

# **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		0350 VDC	10 mA
PHV 12-0.5 K 1000 P		0+500 VDC	10 mA
PHV 12-0.5 K 1000 N	12 VDC	0500 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		01000 VDC	5 mA
PHV 12-2.0 K 2500 P		0+2000 VDC	2.5 mA
PHV 12-2.0 K 2500 N		02000 VDC	2.5 mA

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



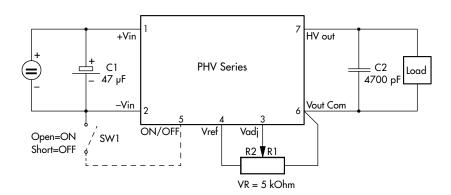
# High Voltage Power Supplies PHV Series 3.5 - 5 Watt

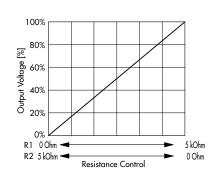
Input Specifications		
Input voltage	+10.8 to +16.5 VDC	
Reserve voltage protection	none	
Conducted noise (input)	internal filter	
Output Specifications		
Voltage set accuracy	±5 %	
Voltage adjustement range (adjustable with external voltage 0 to +6 VDC or with 5 kOhm variable resist	0 – 100 % for)	
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 lout 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	<b>65 g</b> (2.29 oz)	
Soldering temperature	max. 260°C / 10 sec.	

All specifications valid at nominal input voltage, full load and  $\pm 25^{\circ}\text{C}$  after warm-up time unless otherwise stated.

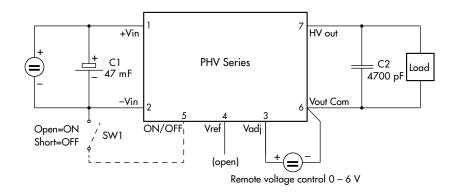
# **Connection Diagram**

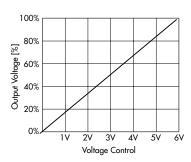
Connection for remote control by variable resistor





Connection for remote control voltage control

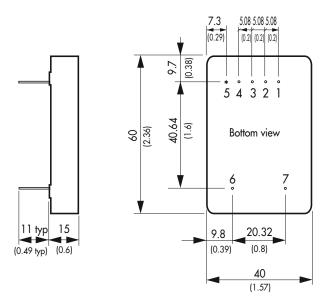




All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

## **Outline Dimensions**

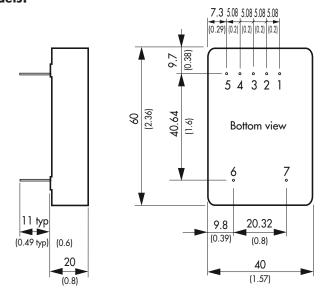
#### PHV 12-350 S 10P /N:



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], () = lnch

Pin diameter:  $0.8 \pm 0.05 (0.03 \pm 0.002)$ 

Tolerances:  $\pm 0.5$  ( $\pm 0.02$ )