

ALVA MFT

The Future of Electrical Testing

The Di-LOG ALVA MFT is a high-performance multifunction tester designed to meet the real-world demands of UK electricians conducting installation testing in accordance with the IET Wiring Regulations (BS 7671) and BS EN 61557. Ideal for use across domestic, commercial, and industrial sites, this versatile tester supports full 18th Edition electrical verification, from initial installation checks to fault diagnosis and periodic inspection.

It's engineered to streamline workflows for electricians who require accurate Earth Loop Impedance testing, RCD verification, continuity testing, and EVSE charger diagnostics—all while ensuring that safety compliance and test traceability remain front and centre. Whether you're verifying a consumer unit, testing socket circuits, or commissioning an EV charge point, the ALVA MFT gives you the confidence and clarity needed on-site



RCD-LOC+

Xpert Loop Technology

Di-LOG's latest RCD-LOC+ Xpert Loop Technology, introduces a new more dynamic way of Non-Trip Loop Testing. The latest technology delivers high-accuracy low-current Earth Loop measurements with an adjustable test current feature, optimising test precision based on your RCD current. This ensures reliable loop impedance testing while maintaining maximum safety and accuracy in all environments.



Whats included:

- ALVA MFT Installation Tester
- Hard Shell Carry Case
- Silicone 3-Wire Lead Set (Red, Blue & Green)
- Ultra Slim GS38 Shrouded Test Probes (Red, Blue & Green)
- MFT Mains Lead
- Sholder Harness
- Downlad Lead
- 6 x AA Batteries
- Calibration Certificate
- Quick Start Guide





Key Features

- Full-Colour TFT Display - High-resolution screen with pass/fail thresholds for clearer interpretation of results in bright or low-light environments.
- Comprehensive RCD Testing - Compatible with AC, A, B, B+, EV and F types, supporting all relevant installation scenarios including domestic circuits and EV charge points.
- Continuity & Earth Loop Auto Start - Speeds up routine test procedures and displays results on a secondary screen for immediate validation.
- Intelligent Loop Detection - Automatically recognises 2- or 3-wire Loop/PSCC tests, removing the need for manual configuration.
- Variable RDC Testing - Customisable mA test settings for detailed RCD analysis and troubleshooting.
- EV Charger Testing - Includes 6mA RDC-PD/MD testing to verify EVSE safety protocols, essential for 18th Edition requirements safety verification.
- RCD-LOC+ Loop Impedance Technology - Delivers high-accuracy non-trip loop testing with adjustable current output—critical for safely testing circuits protected by RCDs.
- Inbuilt Fuse Tables - Instantly references permissible Z_s values to ensure installation compliance with disconnection times under fault conditions.
- Rechargeable Option - Supports internal charging when fitted with the optional NiMH battery and charge lead kit—reducing downtime and battery waste.

ALVA MFT Accessories



DLEVLite - Type 2
EVSE Adaptor Plug
for Mode 3 testing



DLEV1 - EVSE
Adaptor Kit for
Type 1 & 2 Mode 3
testing



ALVABAT2
Batteries, MFT Mains Plug &
External Charger



ALVARP
Remote Test Probe for ALVA
MFT

ALVA Series MFT Technical Specification

Voltage		
	ALVA MFT	ALVA MFT Pro
Display Range	0V to 550V	
Measuring Range (TRMS)	0V to 550V	
Resolution	1V	
Voltage Accuracy	+/- 2% +/- 2digits	
Frequency Range	45Hz – 400Hz	
Resolution	0.1Hz	
Frequency Accuracy	+/- 0.2% + 1Hz	

Phase Rotation		
	ALVA MFT	ALVA MFT Pro
Display Range	0V to 550V AC	
Measuring Range	Nominal Mains Voltage - 50V to 550V AC	
Resolution	1V	
Voltage Accuracy	+/- 2% +/- 2digits	
Result Displayed	Rotate Right: 1-2-3 Rotate Left: 3-2-1	
Measurement According To	BS EN 61557-7	

Earth Resistance Re & Ro		
	ALVA MFT	ALVA MFT Pro
Earth Resistance Re (3-wire 4-wire)		
Display Range		0.01Ω to 9999Ω
Measuring Range		0.1Ω to 9999Ω
Resolution		1.00Ω to 19.99Ω 20.0 to 199.9Ω 200.0 to 9999Ω
Accuracy		+/- 5% +/- 5 digits
Max Auxiliary Earth Electrode Resistance Rh		100xRE or 50kΩ (whichever is lower)
Max Probe Resistance Rs		100xRE or 50kΩ (whichever is lower)
Additional Probe Resistance Error (Rhmax or Rsmax)		+/- 10% +/- 10 digits
Additional Error at 3V Noise (50Hz)		+/- 5% +/- 10 digits
Test Voltage		<30 VAC Open Circuit
Short Circuit Current		<30mA
Test Voltage Frequency		126.9 Hz
Earth Resistance Ro (3-wire 4-wire) Wenner Method		
Display Range		0.1 Ωm to 99.9 Ωm

Measurement Range		6.0 Ωm to 99.9 Ωm
Resolution		0.1 Ωm
Accuracy		± (5 % of reading + 5 digits)
Display Range		1 Ωm to 999 Ωm
Measurement Range		100 Ωm to 999 Ωm
Resolution		1 Ωm
Accuracy		± (5 % of reading + 5 digits)
Display Range		0.01 kΩm to 9.99 kΩm
Measurement Range		0.1 kΩm to 9.99 kΩm
Resolution		0.01 kΩm
Accuracy		±(10% of read.)for Re 2kΩ to 19.99kΩ
Display Range		0.1 kΩm to 99.9 kΩm
Measurement Range		10.0 kΩm to 99.9 kΩm
Resolution		0.1 kΩm
Accuracy		±(10% of read.)for Re 2k to 19.99kΩ
Display Range		1 kΩm to 9999 kΩm
Measurement Range		100 kΩm to 9999 kΩm
		1 kΩm
Accuracy		±(20% of read.) for Re > 20 kΩ
General		Principle: $\rho = 2 \cdot \pi \cdot d \cdot R_e$, where R_e is a measured resistance in 4-wire method and d is distance between the probes.
Compliance		BS EN 61557-5 (100Ω - 1999Ω)

Continuity		
	ALVA MFT	ALVA MFT Pro
Low R (200mA)		
Display Range	0.01Ω to 2000Ω	
Measuring Range	0.10Ω to 2000Ω	
Resolution	0.01Ω to 19.99Ω	
Accuracy	+/- 3% +/- 3 digits	
Resolution	20.0Ω to 99.9Ω 100Ω to 1999Ω	
Accuracy	+/- 5%	
Test Voltage	>5Vdc <25Vdc Open Circuit	
Test Current	>200mA into load resistance of 2Ω	
Test Lead Compensation	Up to 5Ω (Factory default to supplied leads when zero is off)	
Maximum tests per charge	Up to 1400 (with 2300mAh battery)	
Low Current (7mA)		
Display Range		0.1Ω to 1999Ω
Measurement Range		0.1Ω to 1999Ω
Resolution		0.01Ω to 99.9Ω 100Ω to 1999Ω
Accuracy		+/- 5% +/- 3 digits
Test Voltage		>5Vdc <25Vdc Open Circuit max 7mA
Compliance	BS EN 61557-4 (0.1Ω - 1999Ω)	

Rmax		
	ALVA MFT	ALVA MFT Pro
Maximum R (Low Ohm Resistance Recording)	No	Yes

Insulation		
	ALVA MFT	ALVA MFT Pro
50V		
Display Range @	0.001MΩ to 80.00MΩ	
Measurement Range	0.1MΩ to 80.00MΩ	
Resolution	0.100MΩ to 1.999MΩ 2.00MΩ to 80.00MΩ	
Accuracy	+/-3% +/-3 digits	
Compliance	BS EN 61557 from 50kΩ to 80MΩ	
100V & 250V		
Display Range	0.001MΩ to 199.9MΩ	
Measurement Range	0.1MΩ to 199.9MΩ	
Resolution	0.100MΩ to 1.999MΩ 2.00MΩ to 99.99MΩ 100.0MΩ to 199.9MΩ	
Accuracy	+/-5% +/-3 digits	
Compliance	BS EN 61557 from 100kΩ to 199.9MΩ	
500V & 1000V		
Display Range	0.001MΩ to 999MΩ	
Measurement Range	0.100MΩ to 199.9MΩ	
Resolution	0.100MΩ to 1.999MΩ 2.00MΩ to 99.99MΩ 100.0MΩ to 199.9MΩ	
Accuracy	+/-5% +/-3 digits	
Display Range	0.001MΩ to 999MΩ	
Measurement Range	200MΩ to 999MΩ	
	200MΩ to 999MΩ	
Accuracy	+/-10%	
Compliance	BS EN 61557 from 500kΩ to 199.9MΩ	
Alarm Warning	0.01MΩ to 200MΩ Screen & Audible User Selectable	
Test Voltage	50/100/250/500/1000V	
Test Voltage Specification	-0% +20% of Nominal (open circuit)	
Test Current	1mA at $R_n = U_N \times (1000\Omega/V)$	
Maximum Test per Charge	Up to 1000 (with 2300mAh battery)	

No Trip Loop Impedance (Z-Loop L-PE RCD and (Rs) Loop Variable & I_{pfc})		
	ALVA MFT	ALVA MFT Pro
No-Trip Earth Loop		
Supply voltage	93V to 134V & 185V to 266V @ (45Hz – 65Hz)	
Display Range	0.01Ω to 19.99Ω	
Measuring Range	0.4 to 19.99Ω	

Resolution	0.40 to 19.99Ω
Accuracy	+/-5% +/-10 digits (*)
Display Range	0.1Ω to 9999Ω
Measuring Range	20.0Ω to 9999Ω
Resolution	20.0Ω to 99.9Ω 100Ω to 9999Ω
Accuracy	+/-10% (*)
General	*Accuracy may be impaired by the influence of heavy noise on supply
Compliance	BS EN 61557 from 0.75Ω to 1999Ω
Non-Trip Perspective Fault Current (I_{pfc})	
Display Range	0.01A to 100.0kA
Measurement Range	0.00A to 19.99A
Resolution	0.01A
Measurement Range	20.0A to 99.9A
Resolution	0.1A
Measurement Range	100A to 999A
Resolution	1A
Measurement Range	1.00kA to 9.99kA
Resolution	10A (0.01kA)
Measurement Range	10.0kA to 100.0kA
Resolution	100A (0.1kA)
General	Calculated value (please consider accuracy of Earth Loop measurement)

Loop Impedance – High Current (Z-Loop L-PE & I_{pfc})		
	ALVA MFT	ALVA MFT Pro
Loop Impedance - High		
Supply voltage	93V to 134V 185V to 266V @ (45Hz – 65Hz)	
Display Range	0.01Ω to 9999Ω	
Measuring Range	0.20 to 9999Ω	
Resolution	0.20 to 19.99Ω 20.0 to 99.9Ω 100 to 9999Ω	
Accuracy	+/-5% +/-5 digits	
Compliance	BS EN 61557-3 from 0.25Ω to 1999Ω	
Perspective Fault Current (I_{pfc})		
Display Range	0.01A to 100.0kA	
Measurement Range	0.00A to 19.99A	
Resolution	0.01A	
Measurement Range	20.0A to 99.9A	
Resolution	0.1A	
Measurement Range	100A to 999A	
Resolution	1A	
Measurement Range	1.00kA to 9.99kA	
Resolution	10A (0.01kA)	
Measurement Range	10.0kA to 100.0kA	
Resolution	100A (0.1kA)	
General	Calculated value (please consider accuracy of the Line measurement)	
Test Current	3.4A @ 50Hz Sine wave ($10\text{ms} \leq t_{LOAD} \leq 15\text{ms}$)	

Line Impedance (Z-Line L-L L-N & I _{psc})		
	ALVA MFT	ALVA MFT Pro
Line Impedance		
Supply voltage	93V to 134V 185V to 266V 321V to 485V @ (45Hz – 65Hz)	
Display Range	0.01Ω to 9999Ω	
Measuring Range	0.2 to 9999Ω	
Resolution	0.20 to 19.99Ω 20.0 to 99.9Ω 100 to 9999Ω	
Accuracy	+/-5% +/-5 digits	
Compliance	BS EN 61557-3 from 0.25Ω to 1999Ω	
Perspective Short Circuit Current (I _{psc})		
Display Range	0.01A to 100.0kA	
Measurement Range	0.00A to 19.99A	
Resolution	0.01A	
Measurement Range	20.0A to 99.9A	
Resolution	0.1A	
Measurement Range	100A to 999A	
Resolution	1A	
Measurement Range	1.00kA to 9.99kA	
Resolution	10A (0.01kA)	
Measurement Range	10.0kA to 100.0kA	
Resolution	100A (0.1kA)	
Test Current	3.4A @ 50Hz Sine wave ($10\text{ms} \leq t_{\text{LOAD}} \leq 15\text{ms}$)	
Voltage Drop		
Display Range	0.0% to 9.9%	
Measurement Range	0.0% to 9.9%	
Resolution	0.1%	
General	Calculated value (please consider accuracy of Line measurement)	

Zmax		
	ALVA MFT	ALVA MFT Pro
Maximum Z (Maximum Recorded Z-Loop Z-Line)	No	Yes

Imax		
	ALVA MFT	ALVA MFT Pro
Maximum I (Maximum Recorded PSC)	No	Yes

RCD Testing General Specification		
	ALVA MFT	*ALVA MFT Pro
RCD Type	AC A (pulsed) F (high frequency) B (DC) B+ EV (EVSE) - General (G) & Selective (S)	
Nominal Test Current	6mA 10mA 30mA 100mA 300mA 500mA Variable Mode	6mA 10mA 30mA 100mA 300mA 500mA 600mA 1kA Variable Mode
Nominal Current Factor	½ 1 2 5 IΔn	

Test Current Polarity				0° or 180°												
General				Not all factors are available for certain RCD types, see table below												
		½xIΔN			1xIΔN			2xIΔN			5xIΔN			RCD IΔ		
IΔN (mA)	AC	A	B	AC	A	B	AC	A	B	AC	A	B	AC	A	B	
6	3	2,1	3	6	12	12	12	24	24	30	60	60	✓	✓	✓	
10	5	3,5	5	10	20	20	20	40	40	50	100	100	✓	✓	✓	
30	15	10,5	15	30	42	60	60	84	120	150	212	300	✓	✓	✓	
100	50	35	50	100	141	200	200	282	400	500	707	1000	✓	✓	✓	
300	150	105	150	300	424	600	600	848	na	1500	na	na	✓	✓	✓	
500	250	175	250	500	707	1000	1000	1410	na	2500	na	na	✓	✓	✓	
*650	325	228	325	650	919	1300	1300	na	na	na	na	na	✓	✓	✓	
*1000	500	350	500	1000	1410	na	2000	na	na	na	na	na	✓	✓	✓	
Nominal Current Accuracy				-0 / +0.1·IΔ; IΔ = IΔN 2×IΔN, 5×IΔN -0.1·IΔ / +0; IΔ = ½×IΔN												
Variable RCD Test				1mA – 500mA						1mA – 1000mA						
Test Current Accuracy				-0% +10% at IΔn and 5IΔn -0% +10% at ½ IΔn												
Trip Time Ranges				0 to 2000ms ½ IΔn 0ms - 300ms IΔn general 0ms - 500ms IΔn selective 0 to 40ms 5 IΔn												
Trip Time Accuracy				+/- 5% +/- 2 digits												
Nominal Test Current				10mA/30mA/100mA (½ , 1, 5 IΔn) 300mA/500mA (½, 1 IΔn)												
Compliance				IEC61557-1, IEC61557-6												

RCD Trip Time Test		
	ALVA MFT	*ALVA MFT Pro
Supply Voltages	93 to 134V 185-266V, 45Hz – 65Hz	
Display Range	0.1ms to 500.0ms	
Measurement Range	0.0ms to 500ms	
Resolution	0.1ms	
Accuracy	±3 ms	
Compliance	BS EN 61557-6	

RCD Trip Current (Ramp Test)		
	ALVA MFT	*ALVA MFT Pro
Supply Voltages	93 to 134V 185-266V, 45Hz – 65Hz	
Display Range	0.05mA to 1100mA	
Measurement Range	$0.2 \times I_{\Delta N} \div 1.1 \times I_{\Delta N}$ (AC type) $0.2 \times I_{\Delta N} \div 1.5 \times I_{\Delta N}$ (A type, $I_{\Delta N} \geq 30$ mA) $0.2 \times I_{\Delta N} \div 2.2 \times I_{\Delta N}$ (A type, $I_{\Delta N} = 10$ mA) $0.2 \times I_{\Delta N} \div 2.2 \times I_{\Delta N}$ (B type)	
Resolution	$0.05 \times I_{\Delta N}$	
Ramp Test Tripping Time	0 to 300ms	
Resolution	1ms	
Accuracy	±0.1· $I_{\Delta N}$	
Compliance	BS EN 61557-6 for $I_{\Delta N} \geq 10$ mA	

Contact Voltage		
	ALVA MFT	*ALVA MFT Pro
Supply Voltages	93 to 134V 185-266V, 45Hz – 65Hz	
Display Range	0.1V to 99.9V	
Measurement Range	3.0V to 9.9V 10.0 to 99.9V	
Resolution	0.1V	
Contact Voltage Limit	20V 50V	
Test Current	0.5xI _{ΔN}	
Accuracy	(-0%/+10%) of reading + 5 dgts	
Compliance	BS EN 61557-6 for 3.0V – 49.0V with a limit of 25V BS EN 61557-6 for 3.0V – 99.0V with a limit of 50V	

RDC-MD/PD Trip Time Test		
	ALVA MFT	ALVA MFT Pro
Supply Voltages	93 to 134V 185-266V, 45Hz – 65Hz	
Nominal Test Current	6mA	
Test Current Accuracy	-0% +10%	
Trip Time Ranges	0 to 10000 I _{Δn}	
Trip Time Accuracy	+/- 5% +/- 2 digits	
Ramp Test Current Range	2mA – 6mA	
Compliance	BS EN 61557-6	

EV Auto Sequence		
	ALVA MFT	ALVA MFT Pro
Supply Voltage	No	93 to 134V 185-266V, 45Hz – 65Hz
Auto Sequence:		Non-Trip Loop Test 6mA RCD-PD/MD (0° & 180°) 30mA AC (0° & 180°) @ ½ xI _{Δn} 1 xI _{Δn} 5 xI _{Δn} 6mA DC Ramp 30mA AC Ramp Voltage L-N L-PE N-PE

General Data		
	ALVA MFT	ALVA MFT Pro
Power Supply Voltage	9V _{DC} (6 x 1.5V Battery Cells Size AA)	
Power Supply Adaptor	12V DC / 1000mA	
Battery Charging Current	< 600mA (internally regulated)	
Voltage of Charged Batteries	9 V _{DC} (6 x 1.5V fully charged)	
Charging Duration	Typical 6 Hours	
Operational Time	Typical 15 Hours	
Overvoltage Category	CAT III 600V CAL IV 300B	
Protection Classification	Double Insulated	

Protection Degree	2
Protection Degree	IP 42
Display	480 x 320 TFT Colour LDC
COM Port	USB
Reference Conditions	
Temperature Range	10°C to 30°C
Humidity Range	40 %RH to 70 %RH
Operating Conditions	
Working Temperature Range	0°C to 40°C
Maximum Relative Humidity Range	95 %RH (0°C to 40°C) non-condensing
Storage Conditions	
Temperature Range	-10°C to +70°C
Maximum Relative Humidity Range	90 %RH (-10°C to 40°C) 80 %RH (40°C to 60°C)

Additional Date				
	ALVA MFT		ALVA MFT Pro	
Weight	Approx. 1300g			
Dimensions	Width 250mm Depth 1350mm Height 107mm			
ALVA Series Boxed		TBN	TBN	TBN
ALVA Series Boxed Dimensions	Width 304mm Depth 190mm Height 264mm			
EAN Barcode	5060082544781		5060082544781	

Box Contents	
ALVA MFT	ALVA MFT Pro
Multifunction Tester	
Padded neck strap	
EVA Hard Shell carry case	
Mains lead	
1.2M Blue test lead	
1.2M red test lead	
1.2M green test lead	
Blue ultra-slim test probe	
Red ultra-slim test probe	
Green ultra-slim test probe	

	Red remote test probe
Blue crocodile clip	
Red crocodile clip	
Green crocodile clip	
MN1500 (AA) 1.5v Batteries x 6	2100mAh NiMH Rechargeable Batteries x 6
	Mains recharging plug
	Download lead
Quick Start Guide	
Calibration certificate	

ALVA Series Spares and Accessories	
ALVA MFT	ALVA MFT Pro
LS3W9073 – Red/Blue/Green 3 wire lead set c/w croc clips and probes	
ML9073 – Red/Blue/Green 13A to 4mm mains lead	
ALVARP – Remote Test Probe (suitable for ALVA Series testers)	
CCALVA – Soft NEW Style Carry Case	
ALVABAT2 – 6 x 2800mAh High Capacity Rechargeable Battery Upgrade Kit with internal plug & external charger	ALVABAT1 – 6 x 2800mAh High Capacity Rechargeable Battery Upgrade Kit with external charger
	TLERT3 – 3-wire Earth Resistance Accessory Kit with 2 spikes
	TLERT4 – 4-wire Earth Resistance Accessory Kit with 3 spikes

For help or advice on Service and Calibration, contact:

Service Department
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UK

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