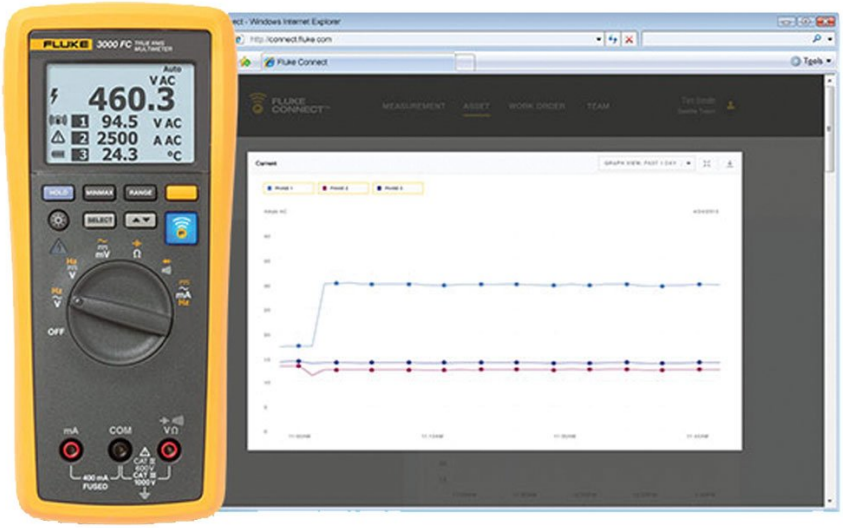
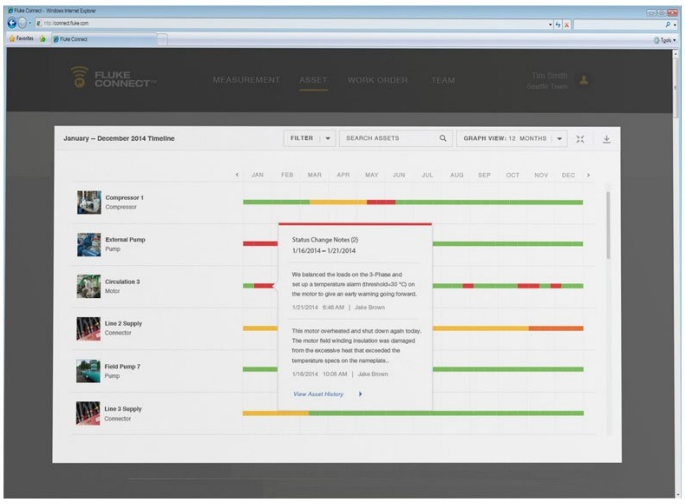
TECHNICAL DATA

Fluke 3000 FC General Maintenance System




FLUKE CONNECT
MEASUREMENT
ASSET
WORK ORDER
TEAM
January – December 2014 Timeline
FILTER
SEARCH ASSETS
GRAPH VIEW: 12 MONTHS
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Compressor 1
Compressor
External Pump
Pump
Circulation 3
Motor
Line 2 Supply
Connector
Field Pump 7
Pump
Line 3 Supply
Connector
Status Change Notes (2)
1/16/2014 – 1/21/2014
We balanced the loads on the 3-Phase and set up a temperature alarm threshold=30 °C) on the motor to give an early warning going forward.
1/21/2014 6:46 AM | Jake Brown
This motor overheated and shut down again today. The motor field winding insulation was damaged from the excessive heat that exceeded the temperature specs on the nameplate..
1/16/2014 10:06 AM | Jake Brown
View Asset History


FLUKE
3000 FC TRUE RMS MULTIMETER
Auto
V AC
239.6
120.2 V AC
73.3 °F
9.8 A AC
HOLD
MIN MAX
RANGE
SELECT
OFF
COM
400 mA FUSED
CAT III 600 V CAT II 1000 V

Key features

The Fluke 3000 FC General Maintenance System provides measurement of all common electrical parameters

The Fluke 3000 FC Series Wireless Multimeter with the Fluke Connect® app has all the essentials for convenient test and measurement troubleshooting:

- AC and DC voltage measurements to 1000V
- AC and DC current with 0.01 mA resolution
- Continuity, resistance, diode test, capacitance and frequency measurements
- MIN/MAX recording
- CAT III 1000 V, Cat IV 600 V; IP54

The Fluke v3000 FC Wireless AC Voltage Module offers:

- Measurements up to 1000 V true-RMS AC
- Use as a standalone meter or as part of the system
- A logging function for recording and saving up to 65,000 readings

The Fluke v3001 FC Wireless DC Voltage Module lets you:

- Measure up to 1000 V DC
- Use as a standalone meter or as part of the system
- Use the logging function for recording and saving up to 65,000 readings

The Fluke a3001 FC Wireless iFlex® AC Current Module allows you to measure around awkward sized conductors or get into tight spaces and makes wire access easier:

- Measure up to 2500 A AC
- Use as a standalone meter or as part of the system
- Logging function for recording and saving up to 65,000 readings
- Inrush function

Product overview: Fluke 3000 FC General Maintenance System

The Fluke FC Wireless General Maintenance System lets you work on electrical panels faster, safer, easier

Connect the FC Wireless iFlex® AC Current Module to your test point, and view the results up to 20 meters away on the FC Wireless Digital Multimeter. Or connect the FC Wireless AC Voltage Module and view both voltage and current measurements simultaneously.

You'll save time, with less run-around collecting multiple measurements. Use multiple modules for measurements on three-phase systems, as a stand-alone measurement tool or combine with other Fluke Connect™ modules as a system for multiple measurements.

From short distances, you can even view readings from modules through closed electrical panels. Plus no more writing down data as the Fluke Connect remote modules capture up to 65,000 sets of time stamped min/max/avg readings, using the optional PC adapter. Fluke Connect wireless test tools also offer increased safety by letting you view readings in a separate location from the test point.

Now you can take readings on moving machinery, with only the measurement module in harm's way.

Connect the FC Wireless iFlex® AC Current Module to your test point, and view the results up to 20 meters away on the FC Wireless Digital Multimeter. Or connect the FC Wireless AC Voltage Module and view both voltage and current measurements simultaneously.

You'll save time, with less run-around collecting multiple measurements. Use multiple modules for measurements on three-phase systems, as a stand-alone measurement tool or combine with other Fluke Connect™ modules as a system for multiple measurements.

From short distances, you can even view readings from modules through closed electrical panels. Plus no more writing down data as the Fluke Connect remote modules capture up to 65,000 sets of time stamped min/max/avg readings, using the optional PC adapter. Fluke Connect wireless test tools also offer increased safety by letting you view readings in a separate location from the test point.

Now you can take readings on moving machinery, with only the measurement module in harm's way.

Specifications: Fluke 3000 FC General Maintenance System

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 ±([% of Reading] + [Number of least significant digits]).

Detailed Specifications		
AC Voltage		
Range [1] / Resolution	600.0 mV / 0.1 mV 6.000 V / 0.001 V 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-sinusoidial waveforms, add ±(2% of reading + 2% full scale) typical, for crest factor up to 3. 4. Do 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 60.00 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)	**Range [1] / Resolution**	60.00 mA / 0.01 mA 400.0 mA [3]/ 0.1 mA
	Accuracy	1.5% + 3
mA DC [2]	**Range [1] / Resolution**	60.00 mA / 0.01 mA 400.0 mA [3]/ 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		
Range / Resolution	99.99 Hz / 0.01 Hz 999.9 Hz / 0.1 Hz 9.999 kHz / 0.001 kHz 99.99 kHz / 0.01 kHz	
Accuracy [1]	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 Vrms	> 10 MΩ < 100 pF	> 120 dB at DC, 50 Hz or 60 Hz	> 60 dB at 50 Hz or 60 Hz
✗	1100 Vrms	> 10 MΩ < 100 pF	> 60 dB, DC to 60 Hz	> 60 dB at 50 Hz or 60 Hz
✗	1100 Vrms	> 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	50 MΩ	Typical short circuit current
☒	1100 Vrms	< 2.7 VDC	< 0.7 VDC	< 0.9 VDC	< 350 mA
☒	1100 Vrms	< 2.7 VDC	2.000 VDC		< 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 VDC or AC rms	
Ω fuse protection from A inputs	0.44 A (44/100 A, 440 mA), 1000 V FAST Fuse, Fluke specified part only	
Display (LCD)	**Update rate**	4/sec
	Volts, amps, ohms	6000 counts
	Frequency	10,000 counts
	Capacitance	1,000 counts
Baery type	Three AA Alkaline baeries, NEDA 15A IEC LR6	
Baery life	250 hours minimum	
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
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 x 9.3 x 20.7 cm (1.87 x 3.68 x 8.14 in)
Weight	340 g (12 oz)
Warranty	Three years
Not compatible with Fluke CNX test tools	

Fluke v3000 FC Wireless AC Voltage Module

Accuracy is specified as ±([% of reading] + [number of least significant digits]). All ranges are autoranging. Accuracy is specified from 5% to 100% of the range obtained by autoranging, from 18°C to 28°C.

Specifications		
Range [1] / Resolution	6.000 V / 0.001 V 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 ±(2% of reading + 2% full scale) typical, for crest factor up to 3. 4. Do not exceed 107 V-Hz.		
General Specifications		
LCD w/ backlight	3½ digits, 6000 counts, updates 4/sec	
Baery type	2 AA, NEDA 15 A, IEC LR6	
Baery life	400 Hours	
Memory	Record up to 65000 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	0.1 x (specified accuracy)/ °C (< 18°C or > 28°C)	
Operating humidity	90% at 35°C, 45% at 40°C, 45% at 50°C	
Altitude	**Operating**	2,000 m
	Storage	12,000 m
EMC	EN 61326-1:2006	
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
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	
Size (H x W x D)	16.5 x 6.35 x 1.4 cm (6.5 x 2.5 x 1.4 in)	
Weight	.22 kg (8 oz)	
Warranty	Three years	
Not compatible with Fluke CNX test tools		

Fluke v3001 FC Wireless DC Voltage Module

Accuracy is specified for 1 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 ±([% of Reading] + [Number of least significant digits]).All ranges are autoranging. Accuracy is specified from the range obtained by autoranging, from 18°C to 28°C.

Voltage Specifications		
Function		
mVDC	**Range [1] / Resolution**	600.0 mV / 0.1 mV
	Accuracy	0.09% + 3
VDC	**Range [1] / Resolution**	6.000 V / 0.001 V 60.00 V / 0.01 V 600.0 V / 0.1 V
	Accuracy	0.09% + 3
	Range [1] / Resolution	1000 V / 1 V
	Accuracy	0.15% + 2
General Specifications		
LCD w/backlight	3 ½ digits, 6000 counts, 4/sec update rate	

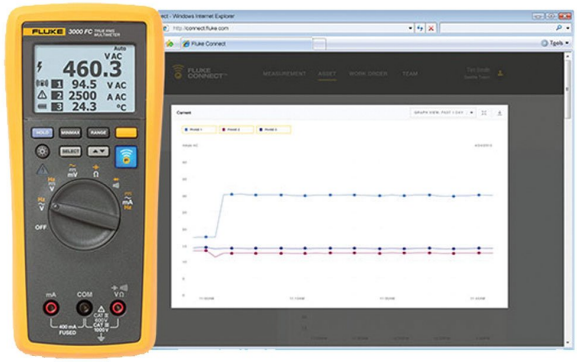
Baery type	2 AA Alkaline baeries, NEDA 15A, IEC LR6	
Log rate/interval	Adjustable by PC from 1 sec to 1 hr, default 1 min	
Baery life	400 hours minimum	
Memory	Record up to 65,000 readings	
RF communications	2.4 GHz ISM Band	
RF communication range	**Open air, unobstructed**	Up to 20 m
	Obstructed, sheetrock 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	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)	
EMC	IEC 61236-1, Portable	
Safety compliance	IEC 61010-1, 600 V CAT IV / 1000 V CAT III, 3rd edition, Pollution Degree 2	
Certifications	CSA, CE, FCC: T68-FBLE IC: 6627A-FBLE	
Ingress Protection (IP) rating	IP42	
Size (H x W x D)	160 x 66 x 38 mm (6.3 x 2.6 x 1.5 in)	
Weight	0.255 kg (9 oz)	
Warranty	Three years	
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% ±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
Baery type	2 AA, NEDA 15 A, IEC LR6
Baery 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 (H x W x D)	16.5 x 6.35 x 1.4 cm (6.5 x 2.5 x 1.4 in)	
Weight	.22 kg (8 oz)	
Warranty	Three years	
Not compatible with Fluke CNX test tools		

Ordering information



FLK-3000 FC GM
Fluke 3000 FC General Maintenance System

Includes:

- Fluke 3000 FC Series Wireless Multimeter
- Fluke v3000 Voltage Module
- Fluke v3001 Voltage Module
- Fluke a3001 FC Wireless iFlex AC Current Module
- TL224 Test Leads
- TL222 Test Leads
- TL175 Test Leads
- AC285 Alligator Clips
- AC220 Alligator Clips
- AC175 Alligator Clips
- iFlex i2500-10 Flexible Current Probe
- Magnetic hanging strap

Preventive maintenance simplified. Rework eliminated.

Save time and improve the reliability of your maintenance data by wirelessly syncing measurements using the Fluke Connect™ system.

- Eliminate data-entry errors by saving measurements directly from the tool and associating them with the work order, report or asset record.
- Maximize uptime and make confident maintenance decisions with data you can trust and trace.
- Access baseline, historical and current measurements by asset.
- Move away from clipboards, notebooks and multiple spreadsheets with a wireless one-step measurement transfer.
- Share your measurement data using ShareLive™ video calls and emails.

Find out more at **flukeconnect.com**

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