



# FLIR CM85-2™

## True RMS Power Clamp



### Key Features:

- VFD Mode for superior accuracy on VFD-controlled equipment
- Inrush mode to capture AC Current spikes during start-up
- Bluetooth® connectivity up to 10 m (32 ft)

### Main Applications:

- Advanced power analysis and variable frequency drive (VFD) filtering functions
- Accurately analyze voltage in complex machinery
- Harmonics, inrush, current, and phase rotation testing

## SPECIFICATIONS

| Measurement Ranges and Accuracy   |                                                                                                                                                                             |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Voltage DC                        | 99.99 V, $\pm(0.7\% + 2 \text{ digits})$<br>999.9 V, $\pm(0.7\% + 2 \text{ digits})$                                                                                        |
| Voltage AC                        | 0.05 V to 99.99 V, $\pm(1.0\% + 5 \text{ digits})$<br>999.9 V, 50 Hz to 500 Hz                                                                                              |
| VFD, ACV                          | 0.05 V to 99.99 V, 50 Hz to 60 Hz $\pm(1\% + 5 \text{ digits})$<br>999.9 V, 50 Hz to 60 Hz $\pm(1\% + 5 \text{ digits})$                                                    |
| Current DC                        | 99.99 A, $\pm(2\% + 0.5 \text{ A})$<br>999.9 A, $\pm(2\% + 5 \text{ digits})$                                                                                               |
| Current AC                        | 0.10 A to 99.99 A, 50 Hz to 60 Hz $\pm(2\% + 5 \text{ digits})$<br>999.9 A, >60 Hz to 400 Hz $\pm(2.5\% + 5 \text{ digits})$                                                |
| VFD, ACA                          | 0.10 A to 99.99 A, 50 Hz to 60 Hz $\pm(2\% + 5 \text{ digits})$<br>999.9 A, 50 Hz to 60 Hz $\pm(2\% + 5 \text{ digits})$                                                    |
| Peak Hold ACV                     | 140.0 V, $\pm(3.0\% + 15 \text{ digits})$<br>1400 V, $\pm(3.0\% + 15 \text{ digits})$                                                                                       |
| Peak Hold ACA                     | 140.0 A, $\pm(3.5\% + 15 \text{ digits})$<br>1400 A, $\pm(3.5\% + 15 \text{ digits})$                                                                                       |
| Frequency                         | 20.00 Hz to 99.99 Hz, $\pm(0.5\% + 3 \text{ digits})$<br>20.0 Hz to 999.9 Hz, $\pm(0.5\% + 3 \text{ digits})$<br>0.020 kHz to 9.999 kHz, $\pm(0.5\% + 3 \text{ digits})$    |
| Total harmonic distortion ACA/ACV | 99.9%, $\pm(3.0\% + 10 \text{ digits})$                                                                                                                                     |
| Harmonic distortion H01–H12       | 99.9%, $\pm(5\% + 10 \text{ digits})$                                                                                                                                       |
| Harmonic distortion H13–H25       | 99.9%, $\pm(10\% + 10 \text{ digits})$                                                                                                                                      |
| Inrush current ACA                | 99.99 A, $\pm(3\% + 0.3 \text{ A})$<br>999.9 A, $\pm(3\% + 5 \text{ digits})$                                                                                               |
| Watts DC                          | 9.999 kW (10 V, 5 A min), $\pm(3\% + 0.05 \text{ kW})$<br>99.99 kW (10 V, 5 A min), $\pm(3\% + 0.5 \text{ kW})$<br>999.9 kW (10 V, 5 A min), $\pm(3\% + 10 \text{ digits})$ |

| Watts AC                       | 9.999 kW (10 V, 5 A min), $\pm(3\% + 10 \text{ digits})$<br>99.99 kW (10 V, 5 A min), $\pm(3\% + 10 \text{ digits})$<br>999.9 kW (10 V, 5 A min), $\pm(3\% + 10 \text{ digits})$                                     |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power factor                   | -1.00 to 0.00 to +1.00, $\pm 3^\circ \pm 1 \text{ digit}$                                                                                                                                                            |
| Resistance                     | 999.9 $\Omega$ , $\pm(1.0\% + 5 \text{ digits})$<br>9.999 k $\Omega$ , $\pm(1.0\% + 3 \text{ digits})$<br>99.99 k $\Omega$ , $\pm(1.0\% + 3 \text{ digits})$                                                         |
| Continuity                     | 999.9 $\Omega$ , $\pm(1.0\% + 5 \text{ digits})$                                                                                                                                                                     |
| Diode                          | 0.40 V to 0.80 V, $\pm 0.1 \text{ V}$                                                                                                                                                                                |
| Capacitance                    | 3.999 $\mu\text{F}$ , $\pm(1.9\% + 8 \text{ digits})$<br>39.99 $\mu\text{F}$ , $\pm(1.9\% + 8 \text{ digits})$<br>399.9 $\mu\text{F}$ , $\pm(1.9\% + 8 \text{ digits})$<br>3.999 mF, $\pm(1.9\% + 8 \text{ digits})$ |
| Measuring rate                 | 3 times per second                                                                                                                                                                                                   |
| Meter Data                     |                                                                                                                                                                                                                      |
| Jaw opening                    | 45 mm (1.77 in)                                                                                                                                                                                                      |
| Bluetooth range                | 10 m (32 ft)                                                                                                                                                                                                         |
| Category rating                | CAT IV-600 V, CAT III-1000 V                                                                                                                                                                                         |
| Data recording                 | Available via METERLiNK App                                                                                                                                                                                          |
| Warranty                       | Limited Lifetime Warranty                                                                                                                                                                                            |
| Drop test                      | 1.2 m (4 ft)                                                                                                                                                                                                         |
| Certifications                 |                                                                                                                                                                                                                      |
| Certifications                 | UL, CE, FCC, IC, UKCA, CSAUS                                                                                                                                                                                         |
| Complies with Safety Standards | IEC 61010-1:2010, IEC 61010-2-032:2012, IEC 61010-2-033:2012                                                                                                                                                         |
| (continued)                    |                                                                                                                                                                                                                      |

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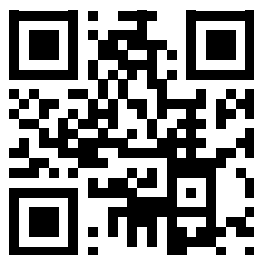


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## SPECIFICATIONS, CONT.

|                                                      |                                                                                                                                                                                                                               |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC                                                  | FCC:<br>47 CFR Part 15 Subpart B<br>CE:<br>EN IEC 61326-1:2021<br>EN IEC 61326-2-2:2021<br>EN 301 489-1 V2.2.3 (2019-11)<br>EN 301 489-17 V3.2.4 (2020-09)<br>RF:<br>ETSI EN 300 328 V2.2.2<br>EN 62479:2010<br>EN 50663:2017 |
| <b>Power System</b>                                  |                                                                                                                                                                                                                               |
| Power requirements                                   | 6 × 1.5 V AAA alkaline batteries                                                                                                                                                                                              |
| Battery life                                         | 50 hours with alkaline batteries (backlight, worklight, and Bluetooth off)                                                                                                                                                    |
| Auto power off                                       | Approx. 30 minutes                                                                                                                                                                                                            |
| <b>Environmental Data</b>                            |                                                                                                                                                                                                                               |
| Operating ambient temperatures and relative humidity | 0°C to 10°C (32°F to 50°F) (non-condensing)<br>10°C to 30°C (50°F to 86°F) (≤80% RH)<br>30°C to 40°C (86°F to 104°F) (≤75% RH)<br>40°C to 50°C (104°F to 122°F) (≤45% RH)                                                     |
| Storage temperature and relative humidity            | -10°C to 50°C (14°F to 122°F). 0 to 80% RH (batteries not fitted)                                                                                                                                                             |
| Temperature coefficient                              | 0.2 × (specified accuracy)/° C, <18°C, >28°C.                                                                                                                                                                                 |
| Operating altitude                                   | 2000 m (6562 ft)                                                                                                                                                                                                              |
| Pollution degree                                     | 2                                                                                                                                                                                                                             |
| Shock vibration                                      | Random vibration per MIL-PRF-28800f Class 2<br>(5 to 55 Hz, 3 g maximum)                                                                                                                                                      |
| <b>Meter Physical Data</b>                           |                                                                                                                                                                                                                               |
| Weight                                               | 0.65 kg (1.43 lb), including batteries                                                                                                                                                                                        |
| Dimensions (L × W × H)                               | 276 mm × 101 mm × 50 mm (10.87 in × 3.98 in × 1.97 in)                                                                                                                                                                        |



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