

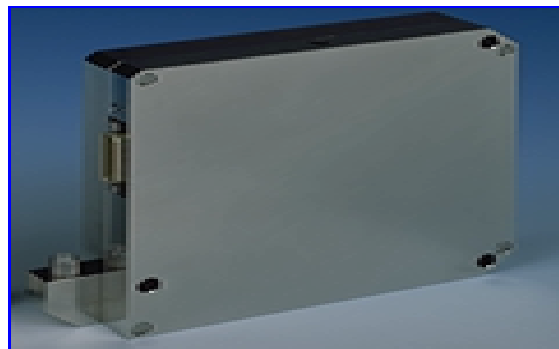


## PRODUCT TECHNICAL INFORMATION

# DIGITAL FREQUENCY DISCRIMINATORS

### **FEATURES:**

- 12 BIT RESOLUTION
- FULL BAND COVERAGE (2 GHz TO 18 GHz)
- WIDE DYNAMIC RANGE
- HIGH INTEGRITY
- HIGH DATA RATE
- MINIATURE PACKAGE STYLE



**TYPICAL FCL D.F.D. (I.F.M.)**

### **DESCRIPTION:**

Filtronic Components Limited manufacture a range of Instantaneous Frequency Measurement (IFM) receivers for a wide range of defence applications. Since the early 1980s FCL has supplied hundreds of products, utilising FCL's proprietary three phase discriminators, to major ESM and RWR programs around the world.

A number of standard models are available to cover the common frequency bands. They measure the frequency of an RF input signal with up to 12 bit resolution on a single RF pulse as short as 50 nsec.

FCL receivers are available with PMOP detection, FMOP detection and Pulse on CW. There are self-triggering and externally triggered models along with more sophisticated CW-riding threshold units. Clocked units are available with clock speeds of up to 50 MHz. A hybrid approach has also been adopted which combines the benefits of clocked and internally triggered measurement.

The unique discriminator design allows FCL to obtain 12 bit frequency resolution across 2 GHz to 18 GHz, over 60 dB dynamic range, in a volume of ~660 cc (approximately 40 cu in).

For further information contact the sales office at the address shown overleaf.



**CHARACTERISTICS**

Typical Digital Frequency Discriminators (I.F.M.s) available from FCL.

Type Code	DR024	DR045	DR048	DR050	DR051	DR053
Frequency Range (GHz)	2-18	2-18	8-18	2-18	2-18	2-7.3
Unambiguous bandwidth (GHz)	17.0	17.0	11.0	16.5	16.5	5.5
No. Of Bits (frequency)	12	13	6	13	13	8
Resolution (MHz)	3.93	2	150	2	2	20.78
Accuracy (MHz RMS)						
At ambient.	----	----	<200	----	-----	-----
Over temperature	4.5	3.5	<200	3.5	3.5	<60
Dynamic range (dBm)	-50 to +10	-34 to +10	-43 to +5	-55 to +5	-50 to +10	+11 to +15
Signal / noise	+3	+3	+16	+3	+3	+16
Pulse widths	50ns-CW	50ns-CW	100ns-CW	50ns-CW	50ns-CW	100ns-CW
Triggering	INT/EXT	EXT	EXT	INT/EXT	INT/EXT	EXT
Temperature Range (celsius)	-40 to +85	-40 to +85	-20 to +50	0 to +70	0 to +60	-40 to +80
Power (W)	18.5	15	1.2	31	20	5
Data format	RS422	TTL	TTL	3.3LVDS	TTL	TTL
Size (mm)	152x147x30	162x140x30	101x63x8	260x175x30	260x175x30	110x105x20
Weight (gms)	1550	1550	125	2500	2200	1800