

photomultiplier HV Base

HV Base series data sheet

1 description

The new compact range of high voltage power bases are available for use with 25mm, 30mm, 51mm, 78mm and 130mm diameter hard pin and capped photomultipliers. The units operate from a low voltage supply (+5 V to +15 V) and the maximum output high voltage is 2000V. The operating voltage can be set using one of the three programming options shown in section 6. The units are housed within a screened cylindrical metal enclosure with threaded mounting bushes. The HV bases are available with or without mounting flange.

2 applications and features

The HV bases can be used for both pulsed light and photon counting applications

- compact design
- no high voltage cables
- very low noise
- excellent linearity
- low power consumption

3 general specifications

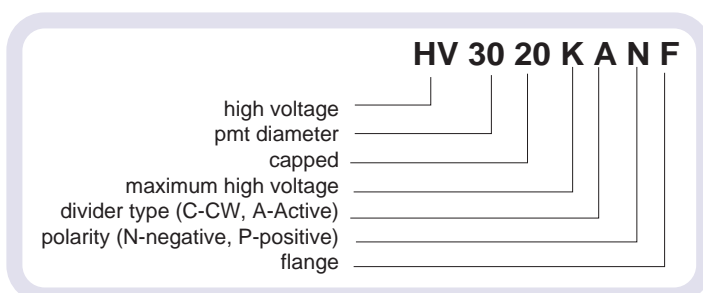
at HV = 1000V	unit	min	max
supply voltage	V	5	15
control voltage	V	0.1	2
output (anode) current	uA		100*
line regulation	%/V		0.01
anode load regulation:			
for anode current 0-100uA	%		0.01
temperature coefficient	%/C		0.02

* subject to photomultiplier limit

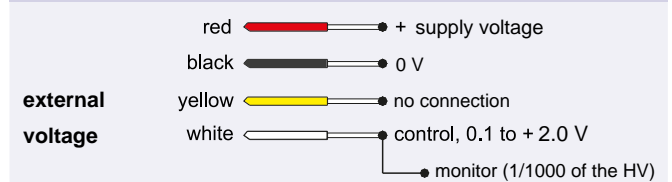
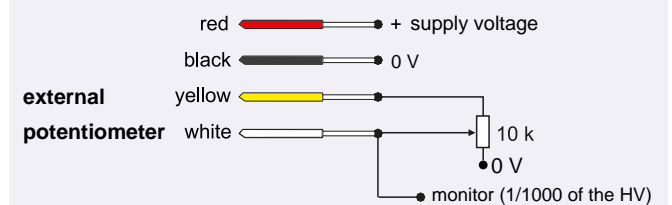
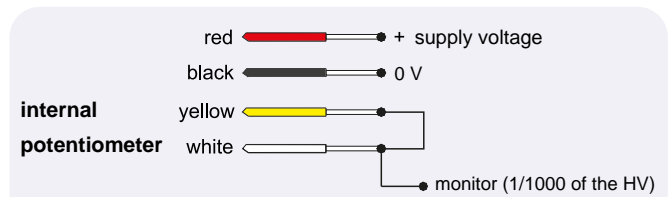
4 ratings

	unit	min	typ	max
supply voltage	V	4.5		18
control voltage	V	0		3
temperature (operating): at 93% RH, non-condensing	°C	-40		60

5 ordering information (example)



6 programming options



7 warning

High voltages generated by these products present an electrical shock hazard and appropriate precautions must be taken.

Installation must be by qualified personnel.

All units are despatched with the internal potentiometer set to zero.

Do not operate outside the quoted ratings of the HV base or those of the photomultiplier. This may result in loss of performance, permanent damage, or both.

Product type	Overall length mm	Diameter mm	Weight* g	Compatible PMT/Cap type
HV2520AN/AP	44	29.5	40	10 stage 25mm diameter PMT
HV2520CN/CP	35	29.5	32	10 stage 25mm diameter PMT
HV3020AN/AP	44	29.5	40	11 stage and some 10 stage 30mm diameter PMT
HV3020CN/CP	35	29.5	32	11 stage and some 10 stage 30mm diameter PMT
HV3820AN/AP	44	29.5	40	10 stage 38mm diameter PMT
HV3820CN/CP	35	29.5	32	10 stage 38mm diameter PMT
HV38K20AN/AP	38	39.5	50	10 stage 38mm diameter capped PMT/B12A
HV38K20CN/CP	29.5	39.5	40	10 stage 38mm diameter capped PMT/B12A
HV5120AN/AP	37	44	50	10 stage 51mm diameter PMT
HV5120CN/CP	29	44	40	10 stage 51mm diameter PMT
HV51K20AN/AP	42	59.5	100	10 stage 51mm diameter capped PMT/B14A
HV51K20CN/CP	31	59.5	87	10 stage 51mm diameter capped PMT/B14A
HV7820AN/AP	37	44	50	10 stage and some 9 stage 78mm diameter PMT
HV7820CN/CP	29	44	40	10 stage and some 9 stage 78mm diameter PMT
HV78K20AN/AP	42	59.5	100	10 stage 78mm diameter capped PMT/B14A
HV78K20CN/CP	31	59.5	87	10 stage 78mm diameter capped PMT/B14A
HV13020AN/AP	37	44	50	10 stage 130mm diameter PMT
HV13020CN/CP	29	44	40	10 stage 130mm diameter PMT
HV130K20AN/AP	42	59.5	100	10 stage 130mm diameter capped PMT/B14A
HV130K20CN/CP	31	59.5	87	10 stage 130mm diameter capped PMT/B14A

*without cables

9 specifications

HV2520AP, HV3020AP, HV3820AP, HV5120AP, HV7820AP, HV13020AP, HV38K20AP, HV51K20AP, HV78K20AP and HV130K20AP.

HV2520CP, HV3020CP, HV3820CP, HV5120CP, HV7820CP, HV13020CP, HV38K20CP, HV51K20CP, HV78K20CP and HV130K20CP

at HV = 1000V	unit	min	typ	max
output high voltage	V	+100		+2000
supply current at +5V; for anode current=0uA	mA		70	
for anode current=100uA	mA		150	
supply current at +12V; for anode current=0uA	mA		40	
for anode current=100uA	mA		60	
switch-on time (10-90%)	s		0.2	
switch-off time (90-10%)	s		3	
anode ripple: for anode load=10kOhm//22pF	mV(p-p)		2	

at HV = 1000V	unit	min	typ	max
output high voltage	V	+100		+2000
supply current at +5V; for anode current=0uA	mA		1.5	
for anode current=100uA	mA		6.5	
supply current at +12V; for anode current=0uA	mA		1	
for anode current=100uA	mA		5	
switch-on time (10-90%)	s		0.2	
switch-off time (90-10%)	s		55	
anode ripple: for anode load=10kOhm//22pF	mV(p-p)		2	

HV2520AN, HV3020AN, HV3820AN, HV5120AN, HV7820AN, HV13020AN, HV38K20AN, HV51K20AN, HV78K20AN and HV130K20AN

HV2520CN, HV3020CN, HV3820CN, HV5120CN, HV7820CN, HV13020CN, HV38K20CN, HV51K20CN, HV78K20CN and HV130K20CN

at HV = 1000V	unit	min	typ	max
output high voltage	V	-100		-2000
supply current at +5V; for anode current=0uA	mA		70	
for anode current=100uA	mA		150	
supply current at +12V; for anode current=0uA	mA		40	
for anode current=100uA	mA		60	
switch-on time (10-90%)	s		0.2	
switch-off time (90-10%)	s		3	
anode ripple: for anode load=10kOhm//22pF	mV(p-p)		1	

at HV = 1000V	unit	min	typ	max
output high voltage	V	-100		-2000
supply current at +5V; for anode current=0uA	mA		1.5	
for anode current=100uA	mA		6.5	
supply current at +12V; for anode current=0uA	mA		1	
for anode current=100uA	mA		5	
switch-on time (10-90%)	s		0.2	
switch-off time (90-10%)	s		30	
anode ripple: for anode load=10kOhm//22pF	mV(p-p)		1	

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