Programmable Rotary Vane Attenuators, Phase Changers & Control Processors

Our new generation of Programmable Attenuators & Phase Changers provide higher measurement resolution, faster drive speed and an extendable attenuation range (85 dB) when used with the new Flann Control Processor CP2021. Additionally, the CP2021 will recognise any Flann Programmable unit connected to either of its drive ports.

Features:
- Models from 3.22 GHz (WR229) to 330 GHz (WR3)
- IEEE-488.2 (GPIB) and USB control interfaces
- Full waveguide frequency ranges
- High accuracy
- High repeatability
- Proven reliability

Programmable Rotary Vane Attenuators:
- 0 dB to 60 dB continuously variable attenuators - up to 85 dB in Steps Mode
- Direct dB scale read-out with manual control option
- Low phase change variation with attenuation
- Attenuation increments of 0.1 dB or better (0.01 dB below 21 dB)

Programmable Rotary Vane Phase Changers:
- Continuously variable 0° to 360°
- Phase change increments of 0.2 degrees
- Direct reading

Applications:
- Automated test & measurement systems (ATE)
- Remote control systems
- Automated production testing of microwave radios
  - Fade margin
  - Bit error rate (BER)
  - Gain control

Model CP2021

Model 23621
General Description

Flann Programmable Rotary Vane Attenuators and Phase Changers are well proven Precision Rotary Vane instruments driven by high resolution stepper motors, ensuring high accuracy and repeatability. The translation between the mechanical positioning of the instruments and the attenuation or phase shift characteristics is interpreted by the microprocessor based Control Processor.

Control Processors are available offering combinations of local (front panel) control and control via GPIB (IEEE-488.2) and USB interfaces. Sophisticated error detection and reporting verifies system performance, guaranteeing error free system operation. Positional stepping errors are non-cumulative.

Programmable Rotary Vane Attenuators

This range of Programmable Rotary Vane Attenuators uses a very high speed five phase stepper motor which, when used in conjunction with the sophisticated motor control circuitry and software of the Control Processor, provides precise, very fast positioning typically 1 second from 0 dB to 60 dB.

Programmable Rotary Vane Phase Changers

The Series 670 Rotary Vane Phase Changers employ the same high performance drive circuitry and precision mechanisms as the programmable attenuator range and operate at a repositioning rate of 1480 degrees per second with continuous phase change in both the forward and reverse directions. The smallest incremental phase change is 0.2˚.

Figure 1 below illustrates the repositioning and resettability performance for the Series 620 and 621 Programmable Rotary Vane Attenuators.

Other features include:

- High repeatability / resettability
- Continuously variable over full attenuation / phase change range
- No momentary loss of signal during repositioning
- High Reliability
- Proven Performance!

Two options of Programmable Attenuators are available:

- Series 620 Programmable Rotary Vane Attenuators without helical readout scale.
- Series 621 Programmable Rotary Vane Attenuators offering the additional feature of a high resolution visual helical scale. This unit can also be used as a stand-alone manual attenuator, i.e. not under power from a Control Processor.

Please note:
The programmable attenuators can be used with either the previous series of CP92 and CP2021 control processors or the current series CP2021; an adaptor cable must be specified with order when using the CP92 versions of Control Processor.