

# brandenburg 3590 SERIES

Minature Regulated High Voltage Modules

Total Power	5 Watts
Input Voltages	11-15 VDC 22-30 VDC
# of Outputs	Single

## SPECIAL FEATURES

- Input 12V or 24V dc nominal input
- Positive or negative versions
- Remote Voltage programming
- Flashover and short circuit protected
- Voltage & Current monitor output
- Encapsulated in screened metal case
- UL approved, CE marked

## ENVIRONMENTAL

Operating temperature	0 to +50 deg.C
Derate above 35C linearly to 80% power at 50 deg.C	
Storage temperature	0 to +80 deg.C
Humidity (RH)	<31°C 80% maximum. >30°C decrease linearly to 50% at 40°C. (non-condensing)
Pollution category	II

## SAFETY

EN 61010-01

## CONNECTIONS

HV output	Flying lead, 400mm long (type: CAB242-020)
HV return	Case (M3 stud or fixings)
Input & control	2 x 0.1" pitch connectors
Pin 1	Supply +12V or +24V dc
Pin 2	Supply 0V
Pin 3	Signal 0V
Pin 4	Fixed reference output
Pin 5	Control input
Pin 6	Variable reference output
Pin 7	Voltage monitor
Pin 8	Current monitor
Pin 9	Not connected
Note :	External input protection fuse is required.



Above photo shown with 90° connector option

## ELECTRICAL SPECIFICATION

### 12V input versions

Input voltage range	+10.8V to +15.6V dc
Input current (no load)	120mA max at 12V i/p.
(full load)	730mA max at 12V i/p.
Control of output	0 to 5V for 0 to 100% input Z = 1MΩ
Fixed reference output	5V ±2%, temp-co <50ppm.
Variable reference	0 to 5V, multi-turn pot.
Voltage monitor	5V for 100% output, accuracy ±1%, source Z = 10kΩ
Current monitor	5V for 100% output, accuracy ±5%, source Z = 10kΩ

### 24V input versions

Input voltage range	+21.6V to +30V dc
Input current (no load)	80mA max at 12V i/p.
(full load)	360mA max at 24V i/p.
Control of output	0 to 5V for 0 to 100% input Z = 1MΩ
Fixed reference output	5V ±2%, temp-co <50ppm.
Variable reference	0 to 5V, multi-turn pot.
Voltage monitor	5V for 100% output, accuracy ±1%, source Z = 10kΩ
Current monitor	5V for 100% output, accuracy ±5%, source Z = 10kΩ

### 12V & 24V input versions

Output voltage range	see Ordering Information
Output current	see Ordering Information
Output ripple	see Ordering Information (At full load & full output)
Line regulation	<75ppm / V
Load regulation(2.5kV only)	<1500ppm, zero to full load
(5,7.5 & 10kV)	<500ppm, zero to full load
Temperature coefficient	50 ppm per deg.C typ. 150 ppm per deg.C max.
Drift (after 8 h'r warm up)	<150ppm over 8 hours <100ppm over 1 hour
Protection (1)	Proof against output short circuit & intermittent flashover
(2)	Output is current limited ~130% of full load current.



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APPLIED  
KILOVOLTS

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14/5/07

## 3590 SERIES

### ORDERING INFORMATION

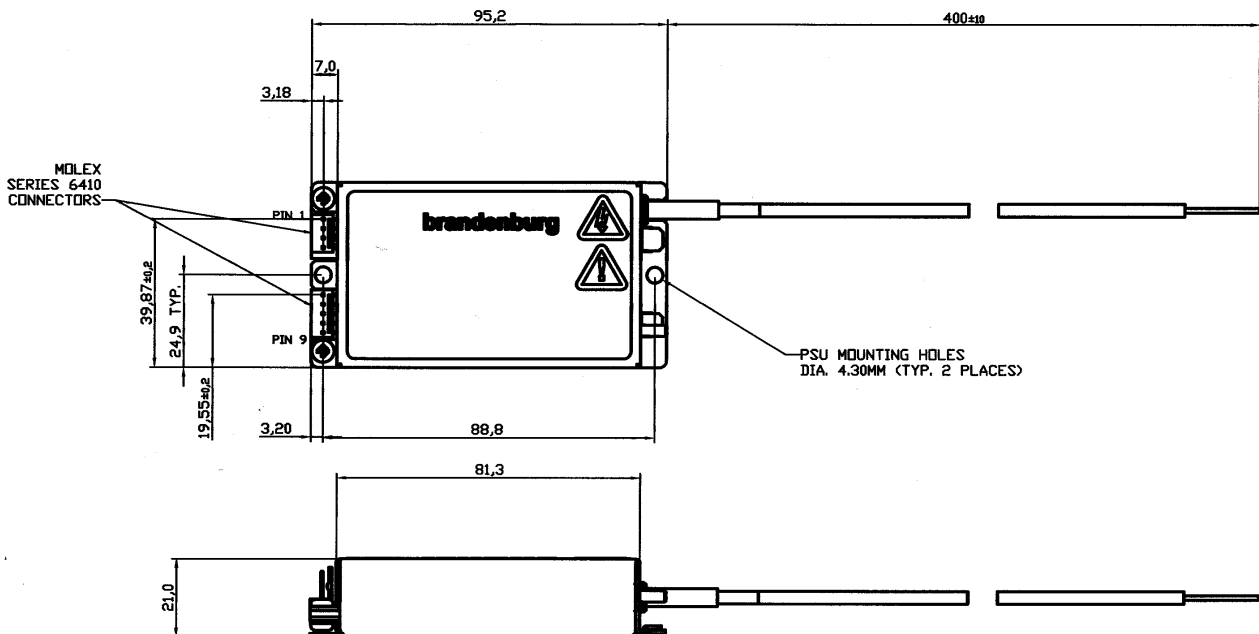
Input Voltage	Output Voltage	Output Polarity	Output Current	Ripple pk-pk	Order Code 180° connectors	Order code 90° connectors
12V dc	0 – 2.5kV	Positive	2mA	500mV	3590-1420	3590-1410
12V dc	0 – 2.5kV	Negative	2mA	500mV	3590-2420	3590-2410
12V dc	0 – 5kV	Positive	1mA	500mV	3590-1120	3590-1110
12V dc	0 – 5kV	Negative	1mA	500mV	3590-2120	3590-2110
12V dc	0 – 7.5kV	Positive	650µA	500mV	3590-1220	3590-1210
12V dc	0 – 7.5kV	Negative	650µA	500mV	3590-2220	3590-2210
12V dc	0 – 10kV	Positive	500µA	500mV	3590-1320	3590-1310
12V dc	0 – 10kV	Negative	500µA	500mV	3590-2320	3590-2310
24V dc	0 – 2.5kV	Positive	2mA	500mV	3590-1D20	3590-1D10
24V dc	0 – 2.5kV	Negative	2mA	500mV	3590-2D20	3590-2D10
24V dc	0 – 5kV	Positive	1mA	500mV	3590-1A20	3590-1A10
24V dc	0 – 5kV	Negative	1mA	500mV	3590-2A20	3590-2A10
24V dc	0 – 7.5kV	Positive	650µA	500mV	3590-1B20	3590-1B10
24V dc	0 – 7.5kV	Negative	650µA	500mV	3590-2B20	3590-2B10
24V dc	0 – 10kV	Positive	500µA	500mV	3590-1C20	3590-1C10
24V dc	0 – 10kV	Negative	500µA	500mV	3590-2C20	3590-2C10

Also available with 0 to 10V control voltage to special order, part number is designated by a 1 in the last position of the number. Please note, there is no fixed or variable reference fitted! (Part number example: 3590-2C11).

### MECHANICAL SPECIFICATION

Dimensions 95.2 x 49.8 x 20.0mm (3.75" x 1.96" x 0.79")  
 Weight 150 g (5.3 oz.) approx.  
 Mounting Two holes 4.2mm dia. on 88.8mm (3.5") centres

### DRAWINGS



Above drawing shown with 180° connector option

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