



# 15 WATT

## Single And Dual Output

DIN Rail, Wide Input  
DC/DC Converters



### FEATURES

- DIN Rail DC/DC Converters
- 4:1 Input Range
- 15 Watts Output Power
- Single and Dual Output
- EN55022 Class B
- Internal input fuse protection
- Internal input reverse polarity protection
- Internal input in-rush current limit circuit
- Overload and short circuit protection
- Over voltage protection
- RoHS EU Directive 2002/95/EC
- Reliable snap-on for DIN Rail TS-35/7.5 OR TS-35/15
- I/O-isolation 1600 Vdc
- Case protection meets IP 20 (IEC60529)
- Output DC-OK indicator

DMWB15 Series

### SPECIFICATIONS

#### INPUT

Voltage Range.....	24Vdc nominal input...9.5-36Vdc
	48Vdc nominal input...18-75Vdc
Input Surge Voltage.....	24Vdc input...50Vdc 100ms. max
	48Vdc input...100Vdc 100ms. max
Input fuse (slow blow).....	24Vdc input...6A
	48Vdc input...4A
In-rush current.....	15A
Input reflected ripple current.....	10mA p-p
Start up time Nominal input and Power Up.....	100mS
Startup Voltage.....	constant resistive load
	24Vdc input...9.5Vdc
	48Vdc input...18Vdc
Shutdown Voltage.....	24Vdc input...7.5Vdc
	48Vdc input...15Vdc
Remote ON/OFF (Option) (Note 7)	
(Positive logic).....	DC-DC ON.....Open or 3 V <Vr <12V
	DC-DC OFF...Short or 0 V < Vr < 1.2V
(Negative Logic).....	DC-DC ON.....Short or 0V < Vr < 1.2V
	DC-DC OFF.....Open or 3V <Vr <12V
Input current of Remote control pin...Nominal Input .....	-0.5mA. - +0.5mA.
Remote off state input current...Nominal input.....	2.5 mA.

#### OUTPUT

Output power.....	15 Watts Max.
Voltage accuracy.....	3.3 V Out.....±2.0%
	Others.....±1.2%
Minimum Load.....	0%
Line Regulation.....	LL to HL at Full Load.....
	Single.....±0.2%
	Dual.....±0.5%
Load Regulation.....	No load to Full Load.....
	3.3V Out.....±2.0%
	Others.....±1.5%
Load Cross Regulation (Note 6).....	Dual.....±5%
Ripple and Noise.....	20mHZ Bandwidth.....See Table
Temperature Coefficient.....	±0.02%/°C Max.
Transient Response recovery time.....	25% load step change.....250uS
Over voltage protection.....	3.3Vdc Output.....3.9Vdc
Zener diode clamp.....	5Vdc Output.....6.2Vdc
	12Vdc Output.....15Vdc
	15Vdc Output.....18Vdc
Output Indicator.....	Green LED
Over load protection.....	0% of FL at nominal input.....150%
Short circuit protection.....	Hiccup, automatic recovery

See next page for additional specifications.



**ADDITIONAL SPECIFICATIONS**

GENERAL

Efficiency.....See Table  
 Isolation Voltage.....Input to Output.....1600Vdc, min. 1 minute  
 .....Input (Output) to Chassis.....1600Vdc, min. 1 minute  
 Isolation resistance..... $10^9$  ohms, min.  
 Isolation capacitance.....4000pF, max.  
 Switching frequency.....400KHz  $\pm$ 10%  
 Design meets safety standard.....IEC60950-1, UL60950-1, EN60950-1  
 Chassis material.....Aluminum  
 Dimensions.....4.92 x 2.27 x 0.97  
 .....(125.0 x 57.6 x 24.5 mm)  
 Weight.....147.5 g (5.19 oz.)  
 MTBF (Note 1).....BELLCORE TR-NWT-000332..... $1.289 \times 10^5$  hrs.  
 .....MIL-HDBK-217F..... $9.197 \times 10^5$  hrs.

ENVIRONMENTAL

Operating ambient temperature.....-40 to +85° C (without derating)  
 Storage temperature range.....-40 to +105° C  
 Thermal Shock.....MIL STD 810F  
 Vibration.....MIL STD 810F  
 Relative Humidity.....5% to 95% RH

EMC

EMI.....EN55022.....Class B  
 ESD.....EN61000-4-2.....Air.....+/-8KV  
 .....Perf. Criteria A.....Contact.....+/-6KV

Radiated Immunity.....EN61000-4-3.....10 V/m.....Perf. Criteria A  
 Fast transient.....EN61000-4-4.....+/-2KV.....Perf. Criteria A  
 Surge.....EN61000-4-5.....+/-0.5KV.....Perf. Criteria A  
 Conducted immunity.....EN61000-4-6.....10Vr.m.s.....Perf. Criteria A

**SELECTION GUIDE**

Input Voltage Range	Output Voltage	Output Current		Output <sup>(4)</sup> Ripple & Noise	Input Current		Efficiency <sup>(4)</sup> (%)	Model Number	Case	Capacitor Load max. <sup>(5)</sup>
		Min. load	Full load		No load <sup>(3)</sup>	Full load <sup>(2)</sup>				
9.5 - 36 Vdc	3.3 Vdc	0mA	4500mA	50mVp-p	52mA	773mA	84	DMWB15-24S3.3	DR	14700µF
9.5 - 36 Vdc	5 Vdc	0mA	3000mA	50mVp-p	67mA	772mA	85	DMWB15-24S5	DR	7200µF
9.5 - 36 Vdc	5.1 Vdc	0mA	3000mA	50mVp-p	67mA	787mA	85	DMWB15-24S5.1	DR	7200µF
9.5 - 36 Vdc	12 Vdc	0mA	1250mA	75mVp-p	26mA	772mA	85	DMWB15-24S12	DR	1250µF
9.5 - 36 Vdc	15 Vdc	0mA	1000mA	75mVp-p	26mA	772mA	85	DMWB15-24S15	DR	800µF
18 - 75 Vdc	3.3 Vdc	0mA	4500mA	50mVp-p	37mA	387mA	84	DMWB15-48S3.3	DR	14700µF
18 - 75 Vdc	5 Vdc	0mA	3000mA	50mVp-p	38mA	381mA	86	DMWB15-48S5	DR	7200µF
18 - 75 Vdc	5.1 Vdc	0mA	3000mA	50mVp-p	38mA	389mA	86	DMWB15-48S5.1	DR	7200µF
18 - 75 Vdc	12 Vdc	0mA	1250mA	75mVp-p	18mA	386mA	85	DMWB15-48S12	DR	1250µF
18 - 75 Vdc	15 Vdc	0mA	1000mA	75mVp-p	18mA	386mA	85	DMWB15-48S15	DR	800µF
9.5 - 36 Vdc	$\pm$ 5 Vdc	0mA	$\pm$ 1500mA	75mVp-p	57mA	772mA	85	DMWB15-24-5	DR	$\pm$ 3600µF
9.5 - 36 Vdc	$\pm$ 12 Vdc	0mA	$\pm$ 625mA	75mVp-p	35mA	762mA	86	DMWB15-24-12	DR	$\pm$ 625µF
9.5 - 36 Vdc	$\pm$ 15 Vdc	0mA	$\pm$ 500mA	75mVp-p	35mA	762mA	86	DMWB15-24-15	DR	$\pm$ 400µF
18 - 75 Vdc	$\pm$ 5 Vdc	0mA	$\pm$ 1500mA	75mVp-p	37mA	381mA	86	DMWB15-48-5	DR	$\pm$ 3600µF
18 - 75 Vdc	$\pm$ 12 Vdc	0mA	$\pm$ 625mA	75mVp-p	20mA	381mA	86	DMWB15-48-12	DR	$\pm$ 625µF
18 - 75 Vdc	$\pm$ 15 Vdc	0mA	$\pm$ 500mA	75mVp-p	20mA	381mA	86	DMWB15-48-15	DR	$\pm$ 400µF

Note:

- BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C.  
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment)
- Maximum value at nominal input and full load.
- Typical value at nominal input and no load.
- Typical value at nominal input and full load.
- Test by minimum input and constant resistive load.
- Cross regulation for dual output : asymmetrical load 25% / 100% FL
- The ON/OFF control pin voltage is referenced to -INPUT .  
To order positive logic ON/OFF control add the suffix-P (Ex:DMWB15-48S5-P)  
To order negative logic ON/OFF control add the suffix-N (Ex:DMWB15-48S5-N)

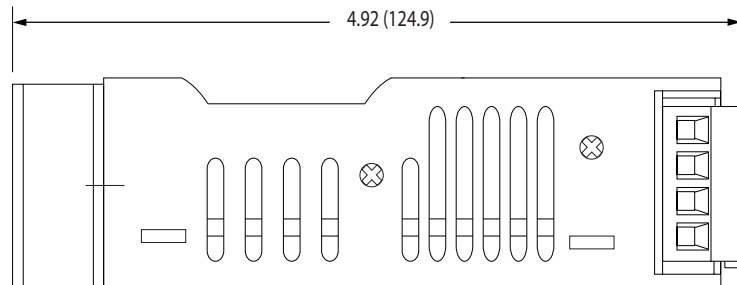
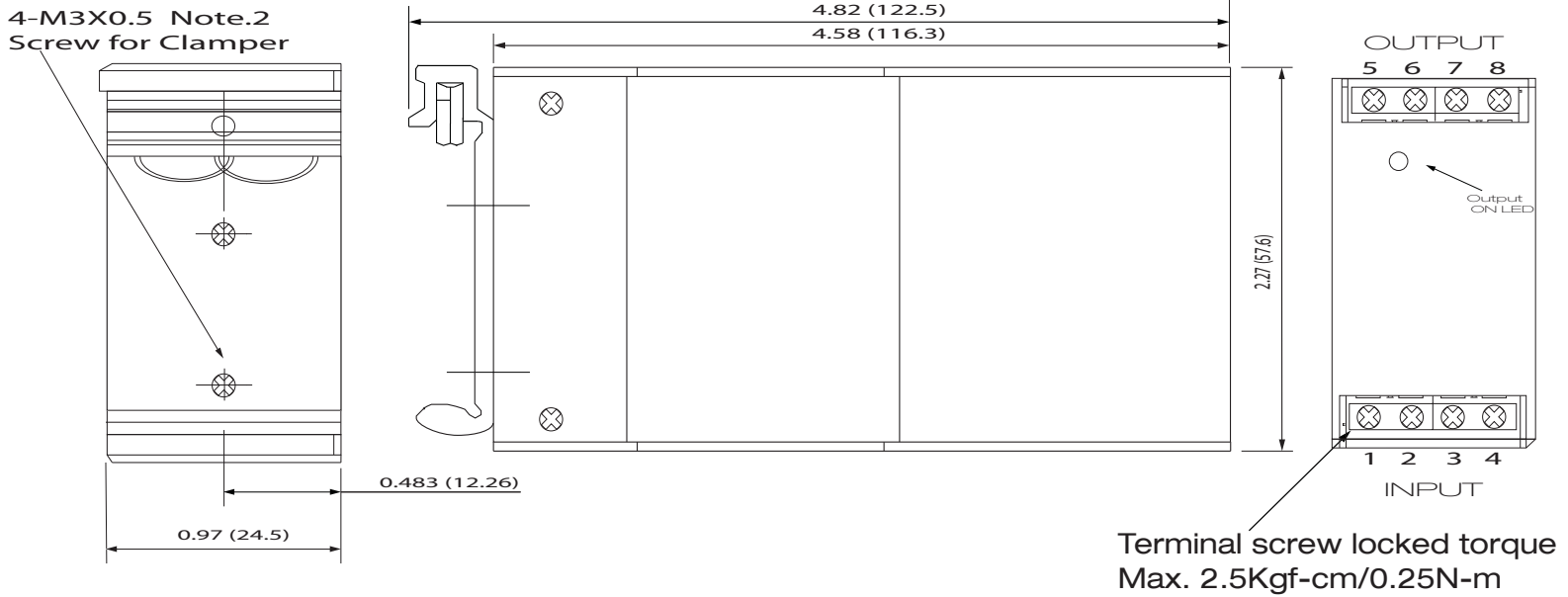
See next page for mechanical specifications.



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1. All dimensions in inches (mm)  
Tolerance: X.XX ±0.02 (X.X±0.5)  
X.XXX±0.01 (X.XX±0.25)
2. The screw locked torque: Max 0.49N.M (5.0Kgf.cm)

PRODUCT OPTIONS TABLE	
OPTION	SUFFIX
Positive logic Remote ON/OFF	-P
Negative logic Remote ON/OFF	-N

PIN CONNECTION		
PIN	SINGLE	DUAL
1	CTRL	CTRL
2	-INPUT	-INPUT
3	-INPUT	-INPUT
4	+INPUT	+INPUT
5	NC	NC
6	-OUTPUT	-OUTPUT
7	+OUTPUT	COMMON
8	NC	+OUTPUT



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