

Through Hole (Standard)



Size: 2.4in x 2.28in x 0.5in (61mm x 57.9mm x 12.7in)

With Heatsink



Size: 2.4in x 2.28in x 0.75~0.95in (61mm x 57.9mm x 19~24.2in)

Terminal Block



Terminal Block with EMC Filter



Size: 2.4in x 3.35in x 1.17~1.59in (61mm x 85mm x 29.6~40.5in)

**OPTIONS**

- Pin Length
- Heatsinks
- Thru-Hole Inserts
- Negative Logic Remote On/Off
- Terminal Block
- Terminal Block with EMC Filter
- Conformal Coating

**FEATURES**

- RoHS and REACH Compliant
- 4:1 Ultra Wide Input Voltage Ranges
- Up to 76.8 Watts of Output Power
- Single Outputs Ranging from 3.3VDC to 48VDC
- Output Current up to 20A
- UL60950-1, EN60950-1, IEC60950-1, EN45545-2 and EN50155 Safety Approvals
- 3000VAC Reinforced Insulation
- 3000VDC Isolation Voltage
- High Efficiency up to 91%
- No Minimum Load Requirements
- Industry Standard Half-Brick Footprint
- Remote On/Off Control
- Threaded Inserts and Thru-Hole Inserts Available
- Short Circuit, Over Voltage, Over Load, and Over Temperature Protection

**APPLICATIONS**

- Railway Systems
- Wireless Networks
- Telecom/Datacom
- Industry Control Systems
- Semiconductor Equipment
- Distributed Power Architectures
- Military Applications

**DESCRIPTION**

The DCHBW75 series of DC/DC power converters provides up to 76.8 Watts of output power in an industry standard half-brick package and footprint. This series consists of single output models ranging from 3.3VDC to 48VDC with 4:1 ultra wide input voltage ranges of 9~36VDC, 18~75VDC and 43~160VDC. Some features include high efficiency up to 91%, remote on/off control, and 3000VDC isolation voltage. These converters also have short circuit, over voltage, over load, and over temperature protection. The DCHBW75 series is RoHS compliant and has UL60950-1, EN60950-1, IEC60950-1, EN45545-2 and EN50155 safety approvals. Several different options are available for this series including negative remote on/off, terminal block, pin length, heatsinks, conformal coating, and thru-hole inserts. Please call factory for more details.

**MODEL SELECTION TABLE**

Model Number <sup>(1)</sup>	Input Voltage Range	Output Voltage	Output Current		Ripple & Noise	No Load Input Current	Output Power	Maximum Capacitive Load	Efficiency
			Min Load	Max Load					
DCHBW75-24S3.3	24VDC (9~36VDC)	3.3VDC	0mA	20A	75mVp-p	85mA	66W	60600µF	87%
DCHBW75-24S05		5VDC	0mA	15A	75mVp-p	120mA	75W	30000µF	88%
DCHBW75-24S12		12VDC	0mA	6.3A	100mVp-p	185mA	75.6W	5250µF	88%
DCHBW75-24S15		15VDC	0mA	5A	100mVp-p	185mA	75W	3330µF	88%
DCHBW75-24S24		24VDC	0mA	3.2A	200mVp-p	85mA	76.8W	1330µF	87%
DCHBW75-24S28		28VDC	0mA	2.7A	200mVp-p	85mA	75.6W	960µF	87%
DCHBW75-24S48		48VDC	0mA	1.6A	300mVp-p	85mA	76.8W	330µF	87%
DCHBW75-48S3.3	48VDC (18~75VDC)	3.3VDC	0mA	20A	75mVp-p	60mA	66W	60600µF	88%
DCHBW75-48S05		5VDC	0mA	15A	75mVp-p	60mA	75W	30000µF	90%
DCHBW75-48S12		12VDC	0mA	6.3A	100mVp-p	90mA	75.6W	5250µF	90%
DCHBW75-48S15		15VDC	0mA	5A	100mVp-p	50mA	75W	3330µF	89%
DCHBW75-48S24		24VDC	0mA	3.2A	200mVp-p	50mA	76.8W	1330µF	88%
DCHBW75-48S28		28VDC	0mA	2.7A	200mVp-p	50mA	75.6W	960µF	88%
DCHBW75-48S48		48VDC	0mA	1.6A	300mVp-p	50mA	76.8W	330µF	87%
DCHBW75-110S3.3	110VDC (43~160VDC)	3.3VDC	0mA	20A	75mVp-p	10mA	66W	60600µF	89%
DCHBW75-110S05		5VDC	0mA	15A	75mVp-p	10mA	75W	30000µF	91%
DCHBW75-110S12		12VDC	0mA	6.3A	100mVp-p	10mA	75.6W	5250µF	91%
DCHBW75-110S15		15VDC	0mA	5A	100mVp-p	10mA	75W	3330µF	91%
DCHBW75-110S24		24VDC	0mA	3.2A	200mVp-p	10mA	76.8W	1330µF	90%
DCHBW75-110S28		28VDC	0mA	2.7A	200mVp-p	10mA	75.6W	960µF	90%
DCHBW75-110S48		48VDC	0mA	1.6A	300mVp-p	10mA	76.8W	330µF	90%

**SPECIFICATIONS**

All specifications are based on 25°C, Nominal Input, and Full Load unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS	Min	Typ	Max	Unit	
<b>INPUT SPECIFICATIONS</b>						
Operating Input Voltage Range	24VDC Nominal Input Models	9	24	36	VDC	
	48VDC Nominal Input Models	18	48	75		
	110VDC Nominal Input Models	43	110	160		
Start-Up Voltage	24VDC Nominal Input Models			9	VDC	
	48VDC Nominal Input Models			18		
	110VDC Nominal Input Models			43		
Shutdown Voltage	24VDC Nominal Input Models	7.3	7.7	8.1	VDC	
	48VDC Nominal Input Models	15.5	16	16.3		
	110VDC Nominal Input Models	33.0	34.5	36.0		
Input Surge Voltage (1 sec max.)	24VDC Nominal Input Models			50	VDC	
	48VDC Nominal Input Models			100		
	110VDC Nominal Input Models			185		
Input Current	No Load	See Table				
Input Filter <sup>(1)</sup>		Pi Type				
<b>OUTPUT SPECIFICATIONS</b>						
Output Voltage		See Table				
Voltage Accuracy		-1.0		+1.0	%	
Line Regulation	Low Line to High Line at Full Load	-0.1		+0.1	%	
Load Regulation	No Load to Full Load	-0.1		+0.1	%	
Voltage Adjustability	Maximum output deviation is inclusive of remote sense	-20		+10	%	
Remote Sense	If remote sense is not being used, sense pins should be connected to corresponding polarity OUTPUT pins.			10	%Vout (nom)	
Output Power		See Table				
Output Current		See Table				
Minimum Load		0			%	
Maximum Capacitive Load		See Table				
Ripple & Noise (20MHz bandwidth)	4.7µF/50V X7R MLCC	3.3V and 5V Models		75	100	mVp-p
	4.7µF/50V X7R MLCC	12V and 15V Models		100	125	
	4.7µF/50V X7R MLCC	24V and 28V Models		200	250	
	2.2µF/100V X7R MLCC	48V Models		300	350	
Transient Response Recovery Time	25% Load Step Change			200	250	µs
Start-Up Time	Constant Resistive Load	Power Up	110Vin Input	60		Ms
			Others	25		
	Remote ON/OFF	110Vin Input	60			
		Others	25			

Temperature Coefficient		-0.02		+0.02	%/°C
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**SPECIFICATIONS**

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.  
We reserve the right to change specifications based on technological advances.

SPECIFICATION		TEST CONDITIONS		Min	Typ	Max	Unit
<b>REMOTE ON/OFF CONTROL<sup>(3)</sup></b>							
Positive Logic (Standard)	DC-DC ON		Open or 3~12VDC				
	DC-DC OFF		Short or 0~1.2VDC				
Negative Logic (Optional)	DC-DC ON		Short or 0~1.2VDC				
	DC-DC OFF		Open or 3~12VDC				
Input Current of CTRL Pin			-0.5		1		mA
Remote OFF Input Current				3			mA
<b>PROTECTION</b>							
Short Circuit Protection			Continuous, Automatic Recovery				
Over Load Protection	% of I <sub>out</sub> rated; Hiccup mode	110Vin (Nominal)		150			%
		Others	110		140		
Over Voltage Protection	% of V <sub>out</sub> (nominal); Hiccup Mode		115		130		%
Over Temperature Protection				+115			°C
<b>ENVIRONMENTAL SPECIFICATIONS</b>							
Operating Case Temperature	Base-Plate		-40		+105		°C
Storage Temperature	Terminal Block Type		-40		+105		°C
	Others		-55		+125		
Thermal Impedance <sup>(8)</sup>	Standard			6.7			°C/W
	With 0.24" Heatsink			5.4			
	With 0.45" Heatsink			4.7			
Maximum Case Temperature					+105		°C
Relative Humidity			5		95		%RH
Thermal Shock			MIL-STD-810F				
Shock			EN61373, MIL-STD-810F				
Vibration			EN61373, MIL-STD-810F				
MTBF	MIL-HDBK-217F, Full Load		336,200 hours				
<b>GENERAL SPECIFICATIONS</b>							
Efficiency	Nominal Input Voltage and Full Load		See Table				
Switching Frequency			270	300	330		kHz
Isolation Voltage	110VDC Input Models	1 minute (reinforced insulation)	Input to Output	3000			VAC
			Input (Output) to Case	1500			
	Others	1 minute	Input to Output	3000			VDC
			Input (Output) to Case	1600			
Isolation Resistance	500VDC		1				GΩ
Isolation Capacitance					2500		pF
<b>PHYSICAL SPECIFICATIONS</b>							
Weight	Standard		3.42oz (97g)				
	Terminal Block ("T" Suffix)		7.05oz (200g)				
	Terminal Block with EMC Filter ("TF" suffix)		9.88oz (280g)				
	Terminal Block with EMC Filter, connected to PE ("TF1" suffix)		10.12oz (287g)				
Dimensions (L x W x H)	Standard		2.4 x 2.28 x 0.5in (61 x 57.9 x 12.7mm)				
	Terminal Block ("T" Suffix)		3.35 x 2.4 x 1.17in (85 x 61 x 29.6mm)				
	Terminal Block with EMC Filter ("TF" suffix)		3.35 x 2.4 x 1.54in (85 x 61 x 39mm)				
	Terminal Block with EMC Filter, connected to PE ("TF1" suffix)		3.35 x 2.4 x 1.59in (85.0 x 61 x 40.5mm)				
Case Material	24VDC and 48VDC Nominal Input Voltage Models		Metal				
Base Material	110VDC Nominal Input Voltage Models		Aluminum Base-Plate with Plastic Case				
Potting Material	24VDC and 48VDC Nominal Input Voltage Models		FR4 PCB				
			Silicone (UL94 V-0)				
<b>SAFETY &amp; EMC CHARACTERISTICS</b>							
Safety Approvals	UL60950-1 <sup>(4)</sup> , EN60905-1, IEC60950-1		UL CB:UL (Demko)				
Standard Approvals	EN55011, EN55022		EN50155, EN45545-2				
EMI <sup>(5)</sup>	"TF" Suffix Models "TF1" Suffix Models Other Models with External Components		Class A				
			Class A				
			Class A, Class B				
ESD	EN61000-4-2	Air ±8KV and Contact ±6KV	Perf. Criteria A				
Radiated Immunity	EN61000-4-3	20 V/m	Perf. Criteria A				
Fast Transient <sup>(6)</sup>	EN61000-4-4	±2KV	Perf. Criteria A				
Surge <sup>(6)</sup>	EN61000-4-5	EN55024 ±2KV and EN50155 ±2KV	Perf. Criteria A				
Conducted Immunity	EN61000-4-6	10Vr.m.s	Perf. Criteria A				
Power Frequency Magnetic Field	EN61000-4-8	100A/m continuous; 1000A/m 1 second	Perf. Criteria A				

**NOTES**

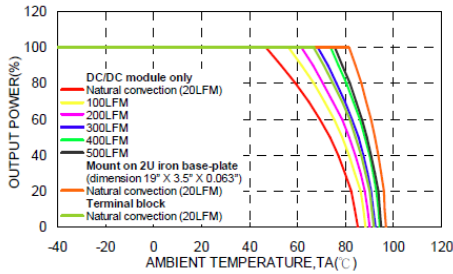
- (1) This series comes with several different options that will affect model name: Negative remote on/off control, heatsinks, pin length, thru-hole inserts, conformal coating, and terminal blocks. See the "Product Options" table on page 6 for more ordering information.
- (2) Input source impedance: the power module will operate as specified without external components, assuming that the source voltage has a very low impedance and reasonable input voltage regulation. Highly inductive source impedances can affect the stability of the power module. Since real-world voltage source has finite impedance, performance can be improved by adding external filter capacitor. For 24V input models we recommend 4.7µF/50V X7R MLCC or Nippon Chemi-con KY series, 68µF/100V or better capacitor.
- (3) Referred to -Vin pin
- (4) This product is Listed to applicable standards and requirements by UL.
- (5) Connecting four screw bolts to shiled plane will help to reduce the EMI.
- (6) With 2pcs of aluminum electrolytic capacitor:  
For 24 & 48VDC nominal input models: Nippon Chemi-con KY series, 220µF/100V  
For 110VDC nominal input models: Nippon Chemi-con KXJ series, 150µF/200V

**CAUTION:** This power module is not internally fused. An input line fuse must always be used.

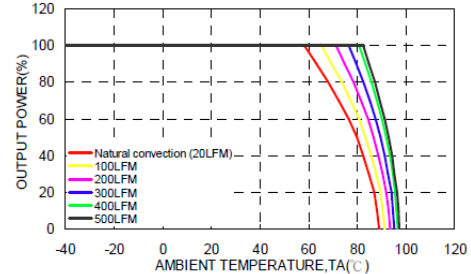
*Due to advances in technology, specifications are subject to change without notice.*

**DERATING CURVES**

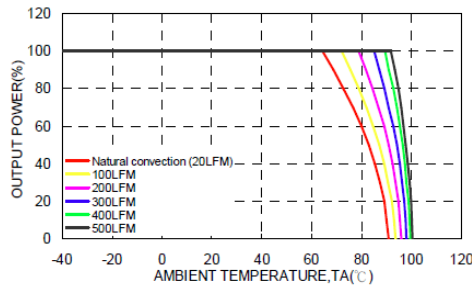
DCHBW75-48S05 Derating Curve (See Thermal Considerations)



DCHBW75-48S05 Derating Curve  
With 0.24" Height Heatsink (See Thermal Considerations)

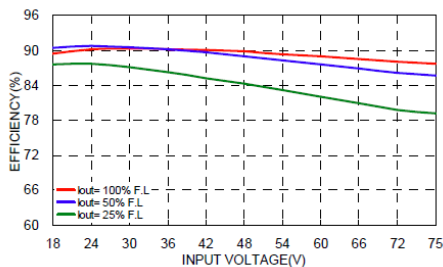


DCHBW75-48S05 Derating Curve  
With 0.45" Height Heatsink (See Note 8)

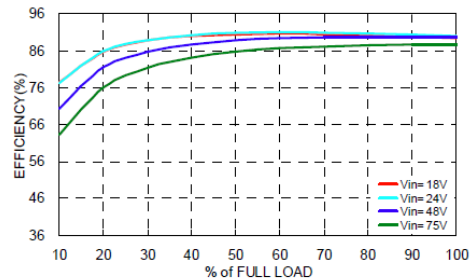


**EFFICIENCY GRAPHS**

DCHBW75-48S05 Efficiency vs. Input Voltage

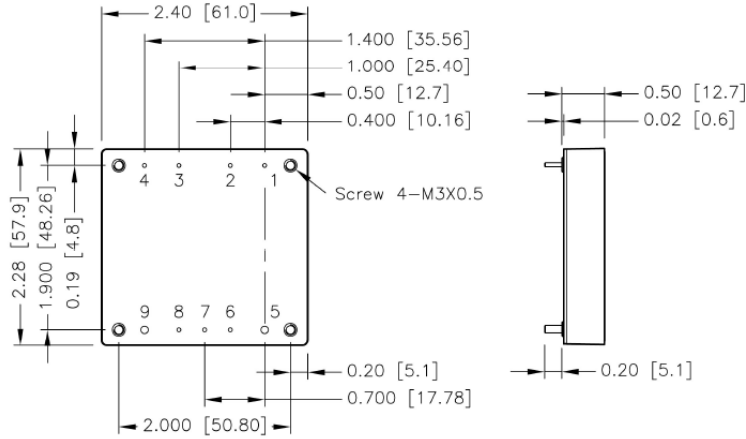


DCHBW75-48S05 Efficiency vs. Output Load



MECHANICAL DRAWINGS

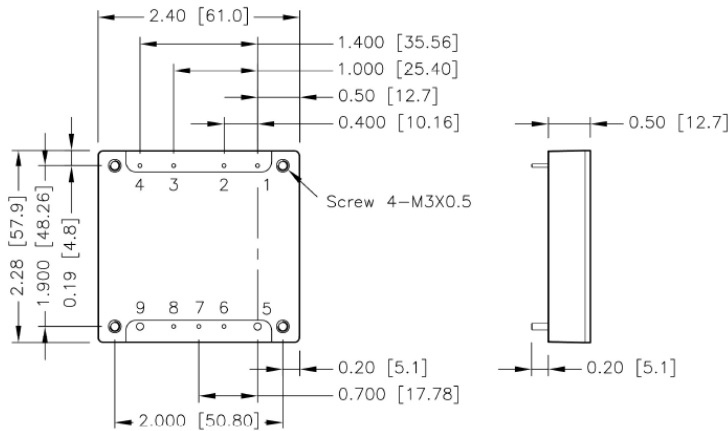
METAL CASE (24VDC & 48VDC Nominal Input Models)



BOTTOM VIEW

Screw Locked Torque: MAX 5.0kgf-cm/0.49N-m

PLASTIC CASE (110VDC Nominal Input Models)



BOTTOM VIEW

Screw Locked Torque: MAX 3.5kgf-cm/0.34N-m

PIN CONNECTION

PIN	DEFINE	DIAMETER
1	-Vin	0.04 Inch
2	Case	0.04 Inch
3	Ctrl	0.04 Inch
4	+Vin	0.04 Inch
5	-Vout	0.08 Inch
6	-Sense	0.04 Inch
7	Trim	0.04 Inch
8	+Sense	0.04 Inch
9	+Vout	0.08 Inch

Notes:

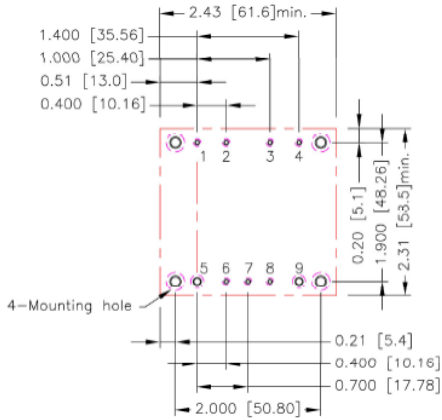
- All dimensions in inch (mm)
- Tolerance:  $x.xx \pm 0.02$  ( $x.x \pm 0.5$ )  
 $x.xxx \pm 0.01$  ( $x.xx \pm 0.25$ )
- Pin Dimension Tolerance  $\pm 0.004$  (0.1)

Product Options	Suffix	Product Options	Suffix
Negative Remote ON/OFF Logic	0.200" pin length	Heatsink <sup>(1)</sup>	H = 0.45" Vertical
	0.145" pin length		H = 0.24" Horizontal
Positive Remote ON/OFF Logic	0.200" pin length	Terminal Block <sup>(2)(3)</sup>	H = 0.24" Vertical
	0.145" pin length		H = 0.45" Horizontal
Thru-Hole Inserts (No Thread) <sup>(1)</sup>	00.126 thru-hole (no thread) inserts	Wall Mounted	T
Conformal Coating (for Wall Mounted Type)	Conformal Coating	Wall Mounted with EMC Filter	TF
		Wall mounted with EMC Filter can be connected to PE	TF1

Notes:

- Models with thru-hole inserts cannot be equipped with heatsink.
- Terminal block models have 0.200" pin lengths. 0.145" pin lengths are not available for terminal block models
- EMI filter meets EN55032 Class A.

RECOMMENDED PAD LAYOUT

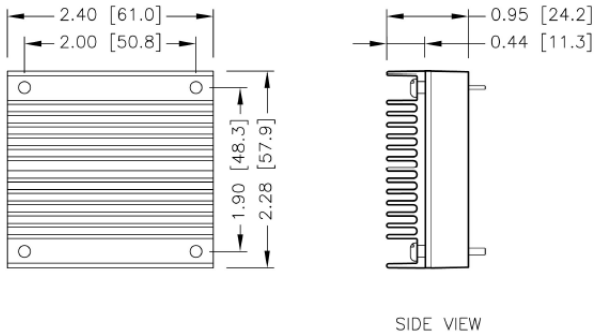


All dimensions in inch[mm]  
 Pad size (lead free recommended)  
 Through hole 1,2,3,4,6,7,8:  $\Phi 0.051[1.30]$   
 Through hole 5,9:  $\Phi 0.091[2.30]$   
 Through hole of mounting:  $\Phi 0.126[3.20]$   
 Top view pad 1,2,3,4,6,7,8:  $\Phi 0.064[1.63]$   
 Top view pad 5,9:  $\Phi 0.113[2.88]$   
 Top view pad of mounting:  $\Phi 0.157[4.00]$   
 Bottom view pad 1,2,3,4,6,7,8:  $\Phi 0.102[2.60]$   
 Bottom view pad 5,9:  $\Phi 0.181[4.60]$   
 Bottom view pad of mounting:  $\Phi 0.252[6.40]$

HEATSINK OPTIONS

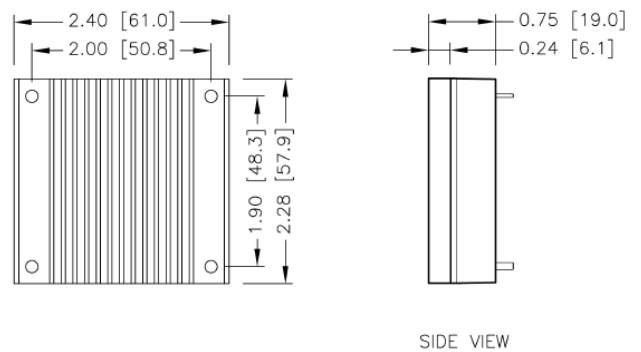
Vertical Fin Orientation, Suffixes: "HS", "HS2"

"HS" Suffix, 7G-0021A-F

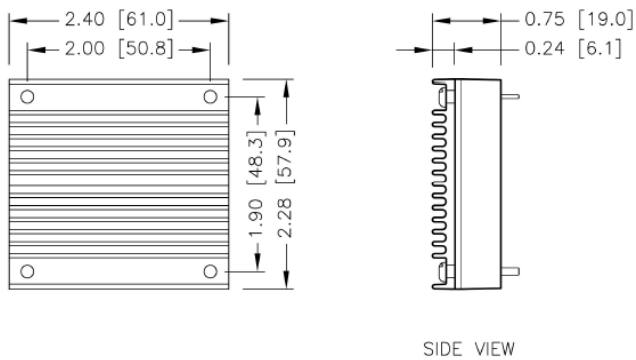


Horizontal Fin Orientation, Suffixes: "H1", "H3"

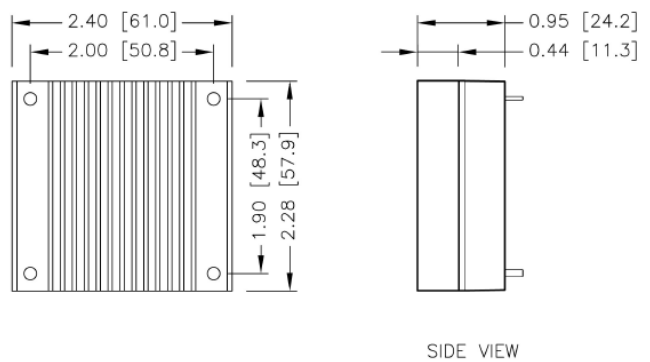
"H1" Suffix, 7G-0022A-F



"HS2" Suffix, 7G-0023A-F



"H3" Suffix, 7G-0024A-F



Note:  
 All dimensions in inch [mm]  
 Tolerance: x.xx±0.02 [x.x±0.5]  
 x.xxx±0.01 [x.xx±0.25]

**TERMINAL BLOCK OPTIONS**

**Wall Mounted without EMC Filter (Suffix "T")**

**Wall Mounted with EMC Filter (Suffix "TF")**

**Wall Mounted with EMC Filter can be connected to PE (Suffix "TF1")**

**TERMINAL CONNECTION: -T, -TF**

NO.	DEFINE
1	-Vin
2	Case/NC*
3	Ctrl
4	+Vin
5	-Vout
6	-Sense
7	Trim
8	+Sense
9	+Vout

\*Terminal 2 is "NC" for DCHBW75-110SxxTF

**TERMINAL CONNECTION: -TF1**

NO.	DEFINE
1	-Vin
2	NC
3	Ctrl
4	+Vin
5	-Vout
6	-Sense
7	Trim
8	+Sense
9	+Vout

**Notes:**

- All dimensions in inch (mm)
- Tolerance: x.xx±0.02 (x.x±0.5)  
x.xxx±0.01 (x.xx±0.25)
- Screw 1 locked torque: MAX 11.2kgf-cm/ 1.10N-m
- Screw 2 locked torque: MAX 5.2kgf-cm/ 0.51N-m
- Screw 3 locked torque: MAX 12.0kgf-cm/ 1.18N-m
- Screw 2 : M2.6  
Screw 3: M4

**THERMAL CONSIDERATIONS**

The power module operates in a variety of thermal environments. However, sufficient cooling should be provided to help ensure reliable operation of the unit. Heat is removed by conduction, convection, and radiation to the surrounding Environment. Proper cooling can be verified by measuring the point as the figure below. The temperature at this location should not exceed "Maximum case temperature". When Operating, adequate cooling must be provided to maintain the test point temperature at or below "Maximum case temperature". You can limit this Temperature to a lower value for extremely high reliability.

- Thermal test condition with vertical direction by natural convection (20LFM).
- The heat-sink is optional and P/N: 7G-0021A-F , 7G-0022A-F , 7G-0023A-F , 7G-0024A-F.

**BASE PLATE**

**OUTPUT VOLTAGE ADJUSTMENT**

Output voltage is adjustable for 10% trim up or -20 trim down of nominal output voltage by connecting an external resistor between the Trim pin and either the +Sense or -Sense pins.

With an external resistor between the Trim and -Sense pin, the output voltage set point decreases.

With an external resistor between the Trim and +Sense pin. The output voltage set point increases.

Maximum output deviation is +10% inclusive of remote sense.

The external TRIM resistor needs to be at least 1/8W of rated power.

**Trim Up Equation**

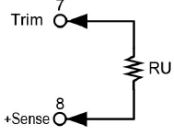
$$R_U = \left( \frac{V_{OUT}(100 + \Delta\%)}{1.225\Delta\%} - \frac{100 + 2\Delta\%}{\Delta\%} \right) k\Omega$$

**Trim Down Equation**

$$R_D = \left( \frac{100}{\Delta\%} - 2 \right) k\Omega$$

**External Output Trimming**

**Trim Up**



**3.3V Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
Vout (V)	3.333	3.366	3.399	3.432	3.465	3.498	3.531	3.564	3.597	3.630
RU (k $\Omega$ )	170.082	85.388	57.156	43.041	34.571	28.925	24.892	21.867	19.515	17.633

**5V Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
Vout (V)	5.05	5.10	5.15	5.20	5.25	5.30	5.35	5.40	5.45	5.50
RU (k $\Omega$ )	310.245	156.163	104.803	79.122	63.714	53.442	46.105	40.602	36.322	32.898

**12V Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
Vout (V)	12.12	12.24	12.36	12.48	12.60	12.72	12.84	12.96	13.08	13.20
RU (k $\Omega$ )	887.388	447.592	300.993	227.694	183.714	154.395	133.452	117.745	105.528	95.755

**15V Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
Vout (V)	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	16.50
RU (k $\Omega$ )	1134.735	572.490	385.075	291.367	235.143	197.660	170.886	150.806	135.188	122.694

**24V Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
Vout (V)	24.24	24.48	24.72	24.96	25.20	25.44	25.68	25.92	26.16	26.40
RU (k $\Omega$ )	1876.776	947.184	637.320	482.388	389.429	327.456	283.190	249.990	224.168	203.510

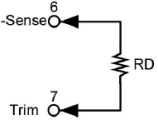
**28V Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
Vout (V)	28.28	28.56	28.84	29.12	29.40	29.68	29.96	30.24	30.52	30.80
RU (k $\Omega$ )	2206.571	1113.714	749.429	567.286	458.000	385.143	333.102	294.071	263.714	239.429

**48V Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
Vout (V)	48.48	48.96	49.44	49.92	50.40	50.88	51.36	51.84	52.32	52.80
RU (k $\Omega$ )	3855.551	1946.367	1309.973	991.776	800.857	673.578	582.665	514.480	461.447	419.020

**Trim Down**



**All Models**

$\Delta V$ (%)	1	2	3	4	5	6	7	8	9	10
RD (k $\Omega$ )	98.000	48.000	31.333	23.000	18.000	14.667	12.286	10.500	9.111	8.000
$\Delta V$ (%)	11	12	13	14	15	16	17	18	19	20
RD (k $\Omega$ )	7.091	6.333	5.692	5.143	4.667	4.250	3.882	3.556	3.263	3.000



MODEL NUMBER SETUP

Through Hole Models

DCHBW	75	-	48	S	05	R	TH	H
Series Name	Output Power		Input Voltage	Output Quantity	Output Voltage	Remote On/Off & Pin Length	Thru-Hole Inserts <sup>(1)</sup>	Heatsink <sup>(1)</sup>
	75: 75 Watts		24: 9~36VDC 48: 18~75VDC 110: 43~160VDC	S: Single	3.3: 3.3VDC 05: 5VDC 12: 12VDC 15: 15VDC 24: 24VDC 28: 28VDC 48: 48VDC	None: Positive Logic, 0.200" pin length S: Positive Logic, 0.145" pin length R: Negative Logic, 0.200" pin length RL: Negative Logic, 0.145" pin length	None: Threaded Inserts TH: No thread <sup>(1)</sup>	None: No Heatsink H: 0.45" Vertical 7G-0021A-F H1: 0.24" Horizontal 7G-0022A-F H2: 0.24" Vertical 7G0023A-F H3: 0.45" Horizontal 7G-0024A-F

Wall Mounted Models

DCHBW	75	-	48	S	05	R	TF	C
Series Name	Output Power		Input Voltage	Output Quantity	Output Voltage	Remote On/Off & Pin Length	Terminal Block <sup>(2)</sup>	Conformal Coating
	75: 75 Watts		24: 9~36VDC 48: 18~75VDC 110: 43~160VDC	S: Single	3.3: 3.3VDC 05: 5VDC 12: 12VDC 15: 15VDC 24: 24VDC 28: 28VDC 48: 48VDC	None: Positive Logic, 0.200" pin length R: Negative Logic, 0.200" pin length	None: No Terminal Block T: Without EMC filter TF: Integrated EMC Filter <sup>(3)</sup> TF1: Integrated EMC Filter can be connected to PE <sup>(3)</sup>	None: None C: Conformal Coating

NOTES

1. Models with thru-hole inserts cannot be equipped with a heatsink.
2. Only 0.200" pin length is available with terminal block options.
3. EMI Filter meets EN55032 Class A

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## COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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