



OPERATING INSTRUCTIONS

FOR

ALLEN WEST "SPIKETECTOR"*

1. GENERAL

This instrument will detect and record the occurrence of transient voltage peaks (SPIKES) which are positive going with respect to the negative terminal and are greater than the product of the dial setting and the range constant.

If the switch is set to "SINGLE" the lamp will light for a single spike and remain on until manually reset.

With the switch set to "COUNT" the "SPIKETECTOR"* will count individual spikes.

2. SETTING UP

Adjust the "SET ZERO" control at the commencement of each series of tests, as follows:

- (a) Insert test leads into sockets marked "NEGATIVE" and "50 VOLTS" and join crocodile clips together.
- (b) Turn calibration dial to 0.0
- (c) Turn switch to "COUNT."
- (d) Turn "ZERO CONTROL" fully clockwise.
- (e) Turn "ZERO CONTROL" slowly anti-clockwise until repetitive counting occurs.
- (f) Turn "ZERO CONTROL" clockwise until counting just ceases.

3. USING THE SPIKETECTOR*

The instrument should be earthed during use, a terminal being provided.

The SPIKETECTOR* detects only voltages which are positive going with respect to the NEGATIVE terminal. It is essential therefore, to reverse the test leads and check for spikes of either polarity before proceeding to a lower range, because the maximum voltage specified for a range must not be exceeded by either positive or negative spikes.

To measure a spike:

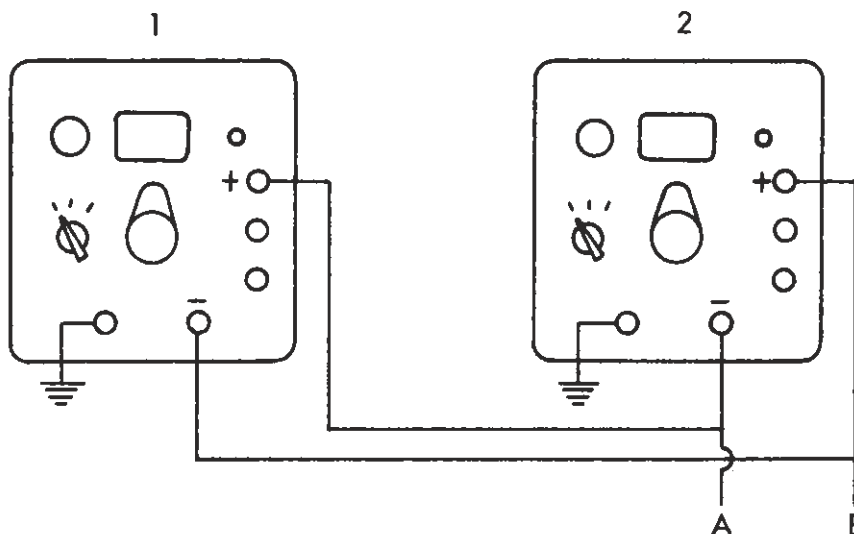
- (a) Select input socket for maximum anticipated spike (if in doubt use 5KV socket).
- (b) Turn dial to 5.0
- (c) Switch ON and press reset button.
- (d) Turn dial back until instrument just registers.
- (e) Reverse test leads and repeat measurement.
- (f) Turn to lower range if spikes of either polarity do not exceed the maximum rating.

The "SPIKETECTOR"* may also be used to detect spikes which are greater than a specified maximum:

- (a) Select 5KV input socket.
- (b) Set dial to give the specified voltage.
- (c) Switch to COUNT, and press reset button.

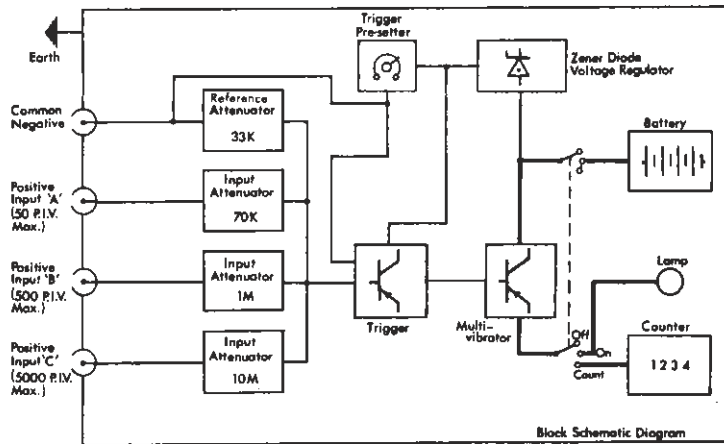
4. DUAL OPERATION

To enable positive and negative going spikes to be recorded together it is necessary to use two "SPIKETECTORS"* connected as shown:



With the above arrangement instrument 1 will detect a positive spike on 'A' with respect to 'B' and instrument 2 will detect a negative spike on 'A' with respect to 'B'.

5. SPECIFICATION



PULSE RESPONSE

MAXIMUM RECORDING RATE 8 counts per second.

MINIMUM "OFF" TIME BETWEEN PULSES 50 milli-seconds.

MINIMUM PULSE DURATION 1 micro-second.

If the maximum recording rate is exceeded a count of one is registered for each chain of pulses.

RANGE	MAXIMUM TRANSIENT VOLTAGE	MAXIMUM CONTINUOUS D.C. VOLTAGE	INPUT RESISTANCE	INPUT CAPACITANCE
5KV	5000	1600	10 Megohms	10 pF
500V	500	500	1 Megohm	70 pF
50V	50	50	100 Kilohms	700 pF

ACCURACY

± 5% on all ranges, down to 10% of range value.

When measuring spikes, leads should be twisted together for maximum accuracy.

CALIBRATION

This instrument is accurately calibrated and should not be adjusted. In the event of a fault occurring the instrument should be returned to ALLEN WEST & CO. LTD., BRIGHTON 7, SUSSEX.

NOTE

Calibration checks using pulses are liable to be inaccurate unless a high grade oscilloscope is used and the operator is experienced in this field of measurement.

Separate batteries may be used to check calibration of the lower ranges. If this is done, the test leads should be attached to the battery terminals and not tapped on them, since tapping gives rise to transients which are greater than the battery potential.

BATTERIES

3 EVER READY type "PP7" or equivalent.

LAMP

HIVAC 24V 1.3W M.E.S. LAMP No. 24S5

A.W. PART No. D3349.

BATTERY REPLACEMENT

Batteries should be replaced when output falls to 22V. on "Circuit energised" load. To measure battery volts:

- (a) Disconnect test leads from external equipment.
- (b) Remove battery cover at rear of instrument.
- (c) Turn dial to 5.0
- (d) Switch to COUNT.
- (e) Measure battery volts.
- (f) Switch OFF.

To change batteries disconnect supply leads, withdraw battery box from rear of "SPIKETECTOR"* case and replace.

NOTE

Battery life under normal operating conditions should be in the order of 80 hours. The lamp should not be left on longer than necessary as this will reduce battery life.

Switch instrument "OFF" when not in use.

"SPIKETECTOR"* is a Registered Trade Mark of ALLEN WEST & CO. LTD.