



Fluke TI400 FCA Ti400 a3001 FC iFlex® Kit

- Fluke Ti400 Infrared Camera
- Fluke 3000 FC Series Wireless Multimeter
- Fluke a3001 FC Wireless iFlex AC Current Module

Fluke Ti400 Infrared Camera

Detailed Specifications

Temperature

Temperature measurement range (not calibrated below -10 °C)	-20 °C to +1200 °C (-4 °F to +2192 °F)
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)
On-screen emissivity correction	Yes (by number and table)
On-screen reflected background temperature compensation	Yes
On-screen transmission correction	Yes

Imaging Performance

Image capture frequency	60 Hz refresh rate
Detector type	Focal Plane Array, uncooled microbolometer, 320 x 240 pixels
Thermal sensitivity (NETD)	≤ 0.05 °C at 30 °C target temp (50 mK)
Total pixels	76,800
Infrared spectral band	7.5 μm to 14 μm (long wave)
Visual (visible light) camera	Industrial performance 5.0 megapixel
Standard Infrared Lens Type	
Field of view	24 ° x 17 °
Spatial resolution (IFOV)	1.31 mRad
Minimum focus distance	15 cm (approx. 6 in)
Optional Telephoto Infrared Lens Type	
Field of view	12 ° x 9 °
Spatial resolution (IFOV)	0.65 mRad
Minimum focus distance	45 cm (approx. 18 in)
Optional Wide-Angle Infrared Lens Type	

Field of view	46 ° x 34 °
Spatial resolution (IFOV)	2.62 mRad
Minimum focus distance	15 cm (approx. 6 in)
Focus Mechanism	
LaserSharp® Auto Focus system	Yes
Advanced manual focus	Yes
Image Presentation	
Palettes	
Standard	Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted
Ultra Contrast™	Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra
Level and span	Smooth auto-scaling and manual scaling of level and span
Fast auto toggle between manual and auto modes	Yes
Fast auto-rescale in manual mode	Yes
Minimum span (in manual mode)	2.0 °C (3.6 °F)
Minimum span (in auto mode)	3.0 °C (5.4 °F)
IR-Fusion® Information	
Picture-in-Picture (PIP)	Yes
Full screen infrared	Yes
AutoBlend™ mode	Yes
Color alarms (temperature alarms)	High-temperature , low-temperature, and isotherm (user-selectable)
Image Capture and Data Storage	
Image capture, review, save mechanism	One-handed image capture, review, and save capability
Storage medium	Micro SD Memory Card, on-board flash memory, save-to-USB capability, direct download via USB-to-PC connection
File formats	Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2)
Export file formats w/SmartView® software	No analysis software required for non-radiometric (.bmp and jpg) files
Memory review	BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF
Other Time-Saving and Productivity Features	Thumbnail view navigation and review selection
Voice annotation	60 seconds maximum recording time per image; reviewable playback on imager
IR-PhotoNotes™	Yes

Wi-Fi connectivity	Yes, to PC, iPhone®, iPad® and WiFi to LAN*
Text annotation*	Yes
Video recording*	Standard and radiometric
Streaming video	Via USB to PC and HDMI to HDMI compatible screen
Fluke Connect compatible	Yes (where available)
Auto capture (temperature and interval)*	Yes
Remote control and operation (for special and advanced applications)	Yes
General Specifications	
Operating temperature	-10 °C to +50 °C (14 °F to 122 °F)
Storage temperature	-20 °C to +50 °C (-4 °F to 122 °F) without batteries
Relative humidity	10 % to 95 % non-condensing
Ruggedized touchscreen display (capacitive)	8.9 cm (3.5 in) diagonal landscape color VGA (640 x 480) LCD with backlight
	User selectable temperature scale (°C/°F)
	Language selection
	Time/Date set
	Emissivity selection
	Reflected background temperature compensation
	Transmission correction
Controls and adjustments	User selectable hot spot and cold spot, and center point on the image
	Expandable-contractable Measurement Box with MIN-AVG-MAX temp
	Color alarms
	User selectable backlight setting graphical information display preference
	Graphical information display preference
Software	SmartView® and SmartView Mobile App - full analysis and reporting software included
Batteries	Two lithium ion rechargeable smart battery packs with five-segment LED display to show charge level, all models
Battery life	Four+ hours continuous use per battery pack (assumes 50 % brightness of LCD and average usage)
Battery charge time	2.5 hours to full charge
AC battery charging	Two-bay AC battery charger (110 V AC to 220 V AC, 50/60 Hz) (included), or in-imager charging. AC mains adapters included. Optional 12 V automotive charging adapter.

AC operation	AC operation with included power supply (110 V AC to 220 V AC, 50/60 Hz). AC mains adapters included.
Power saving	User selectable sleep and power off modes
Safety standards	UL 61010-1:2012 CAN/CSA-C22.2 No.61010-1-12 IEC 61010-1 3rd Edition (2010)
Electromagnetic compatibility	EN 61326-1:2006 IEC 61326-1:2005
C Tick	IEC/EN 61326-1
US FCC	CFR 47, Part 15 Subpart B Class B
Vibration	0.03 g ² /Hz (3.8 grms), 2.5g IEC 68-2-6
Shock	25 g, IEC 68-2-29
Drop	Engineered to withstand 2 meter (6.5 feet) with standard lens
Size (H x W x L)	27.7 cm x 12.2 cm x 16.7 cm (10.9 in x 4.8 in x 6.5 in)
Weight (battery included)	1.04 Kg (2.3 lb)
Enclosure rating	IP54 (protected against dust, limited ingress; protection against water spray from all directions)
Warranty	Two-years (standard), extended warranties are available.
Recommended calibration cycle	Two-years (assumes normal operation and normal aging)
Supported languages	Czech, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish

*Coming soon via firmware update. Users notified via SmartView software when available.

Fluke 3000 FC Series Wireless Multimeter

* For all specifications: accuracy is specified for one year after calibration, at operating temperatures of 18 °C to 28 °C, with relative humidity at 0 % to 90 %. Accuracy specifications take the form of \pm ([% of Reading] + [Number of least significant digits]).

Detailed Specifications

AC Voltage

	600.0 mV / 0.1 mV
	6.000 V / 0.001 V
Range ¹ / Resolution	60.00 V / 0.01 V
	600.0 V / 0.1 V
	1000 V / 1 V
Accuracy ^{2 3 4}	45 Hz to 500 Hz 1.0 % + 3
	500 Hz to 1 kHz 2.0% + 3

¹ All AC voltage ranges are specified from 1 % of range to 100 % of range.

² Crest factor of ≤ 3 at full scale up to 500 V, decreasing linearly to crest factor < 1.5 at 1000 V.

³ For non-sinusoidal waveforms, add \pm (2 % of reading + 2 % full scale) typical, for crest factor

up to 3.

⁴Do not exceed 107 V-Hz.

DC Voltage, Continuity, Resistance, Diode Test and Capacitance
Function

mV	Range / Resolution	600.0 mV / 0.1 mV
	Accuracy	0.09 % + 2
V	Range / Resolution	6.000 V / 0.001 V 60.00 V / 0.01 V 600.0 V / 0.1 V 1000 V / 1 V
	Accuracy	0.09 % + 2 0.15 % + 2
)))	Range / Resolution	600 Ω / 1 Ω
	Accuracy	Meter beeps at < 25 Ω, beeper detects opens or shorts of 250 μs or longer.
Ω	Range / Resolution	600.0 Ω / 0.1 Ω 6.000 kΩ / 0.001 kΩ 60.00 kΩ / 0.01 kΩ 600.0 kΩ / 0.1 kΩ 600.0 kΩ / 0.001 MΩ 50.00 MΩ / 0.01 MΩ
	Accuracy	0.5 % + 2 0.5 % + 1 1.5 % + 3
Diode test	Range / Resolution	2.000 V / 0.001 V
	Accuracy	1 % + 2
μF	Range / Resolution	1000 nF / 1 nF 10.00 μF / 0.01 μF 100.0 μF / 0.1 μF 9999 μF ¹ / 1 μF
	Accuracy	1.2 % + 2 10 % typical

¹ In the 9999 μF range for measurements to 1000 μF, the measurement accuracy is 1.2 % + 2.

AC and DC Current
Function

mA AC (45 Hz to 1 kHz)	Range¹ / Resolution	60.00 mA / 0.01 mA 400.0 mA ³ / 0.1 mA
	Accuracy	1.5 % + 3
mA DC ²	Range¹ /	60.00 mA / 0.01 mA

Resolution 400.0 mA³ / 0.1 mA
Accuracy 0.5 % + 3

¹ All AC current ranges are specified from 5 % of range to 100 % of range.

² Input burden voltage (typical): 400 mA input 2 mV/mA.

³ 400.0 mA accuracy specified up to 600 mA overload.

Frequency

99.99 Hz / 0.01 Hz
 999.9 Hz / 0.1 Hz
 9.999 kHz / 0.001 kHz
 99.99 kHz / 0.01 kHz

Accuracy¹ 0.1 % + 1

¹ Frequency is specified up to 99.99 kHz in volts and up to 10 kHz in amps.

Input Characteristics

Function	Overload protection	Input impedance (nominal)	Common mode rejection ratio (1 kΩ unbalance)	Normal mode rejection
	1100 V RMS	> 10 MΩ < 100 pF	> 120 dB at DC, 50 Hz or 60 Hz	> 60 dB at 50 Hz or 60 Hz
	1100 V RMS	> 10 MΩ < 100 pF	> 60 dB, DC to 60 Hz	> 60 dB at 50 Hz or 60 Hz
	1100 V RMS	> 10 MΩ < 100 pF	> 120 dB at DC, 50 Hz or 60 Hz	> 60 dB at 50 Hz or 60 Hz

Open circuit test voltage	Full scale voltage	Typical short circuit current
	To 6 MΩ	Typical short circuit current
	50 MΩ	Typical short circuit current
	< 2.7 V DC	< 350 mA
	< 2.7 V DC	< 1.1 mA

mA Function

Overload protection Fused, 44/100 A, 1000 V FAST Fuse
Overload 600 mA overload for 2 minutes maximum, 10 minutes rest minimum

MIN/MAX Recording Accuracy

DC functions The specified accuracy of the measurement function ± 12 counts for changes > 350 mS in duration.

AC functions The specified accuracy of the measurement function ± 40 counts for changes > 900 mS in duration.

General Specifications

Maximum voltage between any terminal and earth ground 1000 V DC or AC RMS

Ω fuse protection from A 0.44 A (44/100 A, 440 mA), 1000 V FAST Fuse, Fluke specified part

inputs	only	
	Update rate	4/sec
Display (LCD)	Volts, amps, ohms	6000 counts
	Frequency	10,000 counts
	Capacitance	1,000 counts
Battery type	Three AA Alkaline batteries, NEDA 15A IEC LR6	
Battery life	250 hours minimum	
RF communications	2.4 GHZ ISM Band	
RF communication range	Open air, unobstructed	Up to 20m
	Obstructed, sheetrock wall	Up to 6.5m
	Obstructed, concrete wall, or steel electrical enclosure	Up to 3.5m
Temperature	Operating	-10 °C to 50 °C
	Storage	-40 °C to 60 °C
Temperature coefficient	0.1 X (specified accuracy) /°C (<18 °C or >28 °C)	
Relative humidity	0 % to 90 % (0 °C to 35 °C)	
	0 % to 75 % (35 °C to 40 °C)	
	0 % to 45 % (40 °C to 50 °C)	
Altitude	Operating	2,000 m
	Storage	12,000 m
Electromagnetic compatibility EMI, RFI, EMC, RF	EN 61326-1:2006, EN 61326-2-2:2006	
	ETSI EN 300 328 V1.7.1:2006, ETSI EN 300 489 V1.8.1:2008,	
	FCC Part 15 Subpart C Sections 15.207, 15.209, 15.249 FCCID : FCC: T68-FDMMBLE IC: 6627A-FDMMBLE	
Safety compliance	ANSI/ISA 61010-1 / (82.02.01): 3rd edition	
	CAN/CSA-C22.2 No 61010-1-12: 3rd edition	
	UL 61010-1: 3rd edition IEC/EN 61010-1:2010	
Certifications	CSA, FCC, CE	
Ingress Protection (IP) rating	IP54	
Pollution Degree	2	
Size (H x W x L)	4.75 cm x 9.3 cm x 20.7 cm (1.87 in x 3.68 in x 8.14 in)	
Weight	340 g (12 oz)	
Note: Not compatible with Fluke CNX test tools		

Fluke a3001 FC Wireless iFlex AC Current Module

Specifications

Range	0.5 A to 2500 A AC	
Resolution	0.1 A	
Accuracy	3 % \pm 5 digits (5 Hz to 500 Hz)	
Crest factor (50 Hz/60 Hz)	3.0 at 1100 A	
	2.5 at 1400 A	
	1.42 at 2500 A	
	add 2 % for C.F. > 2	
LCD w/backlight	3½ digits	
Log rate/interval	1 sec minimum/adjustable by PC or front panel	
Battery type	2 AA, NEDA 15 A, IEC LR6	
Battery life	400 hours	
Memory	Record up to 65,000 readings	
RF communications	2.4 GHZ ISM Band	
RF communication range	Open air, unobstructed	Up to 20 m
	Obstructed, sheetrock wall	Up to 6.5 m
	Obstructed, concrete wall or steel electrical enclosure	Up to 3.5 m
Operating temperature	-10 °C to +50 °C	
Storage temperature	-40 °C to +60 °C	
Temperature coefficient	Add 0.1 X (specified accuracy) / °C (<18 °C or >28 °C)	
Operating humidity	90 % at 35 °C	
	75 % at 40 °C	
	45 % at 50 °C	
Altitude	Operating	2,000 m
	Storage	12,000 m
EMC	EN 61326-1:2006	
Safety compliance	IEC 61010-1, 600 V CAT IV/1000 V CAT III, 3rd edition	
Safety rating	CAT IV 600 V, CAT III 1000 V	
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-FBLE	
Ingress Protection (IP) rating	IP42	
Pollution Degree	2	
Jaw opening	25.4 cm (10 in) coil	
Size (HxWxD)	16.5 cm x 6.35 cm x 1.4 cm (6.5 in x 2.5 in x 1.4 in)	
Weight	.22 kg (8 oz)	

Note: Not compatible with Fluke CNX test tools