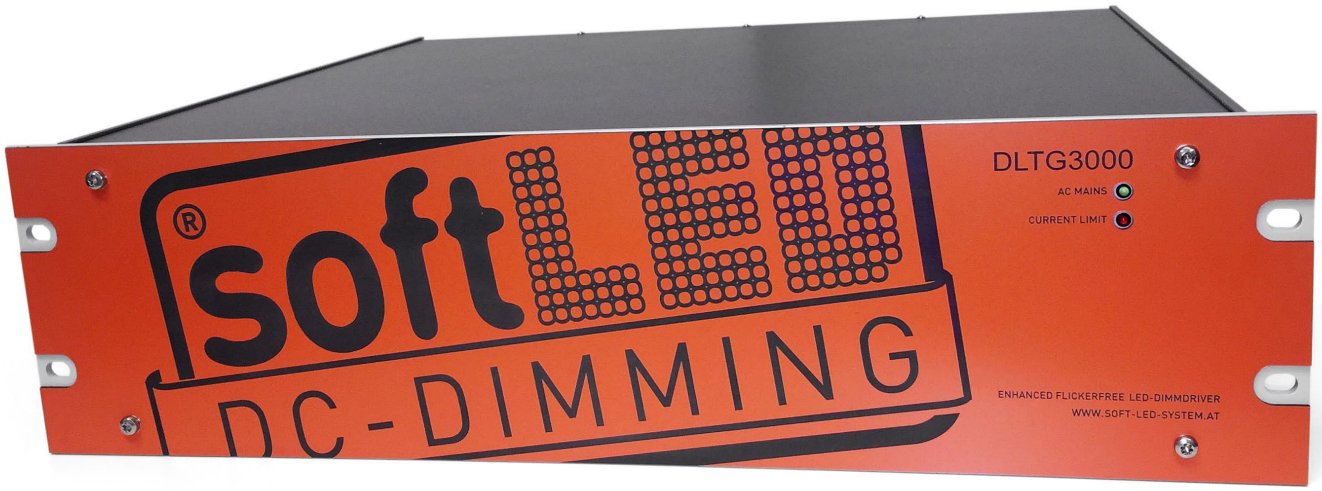
DLTG3000

3000 W DC POWER SUPPLY



FEATURES

- Designed for long life at full power
- Excellent dynamic response to load changes
- Protected against all overload and short circuit conditions
- EMC surpasses CE requirements: low emission & high immunity
- Low audible noise: fans are temperature controlled
- Available options: High Speed Programming, Interfaces, Extra Isolation, Sequencer, Power Sink etc.

FUNCTIONALITIES

- Master/Slave parallel and series operation with voltage and current sharing
- Stacking is allowed, space between units is not required
- High power system configuration from multiple units
- 19“ rack mounting or for laboratory use (feet included)
- Remote sensing

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		DLTG3000
Output		
voltage		0-300 V
current		0-10 A
Input		
AC 3 phase, 48 - 62 Hz for use at 380 V, 400 V, 415 V nominal line - line voltage		342-457 V
current (400 V AC / 3 phase)		5.5 Arms
power factor (380 V / 3 phase)		
100% load		0.88
50% load		0.78
DC		contact factory
fuses		16 AT
standby input power (V_o=I_o=0)		25 W
standby input power (V_o=V_{max})		50 W
Efficiency		
AC 3 phase input, full load		90 %
Regulation		
Load 0 - 100%	**CV**	15 mV
Line 342 - 457 V AC	**CV**	10 mV
Load 0 - 100%	**CC**	3 mA
Line 342 - 457 V AC	**CC**	3 mA
Ripple + noise, rms / p-p **(BW = 20 MHz)**	**CV**	10 / 50 mV *below50V: 25/120mV*
	CC	3 / 10 mA *below50V: 60/200mA*
Temp. coeff., per °C	**CV**	typical 10.10^{-6}, max. 35.10^{-6}
	CC	typical 20.10^{-6}, max. 60.10^{-6}
Stability		
after 1 hr warm-up		
during 8 hrs	**CV**	typical 2.10^{-5}, max 4.10^{-5}
	CC	typical 3.10^{-5}, max. 10.10^{-5}
during 30 hrs	**CV**	typical 2.10^{-5}, max. 5.10^{-5}
	CC	typical 5.10^{-5}, max. 10.10^{-5}
t_{amb} = 25 ± 1 °C		

Analog Programming	**CV**	**CC**
Programming inputs		
input range	0-5 V	0-5 V
accuracy	±0.2% 0 mV ... +8 mV (on 5V)	±0.5% 0 mV ... +20 mV (on 5V)
temp. coeff. offset	10 µV / °C	150 µV / °C
input impedance	1 MOhm	1 MOhm
Monitoring output		
output range	0-5 V	0-5 V
accuracy	±0.2% -3 mV ... +11 mV	±0.5% -5 mV ... +0 mV
temp. coeff. offset	10 µV / °C	150 µV / °C
output impedance	20 Ohm	20 Ohm

Reference voltage		
on prog. connector	V_{ref}	5.165 ± 31 mV
	TC	typical 12 ppm / max. 30 ppm
+ 12 V Output	V_0	±12 V
on prog. connector	I_{max}	25 mA
	R_0	500 Ω
Status outputs		
CC-status		5V / 10 mA = logic 1
OVP-status		5V / 10 mA = logic 1
Remote ShutDown		with + 5V or relay contact

Programming speed ***Standard Version*** (resistive load)	
Rise time (10 - 90%) output voltage step time, (100 % load) time, (10 % load)	 0 → 300 V 7 ms 7 ms
Fall time (90 - 10%) output voltage step time, (100 % load) time, (10 % load)	 300 → 0 V 11 ms 91 ms
Programming bandwidth small signal large signal,(100 % load) large signal,(10 % load)	 50 Hz 50 Hz
Programming speed ***High Speed Version*** (resistive load)	
Rise time (10 - 90%) output voltage step time, (100 % load) time, (10 % load)	 0 → 300 V 1.00 ms 0.40 ms
Fall time (90 - 10%) output voltage step time, (100 % load) time, (10 % load)	 300 → 0 V 1.20 ms 11.0 ms

Recovery time recovery within di/dt of load step time, @ 50 - 100% load step max. deviation	 1.5 V 0.6 A/µs 100 µs 2 V
Noise suppression line - line ⇒ output line - earth ⇒ output	 90 dB 90 dB
Output impedance CV, 0-100 kHz	 < 800 mOhm
Pulsating load max. tolerable AC component of load current f > 1 kHz f < 1 kHz	 2.5 Arms 10 A peak

Insulation input / output creepage / clearance input / case output / case	 3750 Vrms (1 min.) 8 mm 2500 Vrms 600 V DC
Safety	EN 60950 / EN 61010
EMC Power Supply Standard	**EN 61204-3**, Emission: residential, **light** industrial environment (CISPR22-Class **B**) Immunity: industrial environment
Generic Emission **Generic Immunity**	**EN 61000-6-3**, residential, **light** industrial environment (EN 55022**B**) **EN 61000-6-2**, industrial environment
Operating temperature at full load	– 20 to + 50 °C
Humidity	max. 95% RH, non condensing, up to 40 °C max. 75% RH, non condensing, up to 50 °C
Storage temperature	– 40 to + 85 °C
Thermal protection	Output shuts down in case of insufficient cooling
MTBF	500 000 hrs

Hold-Up time 100% load Vin = 3x 380 V AC 50% load Vin = 3x 380 V AC	 6 ms 15 ms
Turn on delay after mains switch on	 300 ms
Inrush current	5.8 A @ 400 V AC input
Phase loss	The power supply will continue to operate on one phase but at 90% of V_{out}(max) (a SM30-100D adjusted at 27 V will continue to deliver 27 V after phase loss)

Series operation max. total voltage Master / Slave operation	 600 V yes
Parallel operation max. total current Master / Slave operation	 no limit max. 4 units
Remote sensing max. voltage drop per load lead	 2 V
OVP / OVL adjustment range	 0 - 350 V

Potentiometers front panel control with knobs resolution screwdriver adjustment at front panel at rear panel	 standard 0.03 % option P001 option P002
Meters scale voltage scale current accuracy	 3.5 digit 0 - 300 V 0 - 10.00 A 0.5% + 2 digit

Mounting	Stacking of units allowed, air flow is from left to right.
Input Terminals input connections	screw terminals for cable 1.5 - 4.0 mm^2 3 phase + earth (no neutral required)
Output Terminals	6 mm bind post
Programming connector	15 pole D-connector at rear panel (FEMALE)
Cooling audio noise level	Low noise blower, fan speed adapts to temperature of internal heatsink. ca. 50 dBA at full load and 25 °C ambient temperature ca. 60 dBA at full load and 50 °C ambient temperature
Enclosure degree of protection	 IP20
Dimensions behind front panel: h x w x d front panel: h x w	 128.5 x 443 x 416 mm (with option P099, feet are removed) 128.5 x 483 mm (19", 3 U)
Weight	15 kg