

**SERIES:** PCM-400 | **DESCRIPTION:** AC-DC POWER SUPPLY**FEATURES**

- up to 400 W continuous power
- universal input (90~264 Vac)
- active power factor correction
- peak power of 700W for 500 $\mu$ s duration (single output models only)
- built-in remote ON/OFF, power good, & fan fail alarm options
- over voltage, short circuit, over current, and over temperature protection
- efficiency up to 87%



MODEL		preset output voltage  (Vdc)	customizable output range <sup>7</sup>  (Vdc)	output current		output power  max (W)	ripple and noise <sup>8,9</sup>  max (mVp-p)	efficiency  typ (%)
				max (forced air) (A)	max (convection) (A)			
PCM-400-12 <sup>1,2</sup>		12	10~13.8	33.33	18.33	400	120	85
PCM-400-15 <sup>1,2</sup>		15	14~15.5	26.67	14.67	400	150	85
PCM-400-18 <sup>1,2</sup>		18	16~20	22.22	12.22	400	180	85
PCM-400-24 <sup>1,2</sup>		24	21~26	16.67	9.17	400	240	87
PCM-400-28 <sup>1,2</sup>		28	27~34	14.29	7.86	400	280	85
PCM-400-36 <sup>1,2</sup>		36	35~42	11.11	6.11	400	360	87
PCM-400-48 <sup>1,2</sup>		48	43~50	8.33	4.58	400	480	87
PCM-400-54 <sup>1,2</sup>		54	51~60	7.41	4.07	400	540	87
PCM-400-D0512 <sup>3,4,*</sup>	Vo1	5	N/A	30	15	320	50	87
	Vo2	12		20.83	13.33		120	
PCM-400-D0524 <sup>3,4,*</sup>	Vo1	5	N/A	30	15	320	50	87
	Vo2	24		10.42	6.67		240	
PCM-400-D0548 <sup>3,4,*</sup>	Vo1	5	N/A	30	15	320	50	87
	Vo2	48		5.21	3.33		480	
PCM-400-D1224 <sup>5,6</sup>	Vo1	12	N/A	20.83	12.5	400	120	87
	Vo2	24		10.42	8.33		240	

- Notes:
1. For U-frame models, the maximum output power is 400W with a minimum of 27 CFM forced air, 220 W maximum with convection cooling.
  2. For CNF models, the maximum output is 220 W with convection cooling.
  3. For U-frame models, the total combined output power is 320W with a minimum of 27 CFM forced air, 180 W maximum with convection cooling.
  4. For CNF models, the maximum output is 180 W with convection cooling.
  5. For U-frame models, the total combined output power is 400W with a minimum of 27 CFM forced air, 200 W maximum with convection cooling.
  6. For CNF models, the maximum output is 200 W with convection cooling.
  7. Output can be custom set within range.
  8. Measured at 10 kHz ~ 20 MHz bandwidth, with a 22  $\mu$ F electrolytic and 0.1  $\mu$ F ceramic capacitor on the output.
  9. 1% minimum load is required to maintain ripple and regulation (10% for dual output models).
  10. \* Discontinued model.

**PART NUMBER KEY**

## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
frequency		47		63	Hz
current	at 90 Vac, full load		8		A
inrush current	at 115 Vac, cold start			35	A
	at 230 Vac, cold start			70	A
leakage current	at 120 Vac			300	μA
	at 240 Vac			500	μA
power factor correction	at 230 Vac, full load	0.9			
remote ON/OFF	designated as INH on Pin 4 of CN1, requires a low signal to inhibit output				
input fuse	T8 A/250 V on the input				

## OUTPUT

parameter	conditions/description	min	typ	max	units
total regulation	single output models		±1		%
	dual output models		±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	at 120 Vac			1.5	s
hold-up time	at 120 Vac, 75% load	16			ms
adjustability <sup>1</sup>	built in trim pot		±5		%
	PFC		68		kHz
switching frequency	PWM		55		kHz
	all single output models & PCM-400-D1224 all other dual output models		50		kHz
fan drive	12 Vdc/300 mA for external fan				
fan fail (FF)	Designated as FF on Pin 3 of CN1, open collector output rated for 15Vdc/5mA max sink current. It goes high when a fan failure is detected.				
power good (PG)	Designated as PG on CN1, TTL high 100~500 ms after DC regulation. It goes low at least 1 ms before loss of regulation.				
power supply on	green LED designated as LED1 on the PCB				

Note: 1. U-Frame versions only

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
short circuit protection	auto restart				
over current protection	auto restart	110		140	%
over voltage protection	output latches, must recycle ac input to reset		130		%
over temperature protection	auto restart	105	110	115	°C

## SAFETY & COMPLIANCE

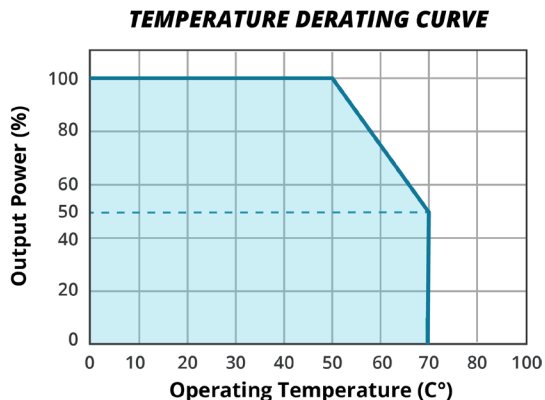
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, for 3 sec.	3,000			Vac
	input to core, for 3 sec.	1,500			Vac
	input to chassis (10 mA AC cut-off current), for 3 sec.	1,500			Vac
safety approvals	UL/cUL, TUV				
safety standards	62368: IEC, EN, UL				
EMI/EMC <sup>2</sup>	EN 55022 Class B (conducted/radiated), EN 61000-3-(2,3), EN 55024, IEC 61000-4-(2, 3, 4, 5, 6, 11), CE				
MTBF	as per MIL-HDBK-217F at 30°C	100,000			hrs
RoHS	2011/65/EU				

Note: 2. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	0		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	5		90	%
storage humidity	non-condensing	5		95	%
vibration	at 5~50 Hz, along the X, Y, and Z axis		±0.75		G

## DERATING CURVE



## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	U-frame models: 152.40 x 101.60 x 38.10				mm
	CNF models: 152.40 x 101.60 x 39.90				mm
	CF models: 152.40 x 101.60 x 54.45				mm
	CFS models: 177.80 x 101.60 x 40.64				mm
weight	U-frame models		600		g
	CNF models		650		g
	CF models		800		g
	CFS models		750		g

## MECHANICAL DRAWING - SINGLE OUTPUT MODELS

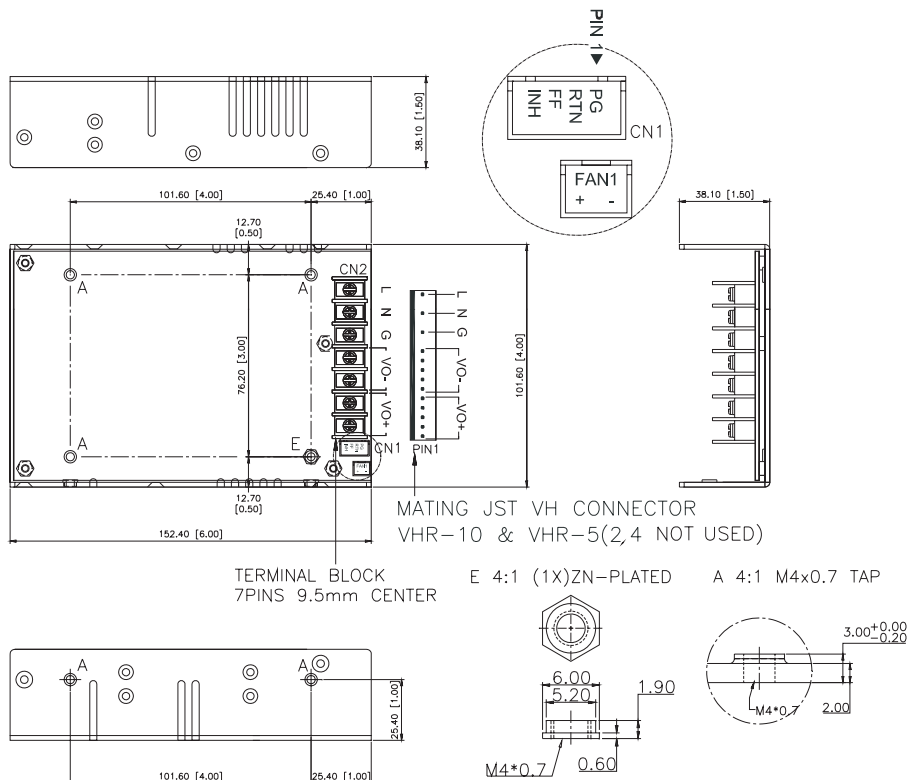
### U-FRAME

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1~2	+Vo	1~5	+Vo
3~4	-Vo	6~10	-Vo
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



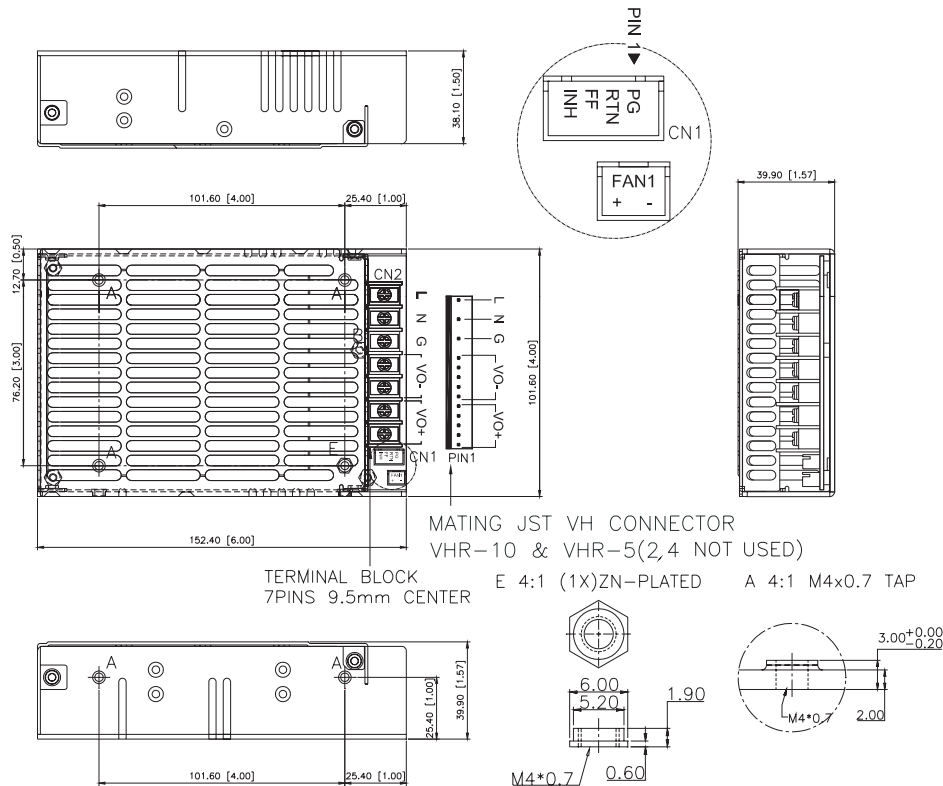
### CNF

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1~2	+Vo	1~5	+Vo
3~4	-Vo	6~10	-Vo
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



- Notes:
1. CN1 mates with JST XHP-4 or equivalent (CHYAO SHIUNN JS-2001-04) and JST SXH-002T-P0.6 mating pins (30~26 AWG).
  2. CN2: Terminal Block option is Howder Part No. HD-121-7P. Header option mates with JST VHR-5 (input) and VHR-10 (output).
  3. Fan drive connector (Fan1) mates with JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).
  4. Mounting hole max screw depth is 2.0mm (M4x0.7 Inserts).

## MECHANICAL DRAWING - SINGLE OUTPUT MODELS (CONTINUED)

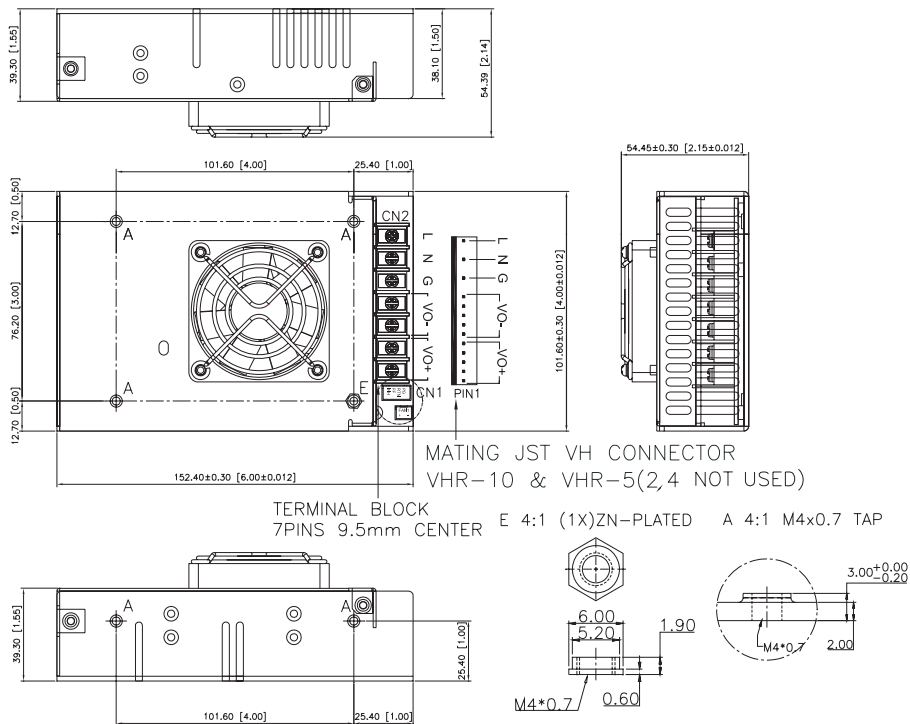
### CF

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1~2	+Vo	1~5	+Vo
3~4	-Vo	6~10	-Vo
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



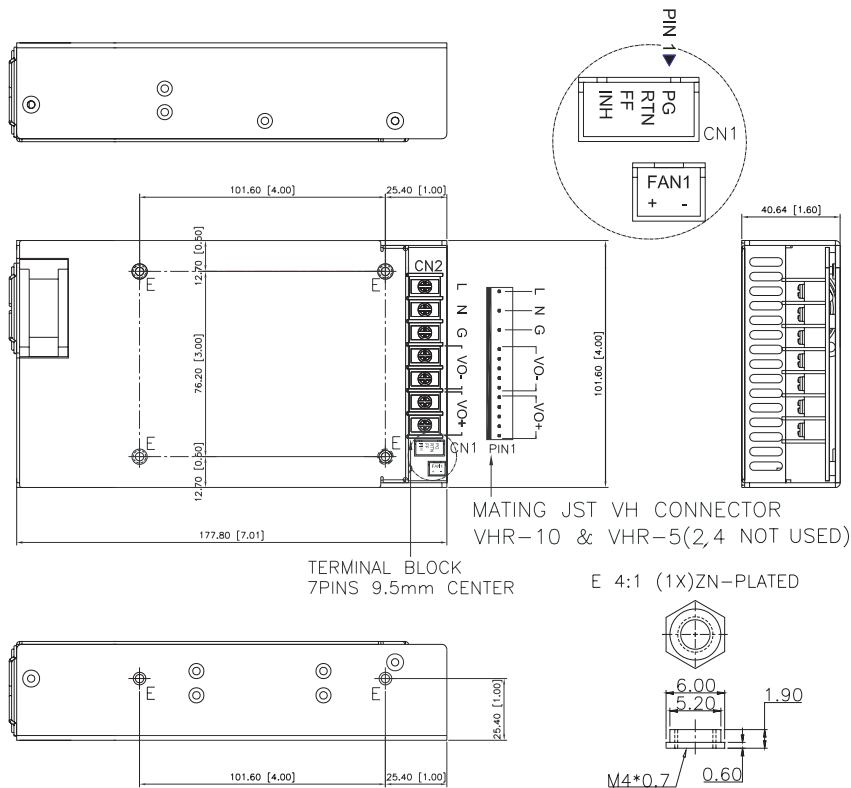
### CFS

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1~2	+Vo	1~5	+Vo
3~4	-Vo	6~10	-Vo
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



- Notes:
1. CN1 mates with JST XHP-4 or equivalent (CHYAO SHIUNN JS-2001-04) and JST SXH-002T-P0.6 mating pins (30~26 AWG).
  2. CN2: Terminal Block option is Howder Part No. HD-121-7P. Header option mates with JST VHR-5 (input) and VHR-10 (output).
  3. Fan drive connector (Fan1) mates with JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).
  4. Mounting hole max screw depth is 2.0mm (M4x0.7 Inserts).

## MECHANICAL DRAWING - DUAL OUTPUT MODELS

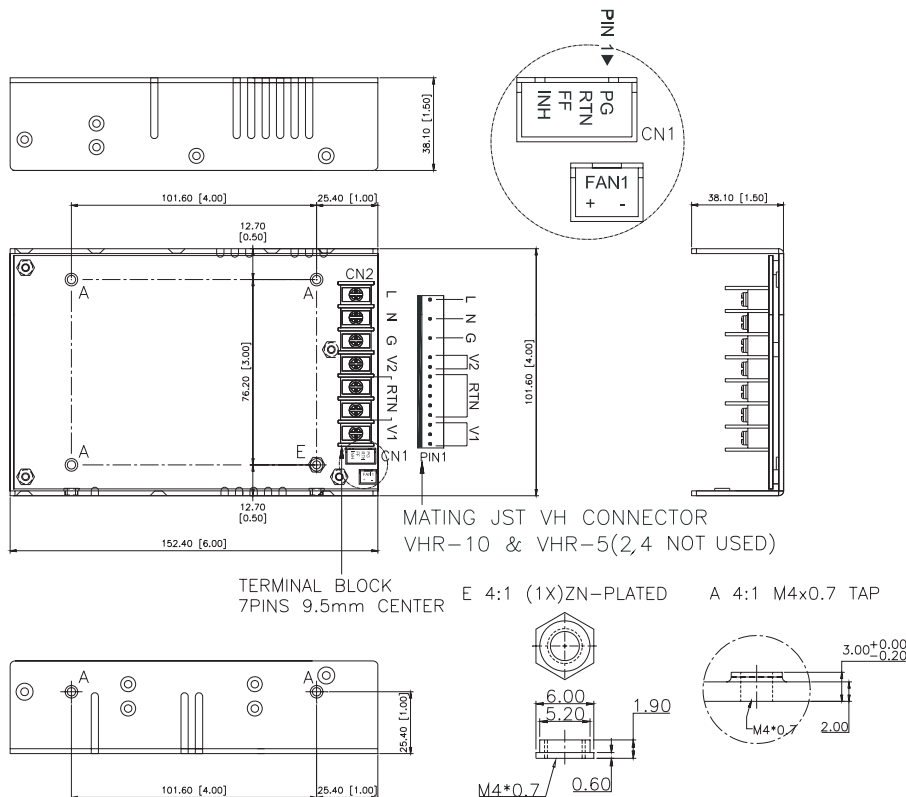
### U-FRAME

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1	+Vo1	1~3	+Vo1
2~3	RTN	4~8	RTN
4	+Vo2	9~10	+Vo2
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



### CNF

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1	+Vo1	1~3	+Vo1
2~3	RTN	4~8	RTN
4	+Vo2	9~10	+Vo2
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



- Notes:
1. CN1 mates with JST XHP-4 or equivalent (CHYAO SHIUNN JS-2001-04) and JST SXH-002T-P0.6 mating pins (30~26 AWG).
  2. CN2: Terminal Block option is Howder Part No. HD-121-7P. Header option mates with JST VHR-5 (input) and VHR-10 (output).
  3. Fan drive connector (Fan1) mates with JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).
  4. Mounting hole max screw depth is 2.0mm (M4x0.7 Inserts).

## MECHANICAL DRAWING - DUAL OUTPUT MODELS (CONTINUED)

### CF

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1	+Vo1	1~3	+Vo1
2~3	RTN	4~8	RTN
4	+Vo2	9~10	+Vo2
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



### CFS

units: mm[inch]

CN1	
PIN	Function
1	PG
2	RTN
3	FF
4	INH

CN2			
Terminal Block		Header	
PIN	Function	PIN	Function
1	+Vo1	1~3	+Vo1
2~3	RTN	4~8	RTN
4	+Vo2	9~10	+Vo2
5	GND	12	GND
6	N	14	N
7	L	16	L

Fan1	
PIN	Function
1	+FAN
2	-FAN



- Notes:
1. CN1 mates with JST XHP-4 or equivalent (CHYAO SHIUNN JS-2001-04) and JST SXH-002T-P0.6 mating pins (30~26 AWG).
  2. CN2: Terminal Block option is Howder Part No. HD-121-7P. Header option mates with JST VHR-5 (input) and VHR-10 (output).
  3. Fan drive connector (Fan1) mates with JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).
  4. Mounting hole max screw depth is 2.0mm (M4x0.7 Inserts).

## REVISION HISTORY

rev.	description	date
1.0	initial release	07/16/2014
1.01	updated datasheet	12/02/2014
1.02	company logo updated	02/05/2021
1.03	derating curve updated	04/21/2021
1.04	safeties updated	08/27/2021
1.05	discontinued model PCM-400-D0548	01/10/2022
1.06	discontinued model PCM-400-D0512 & PCM-400-D0524	06/02/2022

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



# CUI INC

a bel group

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

Fax 503.612.2383  
**cui.com**  
techsupport@cui.com

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

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.