



FEATURES

- DIN Rail DC/DC Converters
- 30 Watts Output Power
- Offer Single And Dual Output
- Meet 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
- Compliant to 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 meet IP20(IEC60529)
- Output DC-OK indicator

APPLICATIONS

Communication System
Industry Control System
Factory Automatic Equipment
Semiconductor Equipment

DESCRIPTION

The DFEC30 series was designed to easy application of din rail DC-DC converters. Easy installation is provided with snap-on mounting on the DIN-rail. Internal protection circuits such as input reversal and in-rush current limit protection, as well as output short-circuit and over-voltage protection. A green LED at the front displays the status of the output(s).

TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25°C otherwise noted

OUTPUT SPECIFICATIONS		
Output power		30 Watts, max
Voltage accuracy	Single/Dual	± 1%
	Single (3.3Vo)	± 1.5%
Minimum load		0%
Voltage adjustability (Note 7)	Single output	± 10%
Line regulation	LL to hI at Full load	Single ± 0.2%
		Dual ± 0.5%
Load regulation	No load to Full load	± 1.5%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL	± 5%
Ripple and noise	20MHz bandwidth	See table
Temperature coefficient		±0.02% / °C, max
Transient response recovery time	25% load step change	300µs
Over voltage protection	3.3V output	3.9VDC
	5V output	6.2VDC
	Zener diode clamp	12V output 15VDC 15V output 18VDC
Output indicator		Green LED
Over load protection	% of FL at nominal input	150%, max
Short circuit protection		Hiccup, automatics recovery
GENERAL SPECIFICATIONS		
Efficiency		See table
Isolation voltage	Input to Output	1600VDC, min
	Input(Output) to chassis	1600VDC, min
Isolation resistance		10 ⁹ ohms, min
Isolation capacitance		4000pF, max
Switching frequency		300KHz, typ
Meet safety standard		IEC60950-1, UL60950-1, EN60950-1
Chassis material		Aluminum
Dimensions		4.92 X 2.27 X 0.97 Inch (125.0 X 57.6 X 24.5 mm)
Weight		170g (5.98oz)
MTBF (Note 1)	BELLCORE TR-NWT-000332	1.014 x 10 ⁶ hrs
	MIL-HDBK-217F	3.464 x 10 ⁵ hrs

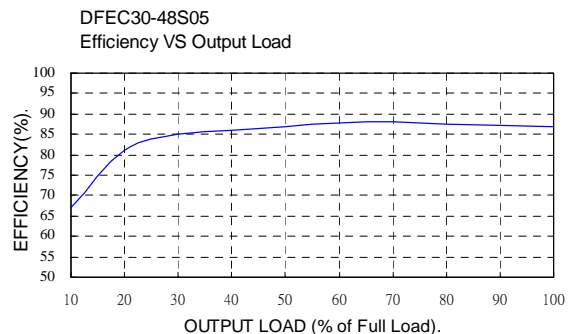
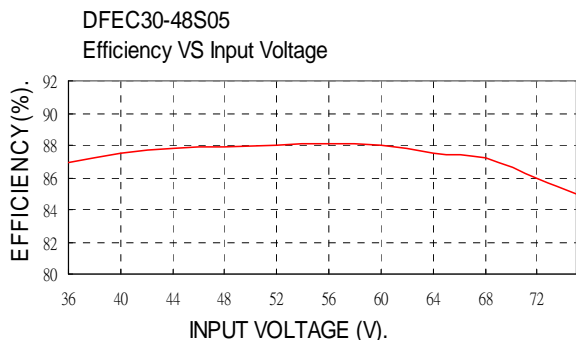
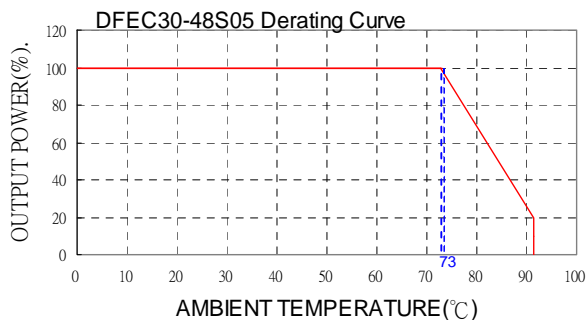
INPUT SPECIFICATIONS		
Input voltage range	12V nominal input	9.5 – 18VDC
	24V nominal input	18 – 36VDC
	48V nominal input	36 – 75VDC
Input surge voltage 100mS max	12V input	36VDC
	24V input	50VDC
	48V input	100VDC
Input fuse (slow blow)	12V input	6A
	24V input	6A
	48V input	4A
In-rush current	Nominal Vin and full load	15A typ
Input reflected ripple current	Nominal Vin and full load	15mA p-p
Start up time	Nominal Vin and constant resistive load	Power up 100ms typ Remote ON/OFF 25ms typ
Start-up voltage	12V input	9.5VDC
	24V input	17.8VDC
	48V input	36VDC
Shutdown voltage	12V input	8VDC
	24V input	16VDC
	48V input	33VDC
Remote ON/OFF (Note 2) (Positive logic) (Standard)	DC-DC ON	Open or 3 V < Vr < 12V
	DC-DC OFF	Short or 0V < Vr < 1.2V
	Input current of Remote control pin	Nominal Vin -0.5mA ~ + 0.5mA
Remote off state input current	Nominal Vin	2.5mA
ENVIRONMENTAL SPECIFICATIONS		
Operating ambient temperature		-40°C ~ +70°C (without derating) +70°C ~ +94°C (with derating)
Storage temperature range		-40°C ~ +105°C
Thermal shock		MIL-STD-810F
Vibration		MIL-STD-810F
Relative humidity		5% to 95% RH
EMC CHARACTERISTICS		
EMI	EN55022	Class B
ESD	EN61000-4-2	Air ± 8KV Contact ± 6KV
		Perf. Criteria A
Radiated immunity	EN61000-4-3	10 V/m Perf. Criteria A
Fast transient	EN61000-4-4	± 2KV Perf. Criteria A
Surge	EN61000-4-5	± 1KV Perf. Criteria A
Conducted immunity	EN61000-4-6	10 Vr.m.s Perf. Criteria A

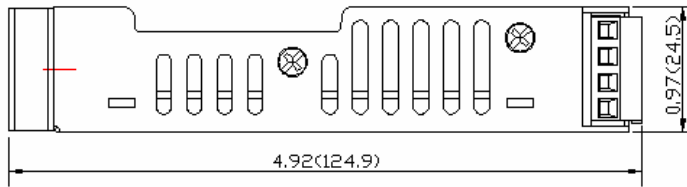
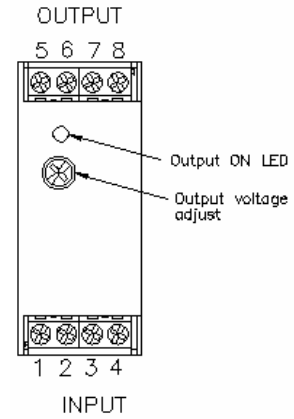
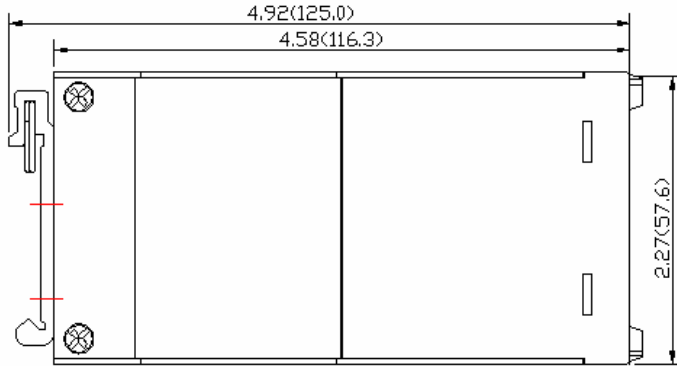


Model Number	Input Range	Output Voltage	Output Current		Output (3) Ripple & Noise	Input Current		Eff (3) (%)	Capacitor (6) Load max
			Min. load	Full load		No load (4)	Full load(5)		
DFEC30-12S3P3	9.5 – 18 VDC	3.3 VDC	0mA	6000mA	50mVp-p	119mA	2143mA	81	19500μF
DFEC30-12S05	9.5 – 18 VDC	5 VDC	0mA	6000mA	50mVp-p	100mA	3165mA	83	10200μF
DFEC30-12S12	9.5 – 18 VDC	12 VDC	0mA	2500mA	75mVp-p	178mA	3125mA	84	3240μF
DFEC30-12S15	9.5 – 18 VDC	15 VDC	0mA	2000mA	75mVp-p	220mA	3125mA	84	1100μF
DFEC30-12D12	9.5 – 18 VDC	±12 VDC	0mA	±1250mA	100mVp-p	68mA	3165mA	83	±1020μF
DFEC30-12D15	9.5 – 18 VDC	±15 VDC	0mA	±1000mA	100mVp-p	50mA	3165mA	83	±675μF
DFEC30-24S3P3	18 – 36 VDC	3.3 VDC	0mA	6000mA	50mVp-p	52mA	1044mA	83	19500μF
DFEC30-24S05	18 – 36 VDC	5 VDC	0mA	6000mA	50mVp-p	52mA	1543mA	85	10200μF
DFEC30-24S12	18 – 36 VDC	12 VDC	0mA	2500mA	75mVp-p	84mA	1524mA	86	3300μF
DFEC30-24S15	18 – 36 VDC	15 VDC	0mA	2000mA	75mVp-p	95mA	1524mA	86	1100μF
DFEC30-24D12	18 – 36 VDC	±12 VDC	0mA	±1250mA	100mVp-p	34mA	1543mA	85	±1020μF
DFEC30-24D15	18 – 36 VDC	±15 VDC	0mA	±1000mA	100mVp-p	35mA	1543mA	85	±675μF
DFEC30-48S3P3	36 – 75 VDC	3.3 VDC	0mA	6000mA	50mVp-p	32mA	509mA	85	19500μF
DFEC30-48S05	36 – 75 VDC	5 VDC	0mA	6000mA	50mVp-p	37mA	753mA	87	10200μF
DFEC30-48S12	36 – 75 VDC	12 VDC	0mA	2500mA	75mVp-p	38mA	744mA	88	3300μF
DFEC30-48S15	36 – 75 VDC	15 VDC	0mA	2000mA	75mVp-p	58mA	744mA	88	1100μF
DFEC30-48D12	36 – 75 VDC	±12 VDC	0mA	±1250mA	100mVp-p	23mA	762mA	86	±1020μF
DFEC30-48D15	36 – 75 VDC	±15 VDC	0mA	±1000mA	100mVp-p	23mA	762mA	86	±675μF

Note

- BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. MIL-HDBK-217F Notice2 @ Ta=25 °C, Full load(Ground, Benign, controlled environment).
- The ON/OFF control pin voltage is referenced to -Vin.
- Typical value at nominal input voltage and full load.
- Typical value at nominal input voltage and no load.
- Maximum value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- Single output installs a potentiometer to adjust the output voltage.





All dimensions in Inches (mm)
Tolerance: X.XX±0.04 (X.X±1.0)
X.XXX±0.02 (X.XX±0.5)

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

※ NC : No Connection
※ Screw terminals – wire range from 14 to 18 AWG



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