

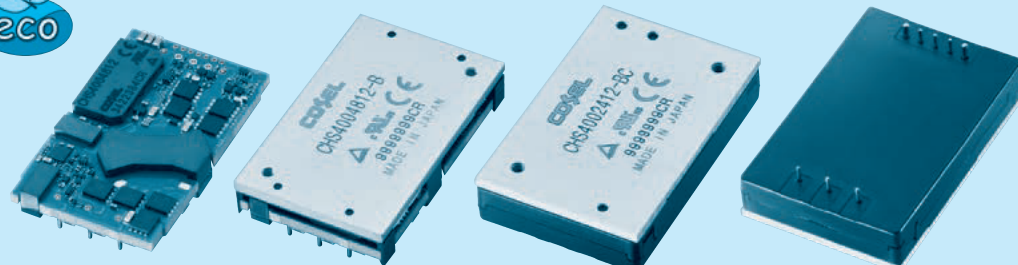
# CHS400

CH S 400 48 12 -

① ② ③ ④ ⑤ ⑥



RoHS



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage  
24:DC18 - 36V  
48:DC36 - 76V
- ⑤ Output voltage  
10:10V  
12:12V  
12H:12V(High efficiency type)  
15:15V  
24:24V  
28:28V  
32:32V  
48:48V
- ⑥ Optional  
R :with Remote ON/OFF  
Positive logic control  
U :Shut down in protection circuit working  
B :BasePlate option with Mounting hole M3  
BC:Baseplate and case option with Mounting hole M3 (only CHS40024)  
P :Parallel operation (5Pins :without +S,-S and TRM) (Only CHS40048)  
L2:Pin length 5.3mm  
L5:5pins type (+S,-S,TRM less)  
I :with the PMBus interface (Only CHS4004812)

MODEL	CHS4002412	CHS4002415	CHS4002424	CHS4002428	CHS4002432	CHS4002448
MAX OUTPUT WATTAGE[W]	318.0	397.5	348.0	350.0	352.0	302.4
DC OUTPUT	12V 26.5A	15V 26.5A	24V 14.5A	28V 12.5A	32V 11A	48V 6.3A

## SPECIFICATIONS

	MODEL	CHS4002412	CHS4002415	CHS4002424	CHS4002428	CHS4002432	CHS4002448	
INPUT	VOLTAGE[V]	DC18 - 36						
	CURRENT[A]	*1 14.17typ	17.53typ	15.43typ	15.51typ	15.60typ	13.40typ	
	EFFICIENCY[%]	*1 93.5typ	94.5typ	94.0typ	94.0typ	94.0typ	94.0typ	
OUTPUT	VOLTAGE[V]	12	15	24	28	32	48	
	CURRENT[A]	26.5	26.5	14.5	12.5	11	6.3	
	LINE REGULATION[mV]	24max	30max	48max	56max	64max	96max	
	LOAD REGULATION[mV]	24max	30max	48max	56max	64max	96max	
	RIPPLE	[mVrms] *2	60max	60max	90max	90max	90max	110max
		[mVp-p] *2	180max	180max	250max	250max	250max	300max
	RIPPLE NOISE[mVp-p]	*2 200max	200max	280max	280max	280max	350max	
	TEMPERATURE REGULATION[mV]	240max	300max	480max	560max	640max	960max	
	DRIFT[mV]	*3 40max	50max	80max	90max	120max	180max	
	START-UP TIME[ms]	50max (DCIN 24V, Io=100%)						
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	*4	Fixed (TRM pin open), adjustable by external resistor						
		-20% / +10%	-20% / +5%	-20% / +10%	-20% / +10%	-20% / +10%	-20% / +10%	
OUTPUT VOLTAGE SETTING[V]	*1	±1.6%	±1.6%	±1.6%	±1.6%	±1.6%	±1.6%	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)						
	OVERVOLTAGE PROTECTION	115% - 135% (Auto restart)	110% - 130% (Auto restart)	115% - 135% (Auto restart)	115% - 135% (Auto restart)	115% - 135% (Auto restart)	115% - 135% (Auto restart)	
	REMOTE SENSING	Provided						
	REMOTE ON/OFF	Provided (Negative Logic L : ON, H :OFF)						

MODEL	CHS4004810	CHS4004812	CHS4004812H	CHS4004815	CHS4004824	CHS4004828	CHS4004832	CHS4004848
MAX OUTPUT WATTAGE[W]	400.0	396.0	396.0	397.5	396.0	392.0	400.0	403.2
DC OUTPUT	10V 40A	12V 33A	12V 33A	15V 26.5A	24V 16.5A	28V 14A	32V 12.5A	48V 8.4A

## SPECIFICATIONS

	MODEL	CHS4004810	CHS4004812	CHS4004812H	CHS4004815	CHS4004824	CHS4004828	CHS4004832	CHS4004848	
INPUT	VOLTAGE[V]	DC36 - 76								
	CURRENT[A] *1	8.82typ	8.68typ	8.64typ	8.76typ	8.73typ	8.64typ	8.82typ	8.94typ	
	EFFICIENCY[%] *1	94.5typ	95typ	95.5typ	94.5typ	94.5typ	94.5typ	94.5typ	94.0typ	
OUTPUT	VOLTAGE[V]	10	12	12	15	24	28	32	48	
	CURRENT[A]	40	33	33	26.5	16.5	14	12.5	8.4	
	LINE REGULATION[mV] *8	20max	24max	24max	30max	48max	56max	64max	96max	
	LOAD REGULATION[mV] *7	20max	24max	24max	30max	48max	56max	64max	96max	
	RIPPLE	[mVrms] *2	60max	60max	60max	70max	100max	100max	100max	110max
		[mVp-p] *2	160max	180max	180max	200max	280max	280max	280max	300max
	RIPPLE NOISE[mVp-p] *2	180max	200max	200max	220max	300max	300max	300max	350max	
	TEMPERATURE REGULATION[mV]	200max	240max	240max	300max	480max	560max	640max	960max	
	DRIFT[mV] *3	30max	40max	40max	50max	80max	90max	120max	180max	
	START-UP TIME[ms]	50max (DCIN 48V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V] *4	Fixed (TRM pin open), adjustable by external resistor (N/A : parallel operation)								
	OUTPUT VOLTAGE SETTING[V] *1, *7	±1.6%	±1.6%	±1.6%	±1.6%	±1.6%	±1.6%	±1.6%	±1.6%	
	PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)							
OVERVOLTAGE PROTECTION		115% - 135% (Auto restart)								
REMOTE SENSING		Provided (N/A : parallel operation)								
REMOTE ON/OFF		Provided (Negative Logic L : ON, H :OFF)								

## GENERAL SPECIFICATIONS

ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)
	INPUT-BASEPLATE *5, *6	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)
	OUTPUT-BASEPLATE *5, *6	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85°C, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 5,000m (16,000 feet) max
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max
	VIBRATION	10 - 55Hz, 49.0m/s <sup>2</sup> (5G), 3minutes period, 60minutes each along X, Y and Z axis
	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950
OTHERS	CASE SIZE/WEIGHT	58.4×9.5×36.8mm [2.3×0.37×1.45 inches] (W×H×D) / 60g max
		58.9×12.7×37.3mm [2.32×0.5×1.47 inches] (W×H×D) / 90g max *5
		61.6×12.7×40.3mm [2.43×0.5×1.59 inches] (W×H×D) / 90g max *6
	COOLING METHOD	Convection / Forced air / Conduction

\*1 At rated input (DC24V, DC48V) and rated load. Ta=25°C, 2m/s.

\*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 0.1 μF or 22 μF. (Refer to instruction manual for wiring output pin)

\*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*4 Refer to the instruction manual for input voltage derating.

\*5 Baseplate Option.

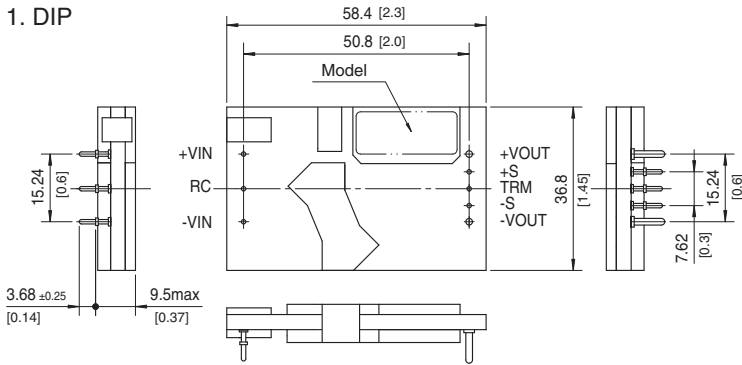
\*6 Baseplate and case option.

\*7 Parallel operation Option is not included.

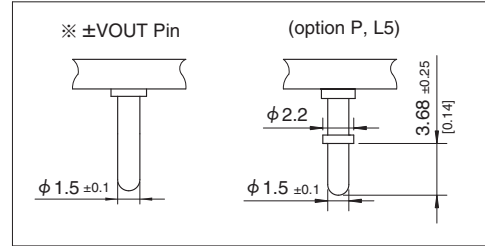
\*8 At input voltage DC36-76V(CH4004810, CHS4004812), DC40-76V(CH4004812H).

# External view

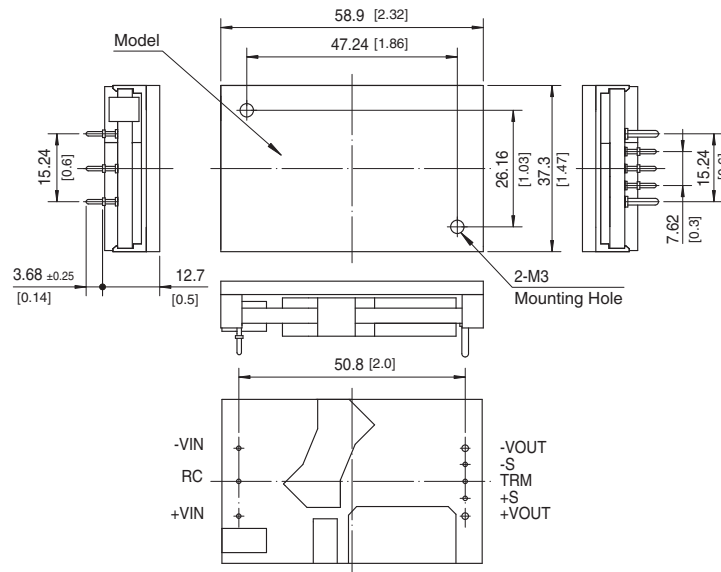
## 1. DIP



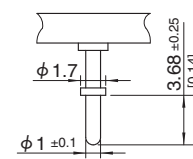
※ Tolerance:  $\pm 0.5$  [ $\pm 0.02$ ]  
 ※ Dimensions in mm, [ ]=inches



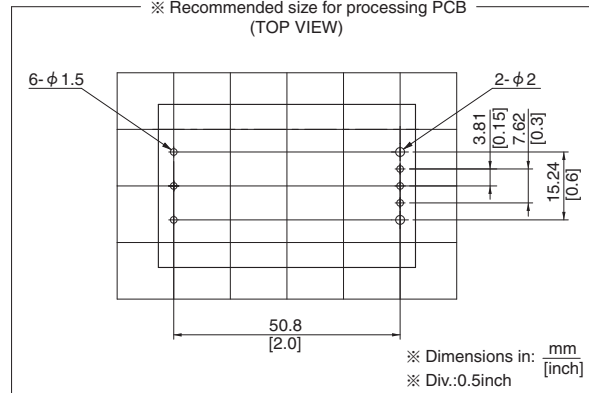
## 2. BasePlate (optionB)



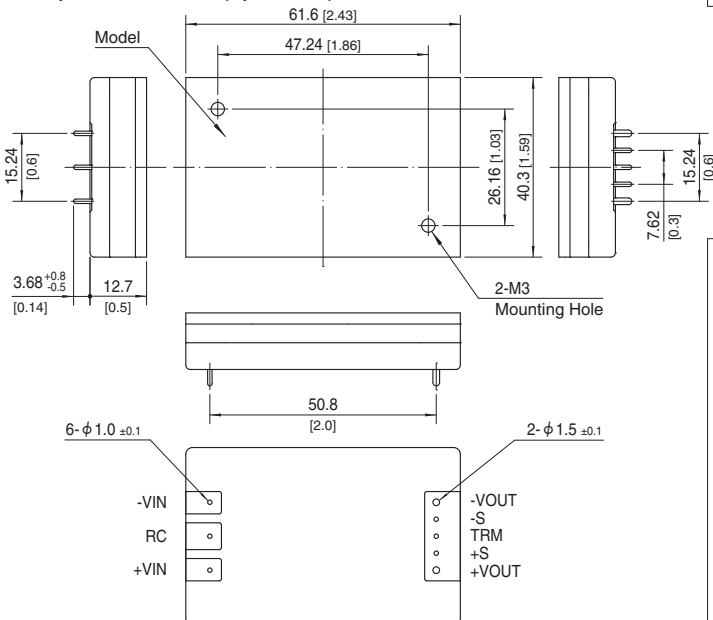
※  $\pm VIN/RC/TRM/\pm S$  Pin



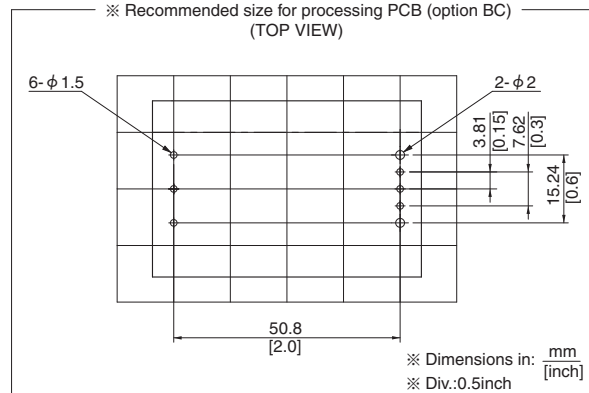
※ Recommended size for processing PCB (TOP VIEW)



## 3. Baseplate and case (optionBC)

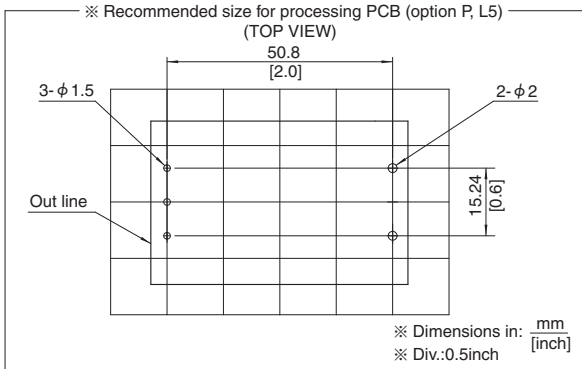
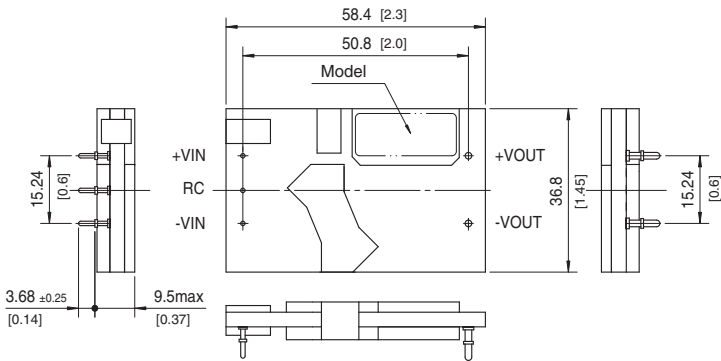


※ Recommended size for processing PCB (option BC) (TOP VIEW)



External view

4. Parallel operation (option P)  
5pins type (option L5)



\* Please contact us about external view of the PMBus interface (option I).