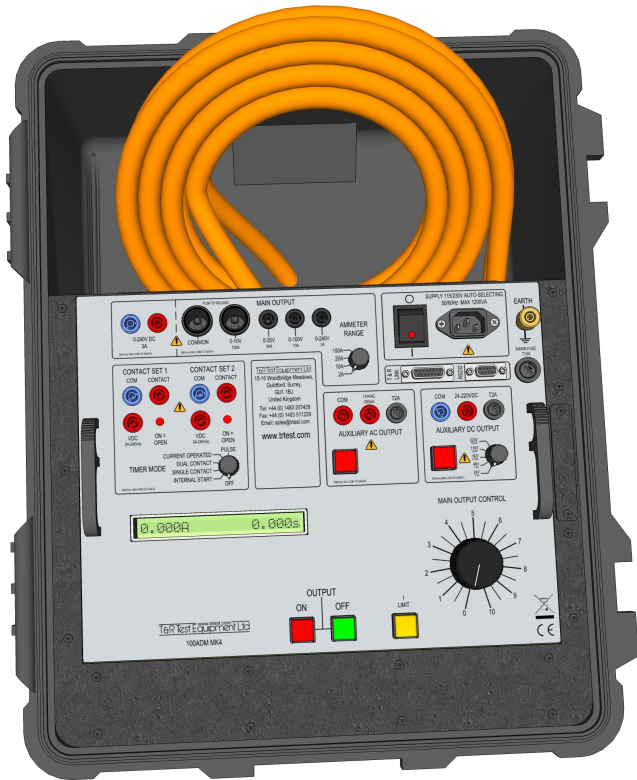


100ADM Current Injection System mk4



Features

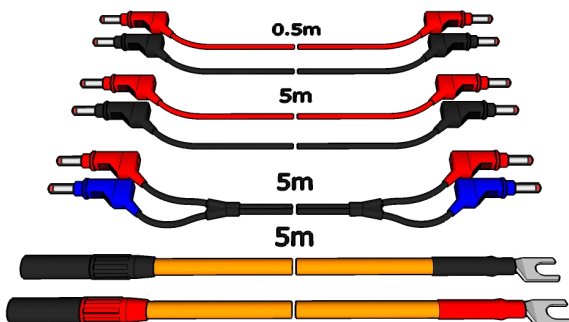
- Clear and simple user interface
- 0-100A output current
- Current limit mode for fine current control
- True RMS metering with single cycle capture memory ammeter
- Multi-function auto-ranging timing system
- Auxiliary DC and AC output
- Large back-lit liquid crystal display
- Thermal and over-current protection
- Compact and portable
- Automatic mains voltage selection

The 100ADM mk4 provides commissioning and maintenance engineers with a flexible system for testing protective systems. It has an easy to understand panel layout and a simple user interface. The status of every function can be seen at a glance, and there are no complex menus to navigate.

The 100ADM mk4 keeps the familiar user interface of previous models but adds a new metering system that accurately measures the RMS of a single cycle. It also features a new current limit mode to provide very fine control of low currents, even into low impedance loads. Current limit mode also assists in testing self-powered overcurrent protection as fitted to many 11kV ring main units.

The back-lit display on the 100ADM mk4 is bright and clear with a wide viewing angle. The results of a test can be seen here as they appear on the display.

A 24-220VDC switch-mode stabilised DC supply with current limiting is provided to power the relay under test. An isolated, separately switched 110VAC auxiliary supply is also provided.



The unit has a range of outputs allowing injection of currents as low as a few mA and as high as 100A. Voltages up to 240V are available allowing high impedance current relays and voltage relays to be tested. Four true RMS metering ranges are provided, and the full scale of the meter (and trip level) can be set independently of output tap. Industry standard safety connectors are used on all inputs and outputs for convenience, reliability and safety.

A very flexible two channel timing system is provided, allowing trip times, reset times and reclose times to be quickly measured to a high degree of accuracy. The timer auto-ranges to measure from 1ms to 99999.9s.



The outputs of the 100ADM mk4 are well protected. The main output is protected by overcurrent, duty cycle and thermal trips. The auxiliary DC supply is protected by a current limit, and the auxiliary AC supply is fuse protected.

100ADM mk4 Applications

IEEE no.	Type	IEEE no.	Type
27/59	Under/over voltage	79	Auto recloser
37	Undercurrent	86	Lockout relay
50/76	Instantaneous overcurrent	94	Tripping relay
	Ground fault relay	90V	Voltage regulating relay
51	IDMT overcurrent relay		Miniature circuit breakers
59G	Neutral voltage displacement		Circuit breakers for equipment
67	Directional overcurrent (basic tests)		Thermal relays

100ADM mk4 Specification

Main Output

The main output on the unit has four taps, allowing the selection of output voltages up to 240V and output currents up to 100A.

Range	Current			Output @230V	
	Cont	5 min*	1 min*	O/C	Load V
10V	33A	67A	100A	10.5V	8.7V@100A
35V	10A	20A	30A	36V	32V@30A
100V	3A	6A	10A	108V	99V@10A
240V	1A	2A	3A	276V	259V@3A
240Vdc	1A	2A	3A		

*Off time of 15 minutes. On times based on an ambient temperature of 25°C.

I Limit Mode

The main output has a current limit mode that gives very fine control of output currents up to 10A. It also allows fine current control into very low impedance loads such as digital relays.

Range	Current (A)				Output V @230V	
	Short circuit	Cont.	5 min	2 min	O/C	Load V
10V	10A	3A	6A	10A	8.6V	5V@5A
35V	3A	1A	2A	3A	29V	13V@2A
100V	1A	0.3A	0.6A	1A	88V	40V@0.6A
240V	0.3A	0.1A	0.2A	0.3A	224V	130V@0.2A

Auxiliary AC and DC Outputs

A switched, isolated auxiliary DC supply with current limit protection is available to power the relay under test, and a 110VAC auxiliary output is available for tests.

DC stabilised output	24V, 48V, 60V	1.0A
	110V, 220V	0.23A
Fixed AC output	110VAC	300mA

Metering

The output is metered by a digital true RMS system with a single cycle capture memory ammeter—whenever the timer stops and the output is switched off, the reading is held on the display. A current trip is set to 110% of full scale of the selected metering range.

Range	Resolution	Trip current	Accuracy	Acquisition time
2.000A	0.001A	2.2A	±0.5%rdg±5d	20ms
10.00A	0.01A	11A	±0.5%rdg±5d	20ms
20.00A	0.01A	22A	±0.5%rdg±5d	20ms
100.0A	0.1A	110A	±0.5%rdg±5d	20ms

Supply Requirements

115/230V±10% auto-selecting 50/60Hz 1ph 1200VA max

Timing System

Range	0-999.999s/9999.99s/99999.9s autoranging
Resolution	1/10/100ms
Accuracy	0.01%rdg+2d (+4d current operated mode)
Contact o/c	24V
Contact s/c	20mA
Vdc	24–240V

Each contact circuit will auto-select for normally open or normally closed contacts. A DC voltage of 24–240VDC may also be used to trigger either timer channel. Contact state is shown by an LED. The output automatically switches off at the end of the test to safeguard the relay under test.

Mode	Timer Start	Timer Stop
Internal start	Press 'ON'	C1 or C2 change
1 contact	C1 1st change	C1 2nd change
2 contacts	C1 change	C2 change
Current operated	Current > 10% of metering range	Current < 10% of metering range
Pulse	Press 'ON'	200ms

Pulse mode is used for setting the current level in devices sensitive to heating. Current is injected for 200ms.

RS232 and T&R Link

An RS232 port is provided to allow connection to a PC or a printer. The T&R Link output allows a T&R DVS3 mk2 voltage source to phase lock to the 100ADM mk4 current.

Protection and Safety

The unit is designed to comply with BSEN61010 and is CE marked. An earth terminal is provided for connection to a local earth for testing in sub-station environments.

Dimensions	Weight
560 x 456 x 265mm	23.9kg

Temperature Range

Storage	-20°C to 60°C	Operating	0°C to 45°C
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Lead Set specifications

The 100ADM mk4 is supplied with a lead set consisting of:
 2 x 5m 25mm² 100A leads terminated in M10 ring crimps
 2 x 5m, 2 x 0.5m 2.5mm² 25A leads terminated in 4mm plugs
 1 x 5m 2 core 0.75mm² lead terminated in 4mm plugs

Accessories

Operating manual, output lead set, mains lead and spare fuses.

Optional Accessories

100ADM-F Filter unit, RB10 resistor box, Printer, pushbutton lead for runback timing on disc induction relays.