

SERIES: VMS-300 | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

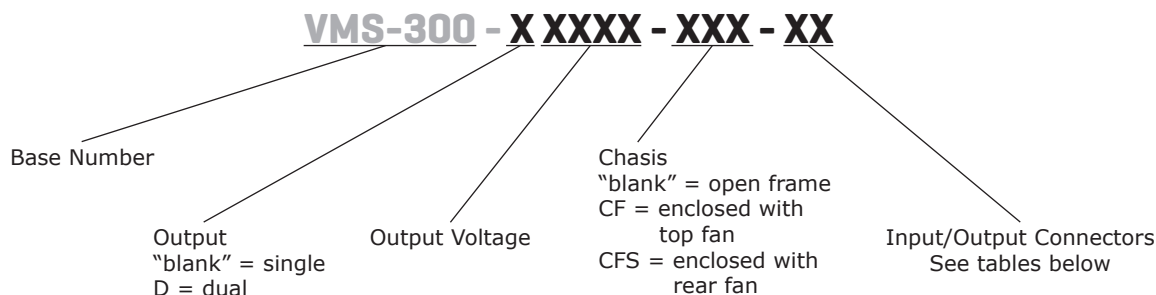
- up to 300¹ W continuous power
- 12.5 W/in³ power density
- universal input (90~264 Vac)
- 12 V auxiliary fan output
- over voltage, short circuit, and over temperature protections
- built-in active PFC function
- efficiency up to 85%



MODEL	output voltage	output current	output power	ripple and noise ³	efficiency
	(Vdc)	max (A)	max (W)	max (%)	min (%)
VMS-300-12	12	12.5	150 ²	1	82
VMS-300-15	15	10	150 ²	1	82
VMS-300-24	24	6.25	150 ²	1	83
VMS-300-36	36	4.167	150 ²	1	84
VMS-300-48	48	3.125	150 ²	1	84
VMS-300-D0512	5	12	140	1	80
	12	6.67		1	
VMS-300-D1224	12	6.67	160	1	85
	24	3.33		1	
VMS-300-12-CF	12	25	300	1	82
VMS-300-15-CF	15	20	300	1	82
VMS-300-24-CF	24	12.5	300	1	83
VMS-300-36-CF	36	8.33	300	1	84
VMS-300-48-CF	48	6.25	300	1	84
VMS-300-D0512-CF	5	24	280	1	80
	12	13.33		1	
VMS-300-D1224-CF	5	13.33	146	1	85
	12	6.667		1	
VMS-300-12-CFS	12	25	300	1	82
VMS-300-15-CFS	15	20	300	1	82
VMS-300-24-CFS	24	12.5	300	1	83
VMS-300-36-CFS	36	8.33	300	1	84
VMS-300-48-CFS	48	6.25	300	1	84
VMS-300-D0512-CFS	5	24	280	1	80
	12	13.33		1	
VMS-300-D1224-CFS	5	13.33	146	1	85
	12	6.667		1	

Notes: 1. Peak power of 600 W within 500 μ s only applies to single output models
2. Maximum power must not exceed 150 W with convection cooling or up to 300 W with 25 CFM forced air cooling
3. Measured at 10 kHz ~ 20 MHz, twisted pair with 0.1 μ F ceramic and 22 μ F electrolytic parallel capacitors

PART NUMBER KEY



SINGLE OUTPUT

Open Frame and CF models		
Part # Key	Input	Output
1	molex	dinkle
2	molex	molex
3	howder	dinkle
4	howder	molex

CFS model		
Part # Key	Input	Output
5	IEC320 snap-in	dinkle
6	IEC320 snap-in	molex
7	howder	dinkle
8	howder	molex

DUAL OUTPUT

Open Frame and CF models		
Part # Key	Input	Output
9	molex	howder
10	molex	molex
11	howder	molex
12	howder	howder

CFS model		
Part # Key	Input	Output
13	IEC320 snap-in	howder
14	IEC320 snap-in	molex
15	howder	howder
16	howder	molex

INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
frequency		47		63	Hz
current	at 90 Vac, cold start			5	A
inrush current	at 115 Vac, cold start at 230 Vac, cold start			70 35	A A
input fuse	5 A / 350 V inserted in primary				
power factor correction	single output models pass EN61000-3-2 Class D dual output models		0.95		

OUTPUT

parameter	conditions/description	min	typ	max	units
load regulation	single output models dual output models		±1 ±5		% %
transient response	returns to within 1% in <2.5 ms for a 50% load change and the peak transient does not exceed 5%				
start-up time				1	s
hold-up time	at 120 Vac, 80% load	16			ms
adjustability	user adjustable		±5		%
switching frequency	PFC PWM	40 55		66 75	kHz kHz
temperature coefficient			0.25		mV/°C
fan drive	12 Vdc / 300 mA for external fan				

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	latch down and auto restart			130	%
over current protection	auto restart	110		140	%
short circuit protection	auto restart with no damage from a short on any output				
over temperature protection	auto restart	105	110	115	°C

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	primary to secondary at 10 mA for 3 seconds	4,000			Vac
	primary to chassis at 10 mA for 3 seconds	1,500			Vac
	primary to core at 10 mA for 3 seconds	1,500			Vac
safety approvals	UL 60601-1, EN 60601-1, IEC 60601-1				
EMI/EMC	EN 60601-1-2/EN 55022 Class B conducted / radiated, EN61000-3-(2,3), EN 60601-1-2/EN 55024 (IEC 61000-4-(2,3,4,5,6,8,11))				
leakage current	at 264 Vac			0.0003	A
MTBF	according to MIL-HDBK-217F at 30°C	100,000			hours
RoHS compliant	yes				

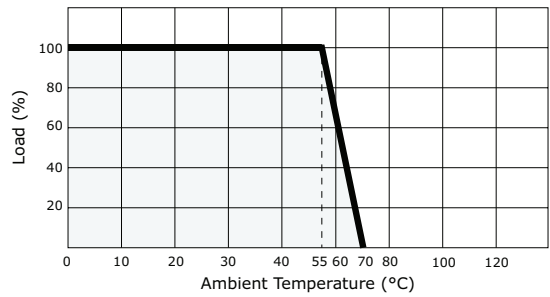
ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%
storage humidity	non-condensing	5		95	%
vibration	5 ~ 50 Hz, acceleration ±7.35 m/s*s per axis				

CONNECTORS

parameter	conditions/description	min	typ	max	units
input connector (CN1)	open frame and CF	Mating Molex Part No. 035977-0590 or equivalent (5pin, 3 used), or Terminal Block: Howder M3 screws 3 pin 6.35 mm center Part No. HD-601-3P; PCB Labeling: L=Line; N=Neutral; G=Chassis Ground			
	CFS	IEC320 snap-in mounting type or Terminal Block: Howder HD-602-3P			
output connector (CN2)	single output models	Mating Molex Part No. 035977-0690 Terminal block: Dinkle P830N, M5 screws			
	dual output models	Mating Molex Part No. 035977-0890 Terminal block: Howder HD-816-3P, M3 screws			
output pin assignment	single output models	Dinkle: Pin 1 = V-, Pin 2 = V+ Molex: Pins 1~3 = V-, Pins 4~6 = V+			
	dual output models	Howder: Pin 1 = V2, Pin 2 = RTN, Pin 3 = V1 Molex: Pin 1 = V2, Pin 2~5 = RTN, Pin 6~8 = V1			
logical signal connector (CN3)	Mating JST XHP-4 or equivalent (CHYAO SHIUNN JS-2001-04); Mating Pins: JST SXH-002T-P0.6 FOR AWG 30 to 26				
fan driver connector (FAN1)	Mating connector is JST P/N XHP-3 (3 pins 0.98 pitch) or equivalent (CHYAO SHIUNN JS-2001-03)				

DERATING CURVE



- Single Output

Open Frame

CF

CFS

at 300 W max. with 25 CFM forced air cooling,
at 150 W max. convection
up to 300 W max.
up to 300 W max.
- Dual Output

Open Frame

CF

CFS

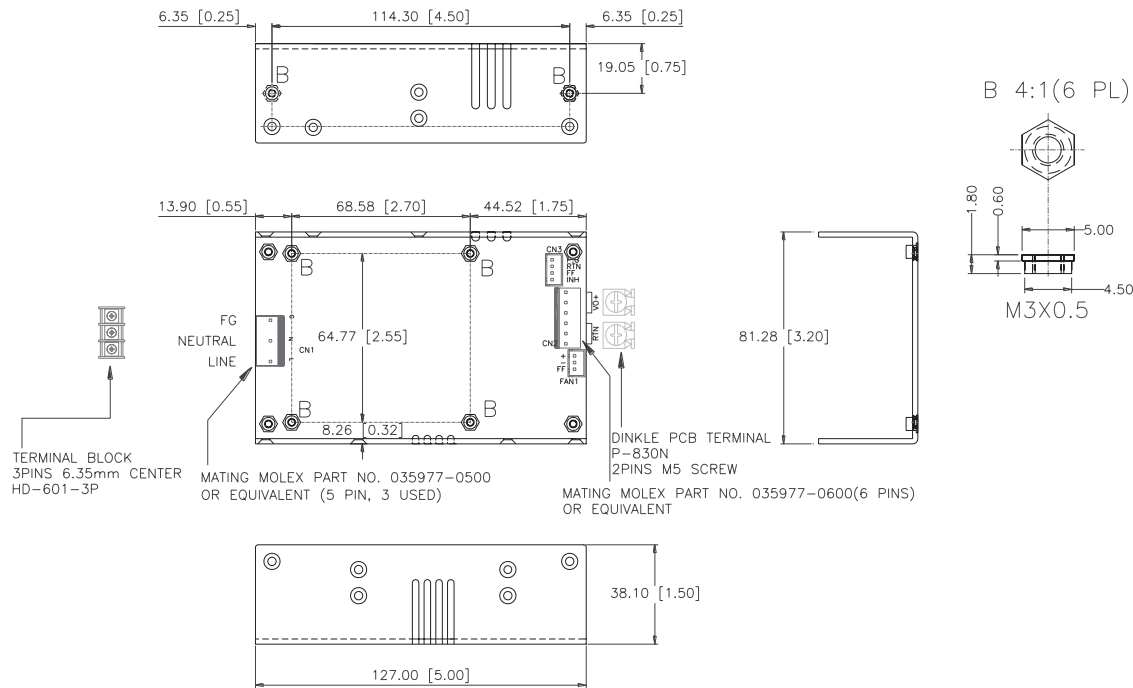
at 240 W max. with 25 CFM forced air cooling,
at 120 W max. convection
up to 300 W max.
up to 300 W max.

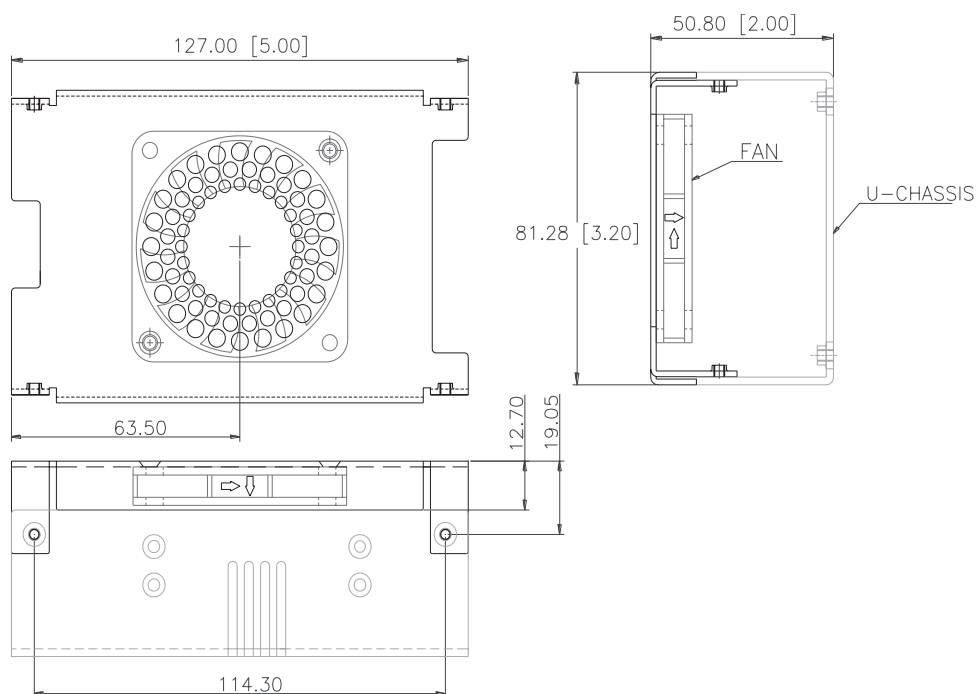
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	5 x 3.2 x 1.5 (127 x 81.28 x 38.1 mm)				inch
	6.5 x 3.2 x 1.6 (165.1 x 81.28 x 40.64 mm)				inch
	5 x 3.2 x 2 (127 x 81.28 x 50.8 mm)				inch
weight	open frame			500	g
	CF			600	g
	CFS			650	g

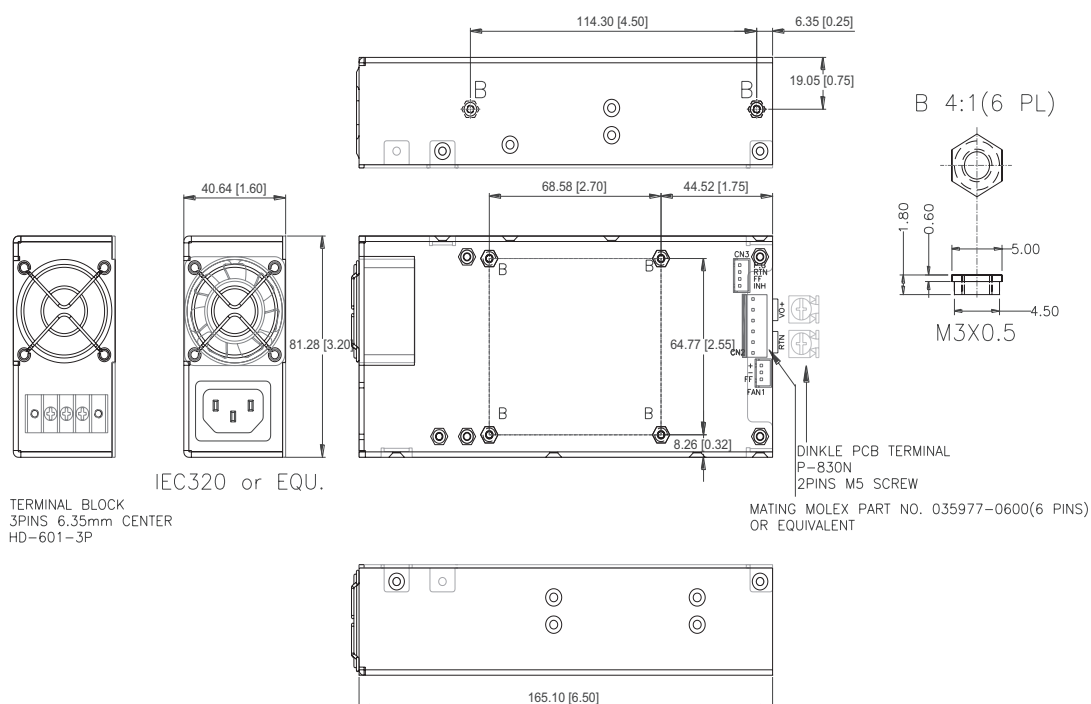
MECHANICAL DRAWING (SINGLE OUTPUT)

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



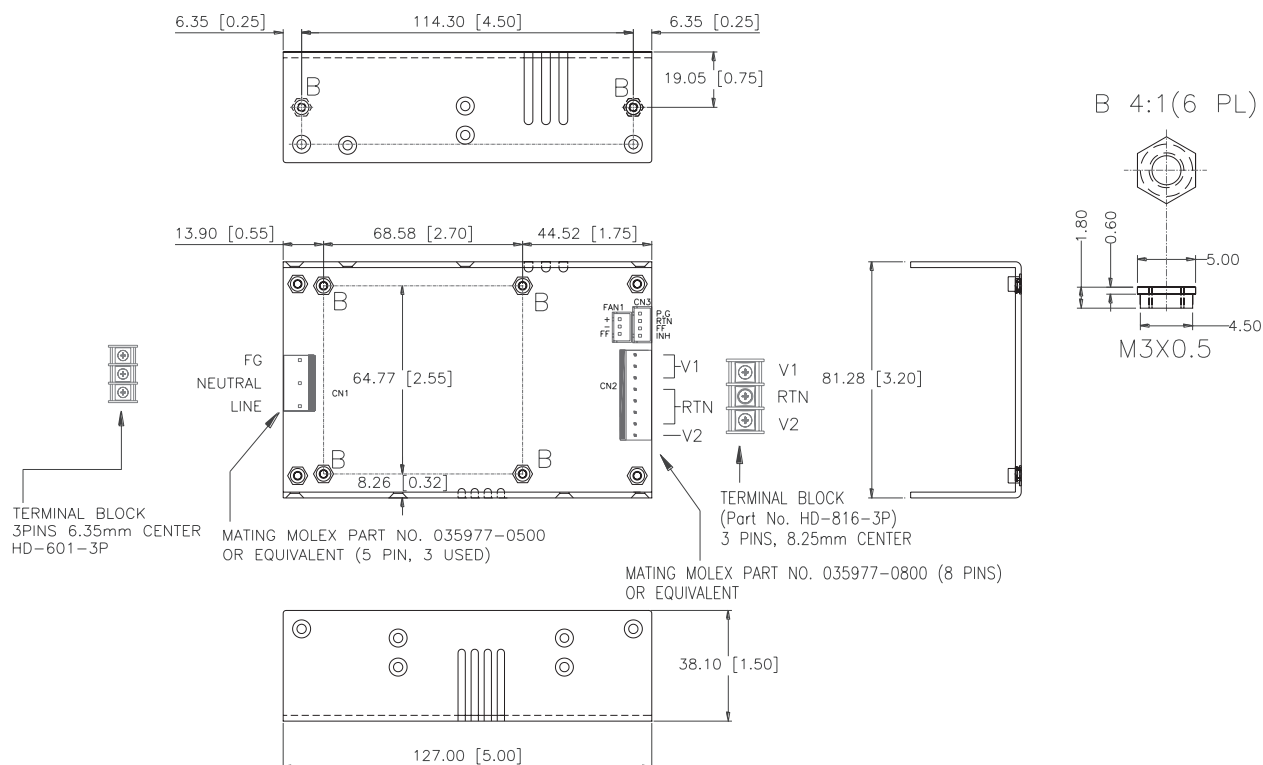
CF

CFS

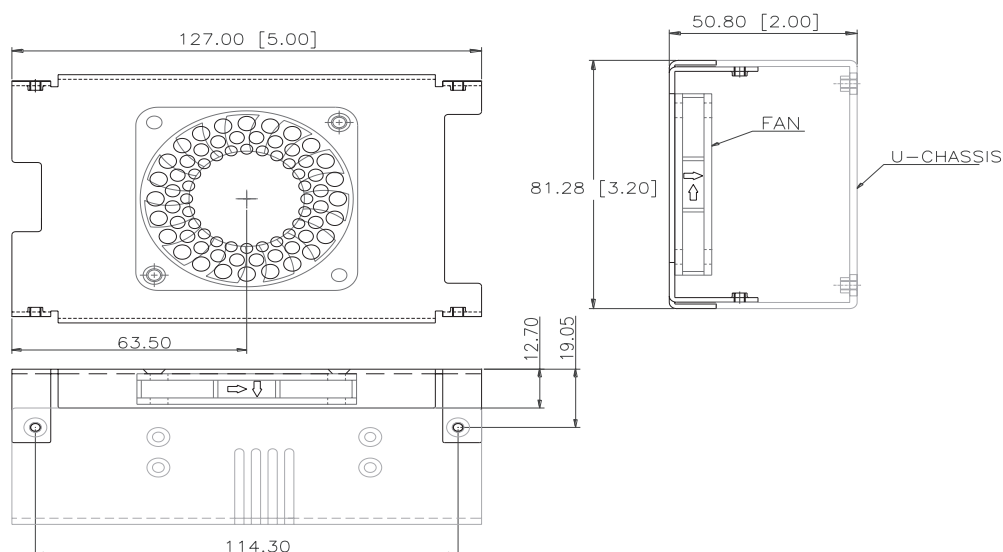


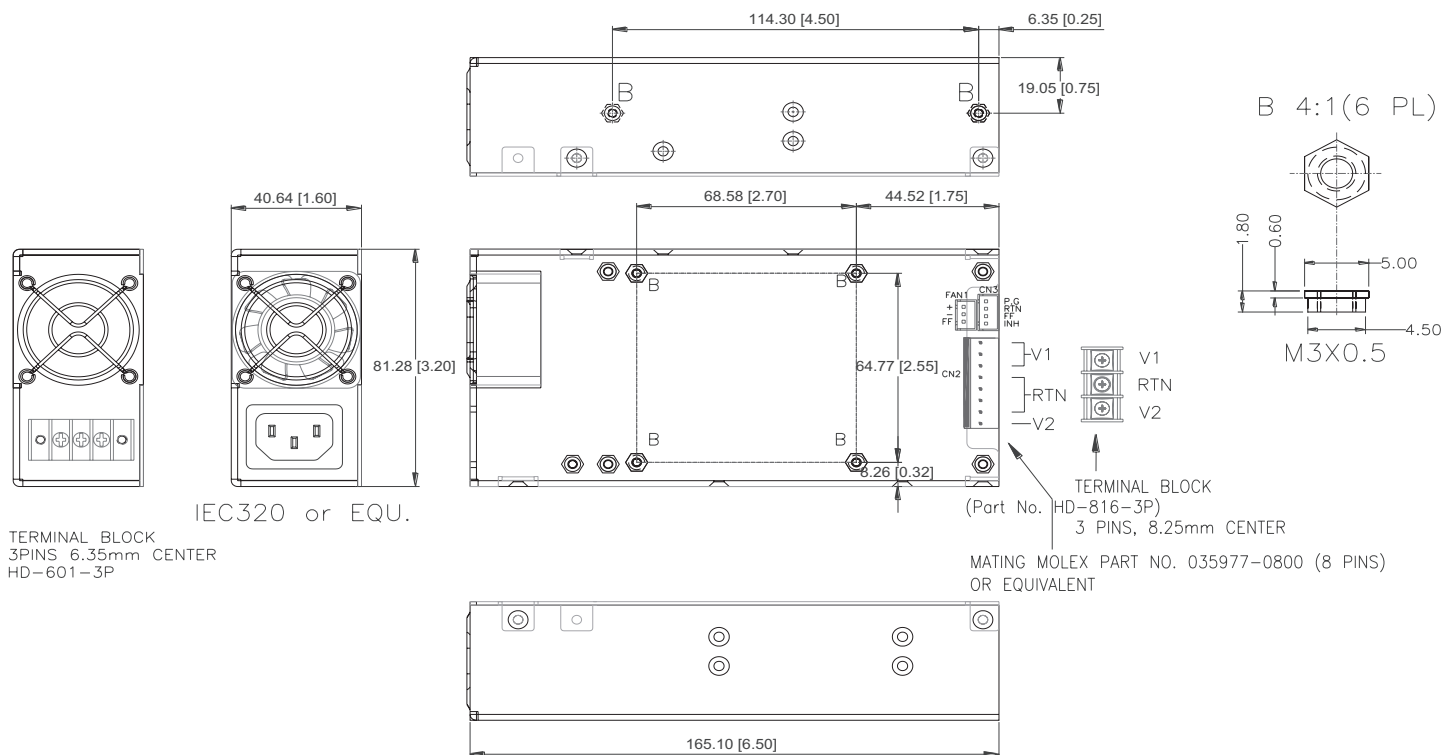
MECHANICAL DRAWING (DUAL OUTPUT)

units: mm [inches]

tolerance: ± 0.50 [± 0.020]

CF



CFS**REVISION HISTORY**

rev.	description	date
1.0	initial release	08/14/2012
1.01	updated part number key, derating curve, misc. updates	09/24/2012

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



CUI INC®

Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.com

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