

テクニカル・データ

# Disturbance Analyzer: Fluke 1740 Series Three-Phase Power Quality Loggers



## 主な機能

- **Plug and play:** Setup in minutes with automatic current probe detection and powering
- **Installs inside the cabinet:** Compact, fully-insulated housing and accessories fit easily in tight spaces next to live power
- **Determines the root cause:** Included PQ Log software quickly analyzes trends, creates statistical summaries, and generates detailed graphs and tables
- **Monitors power for the long-term:** Data can be downloaded during recording without interruption
- **Measure voltage with premium accuracy:** IEC61000-4-30 Class-A compliant voltage accuracy (0.1%)

- **Quickly validate quality of power:** Assess power quality according to EN50160 power quality standard with statistical overview
- **Rugged and reliable:** Designed for everyday field use with no moving parts and durable insulated case with two year warranty

Loggers for every application

The portable Fluke 1740 Series power quality loggers are designed for easy installation and use, anywhere in low- and medium-voltage applications. There are three models to choose from to meet your basic or advanced power logging needs.

**Fluke 1743:** IP65 water-proof monitor for logging the most common power parameters including V, A, W, VA, VAR, PF, energy, flicker, voltage events, and THD.

**Fluke 1744:** Includes the same features as the Fluke 1743. In addition to common power parameters, the Fluke 1744 also measures voltage and current harmonics, interharmonics, mains signaling, unbalance, and frequency.

**Fluke 1745:** Advanced IP50 power quality logger with the same measurement capability as the 1744, plus real-time LCD, five hour UPS.

Product Feature	Fluke 1745	Fluke 1744	Fluke 1743
Measurement of common power parameters: V, A, W, VA, VAR, PF, energy, flicker, voltage events, and THD	•	•	•
Measurement of voltage and current harmonics to the 50th, unbalance, and mains signaling	•	•	
Dust/water resistance	IP50	IP65 water proof	IP65 water proof
Display	LED + LCD	LED	LED
UPS ride-through	5 hrs	3s	3s
Dimensions (HxWxD)	282 x 216 x 74 mm (11.5 x 8.8 x 3 in.)	170 x 125 x 55 mm (6.9 x 5.1 x 2.2 in.)	170 x 125 x 55 mm (6.9 x 5.1 x 2.2 in.)

## 製品概要: Disturbance Analyzer: Fluke 1740 Series Three-Phase Power Quality Loggers

Power quality logging is easy with a compact and rugged Fluke power meter

The Fluke 1740 Series three-phase power quality loggers are everyday power meters for technicians who troubleshoot and analyze power quality issues. Capable of simultaneously logging up to 500 power parameters for up to 85 days and monitoring for events, these power loggers help uncover intermittent and hard-to-find power quality issues. The included PQ Log software quickly assesses the quality of power at the service entrance, substation, or at the load, according to the latest EN50160 standard.

Applications

**Disturbance analysis** – Uncover root cause of equipment malfunction for later mitigation and predictive maintenance

**Quality of service compliance** – Validate incoming power quality at the service entrance

**Power quality studies** – Assess baseline power quality to validate compatibility with critical systems before installation

**Load studies** – Verify electrical system capacity before adding loads

**Energy and power quality assessment** – Validate performance of facility improvements by quantifying energy

consumption, power factor, and general power quality before and after improvements

## 仕様: Disturbance Analyzer: Fluke 1740 Series Three-Phase Power Quality Loggers

General Data		
Intrinsic error	Refers to the reference conditions and is guaranteed for two years	
Warranty	2 years	
Recalibration interval	2 years recommended	
Quality system	developed, designed, and manufactured according to DIN ISO 9001	
Reference conditions		23 °C ± 2 K; 74 °F ± 2 K, Vm=230 V ± 10%, 50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz
	Phase sequence:	L1, L2, L3
	Interval length:	10 minutes
	Wye connection:	(L1, L2, L3 to N)
	Power supply:	88 V ... 265 V AC
Environment conditions	Working temp. range:	-10 °C to 55°C; 14 °F to 131°F
	Operating temp. range:	0 °C to 35°C; 32 °F to 95°F
	Storage temp. range:	-20 °C to 60°C; -4 °F to 140°F
	Reference temp. range:	23 °C ± 2 K; 74 °F ± 2 K
	Relative humidity:	Fluke 1745: Class B2 acc. IEC 60654-1 Fluke 1744/43: Class C2 acc. IEC 60654-1
Housing	robust, fully insulated housing and accessories	
Protection type	Fluke 1745:	IP50 as per EN 60529
	Fluke 1744/1743:	IP65 as per EN 60529
Safety	IEC/EN 61010-1 600 V CAT III, 300 V CAT IV, pollution degree 2, double insulation	
Type test voltage	5.2 kV rms, 50 Hz / 60 Hz, 5 s	
EMC	Emission:	IEC/EN 61326-1, EN55022
	Immunity:	IEC/EN 61326-1

## Voltage and Current Measurement

Input voltage	Input range VIP-N:	max 480 V AC
	Input range VIP-P:	max 830 V AC
	Max. overload voltage:	1.2 V <sub>I</sub>
	Input range selection:	By job programming
	Connections:	P-P or P-N, 1- or 3-phase
	Nominal voltage V <sub>N</sub> :	≤ 999 kV with PTs and ratio
	Input resistance:	App. 820 kΩ per chan. Lx-N Single phase (L1 or A, L2 or B, L3 or C connected): app. 300 kΩ
	Insic uncertainty:	0.1 % of V <sub>I</sub>
	Voltage transformer:	Ratio: <999 kV / V <sub>I</sub>
	Ratio selection:	By job programming
Current input with Flexi Set	Input ranges I <sub>I</sub> L1 or A, L2 or B, L3 or C, N:	15 A / 150 A / 1500 A / 3000 A ac
	Measuring range:	0.75 A ... 3000 A ac
	Insic uncertainty:	< 2 % of I <sub>I</sub>
	Position influence:	Max. ± 2 % of measured value – for distance conductor to meas. head > 30 mm
	Stray field influence:	< ± 2 A ac for I <sub>ext</sub> =500 A ac and distance to measuring head > 200 mm
	Temperature coefficient:	< 0.05 % / K
	Current transformer:	Ratio ≤ 999 kA / I <sub>I</sub>
	Ratio selection:	By job programming
	Connection:	3-phase, 3-phase +N, 2 phase L1 or A and L3 or C (2 W-meter-method) 7 pole connector
Current input for clamp	Input ranges I <sub>I</sub> L1 or A, L2 or B, L3 or C, N:	0.5 V nominal (for I <sub>I</sub> ) 1.4 V <sub>peak</sub>
	Insic uncertainty:	< 0.3 % of I <sub>I</sub>
	Max. overload:	10 V ac
	Input resistance:	App. 8.2 kΩ
	Current transformer:	Ratio Ω 999 kA / I <sub>I</sub>
Power systems	Delta, 2-Element Delta, Wye, Single Phase, Split Single Phase	

## Logger

Power supply	Functional Range:	88 V to 660 V absolute, 50 Hz / 60 Hz 100 V to 350 V dc Inteal fuse: 630 mA T
	Power consumption:	5 Was
	Ride through:	Fluke 1745: Inteal baery for typ. > 5 hours ride through with intelligent power management Fluke 1743/44: 3 sec Capacitor
	Fuse:	Power supply fuse can be replaced in service facility only. Supply can be connected in parallel to measuring inputs (up to 660 V)
Display, indicators	LEDs for status and voltage levels Fluke 1745: LC-display with backlight for voltage, current, active power, phase sequence.	
Memory		Capacity 8 MB Flash-EEPROM
	Intervals:	A function > 12000 intervals for > 85 days with 10 min intervals P function > 30000 intervals for > 212 days with 10 min intervals
	Events:	> 13000
	Memory model:	linear, circular
Interface	RS 232, 9600...115 000 Baud, automatic Baud rate selection, 3-wire communication	
Dimensions	Fluke 1745:	282 mm x 216 mm x 74 mm (115in x 88in x 33in)
	Fluke 1743/1744:	170 mm x 125 mm x 55 mm (69in x 51in x 22in)
Weight	Fluke 1745:	approx. 3 kg
	Fluke 1744/1743:	approx. 2 kg
Measurement	A/D converter:	16 bit, sample rate: 10.24 kHz
	Anti-aliasing filter:	FIR-Filter, $f_c = 4.9$ kHz
	Frequency response:	Uncertainty < 1 % of $V_m$ for 40 Hz to 2500 Hz
	Interval length:	1, 3, 5, 10, 30 s, 1, 5, 10, 15, 60 minutes
	Averaging time for Min/max values:	$\frac{1}{2}$ , 1 mains period, 200 ms, 1, 3, 5 s
	Time base:	Resolution: 10 ms (at 50 Hz), deviation: 2s/day at 23 °C; 74 °F $\pm$ 2 K

## モデル



### Fluke 1743

Power Quality Logger Memobox

Power Quality Logger Memobox

すべてのモデルに同梱:

- 4つのフレキシブル・プローブ (15/150/1500/3000 A、2 m のケーブル付き)
- PQ Log ソフトウェアの入った CD-ROM
- RS232 インターフェース・ケーブルと RS232-USB アダプター
- 電圧および電源のテスト・リード
- 4つの黒いドルフィン・クリップ
- カラー・ローライゼーション・キット
- キャリング・バッグ
- テスト成績証明書 (測定値あり)
- マニュアル (印刷版、英語)
- CD マニュアル (多言語対応)

### Fluke 1743 Basic

Power Quality Logger Memobox

Power Quality Logger Memobox

除く: 電流クランプ FS17xx

### Fluke 1744 Basic

Power Quality Logger Memobox

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Power Quality Logger Memobox

除く:電流クランプ FS17xx

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## Fluke 1745

Power Quality Logger Memobox

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Includes:

- Power Quality Logger Memobox
  - 4 Flexible probes 15/150/1500/3000 A with 2 m cable
  - CD-ROM with PQ Log software
  - RS232 interface cable and RS232-USB adapter
  - Test leads for voltages and power supply
  - 4 black dolphin clips
  - Color localization kit
  - Carrying bag
  - Test certificate with measurement values
  - Printed English manual
  - Multi-language manual CD
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## Fluke 1745 Basic

Fluke 1745 Basic Power Quality Logger

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Includes:

- Power Quality Logger Memobox
  - CD-ROM with PQ Log software
  - RS232 interface cable and RS232-USB adapter
  - Test leads for voltages and power supply
  - 4 black dolphin clips
  - Color localization kit
  - Carrying bag
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## Fluke. 動き続ける世界を支える

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