

# **NIM POWER SUPPLY**

## **TYPE 7014 / 7018**

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## **SPECIFICATIONS**

**Line voltage** ( 88...110% ) 105, 117, 130, 220, 235, 250V 50...60Hz

( internal wiring change)

### **Output voltage and current**

<b>7014</b>	+ 6V	3.0A		
	+ 12V	1.0A	-12V	1.0A
	+ 24V	0.5A	-24V	0.5A
	117VAC	100 mA		
	DC Output rating		60W	
<b>7018</b>	+ 6V	1.5A	- 6V	1.5A
	+ 12V	1.5A	- 12V	1.5A
	+ 24V	0.5A	- 24V	0.5A
	117VAC	100 mA		
	DC Output rating		70W	

## **DC OUTPUT SPECIFICATION**

Regulation at 0...100% load and 88...110% line voltage	+/-0.1%(6V+/-0.2%)
Temperature coefficient between 0...50°C	+/-0.02%/°C
Noise and ripple (DC to 50MHz)	max. 3mVss
Output impedance (up to 100kHz)	max. 0.3 Ohms
Recovery time between 10...100% load variation	+/-0.1% within 100µs (+/-1% at +/-6V output voltage)
Current limiting	at 120% of nominal current (foldback type)
Ambient temperature range	0...50°C. Operation possible From 50...60°C with 3%/°C derating of output current

## **CIRCUIT DESCRIPTION**

### **Positive output voltages**

The secondary line power transformer voltage is filtered after rectification. The unregulated DC voltage passes a current sense resistor to the emitter of a npn- power transistor. This transistor is driven by an emitter follower transistor which base current is controlled by an integrated voltage regulator. The DC output voltage is divided by an adjustable resistor divider and compared with an internal temperature compensated reference voltage.

Any deviation from nominal output voltage causes an amplified error signal to the driver transistor base.

The voltage drop across the current sense resistor drives the current limiting transistor. The base is biased by a constant current source which is controlled by a fraction of the output voltage to achieve foldback current limiting.

### **Negative output voltages**

The rectified and filtered unregulated DC voltage is fed to the emitter of a npn power transistor which base is driven by a complementary pnp-transistor.

An integrated voltage regulator gives the necessary error signal to the driver transistor base. The function of the integrated voltage regulator is described in the previous section. For optimum operation conditions of the error amplifier a zener diode is used for level shifting.

The negative regulated output voltage flows through a current sense resistor at the collector of the output power transistor. The voltage drop is added to an auxiliary +5V voltage and a fraction of the output voltage. The voltage of the matrix point drives a current limiter transistor which reduces base current of driver transistor in case of excessive load current.

## **MAINTENANCE**

For removal of power supply chassis from housing turn the two screws on front panel counterclockwise. Then carefully put out of housing.

For re-adjustment of output voltages and currents remove left cover of power supply.

Remove the upper nut at the PC-board and swing the board outside.

The corresponding potentiometers for voltage and current adjustments are marked on PC-board.

Maximum current shall not be adjusted above 120% of nominal value. To verify exact voltage measurements a separate bin connector and probe cable must be used for load and measuring to avoid voltage drop error.

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**EU KONFORMITÄTSERKLÄRUNG IM SINNE DER  
Niederspannungs- und EMV- RICHTLINIEN /73/23/EWG, BZW. 89/336/EWG**

Der Hersteller:

FAST ComTec GmbH,  
Grünwalder Weg 28a, 82041 Oberhaching / Deutschland

erklärt hiermit, daß nachfolgend beschriebene Geräte:

NIM Übertakten Modell 7014, 7018, 7021 – 7033

übereinstimmt mit den Erfordernissen der Richtlinien  
73/23/EWG und 89/336/EWG

Angewandte Normen sind:

EN 50081-1	(Störaussendung)
EN 50082-2	(Störfestigkeit)
EN 61010	(Niederspannungsrichtlinie)

Oberhaching ,den 2.11.1999  
Ort Datum



rechtsverbindliche Unterschrift

Geschäftsführer

Funktion