



20 WATT

Single And Dual Output

DIN Rail, Wide Input
DC/DC Converters

FEATURES

- DIN Rail DC/DC Converters
- 4:1 Input Range
- 20 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

DMWB20 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 3V < Vr < 12V
.....	DC-DC OFF...Short or 0V < 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.....	20 Watts Max.
Voltage accuracy.....	3.3 V Out±2.0%
.....	Others.....±1.2%
Minimum Load.....	0%
Voltage adjustability (Note 6)	
.....	Single.....±10%
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 7).....	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.



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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.....10⁹ ohms, min.
 Isolation capacitance.....4000pF, max.
 Switching frequency.....400KHz ±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 x 10⁶ hrs.
MIL-HDBK-217F.....9.197 x 10⁵ 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

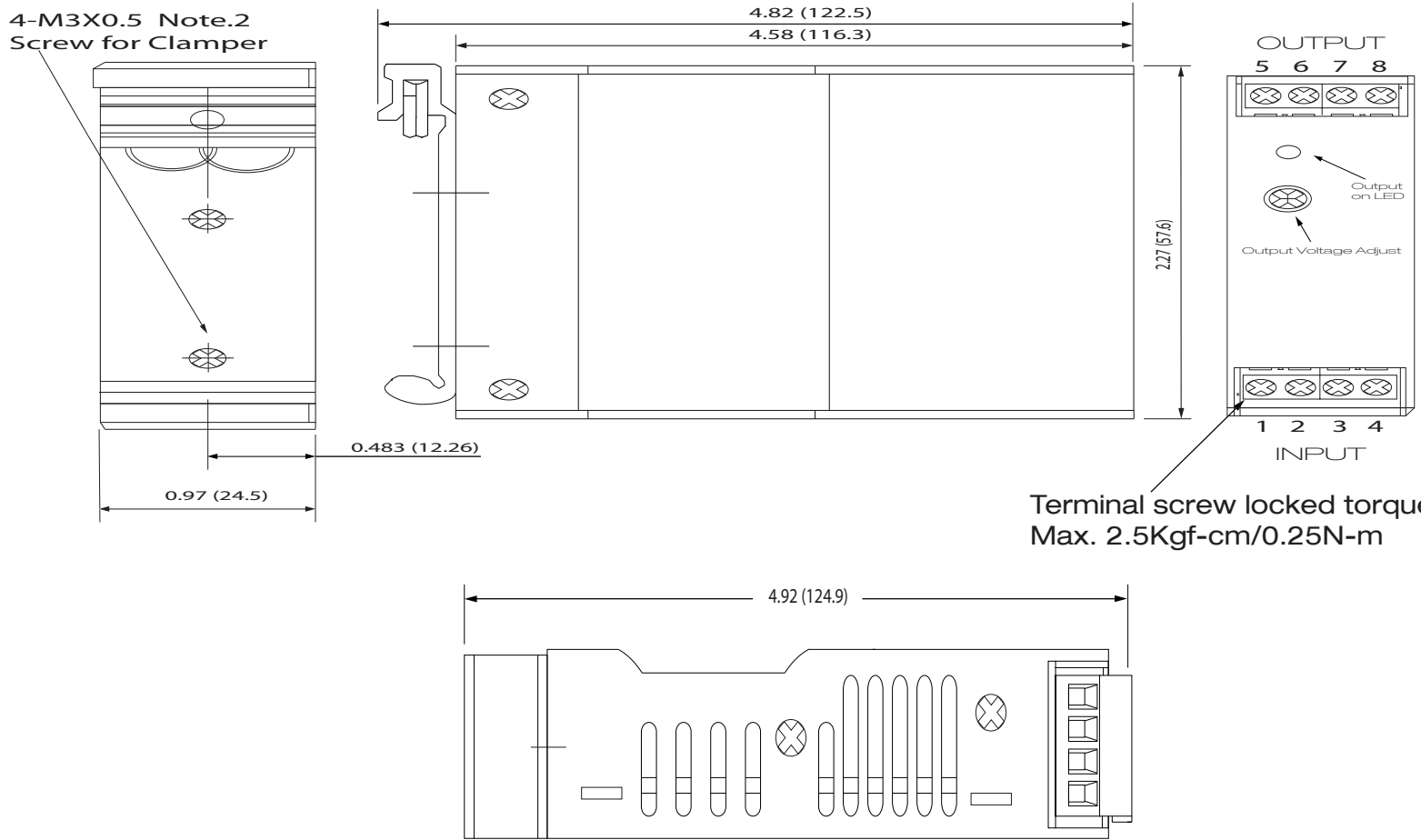
Radiated Immunity.....EN61000-4-3.....10 V/m.....Perf. Criteria A
 Fast transient.....EN61000-4-4.....+/-2KV.....Perf. Criteria A
 Surge.....EN61000-4-5.....+/-0.5KV.....Perf. Criteria A
 Conducted immunity.....EN61000-4-6.....10Vr.m.s.....Perf. Criteria A

SELECTION GUIDE

Input Voltage Range	Output Voltage	Output Current		Output ⁽⁴⁾ Ripple & Noise	Input Current		Efficiency ⁽⁴⁾ (%)	Model Number	Case	Capacitor Load max. ⁽⁵⁾
		Min. load	Full load		No load ⁽³⁾	Full load ⁽²⁾				
9.5 - 36 Vdc	3.3 Vdc	0mA	5500mA	60mVp-p	52mA	957mA	83	DMWB20-24S5	DR	18000µF
9.5 - 36 Vdc	5 Vdc	0mA	4800mA	75mVp-p	67mA	1016mA	86	DMWB20-24S5.1	DR	9600µF
9.5 - 36 Vdc	12 Vdc	0mA	1670mA	75mVp-p	26mA	1043mA	84	DMWB20-24S12	DR	1650µF
9.5 - 36 Vdc	15 Vdc	0mA	1330mA	75mVp-p	27mA	1039mA	84	DMWB20-24S15	DR	1050µF
18 - 75 Vdc	3.3 Vdc	0mA	5500mA	60mVp-p	37mA	473mA	83	DMWB20-48S3.3	DR	18000µF
18 - 75 Vdc	5 Vdc	0mA	4000mA	75mVp-p	37mA	508mA	86	DMWB20-48S5	DR	9600µF
18 - 75 Vdc	12 Vdc	0mA	1670mA	75mVp-p	18mA	515mA	85	DMWB20-48S5.1	DR	1650µF
18 - 75 Vdc	15 Vdc	0mA	1330mA	75mVp-p	18mA	513mA	85	DMWB20-48S15	DR	1050µF
9.5 - 36 Vdc	± 5 Vdc	0mA	± 2000mA	100mVp-p	59mA	1016mA	86	DMWB20-24-5	DR	± 4800µF
9.5 - 36 Vdc	± 12 Vdc	0mA	± 833mA	100mVp-p	34mA	1028mA	85	DMWB20-24-12	DR	± 825µF
9.5 - 36 Vdc	± 15 Vdc	0mA	± 667mA	100mVp-p	35mA	1029mA	85	DMWB20-24-15	DR	± 525µF
18 - 75 Vdc	± 5 Vdc	0mA	± 2000mA	100mVp-p	37mA	502mA	87	DMWB20-48-5	DR	± 4800µF
18 - 75 Vdc	± 12 Vdc	0mA	± 833mA	100mVp-p	20mA	508mA	86	DMWB20-48-12	DR	± 825µF
18 - 75 Vdc	± 15 Vdc	0mA	± 667mA	100mVp-p	20mA	508mA	86	DMWB20-48-15	DR	± 525µF

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.
- Single output installs a potentiometer to adjust the output voltage.
- 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:DMWB20-48S5-P)
To order negative logic ON/OFF control add the suffix-N (Ex:DMWB20-48S5-N)



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