CUI INC®

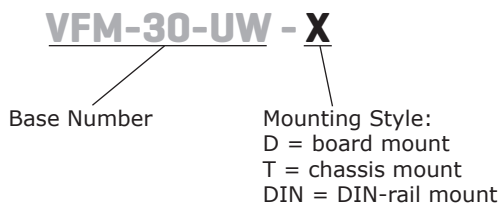**SERIES:** VFM-30-UW | **DESCRIPTION:** DC POWER LINE FILTER

FEATURES

- compact
- high efficiency 98%
- meet IEC/EN61000-4 standard
- compliant to railway standard EN50155
- CISPR22/EN55022 compliant
- DIP, Chassis and DIN Rail mounting version
- input voltage protection
- ultra wide input rating

RoHS

SPECIFICATIONS

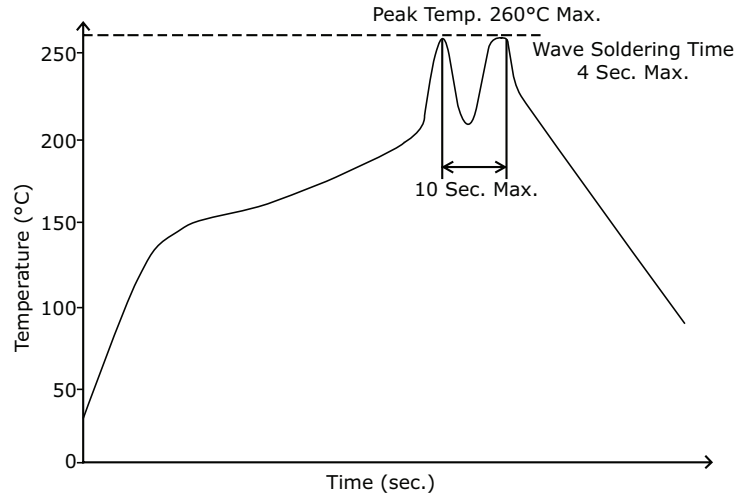| parameter	conditions/description	min	typ	max	units
input voltage		40	110	160	Vdc
output power				30	W
no load input current	at 110 Vdc			1	mA
efficiency	at 110 Vdc, full load		98		%
isolation voltage	+Vin to GND, -Vin to GND, at 1 minute and leakage current 5 mA max			1,500	Vac
conducted emissions	CISPR22/EN55022, 150 kHz ~ 30 MHz class B				
radiated emissions	CISPR22/EN55022, 30 MHz ~ 1 GHz class B				
ESD	IEC/EN61000-4-2, air ±8 kV, contact ± 6kV, class B				
radiated immunity	IEC/EN61000-4-3, 10 V/m, class A				
EFT/burst	IEC/EN61000-4-4, ±4 kV(5 kHz, 100 kHz), class B				
surge	IEC/EN61000-4-5, ±2 kV (1.2μs/50μs 2Ω)/±4 kV (1.2 μs/50 μs 12 Ω), class B				
conducted immunity	IEC/EN61000-4-6, 10 Vr.m.s, class A				
MTBF	as per MIL-HDBK-217F, 40°C		1,200,000		hours
RoHS	yes				
operating temperature		-40		85	°C
storage temperature		-55		125	°C
storage humidity	non-condensing	5		95	%
vibration	IEC/EN61373, 10 cycles in each axis, test time in each axis: 3 minute, frequency: 5-150 Hz, amplitude: 7.5mm, acceleration: 10g				

Notes: 1. All specifications are measured at Ta=25°C, humidity < 75%, nominal input voltage, and rated load, unless otherwise specified.

PART NUMBER KEY

VFM-30-UW - **X**

Base Number

Mounting Style:
D = board mount
T = chassis mount
DIN = DIN-rail mount

SOLDERABILITY[2]

parameter	conditions/description	min	typ	max	units
hand soldering	for 3~5 seconds	350	360	370	°C
wave soldering	see wave soldering profile			260	°C

Note: 2. For board mount models only.

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	board mount: 53.80 x 28.80 x 19.00 [2.118 x 1.134 x 0.748 inch] chassis mount: 76.00 x 31.50 x 27.80 [2.992 x 1.240 x 1.094 inch] DIN-Rail mount: 76.00 x 31.50 x 32.40 [2.992 x 1.240 x 1.276 inch]				mm mm mm
case material	black flame-retardant heat-proof epoxy resin (UL94V-0)				
weight	board mount chassis mount DIN-rail mount		50 70 90		g g g

MECHANICAL DRAWING (BOARD MOUNT)

units: mm [inch]
tolerance: ±0.50[±0.020]
pin diameter tolerance: ±0.10[±0.004]

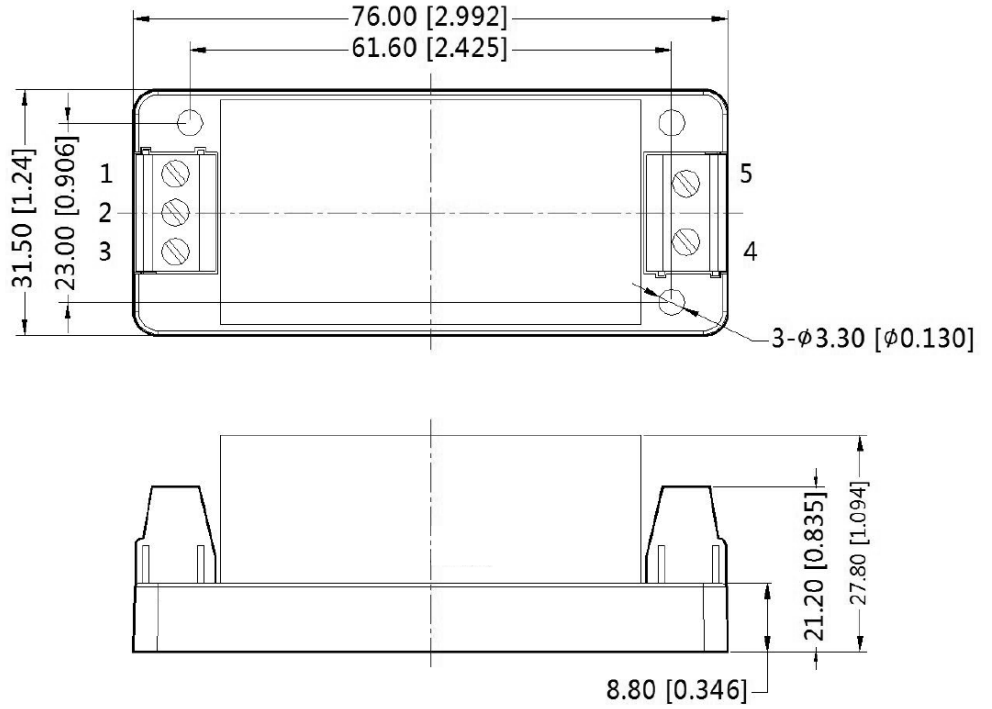| PIN CONNECTIONS	
PIN	Function
1	GND
2	-Vin
3	+Vin
4	+Vout
5	-Vout
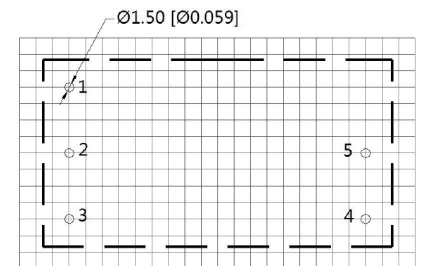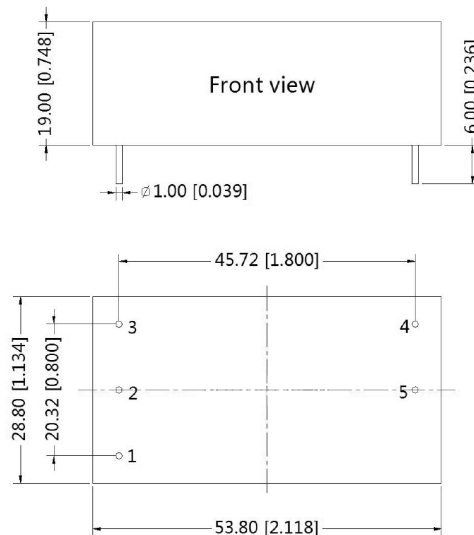
Note : Grid 2.54*2.54mm
Recommended PCB Layout
Top View

MECHANICAL DRAWING (CHASSIS MOUNT)

units: mm [inch]
tolerance: ±0.50[±0.020]

wire range: 24~12 AWG
tightening torque: 0.4 N*m max

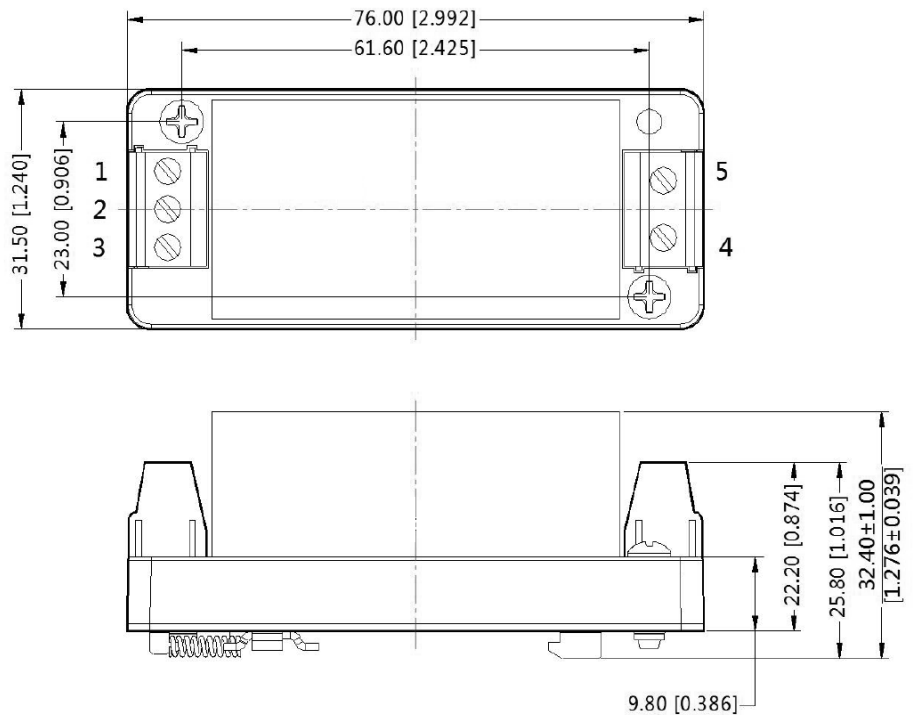| PIN CONNECTIONS	
PIN	Function
1	GND
2	-Vin
3	+Vin
4	+Vout
5	-Vout

MECHANICAL DRAWING (DIN-RAIL MOUNT)

units: mm [inch]
tolerance: ±0.50[±0.020]

installed on DIN rail TS35
wire range: 24~12 AWG
tightening torque: 0.4 N*m max

PIN CONNECTIONS	
PIN	Function
1	GND
2	-Vin
3	+Vin
4	+Vout
5	-Vout

APPLICATION CIRCUIT

Figure 1
Application Circuit
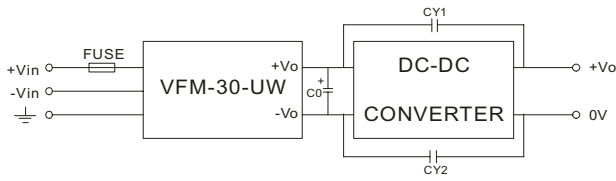
Recommended External Circuit Components	
FUSE	choose according to power module datasheet
C0	100 µF / 200 V, electrolytic
CY1, CY2	1 nF / 2 kV

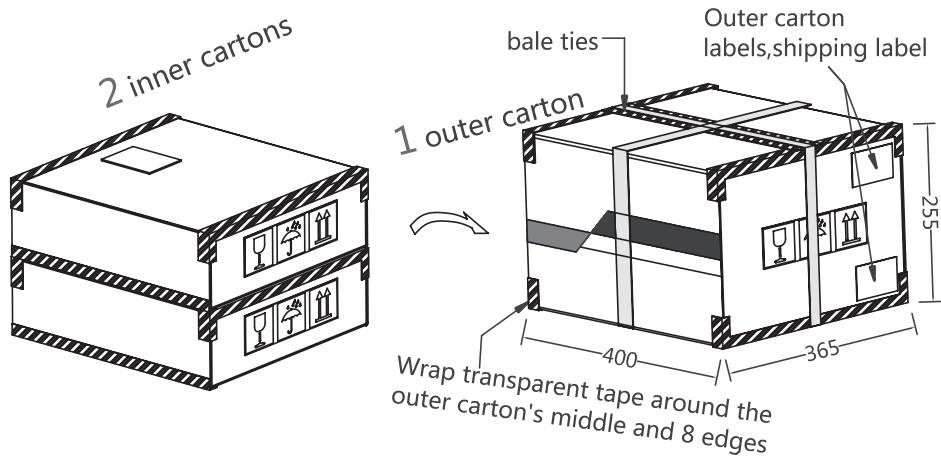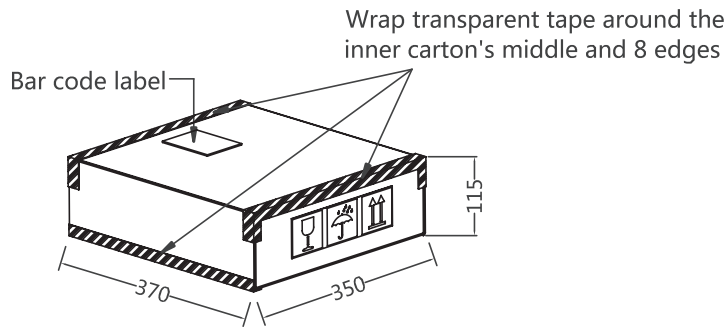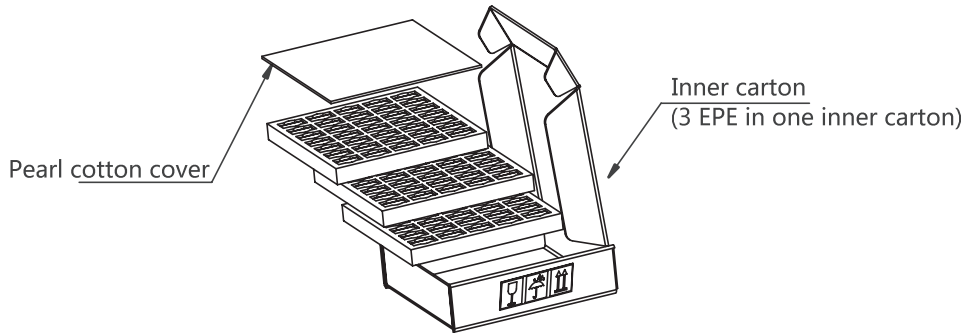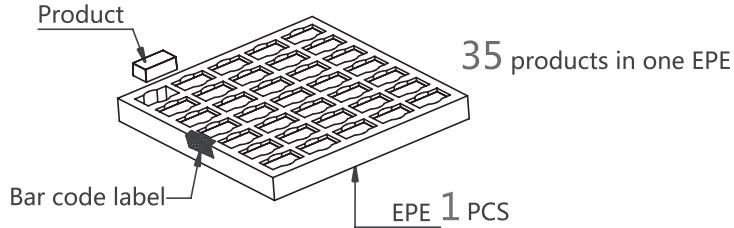Figure 2
Non-supported Application for Module
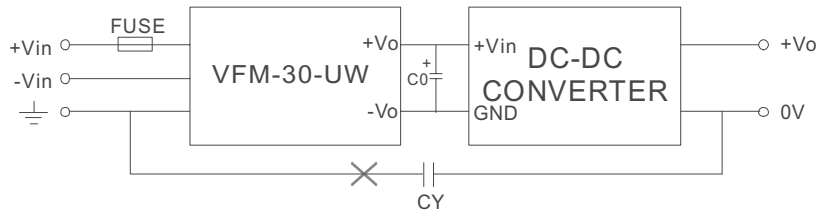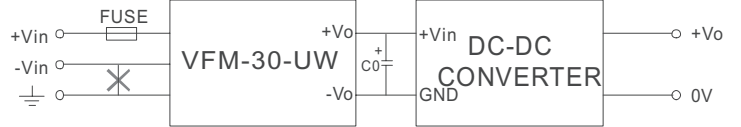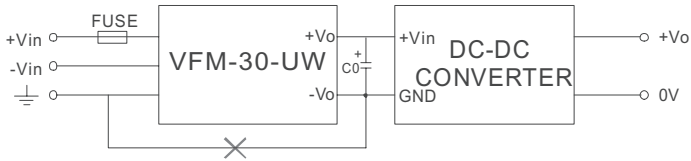
PACKAGING (BOARD MOUNT)

units: mm

Inner Carton Size: 370 x 350 x 115 mm
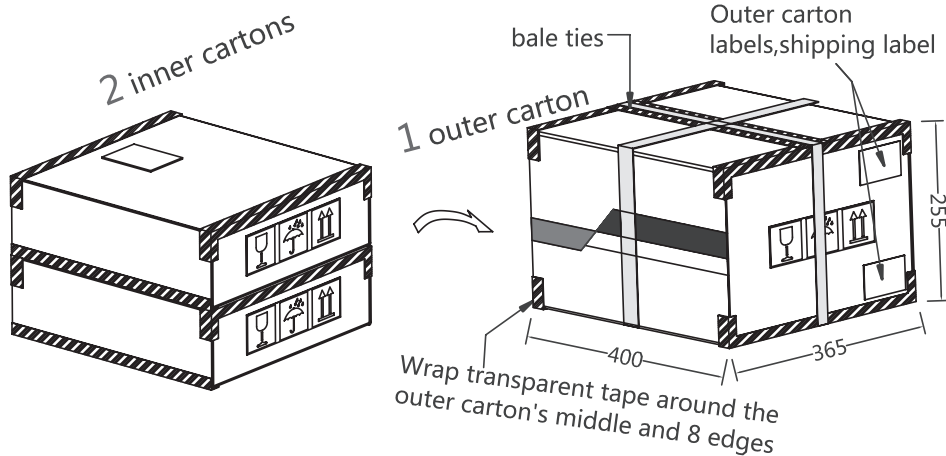Outer Carton Size: 400 x 365 x 225 mm
Outer Carton QTY: 210 pcs

Product

35 products in one EPE

Bar code label

EPE 1 PCS

Pearl cotton cover

Inner carton
(3 EPE in one inner carton)

Wrap transparent tape around the
inner carton's middle and 8 edges

Bar code label

115

370

350

2 inner cartons

bale ties

Outer carton
labels,shipping label

1 outer carton

255

400

365

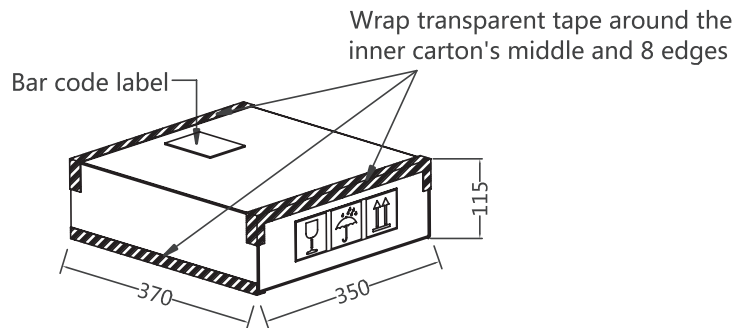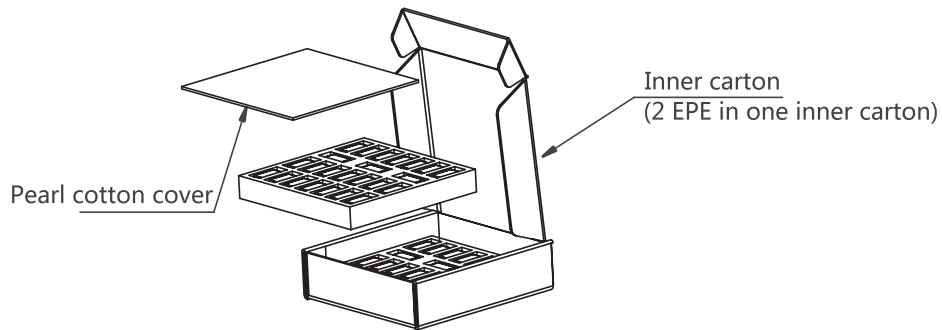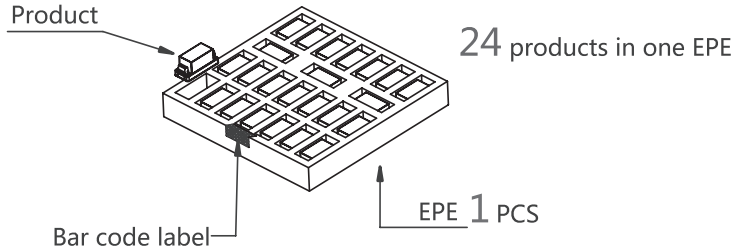Wrap transparent tape around the
outer carton's middle and 8 edges

PACKAGING (CHASSIS, DIN-RAIL MOUNT)

units: mm

Inner Carton Size: 370 x 350 x 115 mm
Outer Carton Size: 400 x 365 x 255 mm
Outer Carton QTY: 96 pcs

Product

24 products in one EPE

Bar code label

EPE 1 PCS

Pearl cotton cover

Inner carton
(2 EPE in one inner carton)

Wrap transparent tape around the
inner carton's middle and 8 edges

Bar code label

115

370

350

2 inner cartons

bale ties

Outer carton
labels,shipping label

1 outer carton

255

400

365

Wrap transparent tape around the
outer carton's middle and 8 edges

REVISION HISTORY

rev.	description	date
1.0	initial release	12/17/2018

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