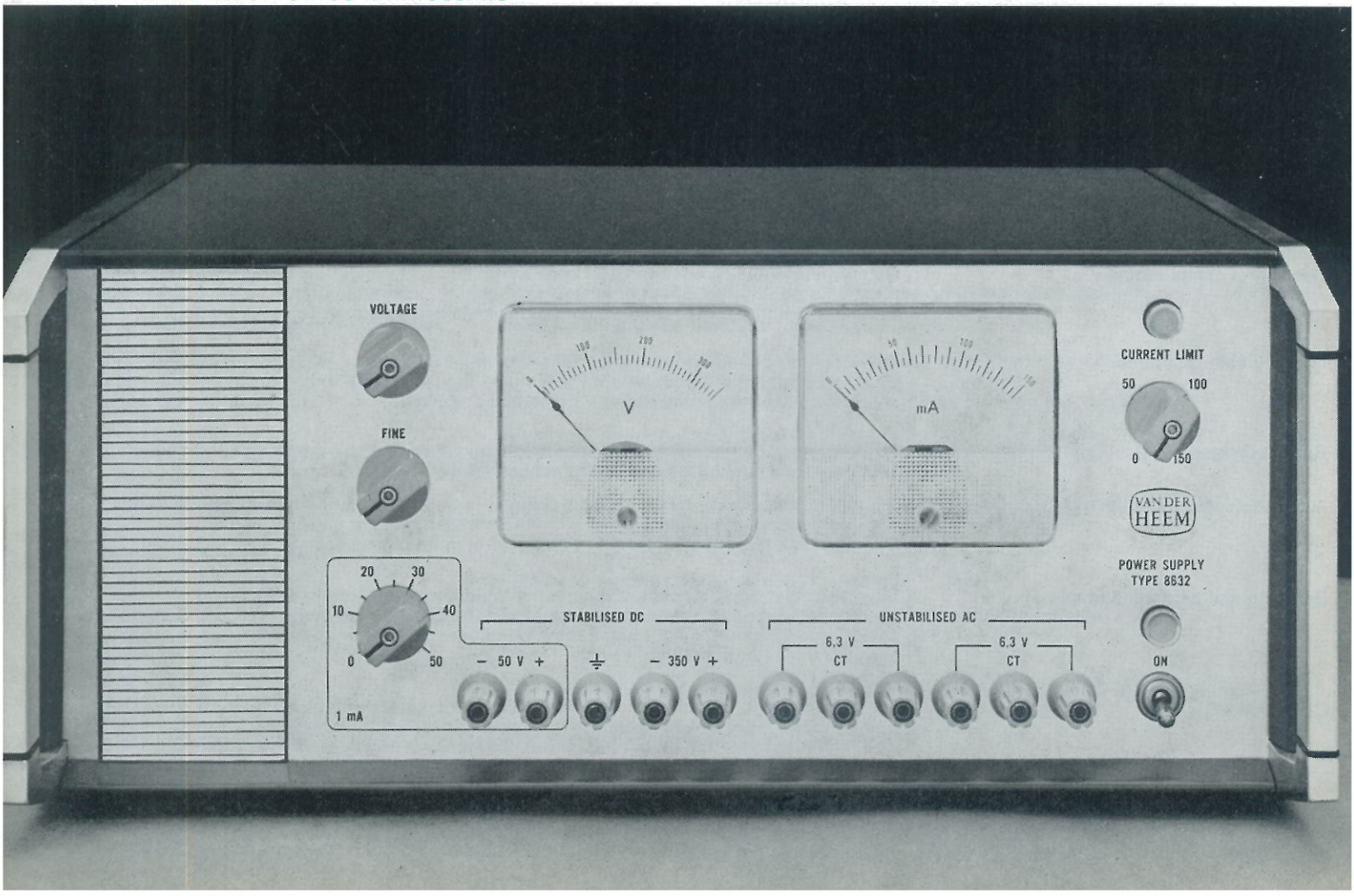
350 V/50 V SOLID-STATE STABILIZED DC POWER SUPPLY FOR BENCH AND RACK USE

VAN DER HEEM

VA 8632

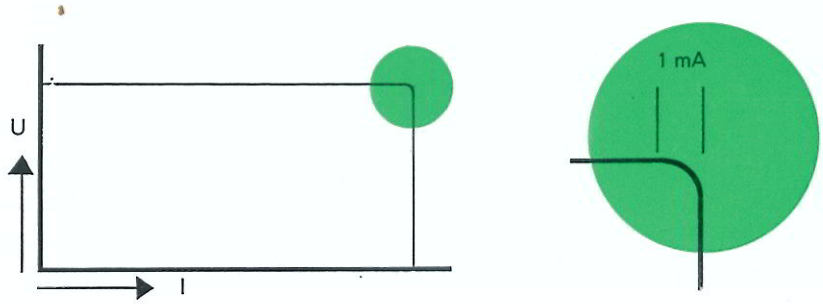
VAN DER HEEM ELECTRONICS N.V. HOLLAND



350 V/50 V SOLID-STATE STABILIZED DC POWER SUPPLY FOR BENCH AND RACK USE

Features:

• Accurate stabilization of output voltage and current • Continuous voltage and current adjust facilities • Additional small-range control available for accurate voltage setting • Separate voltage and current readout. • High stabilization factor, thus extreme output constancy even at heavy mains and load fluctuations • Inbuilt current limiter features automatic switch-over from voltage to current stabilization when preset current level is attained, thus no damage to equipment in case of short circuit • Maximum load current level adjustable for tailored protection of external circuitry • Minimum output resistance • Negligible noise and hum • Additional DC stabilizer incorporated, to function as ancillary voltage source • Several units may be connected in parallel or in series for increased output



TECHNICAL DESCRIPTION

Performance:

The new range of solid-state DC stabilizers, available from Van der Heem Electronics N.V., features a degree of stability, equal to or better as compared to existing equipment.
The stabilized power source type VA 8632 maintains utmost output constancy even in cases of severe mains and load fluctuations. It exhibits minimum output resistance, and is eminently-well suited for laboratory use and applications where stable performance is a prerequisite.

Continuous output control:

Output voltage and max. load current each are continuously adjustable by means of front-located control knobs. Coarse and fine voltage settings are incorporated for accurate voltage adjustment. Panel meters continually monitor both voltage and current delivered to the load.

Ancillary voltage source:

The supply unit contains a separate zener-stabilized DC source, to deliver an auxiliary voltage into the circuit under investigation. This voltage is adjustable between 0 and 50 V by aid of a separate calibrated control, and may be utilized to power e.g. grid circuitry of thermionic tubes.

Current limiter:

The incorporated current limiting device restricts load current to a preset value when the output terminals are shorted, thus making the supply entirely short-circuit proof.

Automatic switch-over:

When preset current level is attained, the power supply unit will automatically proceed from voltage to current stabilization via a narrow 1 mA transitory zone, as shown in the above diagram. Operation in constant current mode is indicated by a front panel-located signal lamp.

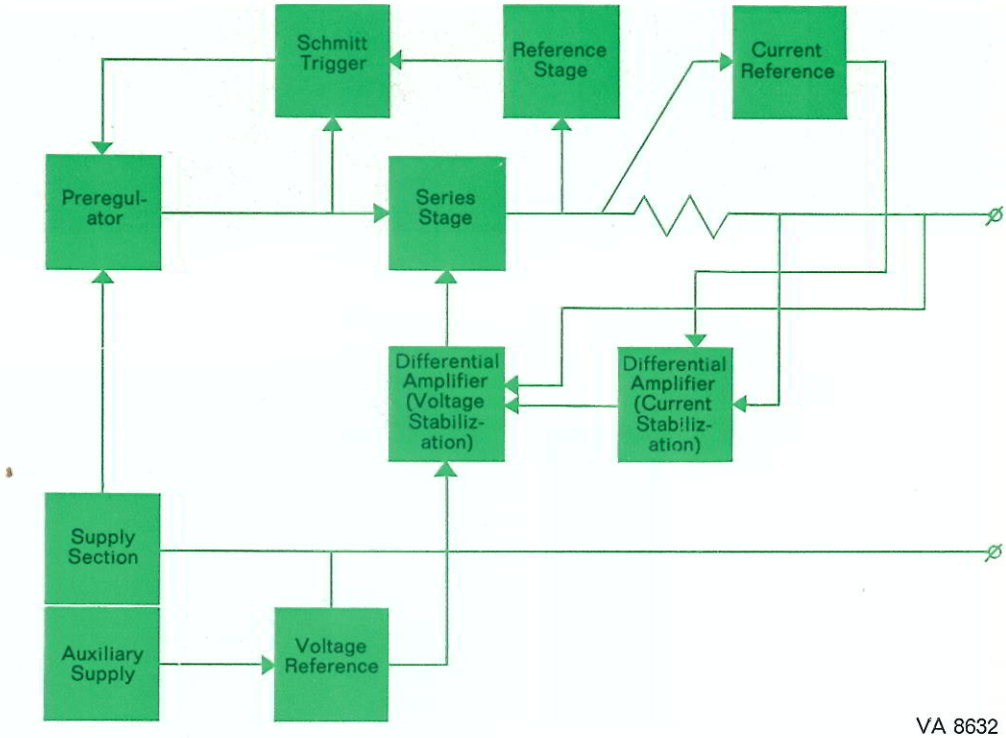
Seriesing and paralleling of units:

Several units may be connected in series or in parallel, for increased output.
The floating output terminals may carry up to 1000 DC with respect to ground. During series operation, one unit will function as master, with all the others acting as slaves, to procure single-knob control of overall output voltage.

Construction:

The power unit is contained in a standard cabinet suitable for bench use, or for mounting in a 19 in. rack. It is equipped with a plain front panel section to accommodate DC stabilizer modules type VA 8627 (15 V - 1.5 A), VA 8633 (350 V - 50 mA), or VA 8629 (30 V - 0.5 A). These modules are pluggable, and thus can be readily inserted after removal of the plain front panel section.
The power unit has been constructed in a fashion to promote easy accessibility to all components. It is stackable, to minimize space requirements in case of series or parallel operation of several units.

Functional Block Diagram



VA 8632

ELECTRICAL DATA

POWER SECTION.*)

Output voltage:
Coarse setting: 1.5 to 350 V, continuously adjustable.
Fine setting: Range 15 V, continuously adjustable.

Output current:
Continuously adjustable at a maximum value between 0 and 150 mA. Maximum current limited to preset level independent of load conditions.

Voltage stabilization:
Against ± 10% mains fluctuations: 0.03% of adjusted output voltage, or 50 mV whichever is the greater.
Against load fluctuations: Output voltage varies less than 100 mV between zero and full load.

Temperature coefficient of output voltage:
Approx. 200 mV/deg C at 350 V output.

Current stabilization:
Against ± 10% mains fluctuations: Variation below 1% of adjusted maximum output current, or 0.5 mA whichever is the greater.
Against load fluctuations: Variation below 2 mA over full constant current range.

Output resistance:
Constant voltage mode of operation: Below 660 m Ω at DC; below 1.5 Ω at AC to 100 kc/s.
Constant current mode of operation: Current variations are under similar conditions less than 2 mA (Ri < 170 k Ω).

Ripple and noise:
Constant voltage mode of operation: Max. 2 mV peak-peak (approx. 0.5 mV rms).
Constant current mode of operation: Approx. 0.1 mA peak-peak.

AUXILIARY VOLTAGE SECTION.*)

Output:
0 to 50 V, continuously adjustable. 1 mA max.

Stabilization:
Output voltage will vary less than 0.2% at ± 10% mains fluctuations.

Ripple and noise:
Max. 0.2 mV peak-peak.

Heater supply:
Two separate outputs are available, each supplying up to 3 A, at 6.3 V AC. Centre taps externally available.

Max. ambient temperature:
45° C (115° F) when operated as a single unit.
35° C (95° F) with built-in stabilizer modules VA 8627, VA 8629 or VA 8633.

Mains supply:
110, 130, 220 or 240 V AC, 43 to 63 c/s. Full-load power consumption 190 W.

*) The above specified data are valid for 25° C (75° F) ambient temperature.

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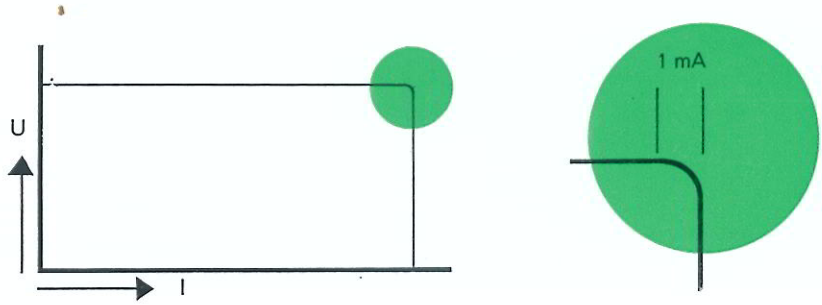

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