

EMPOWER POWER METERS MODEL 7002-003 & -005



MODEL 7002-003 & -005

- **Fast Performance: Up to 1 Million Samples per Second**
- **Accurate Measurements with Dynamic Range of:**
 - -65 dB for 6 GHz Model (Model 7002-003)
 - -55 dB for 18 GHz Model (Model 7002-005)
- **Pulse-shaped Recording Mode Suitable for Ford Radar Pulse Test**

ETS-Lindgren's EMPower Pulse RF/Burst Power Meter is specifically designed for ultra-fast measurements of high-frequency, pulse-shaped RF signals. Ideal for applications requiring precise analysis of RF bursts, it delivers exceptional speed and accuracy in demanding test environments. The EMPower modular plug-in card integrates seamlessly into the EMCenter platform, occupying a single slot and providing four USB ports that support any combination of up to four EMPower or EMPower Pulse sensors simultaneously. For standalone use, an EMPower Pulse sensor can also connect directly to a PC via a standard USB port using the included software for easy setup and operation.

Both the EMPower and EMPower Pulse Power Meters offer a high measurement accuracy of ± 0.25 dB, ensuring reliable performance for applications that must comply with stringent automotive, military, telecommunications, and general EMC standards. With their combination of high-speed sampling, versatile connectivity, and industry-grade precision, these power meters provide a dependable solution for both continuous wave and pulsed RF measurement needs.

Features

Fast Performance

The EMPower Pulse RF/Burst Power Meters perform power measurements at a maximum sampling speed of one million samples per second. By using such a high sampling rate, the power meter is able to measure RF burst/pulse signals with a duration time as low as 2 sec. Both power meters are also capable of measuring CW.

Accurate Measurements

EMPower Pulse allows high precision RF measurements with high dynamic range of 65 dB for the 6 GHz model, and 55 dB for the 18 GHz model.

Pulse-shape Recording Mode

In addition to the fast performance, the EMPower Pulse also has an internal measurement buffer that can store 4,000 samples. This enables the user to easily visualize RF burst signals.

Ford Radar Pulse Test

Fast speed and the record mode make the EMPower Pulse suitable for measurements in accordance to the Automotive Ford Standard EMC-CS-2009.

Flexible Connectivity and Integration

Each EMPower modular plug-in card occupies one slot in the EMCenter and provides four USB ports, allowing users to connect any combination of up to four EMPower or EMPower Pulse sensors simultaneously. For smaller-scale or portable setups, a single EMPower sensor can also connect directly to a PC via USB using the included software. Fully supported by TILE!™, EMQuest™, and other leading test automation software, EMPower simplifies integration into automated workflows, reducing setup time and improving lab efficiency.

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Technical Specifications

Electrical		
Model	7002-003 (Sensor)	7002-005 (Sensor)
Detector Type	Diode	Diode
Measurement Function	Peak Power	Peak Power
Calibrated Frequency Range	9 kHz to 6 GHz	80 MHz to 18 GHz
Power Measuring Range	-55 dBm to +10 dBm	-45 dBm to +10 dBm
Input Damage Level	>20 dBm	>20 dBm
Resolution	0.01 dB	0.01 dB
VSWR	<1.05 @ 9 kHz to 100 MHz <1.15 @ 100 MHz to 2 GHz <1.35 @ 2 GHz to 6 GHz	<1.20 @ 80 MHz to 6 GHz <1.35 @ 6 GHz to 18 GHz
Maximum Linearity Error ^(0 dbm ref)	0.05 db/10 dB	0.05 db/10 dB
Measuring Speed (Per Second)	1 MSps (10 MSps for CW) 100 kSps or 20 kSs (Software Selectable)	1 MSps (10 MSps for CW) 100 kSps or 20 kSs (Software Selectable)
Accuracy (23 2 C)	4,000 Samples 2,000 Pre-trigger 2,000 Pre-trigger	4,000 Samples 2,000 Pre-trigger 2,000 Pre-trigger
Accuracy (23 2 C)	0.25 dB	0.25 dB(10 GHz); 0.50 dB (>10 GHz)
Temperature Effect	<0.15 dB Over Full Temperature Range	<0.15 dB Over Full Temperature Range
Measurement Units	dBm	dBm
Physical		
Model	7002-003 (Sensor)	7002-005 (Sensor)
Temperature Range (Use)	0°C to +40°C (32°F to +104°F)	0°C to +40°C (32°F to +104°F)
Temperature Range (Storage)	-20°C to +85°C (4°F to 185°F)	-20°C to +85°C (4°F to 185°F)
Relative Humidity	10–90% (Non-condensing)	10–90% (Non-condensing)
Connector to Plug-in Card or PC	USB-B	USB-B
USB Communication	USB 1.1	USB 1.1
USB Power Consumption	< 200 mA	< 200 mA
RF Input Connector	N-type Precision	N-type Precision