SERIES: PSK-70E | **DESCRIPTION:** INTERNAL AC-DC POWER SUPPLY

FEATURES

- universal input range (85 ~ 264 Vac)
- Class B emissions (EN 55032/CISPR)
- certified to IEC/EN/UL 62368-1
- designed to meet IEC/EN 60335
- short circuit, over voltage protection
- <0.15 W no-load power consumption
- Class I or Class II
- up to 5,000 m operating altitude
- OVC III

MODEL	output voltage typ (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency[2] typ (%)
PSK-70E-5	5	10.0	50	150	86
PSK-70E-12	12	5.80	70	120	90
PSK-70E-15	15	4.65	70	150	90
PSK-70E-24	24	2.92	70	240	90
PSK-70E-36	36	1.94	70	360	90
PSK-70E-48	48	1.46	70	480	91

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope with 0.1µF ceramic capacitor and 10 µF electrolytic capacitor.
2. At 230 Vac input.
3. All specifications are measured at Ta=25°C, humidity <75%, nominal input voltage, and rated output load unless otherwise specified.

PART NUMBER KEY

PSK - 70E - XX - X

- PSK - 70E: Base Number
- XX: Output Voltage
- X: Mounting Style:
  "blank" = board mount
  T = chassis mount
  DIN = DIN-rail mount

Please read our datasheet & drawing disclaimer here.

INPUT

parameter	conditions/description	min	typ	max	units
voltage[4]	ac input (safety approved) dc input	85 120	100~240	264 370	Vac Vdc
frequency		47	50~60	63	Hz
current	at 100 Vac, full load			1.5	A
inrush current	at 240 Vac, full load		130		A
leakage current	touch			0.25	mA
no load power consumption				0.15	W

Notes: 4. See the derating curve for more details.

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model 36 Vdc output model 48 Vdc output model			10,300 6,000 4,700 2,920 1,980 930	µF µF µF µF µF µF
output voltage set point	5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model 36 Vdc output model 48 Vdc output model	4.90 11.76 14.85 23.76 34.64 47.52		5.10 12.24 15.15 24.24 36.36 48.48	Vdc Vdc Vdc Vdc Vdc Vdc
voltage accuracy	5, 12 Vdc output model all other output models		±2 ±1		% %
line regulation	high line to low line			±0.5	%
load regulation	10 % to 100 % load			±1.0	%
hold-up time	at 115 Vac		10		ms
switching frequency			65		kHz

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	auto recovery, hiccup 5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model 36 Vdc output model 48 Vdc output model			 6.3 15.6 18.0 29.1 43.3 56.8	 Vdc Vdc Vdc Vdc Vdc Vdc
over current protection	auto recovery, hiccup	110		140	%
short circuit protection	auto recovery, hiccup				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, for 1 minunte			6,000	Vdc
safety approvals	certified to 62368-1: IEC, EN, UL designed to meet 60335: IEC, EN				
safety class	Class I or Class II				
EMC	EN 55032: 2015+A11:2020 Class B EN IEC 61000-3-2: 2019+A1:2021, EN 61000-3-3: 2013+A2:2021				
EMC immunity	EN 55035: 2017+A11:2020				
conducted emissions	EN 55032				
radiated emissions	EN 55032				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
ESD	IEC 61000-4-2:2008, Air Discharge: ±8 kV, Contact Discharge: ±4 kV, perf. Criteria A				
radiated immunity	IEC 61000-4-3:2020, perf. Criteria A				
EFT/burst	IEC 61000-4-4:2012, ±0.5 kV, ±1 kV, perf. Criteria A				
surge	IEC 61000-4-5:2014, L-N: ±2 kV, L-E (Ground): ±4 kV, perf. Criteria A				
conducted immunity	IEC 61000-4-6:2013, perf. Criteria A				
PFMF	IEC 61000-4-8:2009, perf. Criteria A				
voltage dips	IEC 61000-4-11:2004, Dip: 30% Reduction, Dip > 95% Reduction, perf. Criteria A				
voltage interruption	IEC 61000-4-11:2004, > 95% Reduction, perf. Criteria B				
MTBF	MIL-HDBK-217F at 25°C	500,000			hours
RoHS	yes				

ENVIRONMENTAL

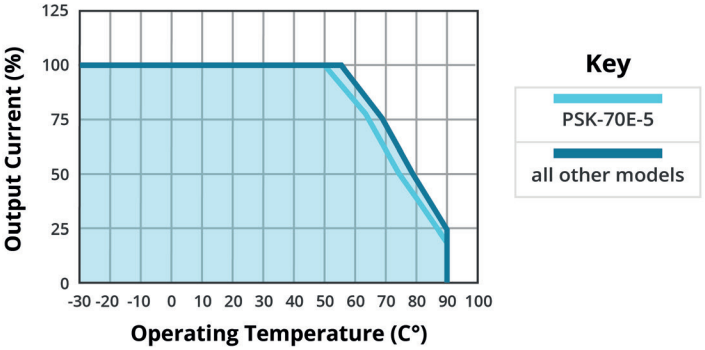
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves (safety approved at max 50°C)	-30		80	°C
storage temperature		-30		85	°C
storage humidity		0		93	%
altitude	IEC/EN/UL 62368-1 OVC II IEC/EN 62368-1 OVC III designed to meet IEC/EN 60335-1 OVC II			5,000 2,000 3,000	m m m

MECHANICAL

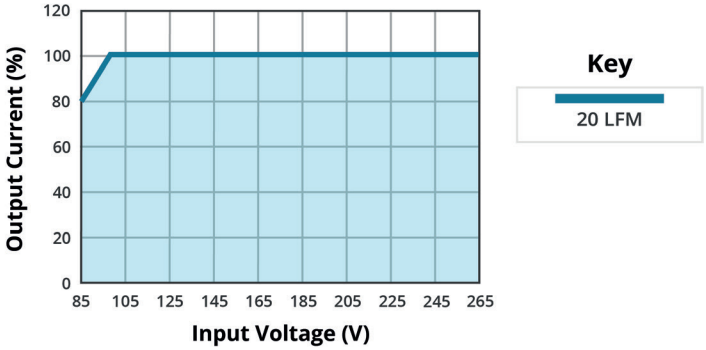
parameter	conditions/description	min	typ	max	units
dimensions	board mount: 2.170 x 3.140 x 1.201 [55.20 x 79.80 x 30.50 mm] chassis mount: 2.170 x 4.200 x 1.201 [55.20 x 106.60 x 30.50 mm] DIN-rail: 2.170 x 4.200 x 1.783 [55.20 x 106.60 x 45.30 mm]				inch inch inch
weight	board mount chassis mount DIN-rail		223 236 333		g g g

DERATING CURVES

TEMPERATURE DERATING CURVE (natural convection)



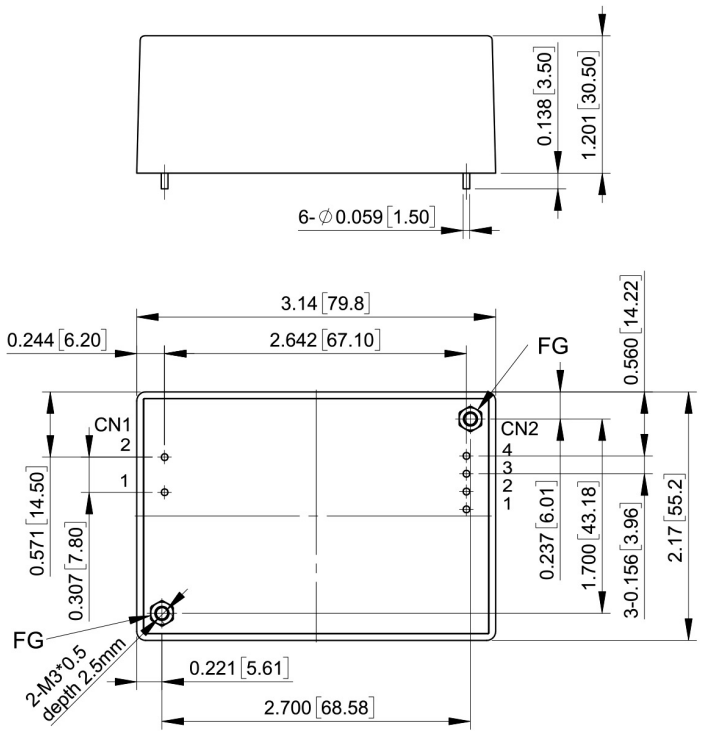
INPUT VOLTAGE DERATING CURVE (natural convection)



MECHANICAL DRAWING

Board mount
units: inch [mm]
tolerance: inches: x.xx = ±0.03, x.xxx = ±0.02
mm: x.x - ±0.7, x.xx = ±0.5

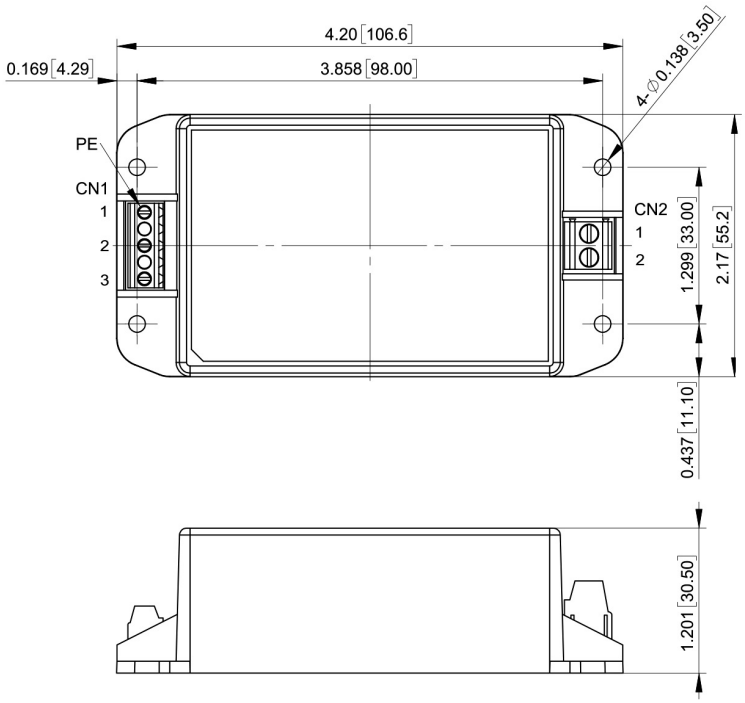
PIN CONNECTIONS		
PIN	Function	Wafer
1	AC(L)	CN1
2	AC(N)	
1	+Vout	CN2
2	+Vout	
3	-Vout	
4	-Vout	



Chassis mount
units: inch [mm]
tolerance: inches: x.xx = ±0.03, x.xxx = ±0.02
mm: x.x - ±0.7, x.xx = ±0.5

AC Input Connector (CN1): DINKLE EK350V-03P5 or equivalent		
PIN	Function	Mating Wire Range
1	PE	16 ~ 30 AWG
2	AC(L)	
3	AC(N)	

DC Output Connector (CN2): DINKLE EK500V-02P or equivalent		
PIN	Function	Mating Wire Range
1	+Vout	12 ~ 16 AWG
2	-Vout	

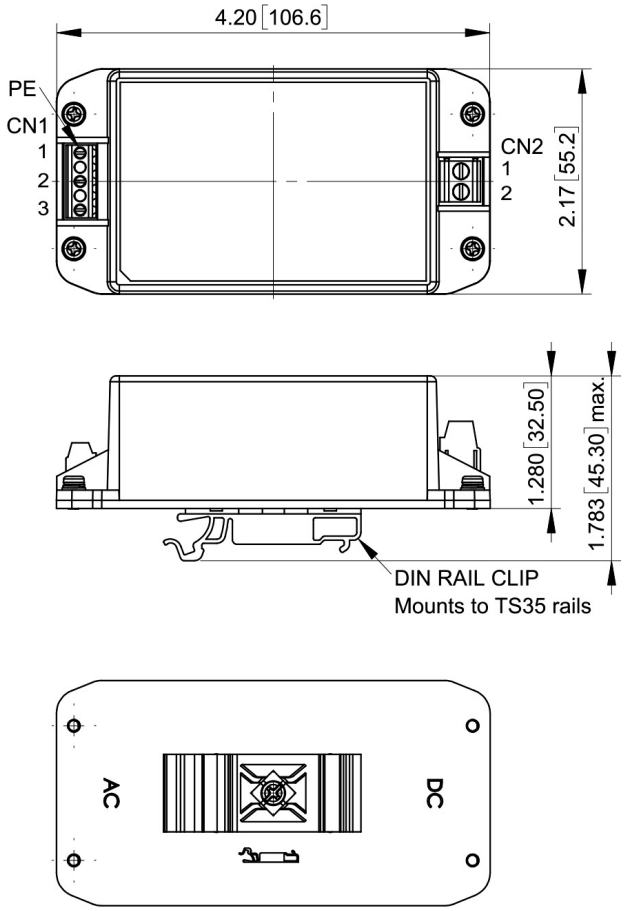


MECHANICAL DRAWING (CONTINUED)

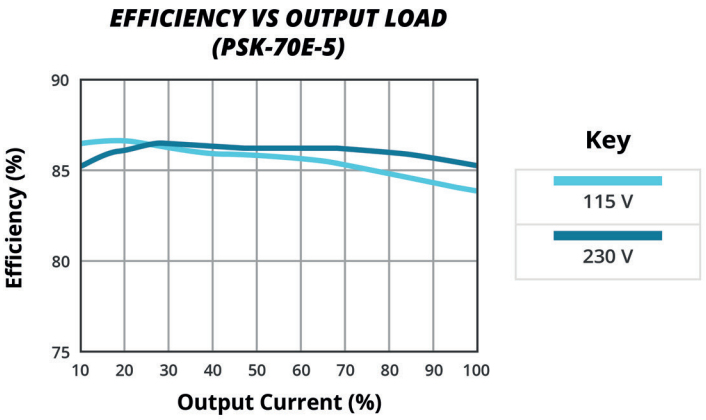
DIN-rail mount
units: inch [mm]
tolerance: inches: x.xx = ±0.03, x.xxx = ±0.02
mm: x.x - ±0.7, x.xx = ±0.5

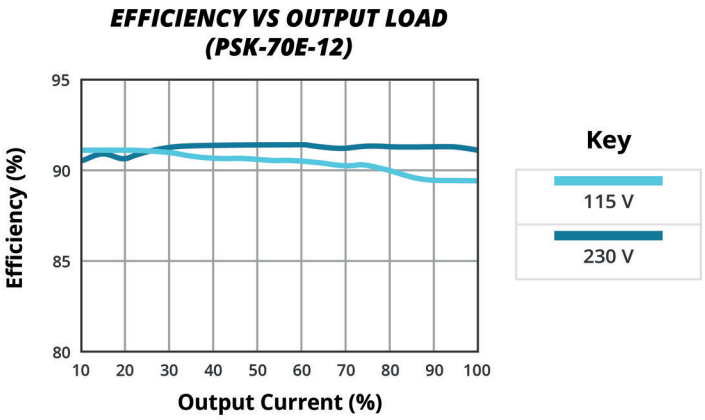
AC Input Connector (CN1): DINKLE EK350V-03P5 or equivalent		
PIN	Function	Mating Wire Range
1	PE	16 ~ 30 AWG
2	AC(L)	
3	AC(N)	

DC Output Connector (CN2): DINKLE EK500V-02P or equivalent		
PIN	Function	Mating Wire Range
1	+Vout	12 ~ 16 AWG
2	-Vout	

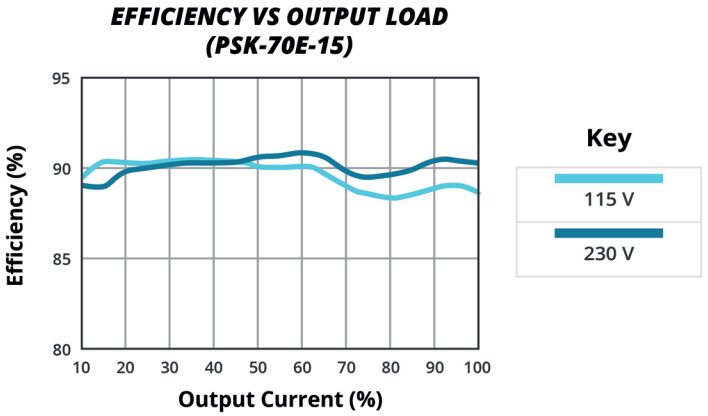


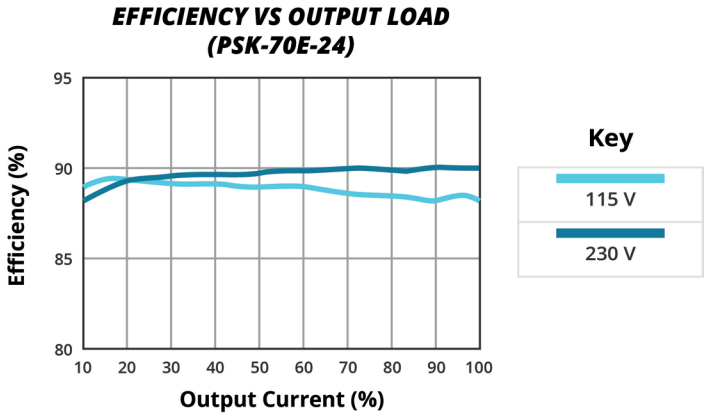
EFFICIENCY CURVES

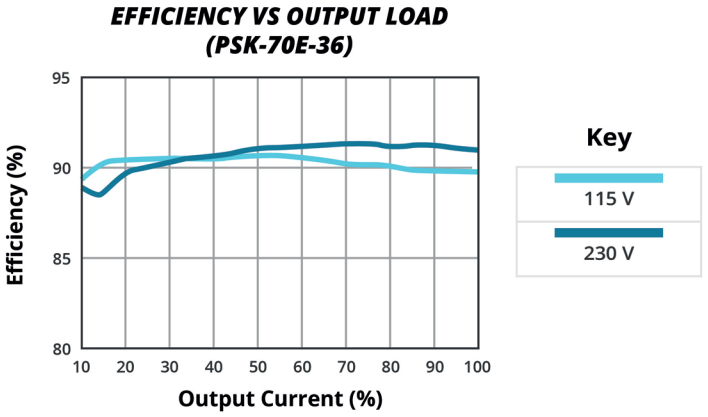


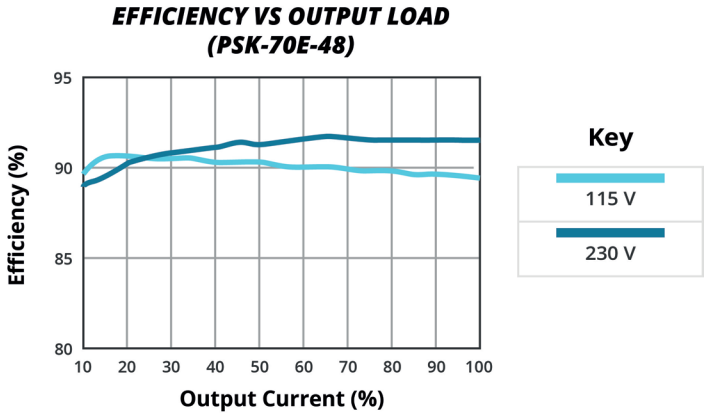


EFFICIENCY CURVES (CONTINUED)



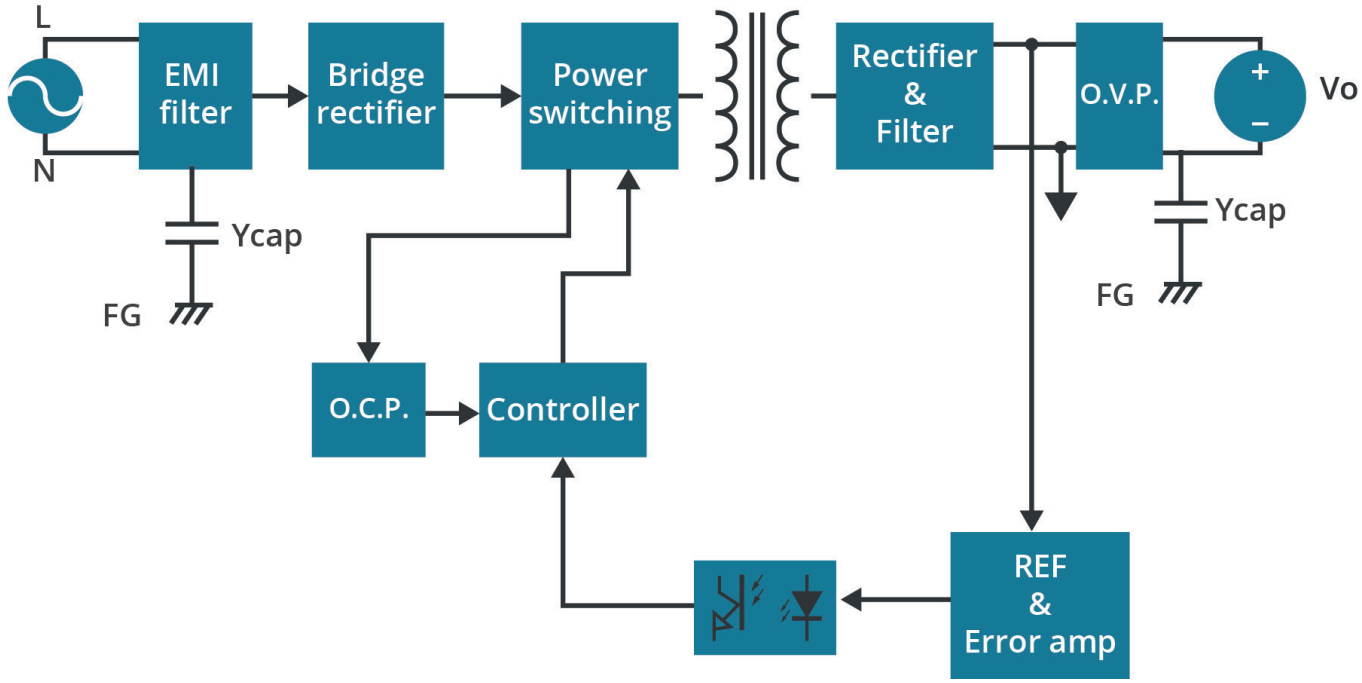






ELECTRICAL BLOCK DIAGRAM

Figure 1



REVISION HISTORY

rev.	description	date
1.0	initial release	12/18/2024

The revision history provided is for informational purposes only and is believed to be accurate.

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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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