

brandenburg 2478 series

Miniature Photomultiplier Modules
Output Voltages 1kV, 1.5kV, 2kV
10 Watts Power Rating



Features

- 24V nominal input - thoroughly filtered
- Positive and negative output versions
- Very good line and load regulation
- Very low output ripple and noise
- Low temperature coefficient of output voltage
- Proof against output short circuits and arcing
- Local or remote programming
- Rugged aluminium housing - fully encapsulated

Description

The Brandenburg series 2478 is a range of high-performance power supply modules, designed to operate from a 24V (nominal) dc supply, with characteristics that make them ideally suitable for Photomultiplier Tube and similar applications. High efficiency, high frequency power conversion techniques are combined with a feedback-controlled regulation system using high-stability components, to give excellent regulation against changes in input voltage or load and a low output temperature coefficient, together with extremely low output ripple and noise. The output voltage is variable from 20% to 100% of nominal output, using a built-in potentiometer, and can be remotely programmed using either voltage or resistance programming. All models in the range are capable of delivering 10 W of regulated power at their full output voltage settings.

The modules incorporate protection circuits which enable them to withstand arcs and short-circuits at the output without damage. Full encapsulation is used to give complete protection against humidity and a wide operating temperature range. Filtering of the input leads, and an aluminium housing, combine to cut off both conducted and radiated electrical noise. The MTBF of modules in this range is in excess of 100,000 hours at rated output.

Ordering Information

Input Voltage	Output Voltage Range	Output Polarity	Output Current	Ordering Code
24V dc nominal (all versions)	200V – 1.0kV	Positive	10mA	2478-101
	200V – 1.0kV	Negative	10mA	2478-201
	300V – 1.5kV	Positive	7mA	2478-102
	300V – 1.5kV	Negative	7mA	2478-202
	400V – 2.0kV	Positive	5mA	2478-103
	400V – 2.0kV	Negative	5mA	2478-203



Electrical Specification

Input voltage range	+24V to 30V dc
Input regulation	0.001%
Output voltage range	see Ordering Information
Output current	see Ordering Information
Control of output (1)	Internal potentiometer
(2)	Analogue input varies output from 20% to 100% of maximum
(3)	External programming potentiometer
Output regulation	0.001%
Output ripple	4mV pk-pk (at rated load)
Temperature coefficient	50 ppm per deg.C (typical)
Protection	Proof against output short circuits of any duration.

Environmental Specification

Operating temperature range -10 to +60 deg.C
 Storage temperature range -40 to +85 deg.C
 Fully encapsulated for protection against humidity.

Mechanical Specification

Dimensions 104 x 152 x 38mm
 (4.1" x 6.0" x 1.5")
 Weight 700g (1.5 lb) approx.
 Packaging Aluminium case, black anodized, with resilient encapsulation.
 Input connector Molex 09-75-2074
 Mating connector Molex 09-50-3071
 Output connector Flying lead, shielded RG59A/U, min length 457mm (18").
 Mounting Four #6-32 inserts on 108.0 x 66.5mm (4.25" x 2.62") centres.

Pin Connections

Pin	Function
1	Supply +24V
2	Supply 0V
3	Internal reference
4	Potentiometer adj.
5	Programming V_{in}
6	HV return
7	Spare

