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CHVM Series

1.4-3W, 12V Input, 180-2000V Output DC-DC Converters

https://product.tdk.com/en/power/chvm
www.emea.lambda.tdk.com/chvm

Medical Industrial Test



The CHVM series of non-isolated DC-DC converters feature very compact sizes and have a metal case to provide five-sided shielding for lower ripple and noise. Three package sizes cover power levels from 1.4W to 3W and output voltages of 180V to 2kV. The output can be adjusted from 0.5% to 100% of the rated voltage using either an external voltage or resistance.

Features	Benefits
• Programmable Output Voltage (Voltage or Resistance)	• Remote Adjustment
• Compact Size	• Less Board Area Needed
• Five-Sided Shielding	• Reduced Radiated and Conducted Noise
• Low Output Ripple	• Less External Filtering Required
• Safety Certified	• Simplified System Compliance

Model Selector

Model	Input Voltage (V)	Output Voltage (V)	Maximum Current (mA)	Maximum Power (W)	Input Current (mA) (Typical)	Typical Ripple & Noise (mV)	Maximum Ripple & Noise (mV)
CHVM1R5-12-1000P	11.0 - 13.0	0 to +1000	1.5	1.5	220	5	15
CHVM1R5-12-1000N	11.0 - 13.0	0 to -1000	1.5	1.5	220	5	15
CHVM1R5-12-1500P	11.0 - 13.0	0 to +1500	1	1.5	230	7	25
CHVM1R5-12-1500N	11.0 - 13.0	0 to -1500	1	1.5	230	7	25
CHVM1R5-12-2000P	11.0 - 13.0	0 to +2000	0.7	1.4	280	10	30
CHVM1R5-12-2000N	11.0 - 13.0	0 to -2000	0.7	1.4	280	10	30
CHVM2R7-12-0180PW	10.8 - 13.2	0 to +180	15	2.7	350	30	100
CHVM2R7-12-0180NW	10.8 - 13.2	0 to -180	15	2.7	350	30	100
CHVM3-12-0300PW	10.8 - 13.2	0 to +300	10	3	395	30	100
CHVM3-12-0300NW	10.8 - 13.2	0 to -300	10	3	395	30	100
CHVM2R5-12-0350PW	10.8 - 13.2	0 to +350	7	2.45	330	30	100
CHVM2R5-12-0350NW	10.8 - 13.2	0 to -350	7	2.45	330	30	100
CHVM2R6-12-0470PW	10.8 - 13.2	0 to +470	5.6	2.63	390	40	150
CHVM2R6-12-0470NW	10.8 - 13.2	0 to -470	5.6	2.63	390	40	150
CHVM2-12-1000PW	10.8 - 16.5	0 to +1000	2	2	280	30	100
CHVM2-12-1000NW	10.8 - 16.5	0 to -1000	2	2	280	30	100
CHVM2-12-1500PW	10.8 - 16.5	0 to +1500	1.3	1.95	290	30	100
CHVM2-12-1500NW	10.8 - 16.5	0 to -1500	1.3	1.95	290	30	100
CHVM2-12-2000PW	10.8 - 16.5	0 to +2000	1	2	340	50	150
CHVM2-12-2000NW	10.8 - 16.5	0 to -2000	1	2	340	50	150

CHVM	1R5	-12	1000	P	W
	Output power 1R5: 1.4 to 1.5W 2: 2W 2R5: 2.45W 2R6: 2.63W 2R7: 2.7W	Nominal input voltage	Max. output voltage	P Positive polarity N Negative polarity	Blank: standard input W: wide range input

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Specifications

Model		CHVM1R5	CHVM2 / CHVM2R6	CHVM2R5, CHVM2R7 & CHVM3
Input				
Input Voltage Range	Vdc	See model selector table		
Safety Certifications and Markings	-	IEC/UL/CSA/EN62368-1, CE Mark and UKCA Mark		
Output				
Output Voltage Tolerance	%	±2	±5	±5
Output Voltage Adjustment	-	External voltage or resistance		
Switching Frequency	kHz	200		
Line Regulation (Typical / Maximum)	%	0.01 / 0.02	0.03 / 0.1	0.02 / 0.06
Load Regulation (Typical / Maximum)	%	0.02 / 0.04	0.08 / 0.3	0.5 / 1.5
Ripple & Noise	-	See model selector		
Minimum Load	-	None		
Overcurrent Protection	-	Fold back mode >105%		
Overvoltage Protection	V	None		
Remote Sense	-	No remote sense		
Remote On/Off	-	OFF: Open, ON: Short (0 to 0.4V, 1mA max)		
Parallel Operation	-	Not possible		
Series Operation	-	Not possible		
Environmental				
Operating Temperature (-20°C start up)	°C	-10 to 50	-10 to 60, derate linearly above 50 to 60% load	-10 to 60, derate linearly above 50 to 60% load
Storage Temperature	°C	-25 to +85		
Humidity (non condensing)	%RH	20 - 95 (Operating & Storage)		
Cooling	-	Convection		
Altitude	m	2,000		
Vibration	-	See reliability data on website		
Shock	-	See reliability data on website		
Other				
Weight (Typ)	g	50	65	46
Size (LxWxH)	mm	44 x 16 x 30	110 x 12 x 19.75	80 x 12 x 19.75
Size (LxWxH)	Inches	1.73 x 0.63 x 1.18	4.33 x 0.47 x 0.78	3.15 x 0.47 x 0.78
Case Material	-	Metal		
MTBF	Hours	>600,000	>390,000	>480,000
Warranty	yrs	1		

Notes:
See website for detailed specifications, test methods and installation manual

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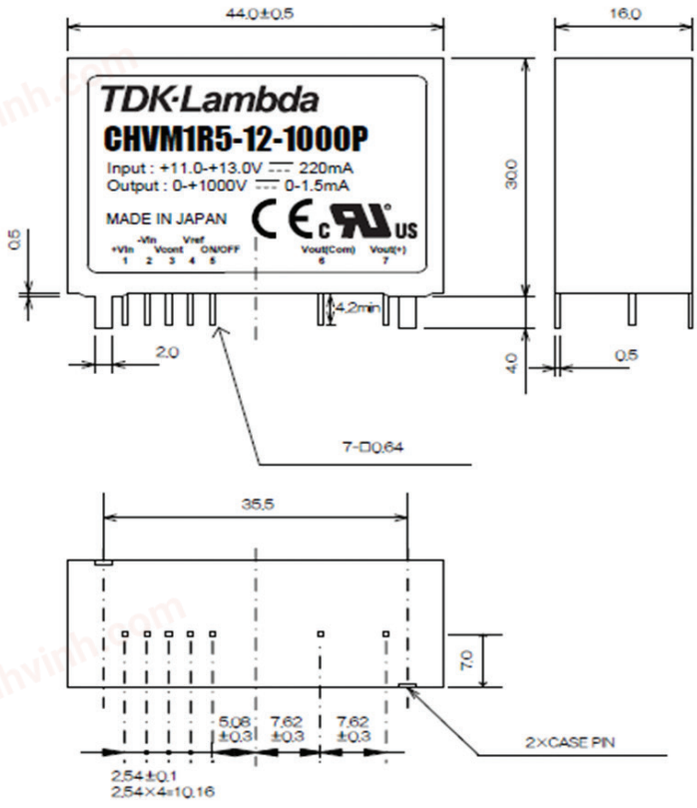
Outline Drawing CHVM1R5



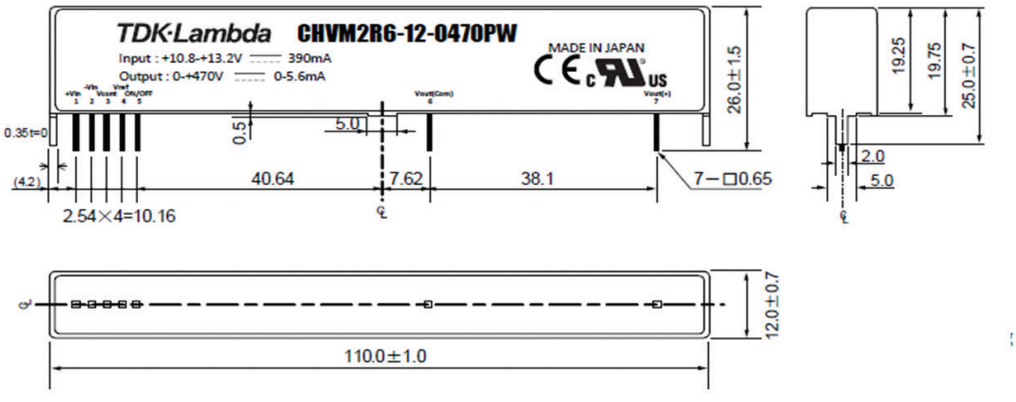
(Bottom view)

Pin-No.	Pin name
1	+Vin
2	-Vin
3	Vcont
4	Vref
5	ON/OFF
6	Vout(Com)
7	Vout (+ or -)

1) Terminal
Material: Phosphor bronze
Treatment: Ni base Au plating
2) Case
Material: Brass
Treatment: Nickel plating

Weight: 50g typ.
Unit: mm
Unspecified dimensional tolerance ±0.5

Outline Drawing CHVM2 and CHVM2R6



(Bottom view)

Pin-No.	Pin name
1	+Vin
2	-Vin
3	Vcont
4	Vref
5	ON/OFF
6	Vout (com)
7	Vout (+ or -)

1)Pins
Material : Phosphorous bronze
Treatment : Ni base Au coating
2)Case
Material : Brass
Treatment : Nickel coating

Weight : 65g typ. Units : mm Tolerance unless otherwise specified ±0.5

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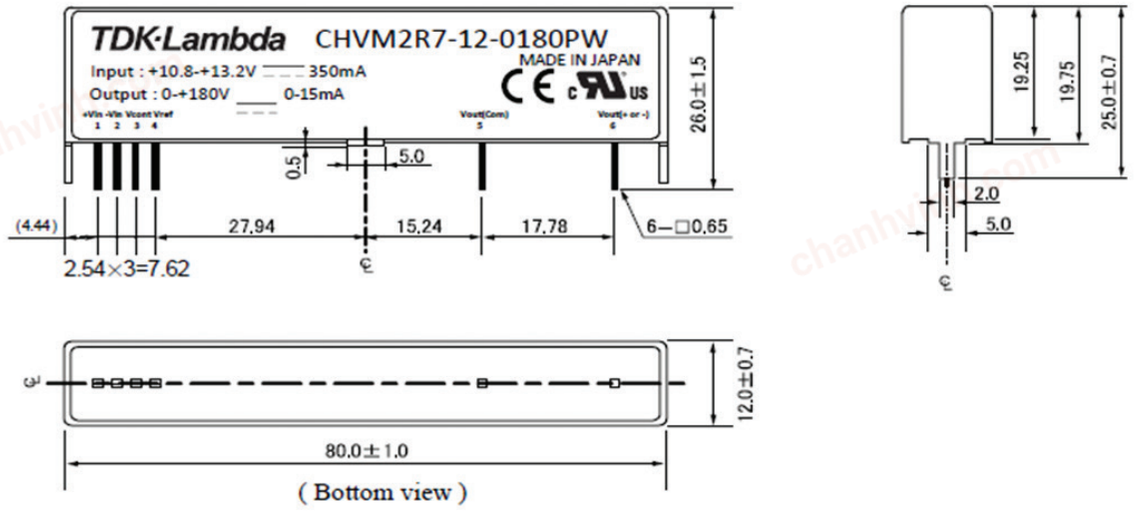
Outline Drawing CHVM2R5, CHVM2R7 and CHVM3



Pin-No.	Pin name
1	+Vin
2	-Vin
3	Vcont
4	Vref
5	Vout (com)
6	Vout (+ or -)

1)Pins
Material : Phosphorous bronze
Treatment : Ni base Au coating
2)Case
Material : Brass
Treatment : Nickel coating

Weight : 46g typ. Units : mm Tolerance unless otherwise specified ±0.5

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For Additional Information, please visit
https://product.tdk.com/en/power/

