AMN-5KR

5kW Automatic Matching Network

All automatic impedance matching networks are engineered with high-speed tuning and user convenience in mind.

The AMN-R adjusts input impedance quickly, accurately and dependably - in response to the changes in load characteristics during your process.

At the input of the AMN-R, a phase and magnitude detector determines the position of the capacitors. This information is transferred to the separate ***' automatic matching network controller'*** also known as the ***AMNC*** (included). The controller then drives the servomotors to the positions, which give zero, or minimum reflected power.

Main features

- Robust analogue design.
- Water-cooled
- Rack-mount controller as standard (included)
- Compact: 480mm(D) x 508mm(W) x 201mm(H) – 16.2kg
- Phase and Magnitude detector provides continuous corrections for process drift.
- Sensing network measures bias voltage.
- Frequency options range between 2MHz – 27.12MHz.

(Non-standard frequencies are available - please contact factory for details).

Functions

Via included matching network controller:

- Displays the current position of the capacitors on the VFD display.
- Parks the capacitors in a predetermined ‘base’ position when RF is inactive.
- Allows the base position to be adjusted / preset.
- Allows the base positions to be set by external equipment (Useful for automated processes).
- Allows the current positions to be read by external equipment.
- Buffer for bias voltage.
- Configurable polarity on Phase and Magnitude detector inputs.
- Configurable tuning span, defaults to 180 degrees for air and gas type capacitors

Coaxial Power Systems LTD | Spectrum House | Unit 2 Finmere Road | Eastbourne | East-Sussex | U.K | BN22 8QL

Tel: +44 (0)1323 639974 | Fax: +44 (0)1323 739654 | Web: www.coaxialpower.com | Email: sales@coaxialpower.com

AMN 5KR - Physical	
Model Variant	AMN 5KR
Dimensions	480mm (D) x 508mm (L) x 201mm (H) External connectors protrude extra 5mm MAX (Front panel), 65mm MAX (Rear panel)
Weight	16.2 Kg (35 lb) MAX.
Material	Chromate Aluminium
Style	Free-Standing **(Other options are available – please consult factory)**
Connector and Cable Specifications	
RF Output Connector	Copper strap or customer suitable 'direct bolt-on' type connector. **Other types are available – please consult factory for options**
RF Input Connector	7/16'' type as standard. **Other types are available – please consult factory for options**
Control port	25-pin, Sub-Miniature 'D' Male, with 8mm 4-40 jack post
AC Power Input Connector / Cable	N/A
Coolant Connectors	**Water IN** – 6mm bore push-fit connector **Water OUT** – 6mm bore push-fit connector
Electrical	
RF Input Power / Impedance	5000 Watts (5kW) / 50 **Ω**
RF Output Power	5000-Watts (5kW)
Frequency Options	2 MHz, 13.56 MHz, 27.12MHz, 40.68 MHz, and variable options are available. **Other frequencies are available, please consult factory for options**
Network	Configuration 'L', 'Pi or 'T' **Supplied configured as 'L' network unless requested otherwise.**
Output Impedance Range	'L' Network – 5-20 Ohms 'Pi' Network – 10-200 Ohms 'T' Network – **Please consult factory**
Phase Shift	0 to +/- 160
Tuning Range	Depends on unit frequency and the tuning coil installed.
Frequency Range	Frequency options range between 380khz-84mhz. **The network frequency is configured to user required frequency / range and requirements.**
Capacitors	Load: Vacuum type Tune: Vacuum type
Inductor	Water-cooled fixed inductor
Environmental	
Operating Temperature	0-40°C (32°F-104°F)
Storage Temperature	0-20°C to +65°C (-4 to149°F)
Cooling Requirements	
Cooling	Water-Cooled
Water Temperature	1-50°C (33-104°F) to inlet temperature.
Flow	3.0 LPM (1.7 GPM) minimum
Other	
Standards	CE Certification BS EN ISO 9001:2008 EN61000-3-2: 2006 EN6100-3-3/A2: 2005 EN61326-1: 2006 EN61010-1: 2001

D.C Bias voltage measurement & control (Optional)

Model DCP-1 : Dark Space Bias Voltage Measurement and Control

A probe, installed inside the network, measures the d.c voltage (0 to 1999V) developed across the dark space in plasma applications such as sputtering and reactive ion etching. The voltage is converted to a 0 to 5V signal, which can be fed back to the generator control system. The voltage is displayed on the loading capacitor position meter.