High Voltage Power Supplies

PHV Series, 3.5 – 5 Watt

Features

- Compact high voltage power supplies
- Full SMD design with ceramic capacitors for highest reliability
- Positive or negative polarity models
- Excellent output stability
- Low temperature coefficient
- Ultra low ripple
- Remote voltage programming 0 to 100 %
- Short circuit protection
- Shielded metal case
- 3-year product warranty

The PHV series are regulated miniature high voltage power modules using SMD and hybrid technology. They are designed for PCB mounting. The use of high stability components guarantees a minimal temperature drift and a very stable output voltage. Typical applications for these HV power supplies are photomultiplier tubes, gas chromatography, analytical instruments and wherever where small size and high output voltage stability is requested.

Models

Order code	Input voltage range	Output voltage	Output current max.
PHV 12-350 S 10 P		0...+350 VDC	10 mA
PHV 12-350 S 10 N		0...–350 VDC	10 mA
PHV 12-0.5 K 1000 P		0...+500 VDC	10 mA
PHV 12-0.5 K 1000 N	**12 VDC**	0...–500 VDC	10 mA
PHV 12-1.0 K 5000 P	10.8 – 16.5 VDC	0...+1000 VDC	5 mA
PHV 12-1.0 K 5000 N		0...–1000 VDC	5 mA
PHV 12-2.0 K 2500 P		0...+2000 VDC	2.5 mA
PHV 12-2.0 K 2500 N		0...–2000 VDC	2.5 mA

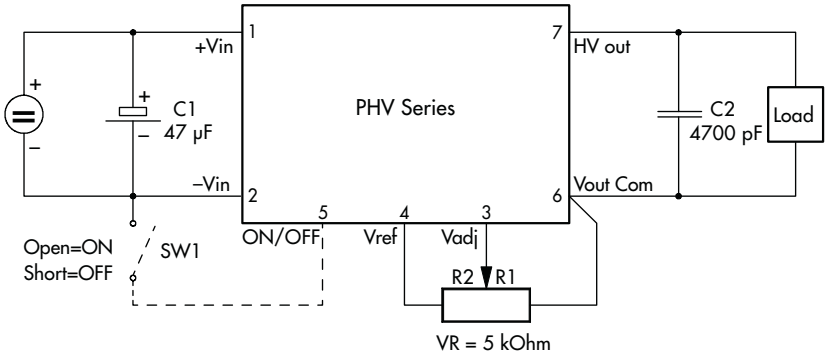
Order code P for positive output polarity
Order code N for negative output polarity

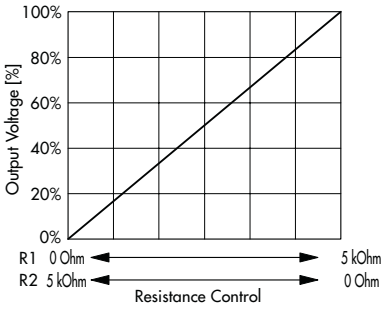
Input Specifications		
Input voltage		+10.8 to +16.5 VDC
Reserve voltage protection		none
Conducted noise (input)		internal filter
Output Specifications		
Voltage set accuracy		±5 %
Voltage adjustement range (adjustable with external voltage 0 to +6 VDC or with 5 kOhm variable resistor)		0 – 100 %
Remote On/Off control		On = pin 2 to pin 5 open Off = pin 2 to pin 5 short
Regulation	– Input variation Vin min. to Vin max. – Load variation 0–100%	0.01 % max. 0.01 % max.
Ripple and noise (20 MHz Bandwidth)		100 mVpk-pk typ.
Temperature coefficient		±0.01 %/K
Stability		0.05 % 8h after warm-up time
Output current limitation		110 % of Iout max., constant current
Short circuit protection		continuous
General Specifications		
Temperature ranges	– Operating – Case temperature – Storage	–10°C to +75°C +90°C max. –25°C to +75°C
Derating		4 %/K above 50°C
Humidity (non condensing)		30 – 95 % rel H max.
Efficiency		60 – 65 %
Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)		>300'000 h
Isolation (Input/Output)	– Voltage	none
Switching frequency		90 kHz typ. (fixed)
Vibration		5 – 10 Hz amplitude 10 mm pk-pk 10 – 55 Hz acceleration 2 G
Thermal shock		acceleration 20 G max. time 11 ms.
Environmental compliance	– Reach – RoHS	www.tracopower.com/products/phv-reach.pdf RoHS directive 2011/65/EU
Physical Specifications		
Casing material		Steel chrome-nickel plated
Weight		65 g (2.29 oz)
Soldering temperature		max. 260°C / 10 sec.

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

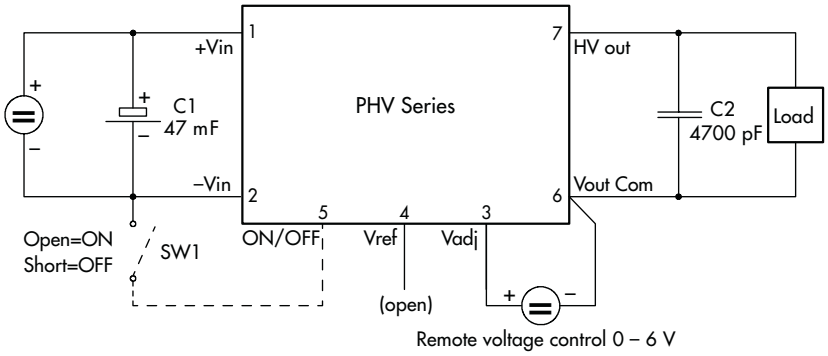
Connection Diagram

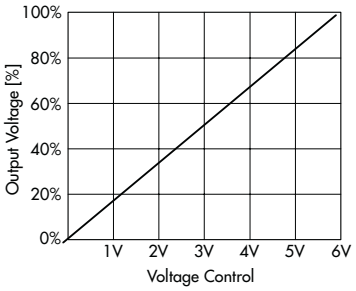
Connection for remote control by variable resistor





Connection for remote control voltage control

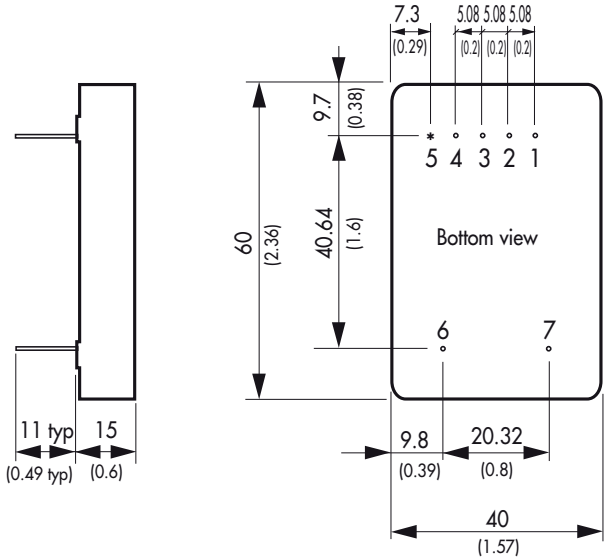




All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Outline Dimensions

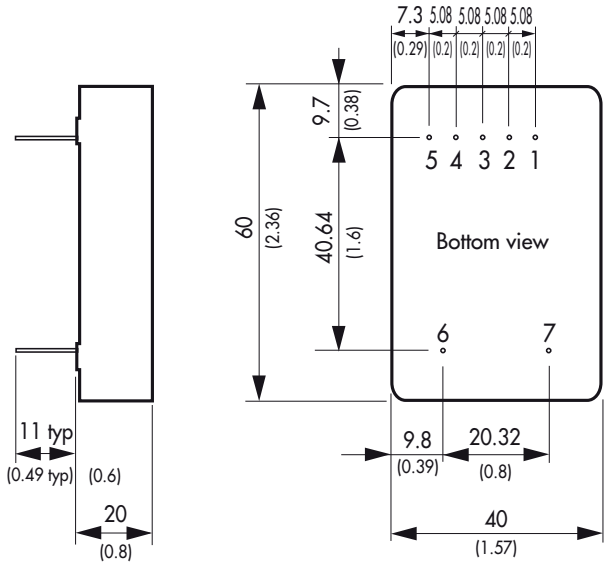
PHV 12-350 S 10P /N:



Pin-Out	
Pin	
1	+Vin (Vcc)
2	–Vin (GND)
3	V adj.
4	V ref.
5	ON/OFF*
6	Common
7	Vout

*on request: add suffix RC

all other models:



Dimensions in [mm], () = Inch
Pin diameter: 0.8 ±0.05 (0.03 ±0.002)
Tolerances: ±0.5 (±0.02)