

TECHNICAL DATA

3500 FC Condition Monitoring Sensors



FLUKE CONNECT COMPATIBLE

Use with Fluke Connect® Condition Monitoring Software

CONDITION MONITORING

Strengthen your maintenance program with real-time condition monitoring of your equipment

REMOTE MONITORING

Remote monitoring of your equipment via the Internet

IMPROVED UPTIME

Fast and cost-effective set up and maintenance, reduced maintenance costs

3500 FC Condition Monitoring Sensors

The Fluke 3500 FC Condition Monitoring Sensors include the following products:

- Fluke 3510 FC AC Voltage Sensor
- Fluke 3511 FC DC Voltage Sensor
- Fluke 3520 FC AC Current iFlex® Sensor
- Fluke 3521 FC 2000A DC Current Sensor
- Fluke 3530 FC K-Type Temperature Sensor

Fluke 3500 FC Condition Monitoring Sensors require the Fluke 3501 Gateway to send measurements to the Fluke Connect® Cloud where they can be accessed by Fluke Connect® Condition Monitoring Software

Sensors

- Use the sensors on a single piece of equipment or easily move them around
- Gather multiple measurement types including amps, volts and temperature

Data Logging and Alarms

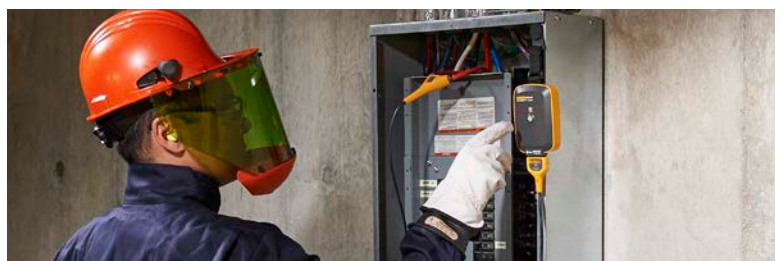
- Data logging with alarms so that you can leave but stay in touch
- Identify potential equipment degradation or events based on measurement data

Remote Monitoring

- Use the Fluke Connect Condition Monitoring dashboard from your computer or handheld device for remote monitoring or sending work orders
- Make informed decisions on critical situations with real-time data

Fluke Connect® Condition Monitoring Software

- Two-way communication using Fluke Connect Condition Monitoring software. Receive alarms through email.
- Detect fault development by tracking historical trends and current conditions



Fluke 3510 FC AC Voltage Sensor

A true-rms voltage sensor that wirelessly relays measurements to Fluke Connect® Cloud via Fluke 3501 FC Gateway. The sensor is part of Fluke Condition Monitoring system.

3510 FC main features include:

- True-rms
- Measure up to 1000 V
- Test leads
- AC285 Alligator Clips
- Magnetic hanging strap



AC Voltage		
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—45 Hz to 500 Hz ^[2,3,4]	1.0 % + 2 digits	
Accuracy—500 Hz to 1 kHz ^[2,3,4]	2.0 % + 3 digits	
^[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 106 V-Hz.		
General specifications		
Battery type	4 AA batteries, IEC LR6	
Battery life	800 hours	
RF communications	2.4 GHZ iSM Band	40 mm (1.57 in)
RF communications range	Open air, unobstructed	Up to 20 m (65 ft)
	Obstructed, sheetrock wall	Up to 6.5 m (21 ft)
	Obstructed, concrete wall or steel electrical enclosure	Up to 3.5 m (11 ft)
Operating temperature	–10 °C (14 °F) to +50 °C (122 °F)	
Storage temperature	–40 °C (–40 °F) to +60 °C (140 °F)	
Temperature coefficient	0.1 × (specified accuracy)/ °C (<18 °C or > 28 °C)	
Relative humidity	0 % to 90 % [0 °C to 35 °C (32 °F to 95 °F)], 0 % to 75 % [35 °C to 40 °C (95 °F to 104 °F)], 0 % to 45 % [40 °C to 50 °C (104 °F to 122 °F)]	
Altitude	Operating	2,000 m (6,500 ft)
	Storage	12,000 m (13,000 ft)
EMC	EN 61326-1:2013	
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	
IP rating	IP54	
Pollution degree	2	
Shock	1 m (3 ft) drop	
Size (LxWxH)	126 mm (4.9 in) × 88 mm (3.4 in) × 34 mm (1.3 in)	
Weight	298 g (10.5 oz)	
Warranty	Three-years	



Fluke 3511 FC DC Voltage Sensor

DC voltage sensor that wirelessly relays measurements to Fluke Connect® Cloud via Fluke 3501 FC Gateway. The sensor is part of Fluke Condition Monitoring system.

3511 FC main features include:

- Measure up to 1000 V
- Test Leads
- AC220 Alligator Clips
- Magnetic hanging strap

DC voltage

Range	Resolution	Accuracy
600.0 mV	0.1 mV	0.09 % + 3 digits
6.0 V	0.001 V	0.09 % + 3 digits
60.0 V	0.1 V	0.09 % + 3 digits
600.0 V	0.01 V	0.09 % + 3 digits
1000 V	1 V	0.15 % + 2 digits

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 $\pm[(\% \text{ of Reading}) + (\text{Number of least significant digits})]$. All ranges are autoranging. Accuracy is specified from the range obtained by autoranging, from 18 °C to 28 °C.

General specifications

Battery type	4 AA batteries, IEC LR6	
Battery life	800 hours	
RF communications	2.4 GHZ iSM Band	40 mm (1.57 in)
RF communications range	Open air, unobstructed	Up to 20 m (65 ft)
	Obstructed, sheetrock wall	Up to 6.5 m (21 ft)
	Obstructed, concrete wall or steel electrical enclosure	Up to 3.5 m (11 ft)
Operating temperature	-10 °C (14 °F) to +50 °C (122 °F)	
Altitude	Operating	2,000 m (6,500 ft)
	Storage	12,000 m (13,000 ft)
Storage temperature	-40 °C (-40 °F) to +60 °C (140 °F)	
Temperature coefficient	0.1 × (specified accuracy)/°C (< 18 °C or > 28 °C)	
Relative humidity	0 % to 90 % [0 °C to 35 °C (32 °F to 95 °F)], 0 % to 75 % [35 °C to 40 °C (95 °F to 104 °F)], 0 % to 45 % [40 °C to 50 °C (104 °F to 122 °F)]	
EMC	IEC 61326-1:2013	
Safety compliance	IEC 61010-1	3rd edition
Safety rating	CAT IV 600 V, CAT III 1000 V	
Certifications	cCSAus, CE, FCC: T68-FBLE IC: 6627A-FBLE	
IP rating	IP54	
Pollution degree	2	
Shock	1 m (3 ft) drop	
Size (LxWxH)	126 mm (4.9 in) × 88 mm (3.4 in) × 34 mm (1.3 in)	
Weight	297 g (10.4 oz)	
Warranty	Three years	

Fluke 3520 FC AC Current iFlex Sensor

AC Current iFlex® sensor that wirelessly relays measurements to Fluke Connect® Cloud via Fluke 3501 FC Gateway. The sensor is part of Fluke Condition Monitoring system.

Fluke 3520 FC AC Current iFlex Sensor

The iFlex® wireless current sensor allows you to measure around awkward sized conductors or get into tight spaces and makes wire access easier.

- Measure up to 2500 A AC
- Magnetic hanging strap
- iFlex® Current Probe



General specifications		
Range	0.5 A to 2500 A AC	
Resolution	0.1 A	
Accuracy	3 % ± 5 digits (45 Hz to 500 Hz)	40 mm (1.57 in)
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	
Battery type	4 AA batteries, IEC LR6	
Battery life	650 hours	
RF communications	2.4 GHZ iSM Band	
RF communications range	Open air, unobstructed	Up to 20 m (65 ft)
	Obstructed, sheetrock wall	Up to 6.5 m (21 ft)
	Obstructed, concrete wall or steel electrical enclosure	Up to 3.5 m (11 ft)
Operating temperature	-10 °C (14 °F) to +50 °C (122 °F)	
Altitude	Operating	2,000 m (6,500 ft)
	Storage	12,000 m (13,000 ft)
Storage temperature	-40 °C (-40 °F) to +60 °C (140 °F)	
Temperature coefficient	0.1 X (specified accuracy)/°C (< 18°C or > 28°C)	
Operating humidity	0 % to 90 % [0 °C to 35 °C (32 °F to 95 °F)], 0 % to 75 % [35 °C to 40 °C (95 °F to 104 °F)], 0 % to 45 % [40 °C to 50 °C (104 °F to 122 °F)]	
EMC	EN 61326-1:2013	
Safety compliance	IEC 61010-1	3rd edition
Safety rating	CAT IV 600 V, CAT III 1000 V	
Certifications	cCSAus, CE, FCC: T68-FBLE IC: 6627A-FBLE	
IP rating	IP54	
Pollution degree	2	
Shock	1 m (3 ft) drop	
Size (LxWxH)	126 mm (4.9 in) × 88 mm (3.4 in) × 34 mm (1.3 in)	
Weight	289 g (10.1 oz)	
Warranty	Three years	



Fluke 3521 FC 2000A DC Current Sensor

Fluke 3521 FC 2000A DC Current Sensor that wirelessly relays measurements to Fluke Connect® Cloud via Fluke 3501 FC Gateway. The sensor is part of Fluke Condition Monitoring system.

3521 FC main features include:

- Measure up to 2000 A dc
- Large jaw size (64 mm) for measuring large, high current conductors
- Magnetic hanging strap

General specifications		
DC current range	1.0 A to 999.9 A/0.1 A 1000 A to 2000 A/1 A	
Resolution	0.1 A, 1 A	
Accuracy	2 % ± 5 digits, 2.5 % ± 5 digits	
Battery type	4 AA, IEC LR6	
Battery life	200 hours	
RF communications	2.4 GHZ iSM Band	
RF communications range	Open air, unobstructed	Up to 20 m (65 ft)
	Obstructed, sheetrock wall	Up to 6.5 m (21 ft)
	Obstructed, concrete wall or steel electrical enclosure	Up to 3.5 m (11 ft)
Operating temperature	-10 °C (14 °F) to +50 °C (122 °F)	
Altitude	Operating	2,000 m (6,500 ft)
	Storage	12,000 m (13,000 ft)
Storage temperature	-40 °C (-40 °F) to +60 °C (140 °F)	
Temperature coefficient	0.1 X (specified accuracy)/°C (< 18°C or > 28°C)	
Relative humidity	0 % to 90 % [0 °C to 35 °C (32 °F to 95 °F)], 0 % to 75 % [35 °C to 40 °C (95 °F to 104 °F)], 0 % to 45 % [40 °C to 50 °C (104 °F to 122 °F)]	
EMC	IEC 61326-1:2013	
Safety compliance	IEC 61010-1	3rd edition
Safety rating	600 V CAT IV, 1000 V CAT III	
Certifications	cCSAus, CE, FCC: T68-FBLE IC: 6627A-FBLE	
IP rating	IP54	
Pollution degree	2	
Shock	1 m (3 ft) drop	
Size (LxWxH)	126 mm (4.9 in) × 88 mm (3.4 in) × 34 mm (1.3 in)	
Weight	293 g (10.3 oz)	
Warranty	Three years	

Fluke 3530 FC K-Type Temperature Sensor

3530 FC main features include:

- K-type Thermocouple Thermometer
- 80PK-1 K-type Bead Thermocouple
- Used as a part of Fluke Condition Monitoring system
- Magnetic hanging strap
- Other K-type temperature probes also available



General specifications		
Range K-Type	-200 °C (-328 °F) to 999.9 °C (1831 °F)	1000 °C (1832 °F) to 1372 °C (2501 °F)
Resolution	0.1 °C (0.1 °F)	
Accuracy	± [0.5 % +0.5 °C (0.9 °F)] counts	
Input terminals	K-type mini	
Battery type	4 AA, IEC LR6	
Battery life	800 hours	
RF communications	2.4 GHZ iSM Band	
RF communications range	Open air, unobstructed	Up to 20 m (65 ft)
	Obstructed, sheetrock wall	Up to 6.5 m (21 ft)
	Obstructed, concrete wall or steel electrical enclosure	Up to 3.5 m (11 ft)
Operating temperature	-10 °C (14 °F) to +50 °C (122 °F)	
Storage temperature	-40 °C (-40 °F) to +60 °C (140 °F)	
Temperature coefficient	0.01 % of reading +0.03°C per °C	
Temperature scale	ITS-90	
Operating humidity	0 % to 90 % [0 °C to 35 °C (32 °F to 95 °F)], 0 % to 75 % [35 °C to 40 °C (95 °F to 104 °F)], 0 % to 45 % [40 °C to 50 °C (104 °F to 122 °F)]	
Altitude	Operating: 2,000 m (6,562 ft) Storage: 12,000 m (39,370 ft)	
EMC	EN 61326-1:2013	
Safety compliance	IEC 61010-1	3rd edition
Certifications	cCSAus, CE, FCC: T68-FBLE IC: 6627A-FBLE	
IP rating	IP 54 (with rubber seal)	
Pollution degree	2	
Shock	1 m (3 ft) drop	
Size (LxWxH)	126 mm (4.9 in) × 88 mm (3.4 in) × 34 mm (1.3 in)	
Weight	283 g (9.9 oz)	
Warranty	Three years	



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.
- The 3500 FC Condition Monitoring System is part of a growing system of connected test tools and equipment maintenance software. Visit the website to learn more about the Fluke Connect® system.

Find out more at **flukeconnect.com**



All trademarks are the property of their respective owners. 3500 Series Sensors are designed to communicate only with the Fluke Connect Gateway and Fluke Connect Condition Monitoring software. WiFi or cellular service required to share data. Smartphone, wireless service and data plan not included with purchase. First 5 GB of storage is free. Phone support details can be viewed at fluke.com/phones.

Smart phone wireless service and data plan not included with purchase. Fluke Connect is not available in all countries.

Fluke. *Keeping your world up and running.®*

Fluke Corporation

PO Box 9090, Everett, WA 98206 U.S.A.

Fluke Europe B.V.

PO Box 1186, 5602 BD
Eindhoven, The Netherlands

For more information call:

In the U.S.A. (800) 443-5853 or
Fax (425) 446-5116
In Europe/M-East/Africa +31 (0) 40 2675 200 or
Fax +31 (0) 40 2675 222
In Canada (800)-36-FLUKE or
Fax (905) 890-6866
From other countries +1 (425) 446-5500 or
Fax +1 (425) 446-5116
Web access: <http://www.fluke.com>

©2016-2017 Fluke Corporation.
Specifications subject to change without notice.
1/2017 6008067d-en

Modification of this document is not permitted without written permission from Fluke Corporation.