master disable input current[3] (Absolute max., 20 mA)			4			4			mA	Sink or source into disable optocoupler
Input current logic disable[3]		7	10		7	10			mA	Current drawn from source when disabled
Reverse polarity protection										No damage to unit with external fuse
Output Characteristics (applies to each output individually)										
Setpoint accuracy		1%	2%		0.5%	1%			V_{NOM}	
Load/line regulation			0.5%		0.05%	0.2%			V_{NOM}	LL to HL, 10% to Full Load
Load/line regulation			1%		0.2%	0.5%			V_{NOM}	LL to HL, No Load to 10%
Output temperature drift		0.02			0.01	0.02			%/°C	Over rated temperature
Long term drift		0.02			0.02				%/1K hours	
Output ripple - pp:										
2V			150mV		60mV	100mV			p-p	20 MHz bandwidth
5V			5%		2%	3%			p-p	20 MHz bandwidth
10-48V			3%		0.75%	1.5%			p-p	20 MHz bandwidth
Output voltage trimming[1]	50%		110%	50%		110%				
Total remote sense compensation[1]	0.5			0.5					Volts	0.25V max. neg. leg
OVP set point		125%		115%	125%	135%			V_{NOM}	Recycle power
Current limit	105%		135%	105%		125%			I_{NOM}	Automatic restart
Short circuit current[2]	20%		140%	20%		130%			I_{NOM}	
Thermal Characteristics										
Efficiency		78-88%			80-90%					
Shutdown temp. — case	90	95	105	90	95	105			°C	Cool and recycle power to restart
Operating temp. — case			85			85			°C	See Thermal Curves
Isolation Characteristics										
Isolation									Input Voltage	
Input to output						4242			Vdc	
Output to case						707			Vdc	
Input to case						2121			Vdc	
Mechanical Specifications										
Weight[4]		19.2 (544)			19.2 (544)				Ounces (Grams)	

Fusing Information

	24V	48V	300V
1 Up (200W)	10A	7A	2A
2 Up (400W)	20A	15A	4A
3 Up (600W)	35A	25A	6A

Safety Agency Approvals

UL, CSA, TÜV, VDE, IEC 950, CE Mark

Environmental Characteristics/Product Grade Designators

	E-grade	C-grade	I-grade	M-grade
Storage Temperature	-20°C to +100°C	-40°C to +100°C	-55°C to +100°C	-65°C to +100°C
Operating Temperature	-10°C to +85°C	-25°C to +85°C	-40°C to +85°C	-55°C to +85°C
Case			-40°C to +85°C	-55°C to +85°C

**Brownout 75% of rated load.*

***Transient voltage for one second.*

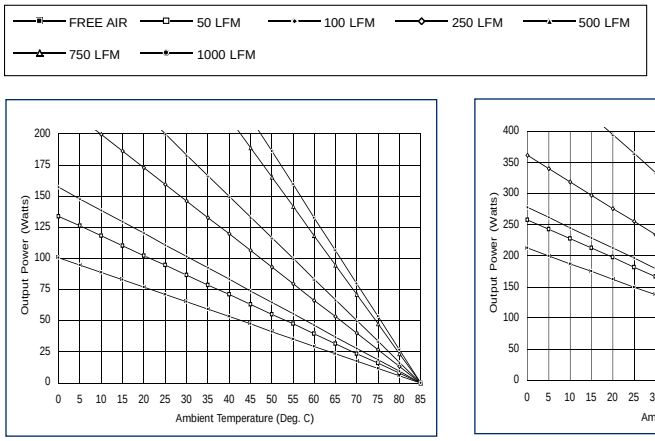
[1]10V, 12V and 15V outputs, trim range ± 10%. Consult factory for wider trim range.

[2]Output voltages of 5V or less incorporate foldback current limiting, outputs of 10V and above incorporate straight line current limiting.

[3]For PC series, multiply value by 2; for QC series, multiply value by 2; for RC series, multiply value by 3.

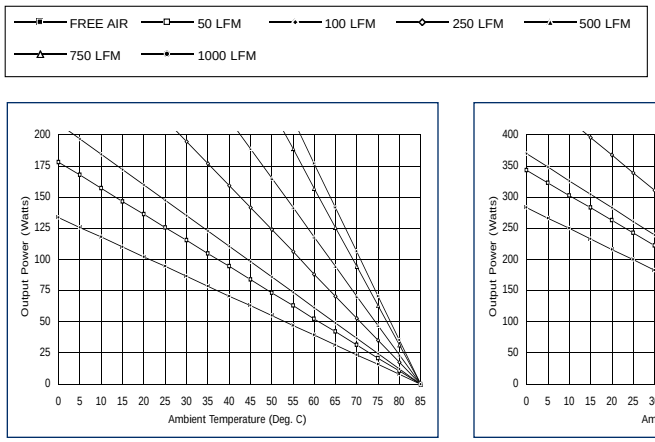
[4]For 2 ups, multiply by 2; for 3 ups, multiply by 3.

Thermal Curves, 5V Output (Standard heatsink; for H1 heatsink use FlatPAC curves, page 8)



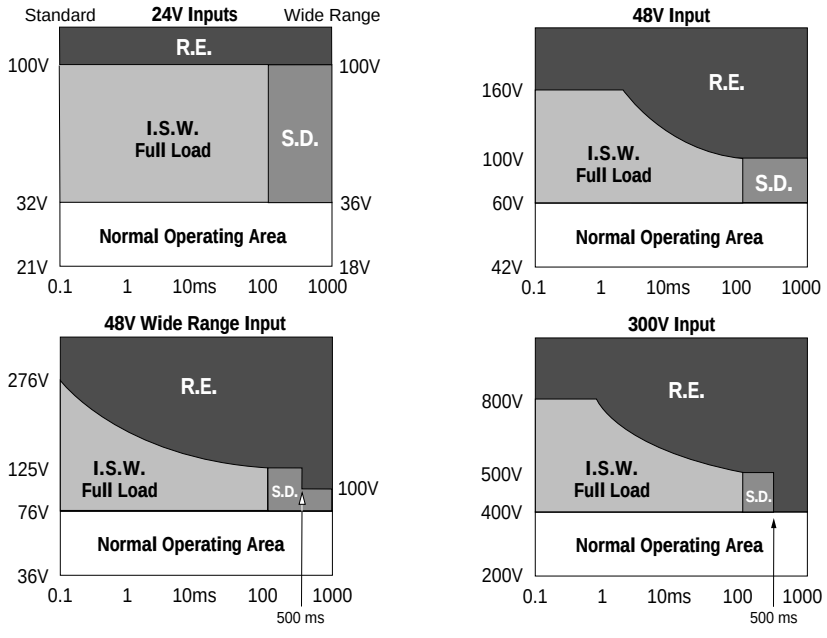
1 Up **2 Up** **3 UP**

Thermal Curves, 10V to 48V Output (Standard heatsink; for H1 heatsink use FlatPAC curves, page 8)



1 Up **2 Up** **3 UP**

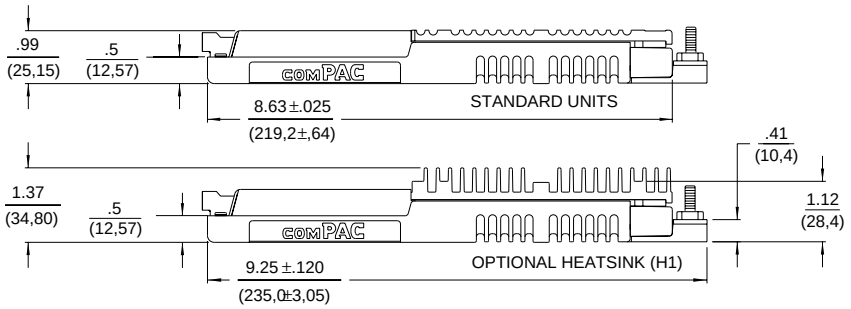
Long Term Safe Operating Area Curves



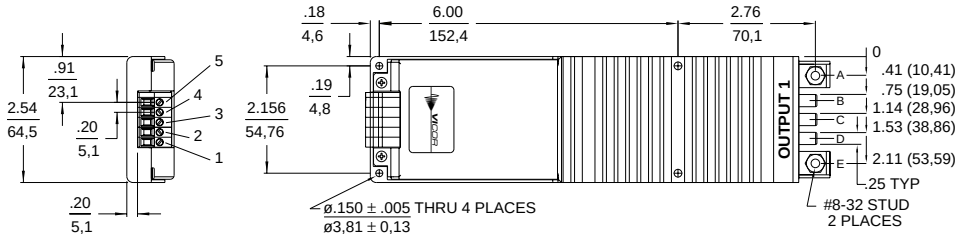
Mechanical Drawings

All Models

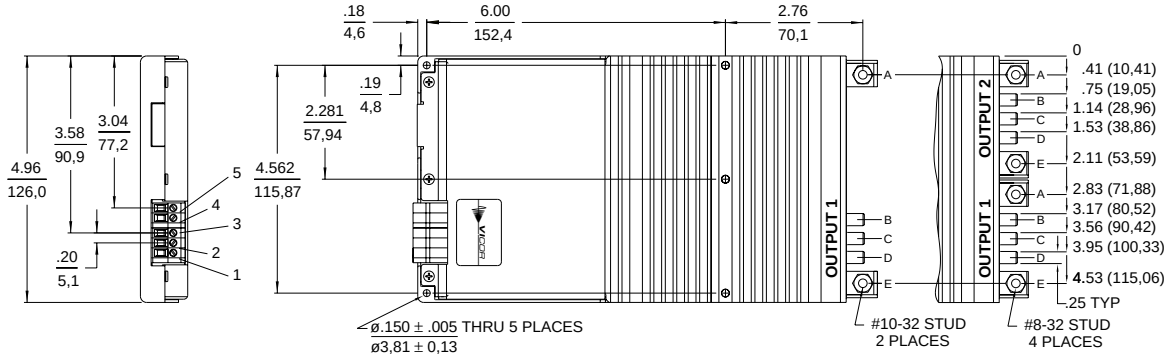
INPUTS	
1	Ground
2	-Input
3	+Input
4	Disable-
5	Disable+
OUTPUTS	
A	+Output
B	+Sense
C	Trim
D	-Sense
E	-Output



1 Up



2 Up



3 Up