

P/N: CM42

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Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

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General description	
Part number	CM42
Part name	Professional 400A TRMS AC Clamp Meter
<p>The FLIR CM42 Clamp Meter is a professional and affordable true RMS meter designed for commercial and residential electricians. The FLIR CM42 features AC clamp measurement to meet your unique needs. The meter is equipped with a bright backlit display for ease of use inside electrical panels. Accu-Tip technology delivers amperage measurements on smaller-gauged wires more accurately—to a 10th of a digit. It offers MAX/MIN/AVG recording, frequency measurement, and electrical field detection to help you determine voltage presence and relative strength of the field. Made with an over-molded, easy-to-grip design, the FLIR CM42 clamp meter is durable enough to withstand a 2 m drop, and the slim form factor is convenient to carry in your toolbag anywhere you go.</p>	
<p>Professional performance at an affordable price:</p> <ul style="list-style-type: none"> Operates at -10 to 50°C (14–122°F). Built to accept up to a 30 mm conductor. True RMS measurements. 	
<p>Features: DC voltage, AC voltage (digital low-pass filter/VFD), clamp-on AC current, Accu-Tip clamp-on AC current, frequency, resistance, diode.</p>	

Electrical measurement	
True RMS voltage	Yes
Auto-ranging	Yes
DC V range	600.0 V
DC V accuracy	±1.0% + 5 digits
AC V range with digital low-pass filter	600.0 V
AC V range with digital low-pass filter: accuracy	±1.0% + 5 digits (50–60 Hz)
Resistance range	600.0 Ω, 6.000 kΩ, 60.00 kΩ
Resistance	±1.0% + 5 digits
Continuity	600.0 Ω ± 1.0% + 5 digits
Diode	2.000 V ± 1.5% + 5 digits

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Low-current Accu-Tip clamp-on AC A	
Range (50–60 Hz)	60.00 A
Accuracy ¹²³ (50–60 Hz)	±2.% + 5 digits
Standard clamp-on AC A	
Range (50–60 Hz)	60.00 A, 400.0 A
Accuracy ¹⁴⁵⁶ (50–60 Hz)	±2.0% + 5 digits
Range (60–400 Hz)	60.00 A, 400.0 A
Accuracy ¹⁴⁵⁶ (60–400 Hz)	±3.0% + 5 digits
Line level frequency	
Function (5.00–999.9 Hz)	600 V
Sensitivity ⁷ (Sine RMS) (5.00–999.9 Hz)	50 V
Function (50.00–400.0 Hz)	60 A (low-current mode)
Sensitivity ⁷ (Sine RMS) (50.00–400.0 Hz)	40 A
Function (50.00–400.0 Hz)	60 A, 400 A
Sensitivity ⁷ (Sine RMS) (50.00–400.0 Hz)	40 A
Accuracy	1% + 5 digits
Non-contact EF voltage detection	
Typical voltage (tolerance: 10–36 V)	20 V
Bar graph indication	-
Typical voltage (tolerance: 23–83 V)	55 V
Bar graph indication	--
Typical voltage (tolerance: 59–165 V)	110 V
Bar graph indication	---
Typical voltage (tolerance: 124–330 V)	220 V
Bar graph indication	----
Typical voltage (tolerance: 250–600 V)	440 V
Bar graph indication	-----
Indication	Number of bar graph segments and audible beep tones proportional to the detected field strength
Detection frequency	50/60 Hz
Detector	Located inside the top of the stationary jaw
Additional measurement functions	Data hold, MIN/MAX/AVG, backlit LCD
General	
Jaw opening	30 mm (1.2 in.) maximum
Display counts	6000

1. Induced error from an adjacent current-carrying conductor is <0.06 A/A.
2. Add 10 digits to the specified accuracy at <4 A.
3. Position of the conductor at the center of the Accu-Tip area. Conductor size must not exceed 8.8 mm.
4. Specified accuracy is for measurements made at the jaw center. When the conductor is not positioned at the jaw center, add 2% to the specified accuracy for position errors.
5. Add 10 digits to the specified accuracy at <6 A.
6. Add 3% to the accuracy specification for a crest factor of between 1.0 and 2.0. If the crest factor is >2.0, the reading may not meet specified tolerances.
7. DC bias, if any, not more than 50% of sine RMS.



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General	
Measuring rate	5 times per second nominal
Calibration cycle	1 year calibration cycle recommended
Auto power off	32 minutes of inactivity
Power source	2 x 1.5 V AAA alkaline batteries
Environmental data	
Operational temperature	-10 to +50°C (14–122°F) (non-condensing) 10–30°C (50–86°F) (≤80% relative humidity (RH)) 30–40°C (86–104°F) (≤75% RH) 40–50°C (104–122°F) (≤45% RH)
Storage temperature	-20 to +60°C (4–140°F)
Relative humidity	80% maximum RH up to 31°C (88°F) decreasing linearly to 50% maximum RH at 50°C (122°F)
Temperature coefficient	0.15 x (specified accuracy)/°C, @ 0°C (32°F) to 18°C (64.4°F) or 28°C (82.4°F) to 50°C (122°F), or as otherwise specified
Operating altitude	2000 m (6562 ft.) maximum
Pollution degree	2
Physical data	
Dimensions (L x W x H)	217 mm x 76 mm x 37 mm (8.5 in. x 3.0 in. x 1.5 in.)
Weight	186 g (6.6 oz.)
Warranty	
Warranty	FLIR Limited Lifetime Warranty with product registration
Certifications	
Certifications	CE, cULus
Safety category rating	EN 61010-1 CAT IV—300 V, CAT III—600 V, EN 61010-2-032
Shipping information	
Packaging type	Retail color box
Packaging contents	CM4x, 2 x AAA batteries, premium CAT IV silicone test leads, FLIR carrying pouch, quick start guide, warranty registration card
Packaging weight	0.8 kg (1.8 lb.)
Packaging dimensions (H x W x L)	33 cm x 14 cm x 10.7 cm (13 in. x 5.5 in. x 4.3 in.)
Master carton weight	10.6 kg (23.4 lb.)
Master carton dimensions (H x W x L)	62.3 cm x 29.3 cm x 36.1 cm (24.6 in. x 11.6 in. x 14.3 in.)
Master carton quantity	12
UPC	793950370421
EAN	0793950370421
Country of origin	Taiwan
Tariff code	9030.31.0000



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Technical support	
Website	http://support.flir.com
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Repairs	repair@flir.com

Accessories	
TA55	AC Current Line Splitter (120 V, US plug)
TA70	CAT IV Insulated Alligator Probes
TA80	CAT IV Silicone Test Leads