

Technical Information

E2405

Product name
E2405



Description	E2405
	Single-Phase Power Supply 24 V / 5 A for DIN Rail and electrical control cabinet

Characteristics	
	Ultra slim design
	Universal AC input voltage range
	Built-in constant current circuit for reactive loads
	High Power Density
	Reduced no-load power consumption
	Operate from -30°C to +70°C with -40°C Cold Start
	Compliance with DOE VI Energy Standard
	Compliance to SEMI F47 @ 200Vac

Input	
Nominal Input Voltage	100 - 240 VAC
Input Voltage Range	90 - 264 VAC
Nominal Input Frequency	50 - 60 Hz
Input Frequency Range	47 - 63 Hz
Efficiency	88.5 % at 230 VAC
Inrush Current	2.1 A/115 VAC 1.3 A/230 VAC
Power consumption without load	0.15 W max. at 115 VAC & 230 VAC
Max. Inrush current	35 A at 230 VAC
Leakage Current	< 0.5 mA at 240 VAC

Output	
Nominal Output Voltage	24 V
Output Current	5 A
Output Power	120 W
Output Voltage Adjustment Range	21.6-26.4 VDC
Factory Set Point Tolerance	± 1 %
Line Regulation	± 0.5 % (at 115 & 230 VAC)
Load Regulation	± 0.5 %
PARD ²	< 150m Vpp at 0°C to 70°C < 450m Vpp at -30°C to 0°C
Rise Time	30 ms typ at 115 & 230 VAC
Start-up Time	500 ms typ.at 115 & 230 VAC
Hold-up Time	10ms typ. at 115Vac (100% load) 16ms typ. at 230Vac (100% load)
Dynamic Response (Overshoot & Undershoot O/P Voltage)	± 10% @ 115 & 230 VAC Input, 10-100 % load (Slew Rate: 2.5A/μS, 50% duty cycle @ 5Hz & 10KHz)
Start-up with Capacitive Loads	8.000 μF max.

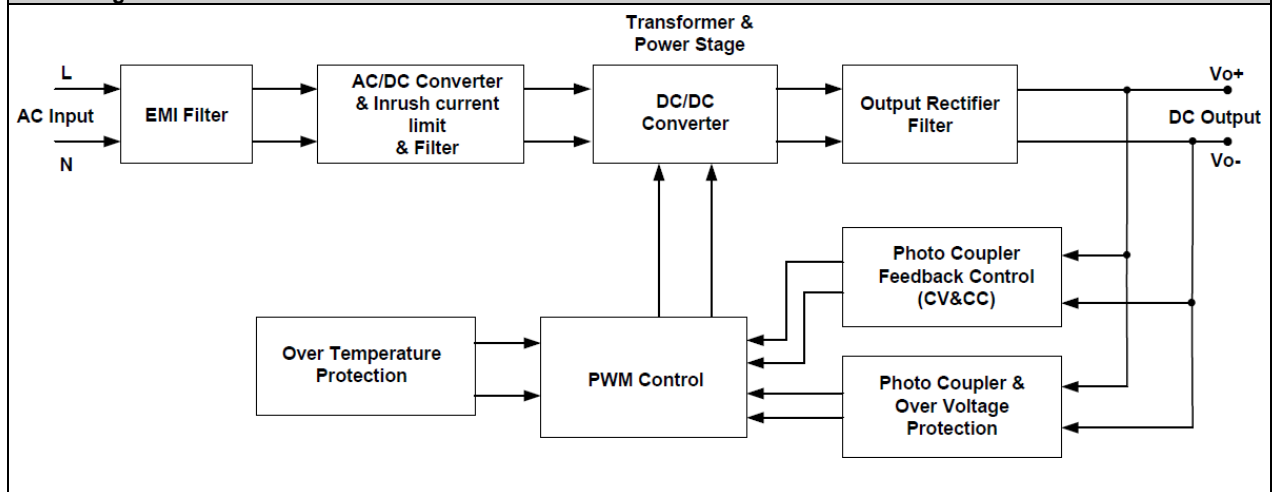
Protection	
Overvoltage	<33.6 V, SELV Output, Latch Mode
Overload/ Overcurrent	105 - 150% of rated load current, Auto-recovery Continuous current limit Mode (Vo>80%)
Over Temperature	Latch Mode
Short Circuit	Hiccup Mode, Non-Latching (Auto-Recovery when the fault is removed)
Protection Against Shock	Class I with PE-connection

Environment	
Surrounding Air Temperature	-30°C to +70°C (-30°C cold start)
Humidity	20 to 90% RH (non-condensing)
Storage Temperature	-40°C to +85°C
Power De-rating (temperature)	> 40°C de-rate power by 1.67 % / °C @ 115Vac > 50°C de-rate power by 2.5 % / °C @ 230Vac
Power De-rating (input voltage)	< 100VAC de-rate power by 1 %/VAC
Operating Altitude	0 – 5.000 m
Vibration	Non-operating: IEC 60068-2-6, Random: 5Hz to 500Hz (2.09G); 20 min per axis for all X, Y, Z direction Operating: IEC 60068-2-6, Sine Wave: 10Hz to 500Hz @ 19.6 m/s ² (2G peak); 10 min per cycle, 60 min for X direction
Shock Test	Non-operating: IEC 60068-2-27, Half Sine Wave: 50G for duration of 11ms; 3 times per direction, 9 times in total Operating: IEC 60068-2-27, Half Sine Wave: 10G for duration of 11ms; 1 time in X axis
Over Voltage Category	II (Compliance to EN 62477-1 OVC III with 2000 meters altitude)
Pollution Degree	3

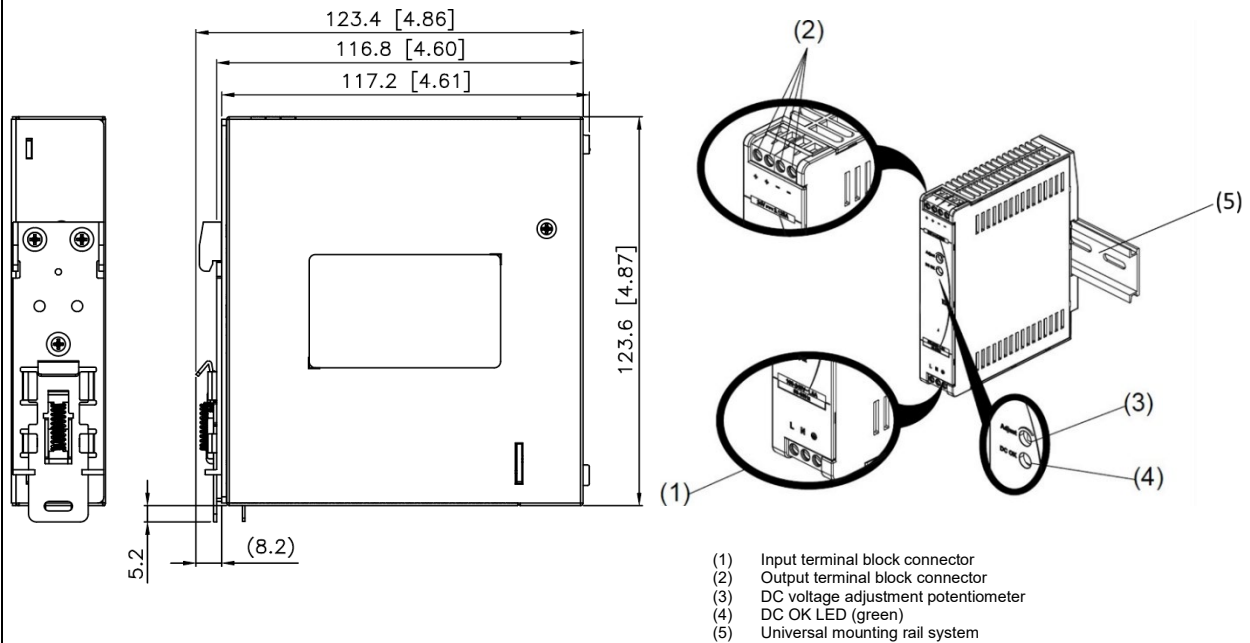
Security/ EMC	
Electrical Safety	CB Scheme; IEC 62368-1, IEC 60950-1, IEC 61010-1 & -2-201 TÜV Bauart: EN 62368-1, EN 61010-1 & -2-201 UL/cUL: UL 62368-1 CCC: GB4943.1 EAC: TP TC 004/2011 KC: K60950-1
CE	In conformance with EMC Directive 2014/30/EU and Low Voltage Directive 2014/35/EU
Galvanic Isolation	Input-Output: 3 KVAC Input-Ground: 2 KVAC Output-Ground: 1 KVAC
EMC (CE & RE)	CISPR 32, EN 55032, EN 61000-6-4, AS/NZS CISPR32, EN 61204-3, KN32 Compliance to FCC Title 47, EN 61000-6-3: Class B
Component Power Supply for General Use	EN61204-3

EMV Immunity	EN 55035, KN35 (24V model only), EN 61000-6-2 Compliance to EN 61000-6-1	
Electrostatic Discharge	IEC 61000-4-2	Level 4, Criteria A Air Discharge: 15kV Contact Discharge: 8kV
Radiated Field	61000-4-3	Criteria A 80MHz-1GHz, 10V/M, 80% Modulation (1kHz) 1.4GHz-2GHz, 3V/M, 80% Modulation (1kHz) 2GHz-2.7GHz, 1V/M, 80% Modulation (1kHz)
Electrical Fast Transient / Burst	61000-4-4	Level 3, Criteria A 2kV
Surge	IEC 61000-4-5	Level 4, Criteria A Common Mode (Line to earth): 4kV Differential Mode (Line to line): 2kV
Conducted	IEC 61000-4-6	Level 3, Criteria A 150kHz-80MHz, 10Vrms
Power Frequency Magnetic Fields	IEC 61000-4-8	Level 2, Criteria A 30 A/m
Voltage Dips and Interruptions	IEC 61000-4-11	0 % residual, 1 cycle, Criteria B 40 % residual, 10 cycles, Criteria C 70 % residual, 25 cycles, Criteria C
Harmonic Current Emission	IEC/EN 61000-3-2	Class A
Voltage Fluctuation and Flicker	IEC/EN 61000-3-3	
Voltage Sag Immunity	SEMI F47 – 0706	80 % of 200 VAC, 160 VAC, 1000 ms (Criteria B) 70 % of 200 VAC, 140 VAC, 500 ms (Criteria A) 50% of 200 VAC, 100 VAC, 200 ms (Criteria A)
MTBF – Mean Time between Failure	Telcordia > 700.000 hrs.; SR-332: IP : 115 & 230 VAC, O/P : 100% load, Ta: 25°C	
Expected Cap Lifetime	10 years (230VAC, 50% load at 40°C)	

Block diagram



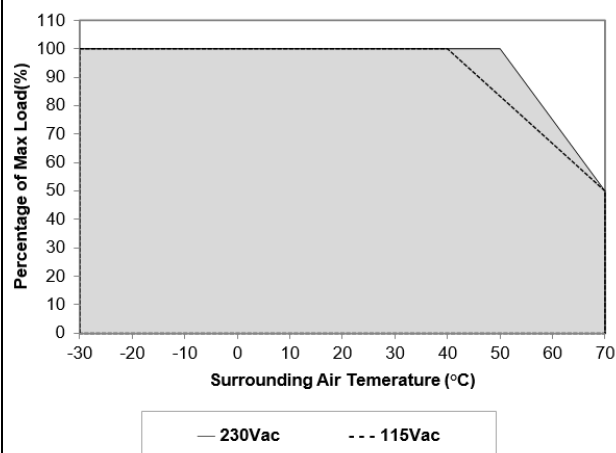
Mechanical Data



Dimensions L x W x D in mm	123.6 x 30 x 117.2 mm
Weight in kg	0.45
Case Cover/ Chassis	Plastic
Indicator	Green LED (DC-OK)
Cooling	Convection
Terminal	Input: 3 Pins (rated 300V/30A) Output: 4 Pins (rated 300V/20A)
Wire	Input: AWG 18-12 Output: AWG 18-12
Mounting rail	Standard TS35 mounting rail (in accordance EN 60715)
Noise (1 Meter from power supply)	SPL < 25dBA

Derating

Temperature/Load



Input Voltage/Load

