



Our energy means business

DCT

Telecom Grade, Filtered Charger/Rectifier

Maximizes Battery Performance and Life.

- **115/230 VAC, 50/60 Hz input**– operates nearly anywhere in the world.
- **Filtered DC output**– exceeds international telecommunications standards.
- **Temperature compensated**– eliminates the No. 1 cause of premature battery failure.
- **Comprehensive alarm system**– provides complete status on charger and battery.
- **Heavy-gauge aluminum housing**– gives modern appearance and corrosion protection.
- **Standard input and output breakers**– reduces the need for spare fuses.
- **Proven SENS quality**– means years of trouble-free service.

SENS DCTCharger

Product Highlights

SENS DCT chargers/rectifiers supply reliable DC power to telecommunications, process control and other equipment that requires a well filtered source.

The DCT ensures the highest possible reliability of a battery-backed DC power system. The DCT automatically eliminates the No. 1 cause of premature failure in maintenance-free batteries – improper charging. The filtered output and SENS' temperature-compensated control circuitry extends battery life, eliminates over- and undercharging and reduces risk of thermal runaway.

SENS DCT chargers are designed for service anywhere in the world. Standard units operate on either 50 or 60 Hz; input voltage is field-selectable for either 115 or 230 volts.



Standard features include AC line compensation, precision voltage regulation, current limiting, input and output circuit breakers, comprehensive alarm system, voltmeter and ammeter, forced load sharing, and high-voltage shutdown.

Specifications

Input Voltage Range

115 volts, 60 Hz: 100-132 volts
 230 volts, 60 Hz: 198-264 volts
 230 volts, 50 Hz: 198-242 volts
 Optional voltages: see Model Number Breakout. Optional voltages $\pm 10\%$ of rating.

Input Frequency Range

50/60 Hz rating: 47-63 Hz
 60 Hz rating: 57-63 Hz
 50 Hz rating: 47-53 Hz

Output Voltage

12, 24, 48, 120 & 240 volts nominal. Other voltages available. Float voltage adjustable from 100% to 120% of nominal. Equalize voltage adjustable up to 15% above float voltage.

Output Voltage Regulation

$\pm 1\%$ from no load to full load of the correct temperature compensated value with simultaneous variations in input voltage of $\pm 10\%$ and frequency of $\pm 5\%$.

Current Limiting

Factory set limit is at 100% of rated current. Limit adjustable from 50% to 110% of rated current.

Protection

Soft start – ensures smooth start up.
 Precise electronic current limit.
 AC circuit breaker.
 DC circuit breaker.
 High DC voltage shutdown.

Ambient

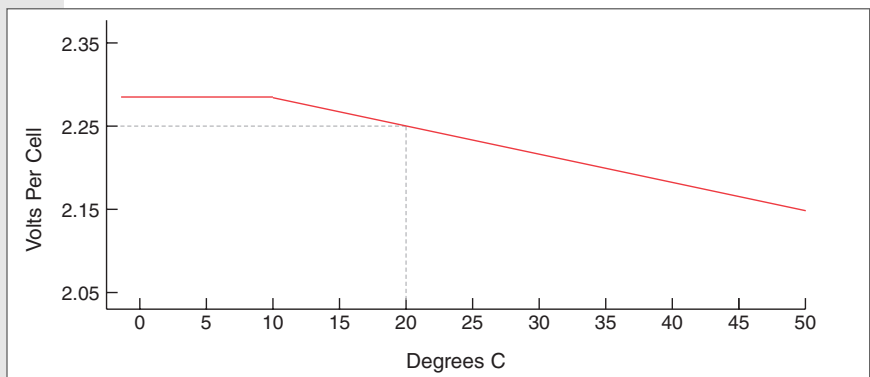
Operating temperature: -20 C to +50 C.
 Storage temperature: -40 C to +85 C.
 Humidity: 5% to 90% non-condensing.

Temperature Compensation

All batteries have a negative temperature coefficient. The DCT is equipped with the appropriate temperature compensation (-0.2% per deg. C) to assure correct charging in all conditions. Provision for remote temperature sensing is included. The remote sensor is optional.

(See Figure 1)

Figure 1



Controls & Adjustments

- Front panel AC circuit breaker.
- Front panel DC circuit breaker.
- Alarm LED test button.
- Separate internal adjustments for float and equalize voltages and current limit.
- Separate internal adjustments for low and high DC alarms.
- Charging mode switch (Auto/Float/Equalize).

Parallel Operation

A paralleling circuit forcing load sharing to within $\pm 10\%$ from low load to full load is standard. It is activated by connecting a control wire between chargers.

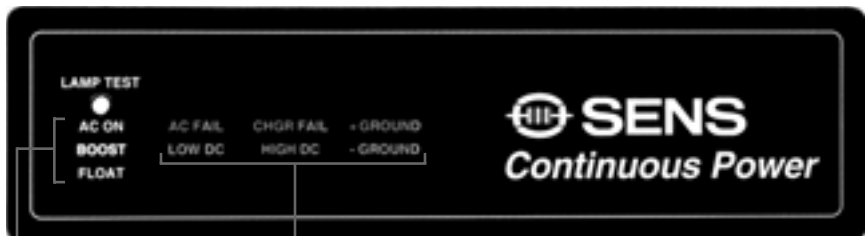
Indicators

DC voltmeter: 3.5" (78 mm) scale, 2% accuracy.
 DC ammeter: 3.5" (78 mm) scale, 2% accuracy.
 Refer to Alarm Systems Table.

Output Ripple & Noise

(12, 24, 48VDC): 30 mV rms maximum ripple and 32 dBnC voice-band noise when connected to a battery having capacity in AH four times the ampere output rating of the charger. 100 mV rms maximum with battery disconnected.
 (120VDC): 150 mV rms maximum ripple when connected to a battery having capacity in AH four times the ampere output rating of the charger.
 (240VDC): 300 mV rms maximum ripple when connected to a battery having capacity in AH four times the ampere output rating of the charger.

Front panel status display

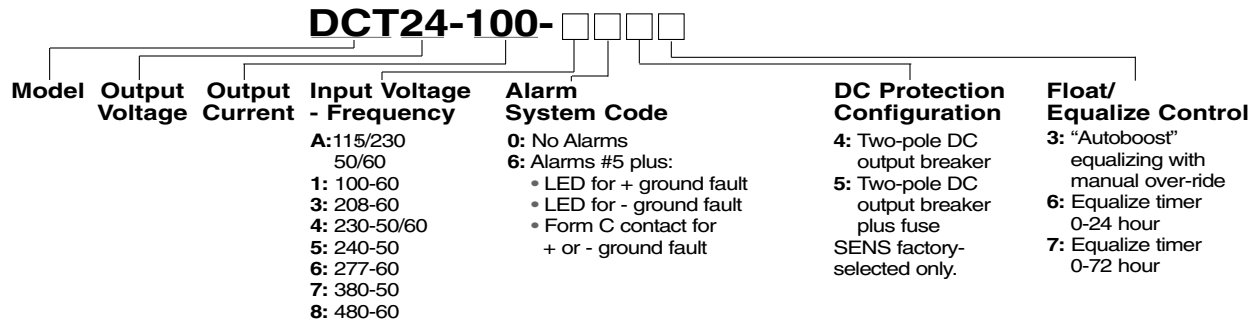


Normal status indicators

Alarm status indicators

NOTE: Panel appears blank unless indicators are lit.

Model Number Breakout



NOTE: Not all configurations are available on all models.
Contact the factory for confirmation.

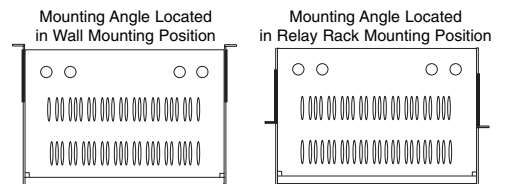
Alarm Systems Table

Alarm System Code*	0	6
System Status	Indication	Indication
AC on	none	Green LED
Float mode	none	Green LED
Boost (equalize) mode	none	Amber LED
AC fail	none	Red LED & Form C contact
Charger fail	none	Red LED & Form C contact
Low battery voltage	none	Red LED & Form C contact
High battery voltage	none	Red LED & Form C contact
Ground fault +	none	Red LED
Ground fault -	none	Red LED
Ground fault + or -	none	Form C contact
Summary alarm	none	Form C contact
High voltage shutdown	Form C contact	Red LED & Form C contact

*The Alarm System Code is used as part of the model number when the unit is ordered. See Model Number Breakout diagram.

Housing Dimensions Table

Housing-	Width	Depth	Height
DC-1	19.00" (483mm)	12.33" (313mm)	15.72" (399mm)
DC-2A	19.00" (483mm)	12.33" (313mm)	24.47" (622mm)
DC-3A	23.00" (584mm)	15.33" (389mm)	31.47" (799mm)



Mechanical

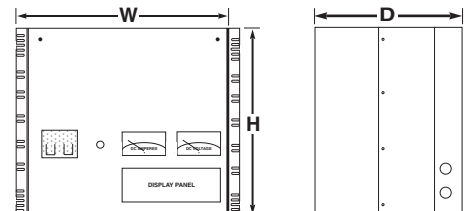
Housing material: Heavy gauge clear anodized aluminum.

Configurations:

- DC-1 and DC-2A: Mounting on wall or in 19" relay rack (field selectable).
- DC-3A: Mounting on wall or in 23" relay rack (field selectable).

Seismic rating: All housings rated for seismic zone 4.

Connections: Direct to AC breaker and DC breaker.



Optional Features

- Non-standard input voltage.
- Remote temperature sensor.
- Equalize timer: 0-24 hr or 0-72 hr.
- Blocking diode.
- Fungus proofing of circuit boards.
- Export packaging.
- $\pm 0.5\%$ voltage regulation.
- Additional metering of AC input and DC output.

How To Order

1. Determine the charger model number. Refer to the Ordering Information Table and Model Number Breakout.
2. If non-standard input voltage, alarm system or float/boost control are required, specify these by changing the part number suffix.
3. If other options are required specify these as line items.

Ordering Information Table

Housing		Model Number	Housing Size	Weight		Certification
Volts	Amps			Lbs	KG	
12	12	DCT12-12	DC-1	53	24	ISO 9000
12	25	DCT12-25	DC-1	68	31	ISO 9000
12	50	DCT12-50	DC-1	88	40	ISO 9000
12	100	DCT12-100	DC-2A	125	57	ISO 9000
12	200	DCT12-200	DC-3A	280	127	ISO 9000
24	6	DCT24-6	DC-1	40	18	ISO 9000
24	12	DCT24-12	DC-1	58	26	ISO 9000
24	25	DCT24-25	DC-1	80	36	UL Listed/ISO9000
24	35	DCT24-35	DC-1	99	45	UL Listed/ISO9000
24	50	DCT24-50	DC-1	104	47	UL Listed/ISO9000
24	75	DCT24-75	DC-2A	200	91	UL Listed/ISO9000
24	100	DCT24-100	DC-2A	225	102	UL Listed/ISO9000
24	150	DCT24-150	DC-3A	290	132	UL Listed/ISO9000
24	200	DCT24-200	DC-3A	330	150	UL Listed/ISO9000
32	6	DCT32-6	DC-1	50	23	ISO 9000
32	12	DCT32-12	DC-1	65	30	ISO 9000
32	25	DCT32-25	DC-1	90	41	ISO 9000
32	35	DCT32-35	DC-1	110	50	ISO 9000
32	50	DCT32-50	DC-2A	165	75	ISO 9000
32	75	DCT32-75	DC-2A	230	105	ISO 9000
32	100	DCT32-100	DC-2A	250	114	ISO 9000
48	6	DCT48-6	DC-1	55	25	ISO 9000
48	12	DCT48-12	DC-1	80	36	ISO 9000
48	25	DCT48-25	DC-1	104	47	ISO 9000
48	35	DCT48-35	DC-1	145	66	ISO 9000
48	50	DCT48-50	DC-2A	180	82	ISO 9000
48	75	DCT48-75	DC-2A	250	114	ISO 9000
48	100	DCT48-100	DC-3A	270	123	ISO 9000
120	6	DCT120-6	DC-1	80	36	ISO 9000
120	12	DCT120-12	DC-1	96	44	ISO 9000
120	25	DCT120-25	DC-2A	190	86	ISO 9000
120	35	DCT120-35	DC-2A	245	111	ISO 9000
120	50	DCT120-50	DC-3A	330	150	ISO 9000
240	6	DCT240-6	DC-1	110	50	ISO 9000
240	12	DCT240-12	DC-2A	210	95	ISO 9000
240	25	DCT240-25	DC-3A	340	155	ISO 9000

NOTE: Refer to the Model Number Breakout diagram for how to specify alarms, input voltage and options. The standard configuration is shown in the price list.



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