

15 Watts

- High power density
- 2:1 Input range
- Efficiency up to 91%
- Single and dual outputs
- EN55022 level A (No additional components)
- Remote on/off
- 3 Year warranty



The GCH15 series of high efficiency DC/DC converters come in both single and dual outputs in a DIP24 pin package. Inputs are available in 12, 24 & 48V versions with a 2:1 range and outputs from 3.3 to 15V single and dual. The units operate from -40 to +85°C. All models have a FIDUS 3 year warranty.

Dimensions:

1.25 x 0.8 x 0.40" (31.8 x 20.3 x 10.2mm)

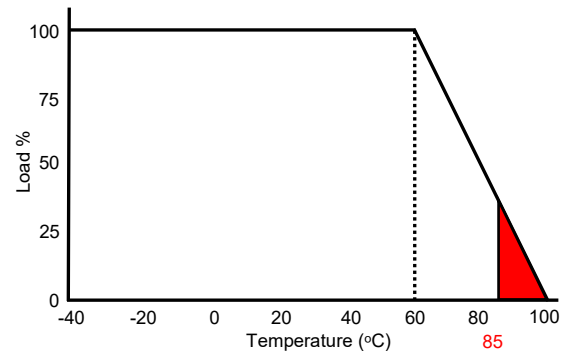
Models & Ratings

Model Number	Input Voltage	Output Voltage	Output Current	Input Current		Maximum Capacitive Load	Efficiency
				No Load	Full Load		
GCH151203	9-18V	3.3V	4000mA	15mA	1309mA	4700uF	86%
GCH151205		5.1V	3000mA	15mA	1465mA	3300uF	89%
GCH151212		12V	1250mA	15mA	1436mA	600uF	89%
GCH151215		15V	1000mA	15mA	1420mA	400uF	90%
GCH151205D		±5V	±1500mA	15mA	1488mA	±1500uF	86%
GCH151212D		±12V	±625mA	15mA	1420mA	±288uF	90%
GCH151215D		±15V	±500mA	15mA	1420mA	±200uF	90%
GCH152403	18-36V	3.3V	4000mA	10mA	647mA	4700uF	87%
GCH152405 ⁽¹⁾		5.1V	3000mA	10mA	732mA	3300uF	89%
GCH152412		12V	1250mA	10mA	710mA	600uF	90%
GCH152415		15V	1000mA	10mA	702mA	400uF	91%
GCH152405D		±5V	±1500mA	10mA	744mA	±1500uF	86%
GCH152412D		±12V	±625mA	10mA	710mA	±288uF	90%
GCH152415D		±15V	±500mA	10mA	710mA	±200uF	90%
GCH154803	36-75V	3.3V	4000mA	5mA	327mA	4700uF	86%
GCH154805		5.1V	3000mA	5mA	370mA	3300uF	88%
GCH154812		12V	1250mA	5mA	359mA	600uF	89%
GCH154815		15V	1000mA	5mA	359mA	400uF	89%
GCH154805D		±5V	±1500mA	5mA	372mA	±1500uF	86%
GCH154812D		±12V	±625mA	5mA	359mA	±288uF	89%
GCH154815D		±15V	±500mA	5mA	355mA	±200uF	90%

Notes

1. High stock items
2. Under no load conditions the unit may not meet all specifications
3. Do not operate continuously in the red area of the derating curve

Derating curve



Input	
Parameter	Rating
Input voltage range	See table
Input reflected ripple current	20mA pk-pk through 12uH inductor
Input surge (100mS max)	12V Models 36V DC Max. 24V Models 50VDC Max. 48V Models 100VDC Max.
Input filter	Pi type

Output

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Output voltage	3.3		15	VDC	See Model & Ratings table
Set point accuracy			±1	%	
Line regulation			±0.2	%	Single outputs. Low line to High line
			±0.5		Dual outputs. Low line to High line
Load regulation			±0.5	%	Single outputs. 0 to 100% load change
			±1		Dual outputs. 0 to 100% load change
Cross regulation			±5	%	On dual output models when one load is varied by 25 to 100% and the other is 100% load.
Ripple & Noise			60	mV pk-pk	All models measured with 1uF ceramic capacitor. 20 MHz bandwidth
Overvoltage protection	3.3V output 3.9V. 12V output 15V. ±5V output ±6.2V. ±15V output ±18V	5.1V output 6.2V. 15V output 18V. ±12V output ±15V.		VDC	
Transient response			±3	% Deviation	For a 25% load change, recovery to within 3% within 300uS typically.
Short circuit protection					Continuous with automatic recovery
Maximum capacitive load					See Model and Ratings table
Remote on/off	ON:3 to 12Vdc or open circuit. OFF <1.2Vdc or short circuit pins 12 & 3. Off idle current :5mA typical.				

General

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	86		91	%	See Model & Ratings table
Isolation			1600	VDC	Input to output
Isolation resistance	1000			M Ohm	
Isolation capacitance		2000		pF	
Switching frequency		330		KHz	
Power density			30	W/In ³	
MTBF		>1		MHrs	As per MIL-HDBK-217F, 25°C GB

Environmental

Parameter	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating temperature	-40		85	°C	100% load at 60°C . 40% load at 85°C
Storage temperature	-55		125	°C	
Case temperature			100	°C	
Cooling					Convection cooled
Humidity			95	% RH	Non-condensing
Temperature coefficient			±0.02	%/°C	

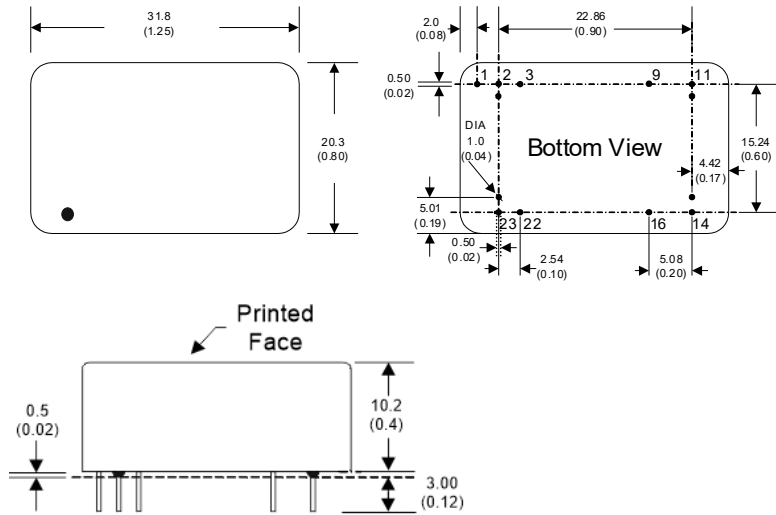
EMC: Emissions

	Standard	Test level	Notes & Conditions
Conducted	EN55022	Class A	Class A no additional components
Radiated	EN55022	Class A	

EMC: Immunity

	Standard	Test level	Criteria	Notes & Conditions
ESD	EN61000-4-2	3	B	
EFT/Burst	EN61000-4-4	3	A	External capacitor required 2x330uF/100V
Surges	EN61000-4-5	Installation class 3	A	External capacitor required 2x330uF/100V
Conducted	EN61000-4-6	10Vrms	A	
Magnetic fields	EN61000-4-8	1A/m	A	

Mechanical Details



Pin Connections		
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-Vin	-Vin
3	-Vin	-Vin
9	N.P	0V
11	N.C	-Vout
14	+Vout	+Vout
16	-Vout	0V
22	+Vin	+Vin
23	+Vin	+Vin

Notes

1. All dimensions shown in millimetres (inches)
2. Pin diameter 0.5 ± 0.05 (0.02 ± 0.002)
3. Case tolerance ± 0.5 (± 0.002)

Physical

Parameter	Rating
Case material	Nickel coated copper
Pin material	0.5mm Brass solder coated
Potting material	Epoxy (UL94V-0)
Weight	20g
Dimensions	1.25 x 0.8 x 0.4"
Soldering temperature	1.5mm from case, 10s and 260°C max.