



Clean energy devices to sustain  
the next generation

## DCH20 Series DC POWER SUPPLY

### EDLC application product

#### Features

EDLC (Electric Double Layer Capacitor)
Hold Up Time > 4 Seconds
Includes Connector for Optional EDLC Unit Connection
Failure Detection Signal Employed
On/Off Switch Included for Hold Up Mode
5 Output Voltages from 3.3-48VDC
Universal Input 85-264VAC
Meets FCC Class B, CISPR Class B
Board type
RoHS Compliant

#### BUILT-IN BACKUP

Maintains Power for 4 seconds  
when AC power is interrupted  
SUPERCAP EDLC Technology

**Applications** Power fail Measure / Memory Back up / Data Protection  
HDD Head Protection / Switch Malfunction Measure  
Additionally, it is possible to use as a standard power supply for data processing,  
measuring or optical equipment.



**Rubycon**

The long Hold-Up time is achieved by using Electric Double Layer Capacitor. \_\_\_\_\_

“DCH20 series” is a power supply wherein the Electric Double Layer capacitors are applied and therefore the DC-output can be maintained. The Hold-Up time is > 4 Seconds when the AC input is interrupted. It is possible to reduce momentary power failure and loss of data with this design.

## DCH20

62 (W) × 190 (D) × 40 (H) mm



## DC POWER SUPPLY

### EDLC application product



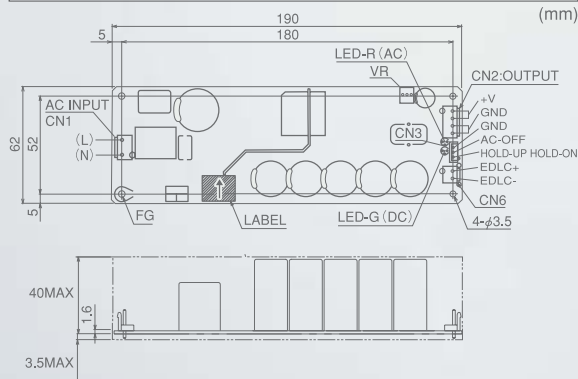
### DCH20 Specifications

5 Fixed Output Models are shown with corresponding specifications. Please consult us for custom configurations.

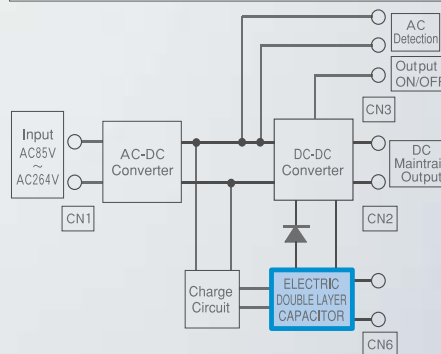
Item	DCH20-3.3	DCH20-5	DCH20-15	DCH20-24	DCH20-48
Rated output voltage	3.3V	5V	15V	24V	48V
Rated output current	6.0A	4.0A	1.3A	0.83A	0.41A
Maximum output power	20W	20W	20W	20W	20W
Adjustable voltage range <sup>※1</sup>	3.1~3.5V	4.75~5.25V	14.3~15.8V	22.8~25.2V	45.6~50.4V
Efficiency (120/230VAC,TYP) <sup>※1</sup>	—	—	—	—	—
Output ripple noise	150mVpp	150mVpp	150mVpp	150mVpp	250mVpp
Over current protection <sup>※2</sup>	7.2A~	4.8A~	1.6A~	1.0A~	0.5A~
Over voltage protection <sup>※3</sup>	4.0V~	6.0V~	17.3V~	27.6V~	55.2V~
Input voltage range	85~264VAC				
Input frequency range	47~63Hz				
Input current <sup>※1</sup>	0.8A (100VAC) , 0.5A (230VAC)				
Inrush current <sup>※4</sup>	15Apk MAX (120VAC) , 30Apk MAX (240VAC)				
Hold-up time <sup>※5</sup>	4sec MIN				

※1.At rated power. ※2.Recovers automatically. ※3.Recovers on AC input again  
 ※4.Specified at 25 degree ambient temperature with cold start.  
 ※5.When AC power is interrupted with rated power

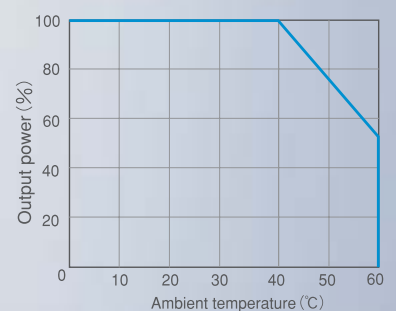
### Outline Drawing



### Block Diagram



### Output Derating



Item	
Maximum line/load regulation	±0.5%
Voltage tolerance ratio	±3% (at line, load,time,temperature)
Operating temperature	0~+60°C (Refer to Output Derating)
Operating humidity	30~90%RH (Non condensing)
Storage temperature	-30~+70°C
-Storage humidity	10~95%RH (Non condensing)
Cooling	Convection cooling (Refer to Output Derating)
Electric strength voltage	Input-Output 3000VAC 1minute, Input-FG 1500VAC 1minute, Output-FG 500VAC 1minute
Insulation resistance	100MΩ MIN DC500V 25°C 70%RH Input-Output, Input-FG, Output-FG
Leakage current	0.5mA MAX (240VAC, 50Hz)
Vibration	10~55Hz 2G (X-Y-Z direction for one hour)
Shock	20ms 20G (X-Y-Z direction each three times)
Safety standard	UL90950, CSA60950 (cUL), EN60950 (NEMKO)(acquisition schedule)
Harmonic distortion	FCC Class B, EN55022 Class B, VCCI Class B conforming
Conduction noise	EN61000-4-5 Level 3/4KV (CM), 2KV (DM) conforming
Dimensions	62 (W) × 190 (D) × 40 (H) mm
Weight	220g TYP.

※Specifications are subject to change.

### Connectors used

Part discription	Part name	Manufacturer	Q.T.Y
CN1(input side) pin header	B2P3-VH	JST	1
CN2(output side)pin header	B4P-VH	JST	1
CN3(output side)pin header	B3B-EH	JST	1
CN6(enlargement)pin header	B2P-VH	JST	1

### Matching housings and pins

Part discription	Part name	Manufacturer	Q.T.Y
CN1 housing	VHR-3N	JST	1
CN2 housing	VHR-4N	JST	1
CN3 housing	EHR-3	JST	1
(CN1, CN2, CN6) terminal	BVH-21T-P1.1	JST	8
CN6(enlargement)housing	VHR-2N	JST	1
(CN3) terminal	BEH-001T-P0.6	JST	3

※Not included with the product



**RUBYCON CORPORATION**

1938-1, Nishi-Minowa Ina City, Nagano Japan. 399-4593

TEL. Japan +81-265-72-7111 FAX. +81-265-73-2914

N/America +847-249-3450 FAX. +847-578-1300

Europe +31-23-554-3510 FAX. +31-23-554-3515

[www.rubycon.com](http://www.rubycon.com)