

RF FieldMeters

RFPrange

For accurate measurements of environmental RF conditions.

- Compact battery powered hand held meter.
- Accurate readings from 0.2 to 500V/m
- Coverage from 50KHz to 18GHz.
- Isotropic probe
- Compact and cost effective.
- Wide range of accessories.

Comprehensive A wide range of meters and probes cover a range of applications from Mobile to Fixed, environmental to laboratory testing.

Connectivity The FieldMeters include output sockets for connection to data loggers or monitoring equipment. Options include fibre optic and RS232 interfaces, with PC software supplied.

Certification The FieldMeters are supplied with manufacturers calibration certificate. Optionally, each meter can be supplied with a NIST traceable calibration covering accuracy and isotropicity. These meters have also been certified by NPL (UK).

Compact and Convenient battery powered, and with sturdy carry case, these meters are perfect for use in the field.

APPLICATIONS

- Ä Regulatory RF Field surveys
 - Lightweight design.
 - Ease of use.
 - FM, TV, GSM, Microwave ovens.. etc
- Ä RF Safety and health monitoring
 - Check field levels against ICNIRP recommendations
- Ä EM field monitoring for immunity testing
 - Serial output and fibre optic interface options for remote monitoring.
 - Tripod for fixed mounting.
 - 800V/m version for military and automo-

LAPLACE INSTRUMENTS LTD



RF FieldMeters - the range.....

Model	Frequency Range (MHz uos)	Field Strength (Note. Exact upper limit specified for each unit)	Time Constant	Notes
RFP-04CE PI-01 (Kit 1)	0.2 - 3000	0.2 - 500V/m	50ms, 2s, 14s	Standard kit. Includes hard case, tripod, cal cert, output lead
RFP-04HF PI-02 (Kit 2)	1MHz - 12.5GHz	0.5 - 800V/m	50ms, 2s, 14s	Standard kit. Includes hard case, tripod, cal cert, output lead
RFP-04HF PI-03 (Kit 3)	1MHz - 18GHz	0.5 - 800V/m	50ms, 2s, 14s	Standard kit. Includes hard case, tripod, cal cert, output lead
RFP-04V PI-01/800-1900 (Kit 4)	800 - 1900	0.2 - 400V/m	50ms, 2s, 14s	Selective frequency range
RFP-04LF PI-01LF	0.05 - 3000	0.4 - 500V/m	50ms, 2s, 14s	Low frequency model. Includes items as above
RFP-04UL PI-01UL	0.2 - 3000	1 - 800V/m	50ms, 2s, 14s	Extended UL range. Includes items as above
RFP-04F PI-01F	0.2 - 3000	0.2 - 500V/m	5ms, 2s, 14s	Faster response time for pulsed signals. Includes items as above
X-CAL	0.2, 1, 10, 100, 1000, 1900, 2400, 3000			Extended calibration. Correction factors plus isotropicity plot at 100 and 1900MHz.
FC-01	30—2800		Min pulse duration: 250usec	Frequency counter. Displays frequency of pulsed RF signals
FG-01 Field Gauge				Verifies the readings on any Fieldmeter probe



Field Gauge for RF Fieldmeters

Instant verification of meter integrity!

⇒ The Field Gauge provides a quick and effective means of checking that the Fieldmeter is working correctly.

- ⇒ It checks the meter, the probe and the interconnecting cable. This is therefore a complete end-to-end check in just a few seconds.
- ⇒ It can even be used out in the field for absolute confidence that your site measurements have maximum integrity.
- ⇒ The Field Gauge is compatible with all Fieldmeter probes.



To use, simply switch on, insert the probe until the internal switch detects its presence and check that the reading on the display is within the specified limits. The Field Gauge is designed to be used as a indication of Fieldmeter operation, rather than a calibration tool. However, if the FG is ordered at the same time as the Fieldmeter, the pair will be supplied as a matched set, thus providing an accurate calibration check on subsequent use.



Frequency Counter FC-01

Measure the frequency of cw and pulsed GSM and cell phone signals with pulse lengths as short as 250usec.

Frequency range is 30MHz to 2.8GHz, thus covering all the current standard communications frequencies.

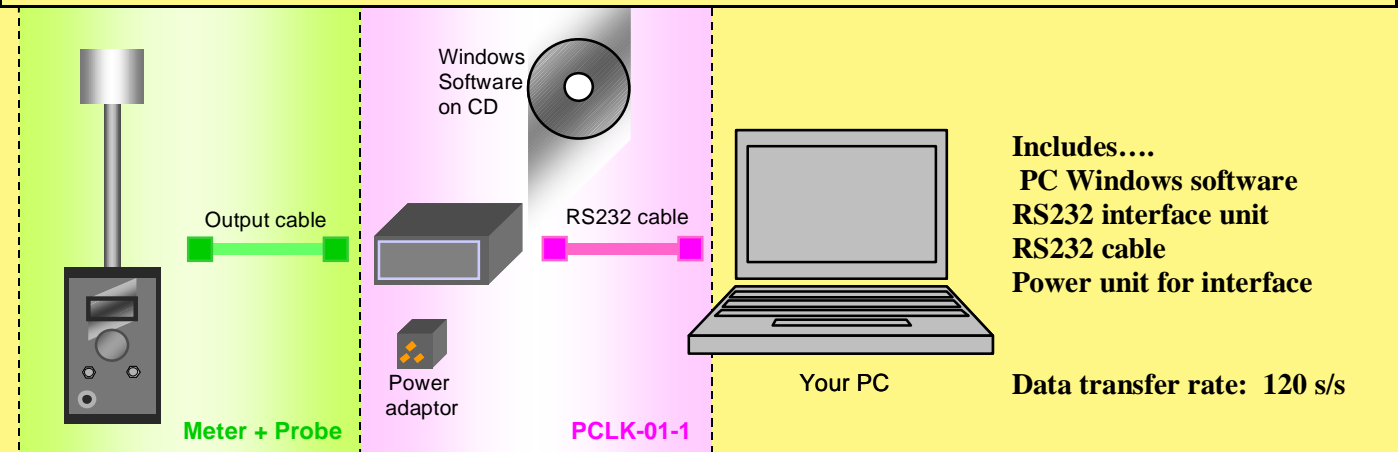
Unit is self contained, battery powered and light weight, ideal for field use.

In operation, the FC responds to the dominant signal in the environment. This will generally correspond to the signal that would be creating the reading on the FieldMeter.

FC-01 photo

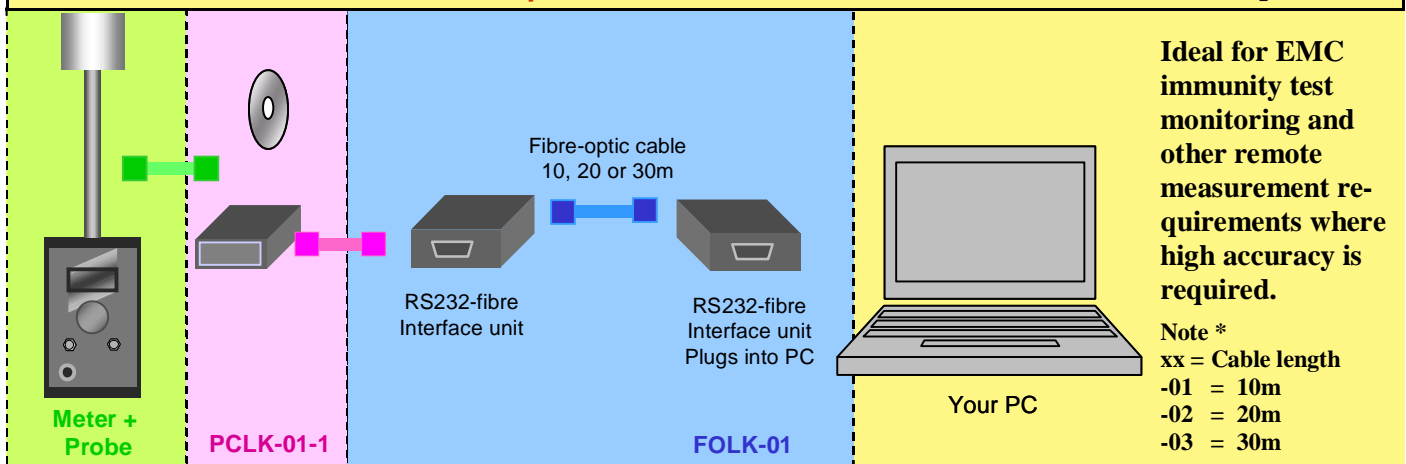
FieldMeters - the output options.....

PCLK-01-1 Low cost link to PC via RS232 interface.



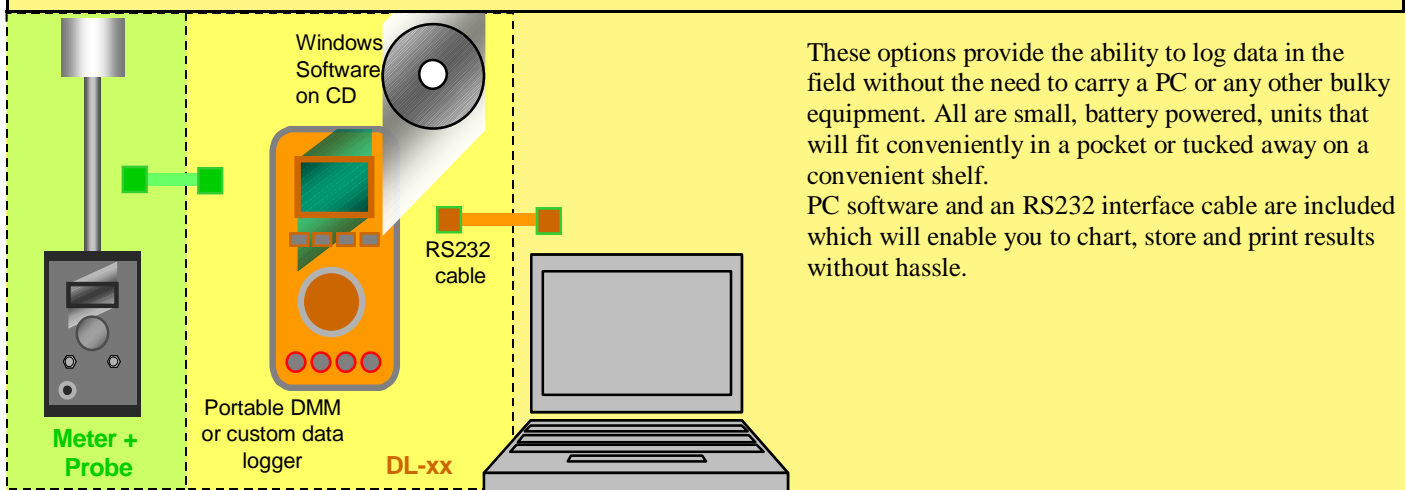
FOLK-01-xx* Professional fibre-optic data link.

Needs PCLK option



DL-xx Portable Data Logging

Record your measurements for later transfer to PC



Model	Type	Sample rate	No. of samples	Notes
DL-01	DMM	0.05s to 12 hours	43K	Standard DMM features with memory and 1sample/s real time data streaming to PC.
DL-02	DMM	1s/s	33	Standard DMM features with manual sampling trigger and 1s/s real time data streaming to PC.
DL-03	Logger	0.88s/s max. (see notes)	8K	Automatically self adjusting sample rate for optimum memory utilisation. Also real time 1s/s data streaming to PC
DL-04	Logger	As above	32K	As above

FieldMeters - Specifications

Dynamic range	0.2—500V/m
Sensitivity ranges	2, 20, 200, 500V/m
Resolution (at range)	0.01V/m (2 and 20V/m) 0.1V/m (200V/m) 1V/m (500V/m)
Frequency range	0.2MHz—3GHz
Directivity	Omni directional (Isotropic)
Accuracy	±0.5dB (at reference levels)
Linearity deviation	±1.5dB (any range 10-150% of full scale)
Frequency response	±1dB (2MHz—2GHz) -3dB at 0.2MHz -2.5dB at 3GHz
Isotropicity	±0.5dB (2MHz—2.8GHz)
Operating Modes	Average, Pulse and Peak
Measurement	RMS (all modes)
Readings - Average	RMS, averaged over T_{av}
- Pulse	0.707 x instant value avergd over T_p
- Peak	0.707 x Peak value averaged over T_s
Time constants - Ave.	$T_{av} = 2\text{sec}$
- Pulse	$T_p = 100\text{ms}$
- Peak	$T_s = 50\text{ms}$ (Hold time (T_h) = 14sec)
Auto Zero	Automatic and/or user activated. Operates at all RF field levels.
Display	3.5 digits LCD with over-range feature.
Calibration	Each unit calibrated for absolute level and linearity at test frequencies. Calibration cert issued with each unit.
Remote monitor	1.8m cable supplied.
PC Data Streaming	120s/s via RS232 interface (PCLK)
Data Logging	Via external option (DL-xx) to PC
Power	Internal battery. (9v type PP3)
Battery life	100 hours (using supplied type) Battery low indicator feature.
Tripod	Compact, non-metallic. ¼ x 20 fitting
Operating temperature	5 - 40°C, RH 10%-90% non condensing.
Temperature error	<0.08dB/°C (range 2V/m) <0.05dB/°C (all other ranges)
Construction—meter	Rugged, all metal, screened case. Non-metallic post. Can be used remote from meter by using SMA cable
Physical	Size: 130 x 80 x 30 (mm) Probe: 230 x 80dia (mm) Weight: Meter 225g, probe 100g

Note: Values will vary according to Model Specification.
Those shown are for RFP-04CE + PI-01



Accessories supplied as standard with each RFP kit:

- Hard carry case
- Battery
- PI-xx probe with probe cable
- Remote output cable
- Tripod
- Probe clip
- User guide

Spares and utilities

Code	Description	Note
FM-PX	Cable, meter—probe	Included with standard kit
FM-RX	Cable, remote monitor output	
FM-Tri	Miniature tripod	
SF-01	Software driver for TILE EMC package	Available on request
FG-01	Field Gauge. Checks operation of FieldMeter	If ordered with probe, acts as calibration check

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