

Frequency Counter Timers

FCA3000/3100 and MCA Series — Timer/Counter/Analyzers

The FCA Timer/Counter/Analyzer and MCA Microwave Counter series pack many different functions into one feature-rich instrument. With industry-leading frequency and time resolution, the FCA Series comes standard with deep internal memory and a fast data transfer rate of 250K samples/s to internal memory. The MCA Series outperforms every microwave counter on the market today in terms of resolution, speed, and acquisition time. In addition, the multi-parameter display shows auxiliary measurements along side your main measurements to provide you with the results you need at a glance. In addition to industry-leading service and support, every FCA and MCA Series comes backed with a three-year standard warranty.

FCA Features and Benefits

Key Performance Specifications

- ▶ 400 MHz, 3 GHz, 20 GHz Models
- ▶ Up to 3 Input Channels
- ▶ Up to 50 ps Single-Shot Time Resolution
- ▶ 12 Digit/s Frequency Resolution
- ▶ 0.001° Phase Resolution
- ▶ 3 mV or Better Voltage Resolution
- ▶ Optional 5×10^{-8} High-Stability Oven Time Base

FCA Measurement Throughput

- ▶ 250K Sample/s Data Transfer Rate to Internal Memory (Up to 3.75M Sample Stored)
- ▶ Up to 15K Sample/s Data Transfer Rate Over USB/GPIB Bus (Block Mode)
- ▶ Up to 650 Individually Triggered Measurements/s

Available Functions and Features

- ▶ Automated Measurements: Frequency, Period, Ratio, Time Interval, Time Interval Error, Pulse Width, Rise/Fall Time, Phase Angle, Duty Cycle, Maximum Voltage, Minimum Voltage, Peak-to-Peak Voltage
- ▶ Totalize Measurement (FCA3100 Series)
- ▶ Multi-Parameter Display
- ▶ Trend Plot Mode
- ▶ Measurement Statistics Mode
- ▶ Histogram Mode
- ▶ Allan Deviation
- ▶ Zero Dead-Time Frequency/Period Measurements
- ▶ Continuous Data Streaming Over USB/GPIB Bus During Measurement (FCA3100 Series)
- ▶ Programmable Pulse Output from 0.5 Hz to 50 MHz

Connectivity

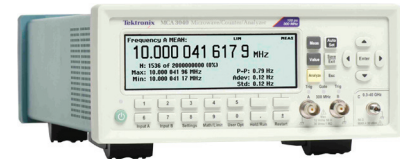
- ▶ Optional Rear-Panel Inputs (FCA3000/3100 Series)
- ▶ USB Device and GPIB Ports on Rear Panel for Quick PC Connectivity
- ▶ GPIB Interface Supports Full SCPI-Compatible Programmability and Offers an Emulation Mode for Plug-and-Play Replacement in Existing ATE Systems
- ▶ External Arming Input
- ▶ 10 MHz Reference Oscillator Output
- ▶ Includes National Instrument's LabVIEW SignalExpress™ TE Limited Edition Software for Connecting Your Bench
- ▶ Optional TimeView™ Software Available for Modulation Domain Analysis

MCA Key Performance Specifications

- ▶ 27 GHz and 40 GHz Models
- ▶ Microwave Analyzer Channel with CW or Burst
- ▶ Two 300 MHz General-Purpose Channels
- ▶ 100 ps Single-Shot Time Resolution
- ▶ 12 Digit/s Frequency Resolution, 14 Digit Display
- ▶ 25 ms (Auto) or Zero (Manual) Acquisition Time
- ▶ 3 mV Voltage Resolution
- ▶ Optional 1.5×10^{-8} Ultra High-Stability Oven Time Base
- ▶ -35 dBm to +10 dBm Power Range

MCA Measurement Throughput

- ▶ 250K Sample/s Data Transfer Rate to Internal Memory (Up to 750K Sample Stored)
- ▶ 5K Sample/s Data Transfer Rate Over USB/GPIB Bus (Block Mode)



MCA3040

Stock No.	Mfr.'s Type	Max. Frequency	Channel	Time Resolution	EACH
70136992	FCA3020	20 GHz	2 — 400 MHz, 1 — 20 GHz	100 ps	6580.00
70136993	FCA3100	400 MHz	2 — 400 MHz	50 ps	3550.00
70136994	FCA3103	3 GHz	2 — 400 MHz, 1 — 3 GHz	50 ps	4610.00
70136995	FCA3120	20 GHz	2 — 400 MHz, 1 — 20 GHz	50 ps	7840.00
70136990	FCA3000	400 MHz	2 — 400 MHz	100 ps	2270.00
70136991	FCA3003	3 GHz	2 — 400 MHz, 1 — 3 GHz	100 ps	3320.00
70136996	MCA3027	27 GHz	2 — 300 MHz, 1 — 27 GHz	100 ps	8860.00
70136997	MCA3040	40 GHz	2 — 300 MHz, 1 — 40 GHz	100 ps	13000.00

PSM3000/4000/5000 RF Power Sensor — Power Meter Series

NEW

The PSM3000, PSM4000, and PSM5000 Series are compact USB power sensor/meters that deliver fast, accurate RF and microwave power measurements. A broad range of CW and pulse modulation measurements are available, depending on the series you choose. Each meter comes with Windows Power Meter application software for controlling the meter, displaying readings, and recording data. The combination of the sensor/meter and PC provides a complete solution, eliminating the need for a separate, dedicated meter mainframe.

Key Performance Specifications

- ▶ 8 GHz, 18 GHz, 20 GHz and 26.5 GHz Models
- ▶ Models Available with N and 3.5 mm Connectors
- ▶ Dynamic Range as Low as -60 dBm and as High as +20 dBm
- ▶ Uncertainty as Low as 2.6%
- ▶ Reading Rates Up to 2000 Readings/Sec

Applications Included (Run Under Microsoft Windows)

- ▶ Power Meter Application
- ▶ High-Speed Logging Application
- ▶ LabVIEW Drivers and Programming Examples for Most Common Windows Programming Environments Are Available for Automated System Support

Connectivity

- ▶ USB Form Factor and Windows Connectivity, Runs on Tektronix Windows Instruments
- ▶ PC Connectivity. Control the Power Meter, Log Data, and Transfer Measurement Results with LabView Drivers and Windows Drivers

Available Functions and Features

- ▶ Meters Are Calibrated Over Full Temperature Range, No Zero or Calibration Needed Before Making Measurements, Saving Time and Avoiding Poor-Quality Data
- ▶ Average Power, Duty Cycle Corrected Pulse Power, and Measurement Logging on All Models
- ▶ Max Hold and Relative Measurement Modes
- ▶ Offset, Frequency Response, and 75 Ω Minimum Loss Pad Correction
- ▶ Flexible Averaging Modes for Quick, Stable Measurements
- ▶ TTL Trigger Input and Output to Allow Synchronization with External Instruments
- ▶ Pass/Fail Mode
- ▶ Compact Size
- ▶ True Average Power Measurements That Give Accurate Results Regardless of Signal Shape or Modulation (PSM3000)
- ▶ Pulse Power, Duty Cycle, Peak Power, and Crest Factor Measurements (PSM4000 and PSM5000)
- ▶ Measure Peak, Average and Minimum Power on Bursts with Adjustable Offset and Duration (PSM4000 and PSM5000)
- ▶ Builds and Displays a Trace of the Pulse Envelope (PSM5000)
- ▶ Full Trace and Gated Measurements, Including Pulse, Peak and Average Power, Overshoot, Crest Factor, Rise/Fall Time, Pulse Width, Phase Angle, Pulse Repetition Frequency, Duty Cycle (PSM5000)
- ▶ Statistical Measurements on Trace Data (PSM5000)



PSM3510

PSM4120

PSM5410

Stock No.	Mfr.'s Type	Description	Frequency Range	Connector Style	EACH
70137119	PSM3110	True RMS Average	10 MHz-8 GHz	3.5 mm male	2590.00
70137120	PSM3120	True RMS Average	10 MHz-8 GHz	N-male	2590.00
70137121	PSM3310	True RMS Average	10 MHz-18 GHz	3.5 mm male	3450.00
70137122	PSM3320	True RMS Average	10 MHz-18 GHz	N-male	3450.00
70137123	PSM3510	True RMS Average	10 MHz-26.5 GHz	3.5 mm male	4390.00
70137124	PSM4110	Average, and Peak Power	10 MHz-8 GHz	3.5 mm male	2790.00
70137125	PSM4120	Average, and Peak Power	10 MHz-8 GHz	N-male	2790.00
70137126	PSM4320	Average, and Peak Power	50 MHz-18.6 GHz	N-male	5290.00
70137127	PSM4410	Average, and Peak Power	50 MHz-20 GHz	3.5 mm male	5290.00
70137128	PSM5110	Average, Peak Power, and Pulse Profiling	100 MHz-8 GHz	3.5 mm male	3690.00
70137129	PSM5120	Average, Peak Power, and Pulse Profiling	100 MHz-8 GHz	N-male	3690.00
70137130	PSM5320	Average, Peak Power, and Pulse Profiling	50 MHz-18.6 GHz	N-male	6290.00
70137131	PSM5410	Average, Peak Power, and Pulse Profiling	50 MHz-20 GHz	3.5 mm male	6290.00