400-600 Watts
CDS Series

- Ideal for Distributed Power Systems
- Remote On/Off
- Inverter Operating Monitor
- Overcurrent, Overvoltage & Thermal Protection
- Remote Sense
- 85°C Maximum Baseplate Temperature
- Up to 89% Efficiency

Specification

Input

Input Voltage Range	• See table
Input Current	• See table

Output

Output Voltage	• See table
Output Voltage Trim	• See table
Minimum Load	• No minimum load required
Line Regulation	• See table
Load Regulation	• See table
Setpoint Accuracy	• See table
Turn-on Time	• 200 ms max (nom. Vin max load)
Ripple & Noise	• See table
Overvoltage Protection	• See table, recycle input to reset
Overtemperature Protection	• Disable output at a baseplate temperature >85°C
Overcurrent Protection	• Operates at >105%, trip & restart (Hiccup mode), auto recovery
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Temperature Coefficient	• ±0.03 % /°C max
Remote Sense	• Compensates for 0.5V line drop max, when not used the remote sense terminals must be connected locally
Remote On/Off	• Fitted, both input & output of converter can be turned off. Contact sales for more details.
Current Share	• Active current share derate max current by 10% of the total output power
Recommended Output Capacitor	• 2/3 V Output model : 6800 µF 5/7 V Output model : 4700 µF 12/28 V Output model : 470 - 1000 µF (except CDS4004824/4004828 : 220 µF) 15 V Output model : 330 µF
Auxiliary Output	• 6.5 - 8.5 V at 10 mA (16 V max unregulated)

General

Efficiency	• See table
Isolation	• CDS400: 1500 VDC Input to Output 1500 VDC Input to Case 500 VAC Output to Case 100 VAC Output to RC2, RC3 CDS500/600: 500 VAC Input to Output 500 VAC Input to Case 500 VAC Output to Case 100 VAC Output to RC2, RC3
Isolation Resistance	• 50 MOhm
Switching Frequency	• 360 kHz typical
Power Density	• Up to 127 W/In^3
Package Style	• Full brick
MTBF	• 250 kHrs min per EIAJ RCR-9102

Environmental

Operating Temperature	• -20 °C to +85 °C on aluminium base plate
Cooling	• Base plate cooled
Operating Humidity	• 20-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Storage Humidity	• 20-95% RH, non-condensing
Operating Altitude	• 3000 m
Shock	• 20 g 11ms once along each axis
Vibration	• 10-55 Hz, 5 g 3 minute period, 60 minutes along each axis

EMC & Safety

Emissions	• EN55022 level A conducted & radiated, external components required, contact sales for details
ESD Immunity	• EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Safety Approvals	• UL60950-1, C-UL, EN60950-1

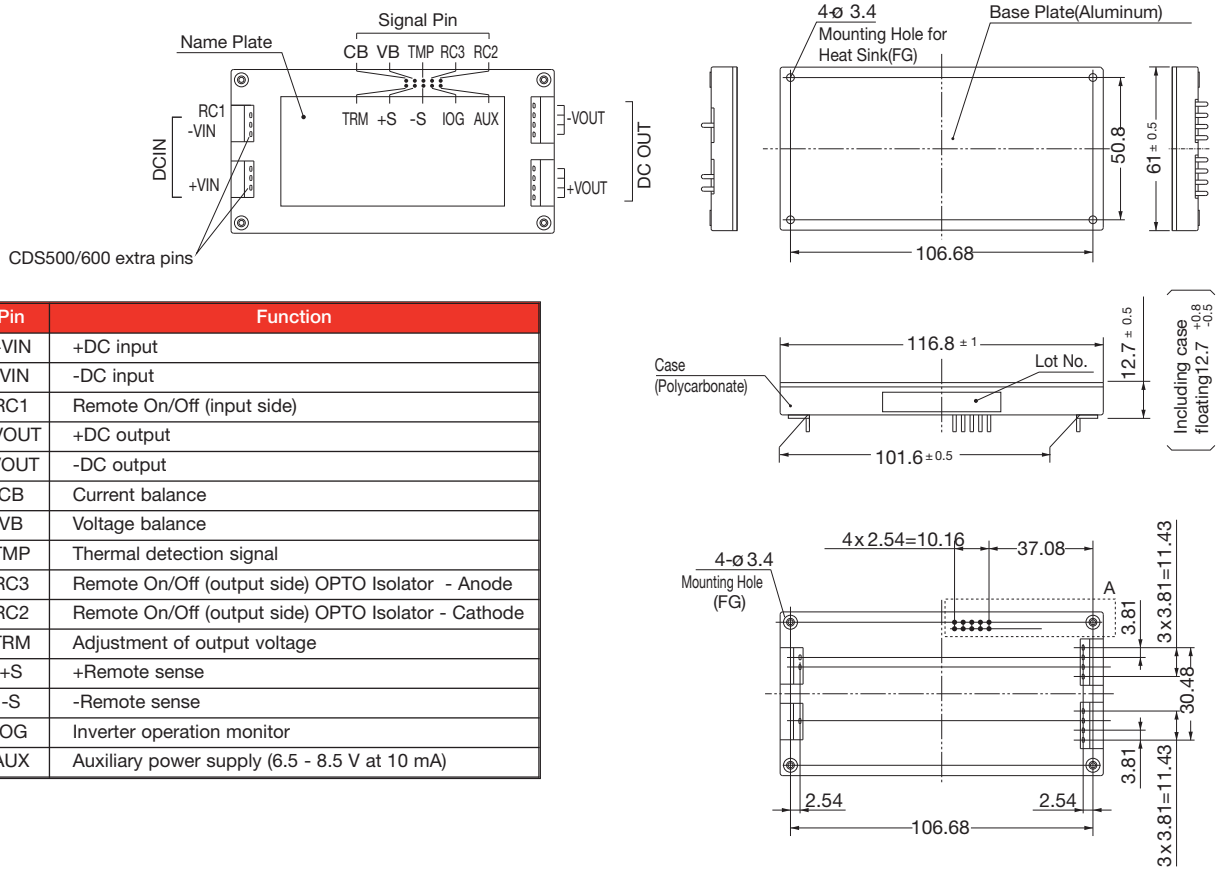
Models and Ratings

Input Voltage	Output Voltage	Output Current	Setpoint Accuracy	Overvoltage Protection	Output Voltage Trim	V Input (Typ)	Ripple & Noise[2]	Regulation		Eff. (Typ)[1]	Model Number
								Load	Line		
36-76 VDC	2.0 VDC	100 A	1.95-2.10 V	2.80-4.50 V	1.00-2.20 V [3]	6 A	150 mV	20 mV	10 mV	73%	CDS4004802
36-76 VDC	3.3 VDC	100 A	3.25-3.45 V	4.00-5.50 V	1.98-3.63 V	9 A	150 mV	30 mV	16 mV	80%	CDS4004803
36-76 VDC	5.0 VDC	80 A	4.90-5.20 V	5.75-7.00 V	3.00-5.50 V	10 A	150 mV	40 mV	20 mV	84%	CDS4004805
36-76 VDC	7.5 VDC	54 A	7.25-7.85 V	8.60-10.50 V	4.50-8.25 V	10 A	160 mV	60 mV	30 mV	87%	CDS4004807
36-76 VDC	12.5 VDC	40 A	12.00-13.00 V	14.35-17.50 V	7.50-13.75 V	12 A	180 mV	100 mV	40 mV	89%	CDS4004812
36-76 VDC	15.0 VDC	34 A	14.40-15.60 V	17.25-21.00 V	9.00-16.50 V	12 A	180 mV	150 mV	60 mV	89%	CDS4004815
36-76 VDC	24.0 VDC	21 A	23.04-24.96 V	27.60-33.60 V	14.40-26.40 V	12 A	180 mV	190 mV	95 mV	89%	CDS4004824
36-76 VDC	28.0 VDC	18 A	26.88-29.12 V	33.00-39.20 V	16.80-32.00 V [4]	12 A	180 mV	190 mV	95 mV	89%	CDS4004828
18-36 VDC	28.0 VDC	18 A	27.72-28.28 V	33.00-39.20 V	22.40-32.00 V [4]	24 A	180 mV	190 mV	95 mV	89%	CDS5002428H
18-36 VDC	12.5 VDC	48 A	12.00-13.00 V	14.35-17.50 V	10.00-13.75 V	30 A	180 mV	100 mV	40 mV	83%	CDS6002412
20.5-36 VDC	12.5 VDC	48 A	12.00-13.00 V	14.35-17.50 V	10.00-13.75 V	29 A	180 mV	100 mV	40 mV	87%	CDS6002412H
18-36 VDC	28.0 VDC	22 A	26.88-29.12 V	33.00-39.20 V	22.40-30.80 V	30 A	180 mV	190 mV	95 mV	86%	CDS6002428
19-36 VDC	28.0 VDC	22 A	26.88-29.12 V	33.00-39.20 V	22.40-32.00 V [4]	29 A	180 mV	190 mV	95 mV	89%	CDS6002428H
36-76 VDC	12.5 VDC	56 A	12.00-13.00 V	14.35-17.50 V	10.00-13.75 V	17 A	180 mV	100 mV	40 mV	89%	CDS6004812
36-76 VDC	28.0 VDC	25 A	26.88-29.12 V	33.00-39.20 V	22.40-32.00 V	17 A	180 mV	190 mV	95 mV	89%	CDS6004828

Notes

1. At rated input (24V, 48V) and rated load.
2. Ripple & Noise is measured with a 0.1 µF film capacitor across outputs using a 20 MHz B/W limited oscilloscope.
3. If 1-1.2 V output is required, please contact sales for details.
4. CDS5002428H, CDS6002412H, CDS6002428H: When the output voltage adjustment range is 101% or more, the input voltage range is limited (Contact sales for details).
5. For -40 °C operation, contact sales.

Mechanical Details



Pin	Function
+VIN	+DC input
-VIN	-DC input
RC1	Remote On/Off (input side)
+VOUT	+DC output
-VOUT	-DC output
CB	Current balance
VB	Voltage balance
TMP	Thermal detection signal
RC3	Remote On/Off (output side) OPTO Isolator - Anode
RC2	Remote On/Off (output side) OPTO Isolator - Cathode
TRM	Adjustment of output voltage
+S	+Remote sense
-S	-Remote sense
IOG	Inverter operation monitor
AUX	Auxiliary power supply (6.5 - 8.5 V at 10 mA)

Notes

1. All measurements are in mm. Tolerance: ±0.3 mm
2. Weight: CDS400: <180 g
   CDS500/600: <200 g
3. For optional mounting hole M3 tapped version, add '-M' to the part number.
4. Baseplate: Aluminium.