

The C13890-15 / -55 are compact PC-board mountable high voltage power supplies, especially designed for photomultiplier tubes. The design offers better performance compared to previous model.

FEATURES

- Wide input voltage range
- Low ripple / noise
- Very compact and lightweight
- High stability
- Wide operating ambient temperature
- Low power consumption
- UL recognized (UL60601-1, File No. E470768): C13890-15



Left: C13890-15, Right: C13890-55



SPECIFICATIONS

Parameter		C13890-15	C13890-55	Unit
Input voltage range		+11 to +16		V
Input current ^(A)	with no load Typ.	35		mA
	with full load ^(B) Typ.	125		
Variable output voltage range		0 to -1250	0 to +1250	V
Specification guaranteed output voltage range ^(C)		-200 to -1250	+200 to +1250	V
Output current	Max.	0.6		mA
Line regulation against +11 V to +16 V input change ^(A,D)	Typ.	±0.01		%
Load regulation against 0 % to 100 % load change ^(A)	Typ.	±0.01		%
Ripple / Noise (p-p) ^(A,D)	Typ.	0.003 (38 mV)		%
Output voltage control		By external controlling voltage (0 V to +5 V) or external potentiometer (50 kΩ ± 2.5 kΩ)		—
Controlling voltage input impedance	Typ.	75		kΩ
Reference voltage output	Typ.	+5.1 (with 50 kΩ external potentiometer)		V
Output voltage setting (Absolute value)	Typ.	Controlling voltage × 250		V
Output voltage rise time (0 % → 99 %) ^(A,D)	Typ.	100		ms
Temperature coefficient ^(A,D)	Typ.	±0.01		% / °C
Operating ambient temperature ^(A,D)		-10 to +60		°C
Operating ambient humidity ^(E)		Below 80		%
Storage temperature		-20 to +70		°C
Storage humidity ^(E)		Below 80		%
Weight		29		g
UL No.		UL60601-1, File No. E470768	—	—
Protective functions		Protected against reversed power input, reversed / excessive controlling voltage input, continuous overloading / short circuit in output		—

NOTE: ^(A)At maximum output voltage.

^(B)At input voltage: +11 V.

^(C)The voltage from 0 V to -200 V (C13890-55: 0 V to +200 V) can be output but all characteristics are not necessarily satisfied.

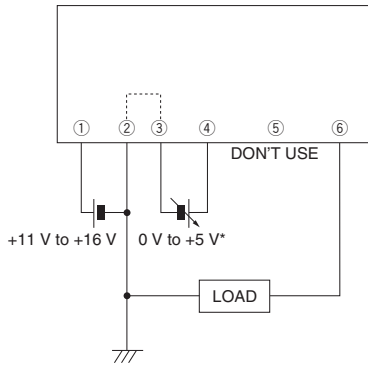
^(D)At maximum output current.

^(E)No condensation.

COMPACT HIGH VOLTAGE POWER SUPPLY C13890-15, C13890-55

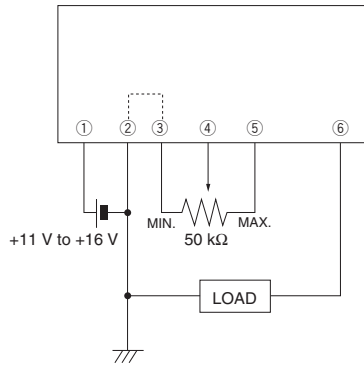
Figure 1: Connection diagrams

● OUTPUT VOLTAGE CONTROL BY EXTERNAL VOLTAGE



*The instability in the external controlling voltage should be minimized as it directly affects the output voltage quality.

● OUTPUT VOLTAGE CONTROL BY EXTERNAL POTENTIOMETER



PIN ASSIGNMENT

- ① Vcc IN +11 V to +16 V
- ② GND
- ③ Vcont GND
- ④ Vcont IN
- ⑤ Vref OUT +5.1 Typ.
- ⑥ HV OUT

- The housing is internally connected to pin ②.
- Pins ② and pin ③ are internally connected.

TACCC0182EA

Figure 2: Output voltage controlling characteristic

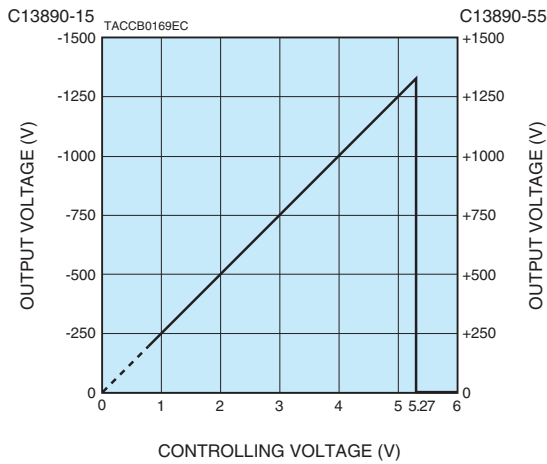
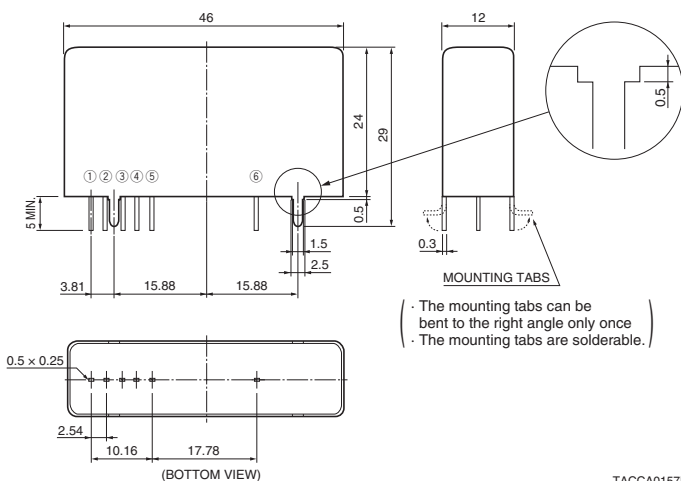
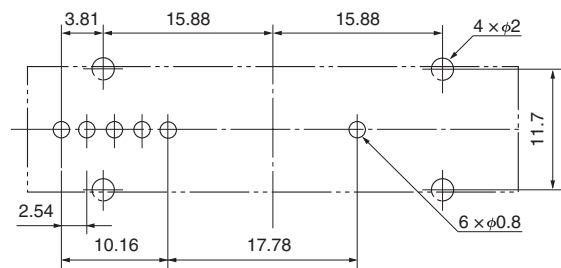


Figure 3: Dimensional outline (Unit: mm)



TACCA0157EC

Drilling data for PC board (Soldering face)



TACCA0159EC

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

Electron Tube Division

314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205

U.S.A.: Hamamatsu Corporation, 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH, Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L., Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: info@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited, 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB, Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01 E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.r.l., Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd., 1201 Tower B, Jiaming Center, 27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd., 8F-3, No.158, Section 2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw

TACC1080E05
AUG. 2020 IP