

EMPOWER POWER METERS MODEL 7002-006 AND 7002-008



MODEL 7002-006 AND 7002-008

- Fully Compliant with ETSI 300 328, 301 893, and EN 303 687
- Fast, Accurate Performance
- Easy Operation
- Burst Mode

ETS-Lindgren has extended its range of EMPOWER RF power meters to comply with the measurement requirements of the ETSI 300 328, 301 893, and 303 687 standards for wideband data transmission systems, including IEEE 802.11, Bluetooth and Zigbee. The model 7002-006 provides measurements over a frequency range of 10 MHz to 6 GHz, and the 7002-008 provides measurements over a frequency range of 10 MHz to 8 GHz.

To achieve the measurement requirements of the standards, the sampling speed of the EMPOWER Pulse power heads has been increased to a maximum of 5 MS/s. A hardware trigger input/output has also been added to allow synchronous power measurements of wideband data transmission devices with multiple inputs/outputs (MIMO).

The EMPOWER is equipped with a USB interface which enables direct connection of the Power heads to a PC USB port.

Both the 7002-006 and 7002-008 offer a burst mode, compliant with the measurement methods as defined in the ETSI standards for wideband data transmission systems EN 300 328 (2.4 GHz), EN 301 893 (5 GHz), and EN 303 687 (6 GHz).

In burst mode, the EMPOWER can store the information of 100,000 bursts and observation time up to 60 seconds. For each burst the average power and timing data is stored in the buffer. The 7002-006/008 use a sample speed of 1 or 5 MSPs in combination with a RMS detector to ensure correct measurements on wideband modulating transceivers.

For MIMO devices, multiple 7002-006/008 power meters units can be daisy-chained using the MMCX connectors enabling synchronized triggering of the EMPOWER Meters.

Technical Specifications

Electrical		
Model	7002-006 Plug-in Card Features	7002-008 Plug-in Card Features
Detector Type	RMS Log Detector	RMS Log Detector
Measurement Function	RMS CW Power, Peak (Max Hold), and Burst Mode	RMS CW Power, Peak (Max Hold), and Burst Mode
Calibrated Frequency Range	10 MHz to 6 GHz	10 MHz to 8 GHz
Power Measuring Range	-50 dBm to +10 dBm (at 10 MHz to 6 GHz)	-40 dBm to +10 dBm (at 6 GHz to 8 GHz)
Maximum SWR	1.05 @ Below 1 GHz 1.15 @ 1 GHz to 6 GHz	1.05 @ Below 1 GHz 1.15 @ 1 GHz to 6 GHz
Frequency Response Accuracy (at 23°C, 2" D)	±0.2 dB	±0.2 dB
Deviation from CW (for Wideband Modulated Signals with High Crest Factor)	< 0.25 dB	< 0.25 dB
Linearity Error	0.05 dB + 0.005 dB/dB	0.05 dB + 0.005 dB/dB
Input Damage Level	> +20 dBm	> +20 dBm
Resolution	0.01 dB	0.01 dB
RF Input Impedance	50	50
Measuring Speed	Max. 33 MS/s	Max. 33 MS/s
Temperature Effect	0.15 dB over Full Temperature Range	0.15 dB over Full Temperature Range
Zero Adjustment	Not Required	Not Required
Frequency Response Correction	Stored Frequency Data is Taken into Account by Numerical Entry of the Measurement Frequency	Stored Frequency Data is Taken into Account by Numerical Entry of the Measurement Frequency
Measurement Units	dBm or Watt	dBm or Watt