

## HM8012 adatlap

### Technical characteristics

Reference temperature: 23°C ± 1°C

#### DC voltages:

**Measurement ranges:** 500mV, 5V, 50V, 500V, 1000V

**Resolution:** 10µV, 100µV, 1mV, 10mV, 100mV

**Accuracy:** 5V, 500V, 1000V: ±(0.05%rdg<sup>1)</sup> + 0.002%fs<sup>2)</sup>  
500mV, 50V: ± (0.05%rdg + 0.004%fs)

**Max. input voltage:** 1000Vc for the 50V, 500V and 1000V ranges; 300Vrms for the 500mV and 5V ranges.

**Input impedance:** 10MΩ//90pF for the 50V, 500V and 1000V ranges > 1GΩ//90pF for the 500mV, 5V ranges

**Input current:** 20pA max. (23°C)

TRMC<sup>3)</sup> 3 100dB (50/60Hz ± 0.5%)

TRMS<sup>4)</sup> 3 60dB (50/60Hz ± 5%)

#### dB Mode

**Precision:** ±(0.02dB+2digits) (display>-38.7dBm)

**Resolution:** .001dB above 18% of rating.

#### DC current:

**Measurement ranges:** 500µA, 5mA, 50mA, 500mA, 10A

**Resolution:** 10nA, 100nA, 1µA, 10µA, 1mA

**Accuracy:** 0.5-500mA: ± (0.2%rdg + 0.004%fs)

10A: ±(0.3%rdg + 0.004%fs)

#### AC voltages:

**Measurement ranges:** 500mV, 5V, 50V, 500V, 750V

**Resolution:** 10µV, 100mV, 1mV, 10mV, 100mV

**Accuracy: 0.5-50V:** at 40Hz-10Hz: ± (0.4%rdg + 0.07%fs), at 20Hz-20kHz: ± (1%rdg + 0.07%fs)

**500V and 750V:** at 40Hz-1kHz: ± (0.4%rdg + 0.07%fs), at 20Hz-1kHz: ± (1%rdg + 0.07%fs)

**Max. input voltage:** 1000Vc for the 50V, 500V and 1000V ranges; 300Vrms for the 500mV and 5V ranges.

#### Input impedance

**AC mode:** 1MΩ // 90pF

**AC + DC mode:** 10MΩ // 90pF

**Bandwidth at -3dB:** 80kHz typical

**dB Mode:** (20Hz-20kHz)

**Accuracy:** -23.8dBm to 59.8dBm; ± 0.2 dBm

**CMMR:** 3 60dB (50/60Hz ± 0.5%)

**Peak factor:** 7 max.

#### AC current

**Measurement ranges:** 500µA, 5mA, 50mA, 500mA, 10A

**Resolution:** 10nA, 100nA, 1µA, 10µA, 1mA

**Accuracy:** (40Hz-100Hz) 0.5-500mA: ± (0.7%rdg + 0.07%fs), 10A: ± (1%rdg + 0.07%fs)

#### AC + DC measurements

Same as AC + 25 digits

#### Resistances

**Measurement range:** 500Ω, 5kΩ, 50kΩ, 500kΩ, 5MΩ, 50MΩ

**Resolution:** 10mΩ, 100mΩ, 1Ω, 10Ω, 100Ω, 1kΩ

**Accuracy:** ± (0.05%rdg + 0.004%fs + 50mΩ)  
ranges 5mΩ and 50MΩ: ± 0.3%rdg+0.004%fs)

**Input protected to max. 300 Vrms**

#### Temperatures:

**2-wires resistance measurement** with linearization for Pt 100 sensors as per standard EN60751

**Range:** -200°C to +500°C

**Resolution:** 0.1°C

**Measurement current:** approximately 1 mA

**Display:** in °C, °F

**Accuracy:** ± 0.1°C from -200°C to +200°C  
± 0.2°C from 200°C to 500°C (except for sensor tolerance)

**Temperature coefficient:** (Reference 23°C)

V = 500mV, 50V 30ppm/°C

1000V range 80ppm/°C

other ranges 20ppm/°C

V ~ 750V range 80ppm/°C

other ranges 50ppm/°C

mA all ranges 200ppm/°C

mA- all ranges 300ppm/°C

Ω 5 MΩ, 50 MΩ ranges 200ppm/°C

other ranges 50ppm/°C

#### Measurement current for resistance measurement

500Ω/5kΩ range 1mA

50kΩ range 100µA

500kΩ range 10µA

5/50MΩ range 100nA

#### Measurement voltage for resistance measurement

10V typical for open inputs; depending on value of resistance to be measured. Negative polarity of measurement voltage is across common terminal.

#### Voltage drop for current measurements

10A range 0.2V max.

500mA range 2.5V max.

Other ranges 0.7V max.

**Operating conditions:** +10°C to +40°C max.  
relative humidity 80%.

**Power supply:** (HM8001 or HM8003).

+5V 300mA

+16V 75mA

-16V 20mA (Σ = 3 W)

**Case size:** (without flat 22-pole connector)

L 135, H 68, D 228 mm

**Weight:** approx. 500g

<sup>1)</sup> rdg = reading;

<sup>2)</sup> fs = full scale

<sup>3)</sup> common mode rejection factor

<sup>4)</sup> serial mode rejection factor