

OSCILLOSCOPES HANDSCOPE

Authorized Distributor:

WESCHLER INSTRUMENTS

phone: 800-903-9870 440-378-6580

fax: 800-903-9590 440-238-0660

www.weschler.com info@weschler.com



600 V
CAT III



MODEL OX 5042B

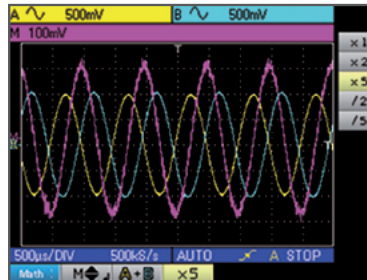
3-in-1 Instrument: Oscilloscope, Multimeter and Power Harmonic Analyzer with two fully isolated channels; fits into one hand



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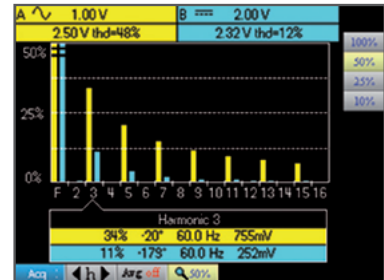
FUNCTIONAL DISPLAYS

HIGH PERFORMANCE



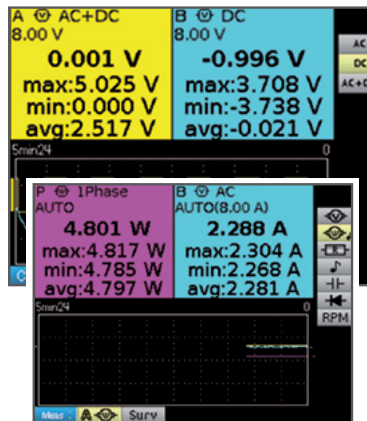
Automatically displays measurements for both isolated channels from your choice of 19 measurement types.

HARMONIC ANALYZER



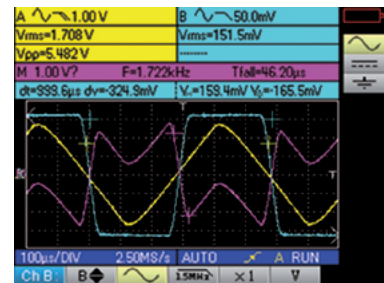
Measures two channels of individual harmonic content up to the 31st harmonic.

TWO INDEPENDENT 8000-COUNT TRMS DIGITAL MULTIMETERS



Instantly displays measurements in multimeter mode at the press of a button.

STORAGE COMMUNICATION & PC SOFTWARE



View real-time measurements on your PC, configure the HandScope, export data to a spreadsheet using the SX-Metro included software.

FEATURES

- Two fully isolated channels
- Three instruments in one:
 - 40 MHz Oscilloscope
 - Double 8000-count TRMS Multimeter/Power Analyzer
 - Harmonic Analyzer
- 3.5 inch color LCD screen LED backlighting technology
- Integrated interactive multilingual help function
- 2 MB recording data
- Store graphic recordings of 2700 measurements (5 min to 1 mos)
- Communication via isolated USB SCPI protocol

PRODUCT INCLUDES

2150.21

Small classic tool bag, USB wall plug 5 V, 2 A, USB cable, set of (2) 10 ft color-coded (red/black) leads, set of (2) color-coded (red/black) alligator clips, set of (2) color-coded (red/black) probes, BNC adapter, (2) probes 10:1 600 V BNC male, (6) 1.2 V NiMH rechargeable batteries, printed quick start guide, and a USB drive with software and user manual.

2150.22

Field case, USB wall plug 5 V, 2 A, USB cable, set of (2) 10 ft color-coded (red/black) leads, set of (2) color-coded (red/black) alligator clips, set of (2) color-coded (red/black) probes, BNC adapter, (1) probe 10:1 600 V BNC male, (1) AC current probe Model MN251T, MiniFlex[®] Sensor 3000-24-1-1, (6) 1.2 V NiMH rechargeable batteries, printed quick start guide, and a USB drive with software and user manual.

2150.23

Field case, USB wall plug 5 V, 2 A, USB cable, set of (2) 10 ft color-coded (red/black) leads, set of (2) color-coded (red/black) alligator clips, set of (2) color-coded (red/black) probes, BNC adapter, (1) probe 10:1 600 V BNC male, (1) AC current probe Model MN379T, MiniFlex[®] Sensor 3000-24-1-1, (6) 1.2 V NiMH rechargeable batteries, printed quick start guide, and a USB drive with software and user manual.

SHOWN: CAT. #2150.22



OSCILLOSCOPES

HANDSCOPE

MODEL	OX 5042B
INTERFACE	
Display	3.5 in color TFT LCD screen; Resolution (320 x 240) pixels – LED backlighting
Commands	Direct adjustments on front panel and on-screen selection menus (<i>principal & secondary without hidden menus</i>)
Display Mode	2500 real acquisition points on screen
Display of Curves on Screen	2 curves + 2 references + memory trace or mathematical calculation
Integrated Interactive Help Function	14 complete languages, menus and contextual help
OSCILLOSCOPE MODE	
Vertical Deflection	
Bandwidth	40 MHz
Bandwidth Limiter	1.5 MHz, 5 kHz
Number of Channels	2 fully isolated channels
Input Impedance	1 MΩ ± 0.5 %, approximately 17 pF
Maximum Input Voltage	600 V – Derating -20 dB per decade from 100 kHz
Vertical Sensitivity	5 mV to 200 V / div
Horizontal Deflection	
Sweep Speed	25 ns / div to 200 s / div – Roll Mode from 100 ms to 200 s / div
Horizontal Zoom	Zoom factor: x1, x2, x5
Triggering	
Mode	Automatic, triggered, one-shot and triggered roll
Type	Edge, pulse width (20 ns – 20 s)
Coupling	AC or DC (<i>depending on the coupling of the triggering channel</i>) HF, LF or noise rejection
Sensitive	≤ 1.2 divisions p-p up to 40 MHz
Digital Memory	
Maximum Sampling Rate	2 GS / s in ETS mode – 50 MS / s in one-shot mode on each channel
Vertical Resolution	9 bits
Memory Depth	2500 points per channel
User Storage	2 MB for storing files: trace (.trc), text (.txt), configuration (.cfg), image files (.bmp)
GLITCH Mode	Duration ≥ 20 ns – 1250 min / max pairs
Display Modes	Envelope, Averaging (factors 2 to 64) and XY (<i>vector</i>)
Other Functions	
Math Functions	Channel inversion, addition, subtraction, multiplication and division (<i>adjustable scaling</i>)
Cursor Measurement	2 cursors: V, T, dV, dt simultaneously – 4-digit display resolution
Automatic Measurement	18 time or level measurements and phase measurement
MULTIMODE MODE	
General Specifications	2 channels, 8000-count display + min / max bargraph – Graphic recording of 2700 measurements (<i>5 min to 1 mos</i>)
Operating Modes	Absolute or relative display (<i>absolute, deviation, ref, ref %</i>) – Monitoring (<i>instantaneous, min, max, avg</i>)
AC, DC & AC+DC Voltages	Ranges from 600 mV to 600 Vrms, 800 mV to 800 V _{DC} – accuracy for V _{DC} ± 1 % reading +20 D –50 kHz bandwidth
Resistance	Range from 80 Ω to 32 MΩ - accuracy ± 2 % reading + 10 D –10 ms quick continuity test
Capacitance	Ranges from 5 nF to 5 mF – basic accuracy ± 2 % reading + 10 D
Other Measurements	Frequency, rotation speed, 3.3 V diode test, temperature measurement (<i>with K-type thermocouple or infrared probe</i>)
POWER	
Measurements	Single-phase and balanced three-phase active power values (<i>with or without neutral</i>), simultaneous display of current
HARMONIC ANALYZER MODE	
Multi-Channel Analysis	2 channels, 31 orders, fundamental frequency from (40 to 450) Hz
Simultaneous Measurements	Total Vrms, THD and selected order (<i>% fundamental, phase, frequency, Vrms</i>)
GENERAL	
Screenshots	Up to 100 files in standard .bmp format, viewable on the instrument
PC Communication	Isolated optical USB interface SX-Metro PC application software (<i>included</i>)
Power Supply	6 LR6 or (6) AA NiMH batteries – Battery life up to 8 h 30 min Universal line adapter isolated from the channels – Quick charging in 2 h 30 min
Safety / EMC	Safety according to IEC 61010-1 600 V CAT III / EMC according to EN 61000-3 & EN 61326-1

Consult factory for NIST Calibration prices.

CAT. #	DESCRIPTION
2150.21	Hand-held Portable Oscilloscope Model OX 5042B
2150.22	Hand-held Portable Oscilloscope Model OX 5042B w / MN251T & MF 3000-24-1-1 (BNC Output)
2150.23	Hand-held Portable Oscilloscope Model OX 5042B w / MN379T & MF 3000-24-1-1 (BNC Output; Low AC current measurement)



3000-24-1-1
only

MODELS MN251T & MN379T



CAT. #2132.59
Range (0.05 to 240) A



CAT. #2153.02
Range (0.005 to 120) A



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FEATURES

- Small, compact size
- True RMS measurements
- Large jaw opening accommodates conductor sizes up to 250 MCM
- 10 ft leads make measurements in hard to reach areas possible
- 40 Hz to 10 kHz response

MINIFLEX® 3000-24-1-1



CAT. #2132.63 (24 IN)



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FEATURES

- True RMS Measurements
- 24 in (~60 cm) sensor (optional)
- 10 ft (~3 m) leads makes measurement in hard to reach areas possible
- Measurement range of (0.5 to 3000) Arms
- Accuracy $\pm 1\%$ of Reading ± 0.25 A
- No core saturation or damage if measured circuit is overloaded
- 20 kHz frequency response
- Low phase shift for power measurements
- Insensitive to DC: measures only the AC component on DC+AC signals
- Excellent linearity
- 9 V Alkaline battery typically offers 150 h of continuous operation

MODELS	MN251T	MN379T
ELECTRICAL		
Nominal Range	200 A	(5 / 100) A
Measurement Range	(0.5 to 240) A	(0.005 to 6) A; (0.1 to 120) A
Accuracy	3 % of Reading @ 5 A; 1 % of Reading @ 200 A	1 % of Reading @ 5 A; 1 % of Reading @ 100 A
Phase Shift	$\leq 5^\circ$ @ 40 A / $\leq 2.5^\circ$ @ 100 A	$\leq 4^\circ$ @ 5 A / $\leq 2.2^\circ$ @ 100 A
Overload	240 A for 10 min ON, 30 min OFF	
Frequency Range	40 Hz to 10 kHz	
Limit Operating Conditions	200 A permanently to 1 kHz; Derating above 3 kHz: 200 A x (1 / 0.333 F), F in kHz	
Working / Common Mode Voltage	600 Vrms	
Output Termination	10 ft (~3 m) BNC Lead	
Output Signal	1 mV/A _{AC} (200 mV @ 200 A)	200 mV/A _{AC} (1 V @ 5 A) & 10 mV/A _{AC} (1 V @ 100 A)
MECHANICAL		
Operating Temperature	(14 to 131) °F (-10 to 55) °C	
Storage Temperature	(-40 to 158) °F (-40 to 70) °C	
Operating Relative Humidity	(10 to 35) °C (50 to 95) °F 85 % RH (without roll-off above 35 °C (95 °F))	
Maximum Conductor Size	0.78 in (20 mm)	
Dimensions	(5.47 x 2.00 x 1.18) in (139 x 51 x 30) mm	
Weight	6.5 oz (184 g)	
Polycarbonate Material	Polycarbonate with fiberglass charge, UL94 V0	
SAFETY		
Safety Rating	EN 61010-2-32	

Consult factory for NIST Calibration prices.

MODEL	3000-24-1-1
ELECTRICAL	
Range	(5 to 3000) A
Signal Output	1 mV/A
Frequency Range	10 Hz to 20 kHz with current derating
Influence Of Conductor Positioning	1.5 % typical, 3 % max
Influence Of Conductor Positioning In Sensor Against Handle	4 % typical, 6 % max
External Conductor Influence	(35 to 40) dB on contact
Power Supply	9 V Alkaline battery (included)
MECHANICAL	
Sensor Diameter	\varnothing 0.2 (5 mm)
Sensor Length	24 in (~609 mm)
Max Conductor Size	7.6 in (~190 mm)
Connection Cable Length	10 ft (~3.04 M)
Drop Test	Per IEC 68-2-32
Vibration	Per IEC 68-2-6
Mechanical Shock	Per IEC 68-2-27
Weatherproofing	IP50
ENVIRONMENTAL	
Operating Temperature Range	(14 to 131) °F (-10 to 55) °C
Storage Temperature Range	(- 40 to 158) °F (- 40 to 70) °C
Altitude	Operating: (0 to 6560) ft (2000 m), working voltage derating above; Non-operating: (0 to 39,370) ft (12,000 m)
SAFETY	
Safety Rating	EN 61010, 1000 V CAT III; 600 V CAT IV

Consult factory for NIST Calibration prices.