EDCM3000

V013-01-01

SPECIFICATIONS (1/3)

ITEMS \ MODEL				EDCM3000 -60	EDCM3000 -130
INPUT RATING					
Input Voltage Range			VDC	160 - 420	
Efficiency (Typ.)			%	93	
Input Current (Typ.)			A	11.1	11.2
Inrush Current (Typ.)	(*2)(*3)		A	60	
OUTPUT RATING					
Nominal Output Voltage			V	60	130
Maximum Output Voltage	(*1)		V	66.0	156.0
Maximum Output Current	(*22)		A	50	23.2
Maximum Output Power	(*22)		W	3000	3016
CONSTANT VOLTAGE MODE					
Output Voltage Range by adjustment trimmer	(*1)		V	48.0 - 66.0	104.0 - 156.0
Output Voltage Range by Programming	(*1)(*4)		V	0 - 66.0	0 - 156.0
Maximum Line Regulation	(*5)		mV	240	520
Maximum Load Regulation	(*6)		mV	480	1040
Temperature Coefficient			-	0.02%/°C	
Maximum Ripple & Noise		0 ≤ Ta ≤ 70°C	mVp-p	500	866
	(*7)	-20 ≤ Ta < 0°C	mVp-p	600	1083
Remote Sensing			-	Possible	
Output Voltage External Control Using CV Terminal			-	Apply external voltage or current : 1 - 5V or 4 - 20mA Output Voltage : 0% - Nominal output voltage	
Output Voltage External Control Using Modbus	(*16)		-	0-4,000 (Output Voltage : 0% - Nominal output voltage)	
CONSTANT CURRENT MODE					
Output Current External Control Range	(*1)(*11)		A	0 - 50.0	0 - 23.2
Maximum Line Regulation	(*4)		mA	200	92.8
Maximum Load Regulation	(*12)		mA	400	185.6
Temperature Coefficient			-	0.02%/°C	
Output Current External Control Using CC Terminal			-	Apply external voltage or current : 1 - 5V or 4 - 20mA Output Current : 0% - Maximum output Current	
Output Current External Control Using Modbus RTU	(*16)		-	0-4,000 Output Current : 0% - Maximum output Current	
PROTECTION					
Over Current Protection	(*8)		A	52.5 <	24.3 <
Over Voltage Protection	(*9)		V	70.2 - 72.6	165.1 - 170.3
Over Power Protection	(*10)		W	3375	
ANALOG PROGRAMMING AND MONITORING					
Remote ON/OFF Control			-	Possible	
Parallel Operation	(*13)		-	Possible, Current balancing function is provided	
Series Operation	(*14)		-	Possible, Voltage balancing function is provided	
Output Voltage Monitor using VB terminal	(*15)		-	Output Voltage : 0% - Nominal output voltage VB terminal voltage : 1 - 5V	
Output Current Monitor using CB terminal	(*15)		-	Output Current : 0% - Maximum output Current CB terminal voltage : 1 - 5V	
Monitoring Signal			-	Power Fail(VPF, CPF), Input Fail(INF) (Open Collector Output)	

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SPECIFICATIONS (2/3)

ITEMS \ MODEL			EDCM3000 -60	EDCM3000 -130
COMMUNICATION				
Digital Communication	(*16)	-	Modbus RTU (RS-485)	
AUXILIARY OUTPUT				
Output Voltage (Typ.)		V	5	
Maximum Output Current		A	2	
ENVIRONMENT				
Operating Temperature	(*17)	-	-20 to +70°C, Guarantee Start up : -40 to -20°C	
Storage Temperature		-	-40°C to +85°C	
Operating Humidity		-	20 to 90%RH (Non Condensing)	
Storage Humidity		-	10 to 95%RH (Non Condensing)	
Vibration	(*18)(*19)	-	At no operating, 10 - 55Hz (Sweep for 1min) 19.6m/s^2 Constant, X,Y,Z 1hour each.	
Shock	(*18)(*19)	-	Less than 196m/s^2	
Cooling	(*20)	-	Forced air cooling (Internal FAN)	
ISOLATION				
Withstand Voltage		-	Input-FG : 2.0kVAC (20mA) for 1min. Input-Output : 3.0kVAC (20mA) for 1min. Input-Signal, AUX : 3.0kVAC (20mA) for 1min. Output-Signal, AUX : 2.0kVAC (20mA) for 1min. Output-FG : 1.5kVAC (20mA) for 1min.	
Isolation Resistance		-	More than 100MΩ at 25°C and 70%RH, Output - FG 500VDC	
STANDARD AND COMPLIANCE				
Safety		-	-	
Conducted Emission	(*18)	-	Designed to meet EN55011/EN55032-A, FCC-ClassA, VCCI-A	
Radiated Emission	(*18)	-	Designed to meet EN55011/EN55032-A, FCC-ClassA, VCCI-A	
Immunity	(*18)(*21)	-	Designed to meet IEC61000-6-2 (IEC61000-4-2, -3, -4, -5, -6, -8)	
MECHANICAL				
Weight (Typ.)		kg	2.3	
Size (W x H x D)		mm	150x 61 x 270 (Refer to Outline Drawing)	

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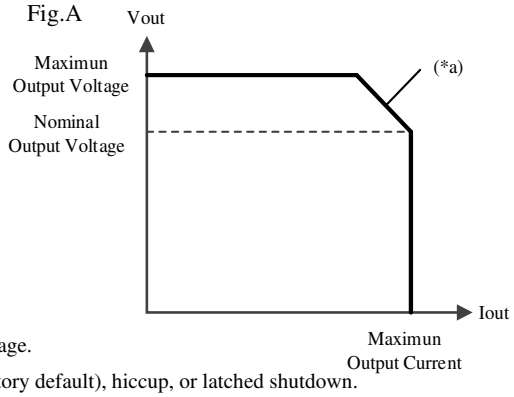
SPECIFICATIONS (3/3)

*Read Instruction Manual (V013-04-01_) carefully, before using the power supply unit.

=NOTES=

*1. When using the product above the nominal output voltage, derate the output current so that the maximum output power is not exceeded. Please refer to Fig. A.
(*a) Limited by maximum output power value

Fig.A



*2. Ta=25°C, nominal output voltage and maximum output power.

*3. Not applicable for the inrush current to Noise Filter for less than 0.2ms.

*4. Output voltage external control range using CV terminal and communication function.

*5. 220-420VDC, constant load.

*6. No load - Full load, constant input voltage.

*7. Please refer to Instruction Manual (V013-04-01_) for measurement of ripple noise voltage.

*8. Overcurrent protection (OCP) allows you to select the protection operation: droop (factory default), hiccup, or latched shutdown.
Manual reset is performed by turning the power off and on, or by restarting via remote ON/OFF control.
The OCP threshold can be adjusted through the communication function.
A dynamic overload, such as an output short circuit, will cause the output to shut down.

*9. Overvoltage protection (OVP) allows you to select the protection operation: latched shutdown (factory default) or hiccup.
Manual reset is performed by turning the power off and on, or by restarting via remote ON/OFF control.
The OVP threshold can be adjusted through the communication function.

*10. Overpower protection (OPP) provides automatic recovery with constant power limitation.
If the overpower condition persists, the output voltage or current is limited so as not to exceed the set limit.
The OPP threshold can be adjusted through the communication function.

*11. Output voltage external control range using CC terminal and communication function.

*12. Minimum output voltage - Nominal output voltage, constant input voltage, maximum output current operation.

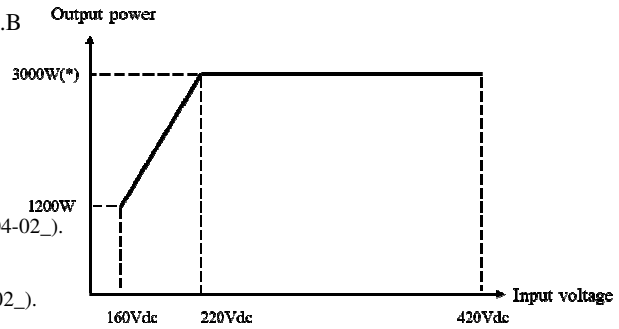
*13. Up to 10 units.

*14. Up to 3 units.

*15. Use a measuring instrument whose input impedance is 500kΩ or more.

*16. <Communication function example>
- Control of output voltage and output current. - Remote ON/OFF control.
- Product status including product life can be monitored.
- Operation history can be obtained.(OCP,OVP,INPUT Fail, etc.) etc.
Refer to instruction manual (V013-04-01_) and communication manual (V013-04-02_).

Fig.B



(*) Maximum output power depends on output voltage.
Refer to output ratings for values.

*17. Output Derating
- Refer to OUTPUT CURRENT vs. AMBIENT TEMPERATURE (V013-01-02_).
At -40 to -20°C, the electrical characteristics are not guaranteed.

*18. The specifications are based on TDK-Lambda standard measurement conditions.
The power supply is considered a component which will be installed into a final equipment.
The final equipment should be re-evaluated that it meets EMC, vibration and shock requirement.

*19. Mounting A only.

*20. Variable speed fan. Fan noise is 45dB (typ) at 25°C and 70% load.

*21. Signal and control ports interface cables length: Less than 3m, DC output power port cables length: Less than 30m.

*22. Please refer to Fig.B for maximum output power of each input voltage.

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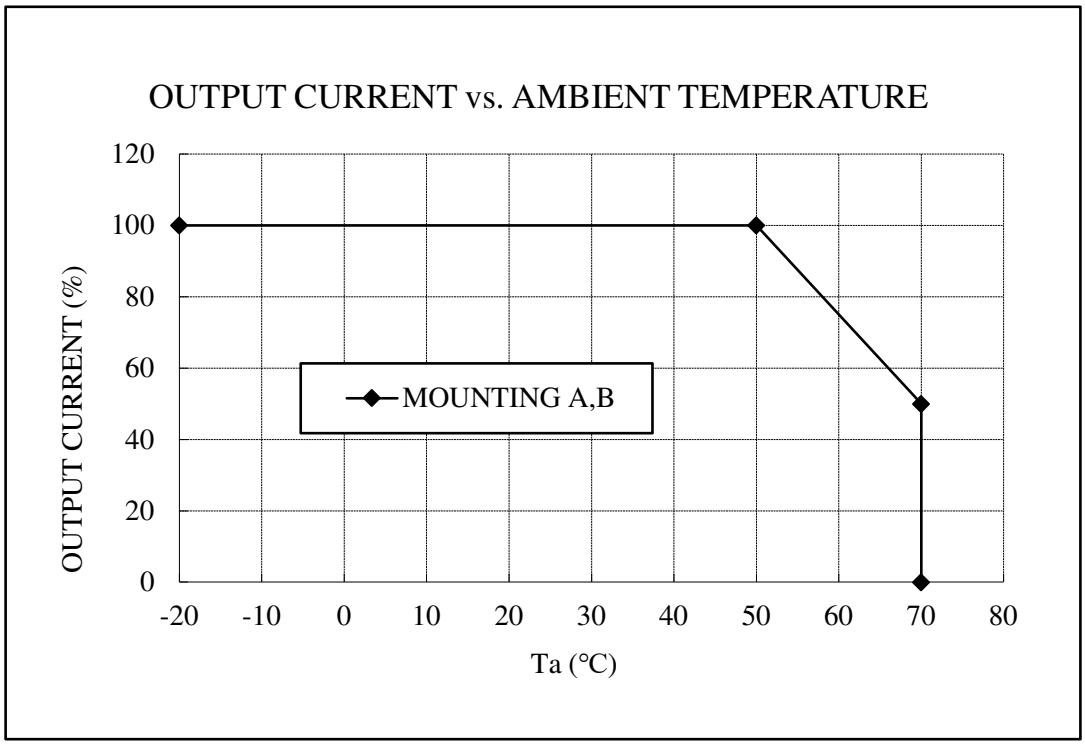
OUTPUT DERATING

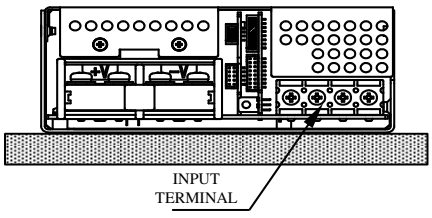
V013-01-02

Ta (°C)	OUTPUT CURRENT (%)
	MOUNTING A,B
-20 to +50	100
70	50



MOUNTING A

(STANDARD MOUNTING)



MOUNTING B