

# brandenburg

## 3590 SERIES

### Minature Regulated High Voltage Modules

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



Above photo shown with 90° connector option

### 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 range 0 to +50 deg.C  
 Derate above 35C linearly to 80% power at 50 deg.C  
 Storage temperature range 0 to +80 deg.C  
 Humidity (RH non-condensing) 80% to 31 deg.C  
 decrease linearly to 50% RH at 50 deg.C  
 Fully encapsulated for protection against humidity  
 Pollution category II

### 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.

### 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 <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

## ORDERING INFORMATION

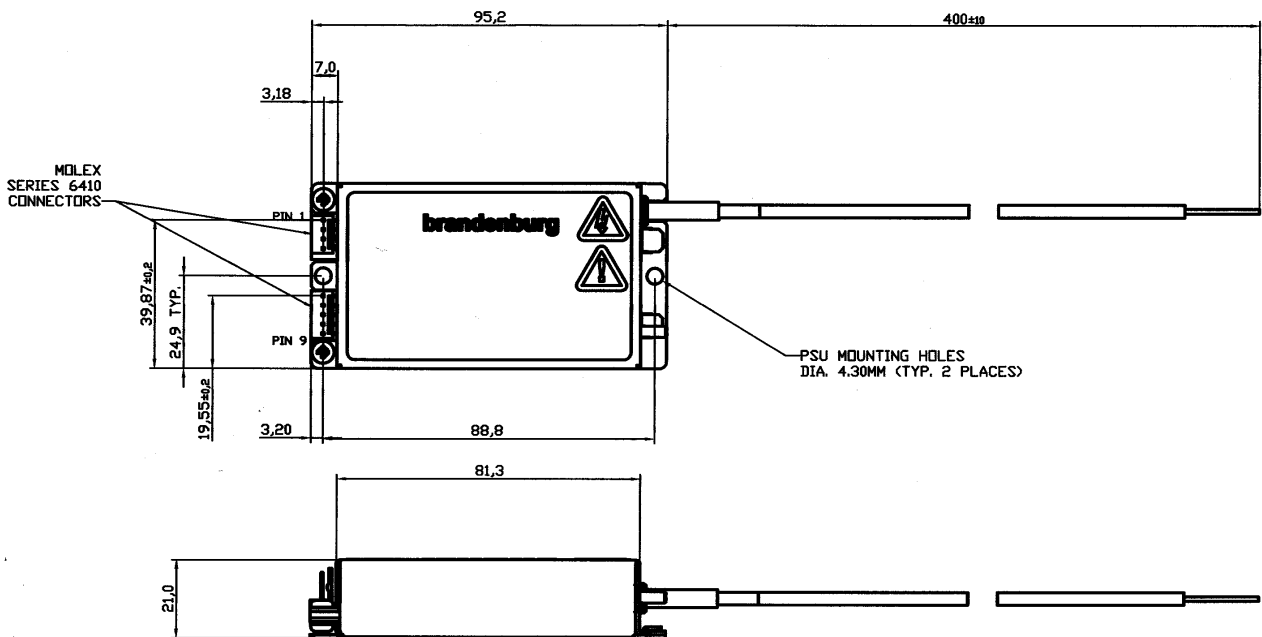
Input Voltage	Output Voltage	Output Polarity	Output Current	Ripple pk-pk	Order Code 180° connectors	Order code 90° connectors
12V dc	0 – 2.5kV	Positive	2mA	500mV	3590-1420	3590-1410
12V dc	0 – 2.5kV	Negative	2mA	500mV	3590-2420	3590-2410
12V dc	0 – 5kV	Positive	1mA	500mV	3590-1120	3590-1110
12V dc	0 – 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

3590 Series