

C&D TECHNOLOGIES

Power Solutions

HRTU SINGLE PHASE FERRORESONANT RECTIFIERS: (UTILITY MODEL)

**-24Vdc, 25, 50, 100
-48Vdc, 15, 30, 50 and 100 Amp**

DESCRIPTION

The C&D Technologies' HRTU single phase charger line incorporates industry proven ferroresonant technology. The HRTU units produce high power factor and efficiency. The ferroresonant design also has inherent current limiting. This results in your gaining significant savings in operational cost and power usage. The HRTU charger line is well suited for Utility and Switch Gear Applications.



HRTU48 VDC/100 AMP RECTIFIER

FEATURES AT A GLANCE

- LOW AUDIBLE NOISE
- LOW ELECTRICAL NOISE
- HIGH REJECTION TO LIGHTNING TRANSIENTS
- HIGH RELIABILITY
- EASY MAINTENANCE
- FULL VOLTAGE AND CURRENT UNDER ALL SPECIFIED OPERATING CONDITIONS
- REMOTE SENSING FOR PRECISE BATTERY VOLTAGE REGULATION
- CURRENT LIMITING
- HIGH POWER FACTOR
- HIGH EFFICIENCY
- INPUT CIRCUIT BREAKER PROTECTION
- OUTPUT CIRCUIT BREAKER PROTECTION (DUAL-POLE)
- PROPORTIONAL LOADSHARING
- VOLT AND AMP METERS
- FRONT PANEL ALARM AND STATUS LEDES
- ALARM RELAY CONTACTS

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HRTU RECTIFIERS DETAILED FEATURES AND BENEFITS

- RECTIFIER ADJUSTMENTS:
 - FLOAT SETTING
 - EQUALIZE SETTING
 - CURRENT LIMIT SETTING
 - FLOAT/EQUALIZE MODE SELECTION
 - LOCAL/REMOTE EQUALIZE SELECTION OPTION
 - HIGH VOLTAGE ALARM SETTING
 - LOW VOLTAGE ALARM SETTING
 - PRIMARY HIGH VOLTAGE SHUTDOWN SETTING
 - NO CHARGE ALARM SETTING
- REMOTE OR LOCAL SENSE OPERATION
 - LOCAL AND SELECTIVE HVSD
 - AC FAILURE ALARM
 - OPTIONAL EQUALIZE TIMER
 - FORCED LOADSHARING
 - AC INPUT CIRCUIT BREAKER PROTECTION
 - DC OUTPUT CIRCUIT BREAKER PROTECTION (DUAL-POLE)
- FRONT PANEL LEDES:
 - AC POWER ON
 - HIGH VOLTAGE SHUTDOWN
 - RECTIFIER FAIL
 - HIGH DC VOLTAGE
 - LOW DC VOLTAGE
 - NO CHARGE ALARM
 - GROUND DETECTION
- STANDARD ALARM CONTACTS
 - SUMMARY ALARM (2 SETS)
- OPTIONAL GROUND DETECTION SWITCH ON VOLTMETER
- OPTIONAL ALARM CONTACTS
 - HIGH DC VOLTAGE
 - AC POWER LOSS
 - LOW DC VOLTAGE
 - NO CHARGE
 - GROUND DETECTION RELAY



HRTU48 VDC/50 AMP RECTIFIER

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SPECIFICATIONS

ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE	0 C to +50 C (32 F to +122 F)	
STORAGE TEMPERATURE	-40 C to +85 C (-40 F to +185 F)	
HUMIDITY	0 To 95 % Non-Condensing	
ALTITUDE	3,300 ft. (1005 m) Derate linearly to 40 C (104 F) @ 10,000 ft (3047 m)	
HEAT DISSIPATION HRT 24Vdc Rectifiers	HRT24AC25U	620 Btu/HR
	HRT24AC50U	1005 Btu/HR
	HRT24AC100U	1840 Btu/HR
HEAT DISSIPATION HRT 48Vdc Rectifiers	HRT48AC15U	425 Btu/HR
	HRT48AC30U	1050 Btu/HR
	HRT48AC50U	1825 Btu/HR
	HRT48AC100U	2960 Btu/HR
COOLING	Convection Cooled	
AUDIBLE NOISE	<65 dBa @ 5 ft. from any vertical surface	

ELECTRICAL SPECIFICATIONS

EMI	FCC Part 15, Subpart J for Class A Equipment	
LINE SURGES	Designed to meet ANSII/IEEE C62.41-1980	
ELECTRICAL NOISE: VOICE BAND	32 dbrnc	
ELECTRICAL NOISE: WIDE BAND	30mv rms: When connected to a battery with at least 4 times amp-hour capacity of rectifier full load output current rating	
ELECTRICAL NOISE: Peak to Peak	200mv peak-to-peak: When connected to a battery with at least 4 times amp-hour capacity of rectifier full load output current rating	
TIF	Under rated conditions: TIF <= 50	

PROTECTION

INPUT PROTECTION	Dual-Pole Circuit Breaker	
OUTPUT PROTECTION	Dual-Pole Circuit Breaker	
OUTPUT OVERVOLTAGE SHUTDOWN Primary	24Vdc HRT Rectifiers: Adjustable from 26 to 31Vdc 48Vdc HRT Rectifiers: Adjustable from 52 to 62Vdc	

OUTPUT OVERVOLTAGE SHUTDOWN SECONDARY (Factory Set)	24 Vdc HRT Rectifiers: Set @ 30.7Vdc Non-adjustable 48Vdc HRT Rectifiers: Set @ 61.2 Vdc Non-adjustable	
TURN-ON	Soft-Start	

POWER SPECIFICATIONS

INPUT VOLTAGE	120/208/240 Vac	
INPUT CURRENT 24Vdc HRT Rectifiers @ 120/208/240Vac	HRT24AC25U	7.6/4.4/3.8 Amps AC
	HRT24AC50U	15/8.7/7.5 Amps AC
	HRT24AC100U	32/19/16 Amps AC
INPUT CURRENT 48Vdc HRT Rectifiers @ 120/208/240Vac	HRT48AC15U	8.6/5/4.3 Amps AC
	HRT48AC30U	18/10.3/9 Amps AC
	HRT48AC50U	28/16/14 Amps AC
	HRT48AC100U	58/33/29 Amps AC
OUTPUT VOLTAGE 24Vdc HRT Rectifiers	Float: 24 to 28.2Vdc Equalize: 24 to 29.4Vdc	
OUTPUT VOLTAGE 48Vdc HRT Rectifiers	Float: 48 to 56.4Vdc Equalize: 48 to 58.8Vdc	
OUTPUT REGULATION	+/- 0.5% for 0 to 100% of Full Load within Specified Input Voltage and Frequency Range	
OUTPUT CURRENT 24Vdc HRT Rectifiers	HRT24AC25U	25 Amps
	HRT24AC50U	50 Amps
	HRT24AC100U	100 Amps
OUTPUT CURRENT 48Vdc HRT Rectifiers	HRT48AC15U	15 Amps
	HRT48AC30U	30 Amps
	HRT48AC50U	50 Amps
	HRT48AC100U	100 Amps
OUTPUT MAX. POWER 24Vdc HRT Rectifiers	Rated output current @ 28.2Vdc	
OUTPUT MAX. POWER 48Vdc HRT Rectifiers	Rated output current @ 56.4Vdc	
CURRENT LIMIT	Adjustable from 60% to 105% Full Load	
LOAD SHARE	+/- 5% from 10% to 100% of Full Load Rating	
POWER FACTOR	Lagging .92 @ nominal input and float output @ full load	

AGENCIES

UL/CSA/ISO 9001

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GENERAL INFORMATION

24VDC HRT RECTIFIER SPECIFICATIONS

MODELS	DC AMPS	CABINET SIZE	AC INPUT (VAC)	BRANCH CIRCUIT BREAKER SIZE (AMPS)	NET WEIGHT LBS. (KG)
HRT24AC25U	25	12.25" H 19/23" Rack Mount 14" D	120/208/240 Vac	10 Amp	105 lbs. (48 kgs)
HRT24AC50U	50	12.25" H 19/23" Rack Mount 14" D	120/208/240 Vac	20 Amp	135 lbs. (61 kgs)
HRT24AC100U	100	17.5" H 19/23" Rack Mount 18" D	120/208/240 Vac	40 Amp	225 lbs. (102 kgs)

48VDC HRT RECTIFIER SPECIFICATIONS

MODELS	DC AMPS	CABINET SIZE	AC INPUT (VAC)	BRANCH CIRCUIT BREAKER SIZE (AMPS)	NET WEIGHT LBS. (KG)
HRT48AC15U	15	12.25" H 19/23" Rack Mount 14" D	120/208/240 Vac	15 Amp	105 lbs. (48 kgs)
HRT48AC30U	30	12.25" H 19/23" Rack Mount 14" D	120/208/240 Vac	25 Amp	135 lbs. (61 kgs)
HRT48AC50U	50	17.5" H 19/23" Rack Mount 18" D	120/208/240 Vac	40 Amp	225 lbs. (102 kgs)
HRT48AC100U	100	24.5" H 23" Rack Mount 18" D	120/208/240 Vac	60 Amp	385 lbs. (175 kgs)

24VDC AND 48VDC HRT RECTIFIER OPTIONS

Option	Option Model #	HRTU Rectifier Model #(s)	Option	Option Model #	HRTU Rectifier Model #(s)
Individual Form C Alarm Contacts and Equalize Timer	MBC05544	HRT24AC25U HRT24AC50U HRT48AC15U HRT48AC30U	Lightning Arrestors -Domestic-	MBC05499	HRT24AC25U HRT24AC50U HRT48AC15U HRT48AC30U
	MBC05542	HRT48AC100U HRT48AC50U		Lightening Arrestors -International-Only (220Vac)	KBC05295
	MBC05543	HRT48AC100U	KBC05296		HRT48AC100U
Ground Switch on Voltmeter	MBC05545	All HRTU Models			

POWERCOM DIVISION

1400 Union Meeting Road
P.O. Box 3053
Blue Bell, PA 19422-0858
(215) 619-2700 FAX (215) 619-7899
(800) 543-8630
www.cdpowercom.com

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