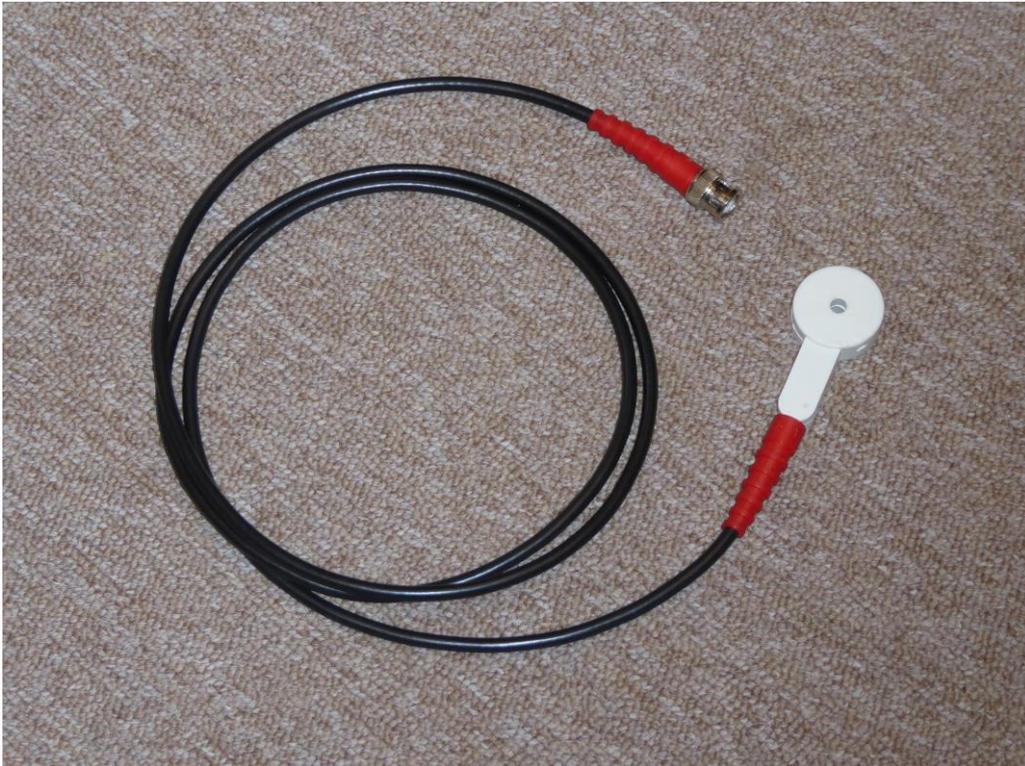


Radio Frequency Current Transducers
Small Aperture (5mm) Core Type
Type FE/R/5/1 (mk 1 & mk 3) and Type FE/R/5/10 (mk2)

A range of small aperture, low cost, radio frequency current transducers has been developed for measuring rf current pulses and cw currents. The transducers have been designed to be used for feeding 50Ω input instrumentation or for building into other instrument systems. They can be used for fixed installation or as a portable probe for instruments such as oscilloscopes. Applications in the HV testing field for discharge testing include, isolated interfaces for capacitance couplers, matching units for blocking capacitors for discharge testing. It can also be used for EMC testing of the interference produced in the mains supply from equipment under test..

Several version are available giving different sensitivities, 1V/A and 10V/A and different bandwidth specifications. The latest transducer type FE/R/5/1 mk3 has better upper frequency and flatness of response in the pass band better than the mk1 and the values quoted are at the limits of the test equipment available at the development laboratory.



Small Aperture Radio Frequency Current Transducer

Exon Electrical Engineering Consultancy
40 Masham Close
Harrogate HG2 8QG
Tel and Fax 01423 887885

Specification **FE/R/(diameter mm)/(sensitivity V/A)**

<i>Primary Parameters</i>	FE/R/5/1 mk1	FE/R/5/1 mk3	FE/R/5/10 mk2
Nominal Sensitivity	1mV/mA	1mV/mA	10mV/mA
Terminating Impedance	50Ω	50Ω	50Ω
Low frequency limit	2.5 kHz	22 kHz	100 kHz
High frequency limit	150MHz	>200MHz	150MHz

<i>Other Parameters</i>			
Droop rate	0.06mS	0.007mS	0.0016mS
Rise time (10%-90%)	3nS	<3nS	3nS
Insertion Impedance	0.04Ω	0.4Ω	2Ω
Transfer Impedance	1Ω	1Ω	10Ω
Insulation resistance	>10,000MΩ 5kV for 1min	>10,000MΩ 5kV for 1min	>10,000MΩ 5kV for 1min
Max. continuous rf current (thermal limit)	5 A rms	1.2A rms	0.5 A rms
Total pulse current of one polarity	430 A.μS (430 x 10 ⁶ pC)	48 A.μS (48 x 10 ⁶ pC)	8.6 A.μS (8.6 x 10 ⁶ pC)

<i>Performance in the presence of mains currents</i>			
Rejection of 50Hz current	34 db	53 db	68db
Max. lf current for linear operation	5.5A rms	5.5A rms	5.5 A rms

Physical Dimensions

Aperture	5mm
Outer Diameter	30mm
Thickness	12mm
Cable length	1200mm
Weight (with cable)	0.1kg

