COMPACT DIGITAL MULTIMETER

- **Digital display with backlight**
- **Hold function**
- **Manual ranging**
- **AC/DC voltage**
- **Resistance**
- **Continuity**
- **Diode test**
- **Current**
- **Battery test**
- **Test Leads**
- **Tilt stand**



OPERATOR'S MANUAL
ORDER CODE: OXD-516-1325K
CZ HU PL SK TH **cromwell.co.uk**

OXFORD PRECISION

SAFETY INFORMATION

This Multimeter has been designed for safe use, but must be operated with caution. The rules listed below must be carefully followed for safe operation.

Input Limits	
Function	Maximum Input
V DC or V AC	600V DC/AC, 200Vrms on 200mV range
mA DC	200mA 600V fast acting fuse
A DC	10A 600V fast acting fuse (30 seconds max every 15 minutes)
Resistance, Continuity	250Vrms for 15sec max

- NEVER apply voltage or current to the Multimeter that exceeds the specified maximum.
- USE EXTREME CAUTION when working with high voltages.
- DO NOT measure voltage if the voltage on the "COM" input jack exceeds 500V above earth ground.
- NEVER connect the meter leads across a voltage source while the function switch is in the current, resistance, or diode mode. Doing so can damage the multimeter.
- ALWAYS discharge filter capacitors in power supplies and disconnect the power when making resistance or diode tests.
- ALWAYS turn off the power and disconnect the test leads before opening the cover to replace the fuse or batteries.
- NEVER operate the multimeter unless the back cover and the battery and fuse covers are in place and fastened securely.

SYMBOLS USED

This symbol adjacent to another symbol, terminal or operating device, indicates that the operator must refer to an explanation in the Operating Instructions to avoid personal injury or damage to the multimeter Operations Manual.

WARNING This WARNING symbol indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury.

CAUTION This CAUTION symbol indicates a potentially hazardous situation, which if not avoided, may result damage to the product.

This symbol adjacent to one or more terminals identifies them as being associated with ranges that may, in normal use, be subjected to particularly hazardous voltages. For maximum safety, the multimeter and Its test leads should not be handled when these terminals are energised.

PRODUCT FEATURES

1. LCD Display
2. Data Hold Button
3. Function switch
4. Backlight Button
5. 10A jack
6. COM jack
7. Positive jack



Note: Tilt stand, fuse and battery compartment are on rear of unit.

SYMBOLS AND ANNUNCIATORS

)))	Continuity	Ω	Ohms
⊣◀	Diode test	VDC	Volts direct current
µ	Micro (amps)	VAC	Volts alternating current
M	Milli (volts, amps)	ADC	Amps direct current
K	Kilo (ohms)	BATT	Battery test



SPECIFICATIONS

Function	Range	Resolution	Accuracy
DC Voltage (V DC)	200mV	0.1mV	±(0.5%reading + 3digits)
	2000mV	1mV	
	20.00V	0.01V	
	200.0V	0.1V	±(0.8%reading + 3digits)
	600V	1V	
AC Voltage (V AC)	200.0V	0.1V	±(1.2%reading + 10digits 50/60Hz)
	600V	1V	
DC Current (A DC)	200.0µA	0.1µA	±(1.0%reading + 5digits)
	20.00mA	10µA	
	200.0mA	100µA	±(1.2%reading + 5digits)
	10.00A	10mA	±(3.0%reading + 5digits)
Resistance	200.0Ω	0.1Ω	±(1.0%reading + 5digits)
	2kΩ	1Ω	
	20.00kΩ	0.01kΩ	
	200.0kΩ	0.1kΩ	
	2MΩ	1kΩ	±(1.5%reading + 5digits)
Battery Test	9V	10mV	±(1.0%reading + 2digits)
	1.5V	10mV	

NOTE: Accuracy specifications consist of two elements:

• (% reading) - This is the accuracy of the measurement circuit.

• (+ digits) - This is the accuracy of the analog to digital converter.

NOTE: Accuracy is stated at 65°F to 83°F (18°C to 28°C) and less than 75% RH.

Diode Test: Test current of 1 mA maximum, open circuit voltage 2V DC typical

Continuity Check: Audible signal will sound if the resistance is less than approximately 100Ω

Battery Test current: 9V(6mA); 1.5V(100mA)

Input Impedance: >1MΩ

AC V Bandwidth: 50Hz to 60Hz

DC V voltage drop: 200mV

Display: 3 ½ digit, 2000 count LCD, 1.1 digits

Over range indication: "OL" is displayed

Polarity: Automatic (no indication for positive polarity); Minus(-) sign for negative polarity.

Measurement Rate: 2 times per second, nominal

Low Battery Indication: " " is displayed if battery voltage drops below operating voltage

Battery: 2 X AAA 1.5V batteries

Fuses: mA, µA ranges; 0.2A600V fast blow A range; 10A/600V fast blow

Operating Temperature: 32°F to 122°F (0°C to 50°C)

Storage Temperature: -4°F to 140°F (-20°C to 60°C)

Relative Humidity: <70% operating, <80% storage

Operating Altitude: 7000ft. (2000)meters maximum.

Safety: For indoor use and in accordance with Over voltage Category II, Pollution Degree 2. Category II includes local level, appliance, portable equipment, etc., with transient over voltages less than Over voltage Category III.

BATTERY INSTALLATION

WARNING: To avoid electric shock, disconnect the test leads from any source of voltage before removing the battery cover.

- Disconnect the test leads from the Multimeter.
- Open the battery cover by loosening the screw using a Phillips head screwdriver.
- Insert the batteries into battery holder, observing the correct polarity.
- Put the battery cover back in place. Secure with the screw.

WARNING: To avoid electric shock, do not operate the Multimeter until the battery cover is in place and fastened securely.

NOTE: If your Multimeter does not work properly, check the fuses and batteries to make sure that they are still good and that they are properly inserted.

OPERATING INSTRUCTIONS

Data Hold Button

The Data Hold function allows the Multimeter to "freeze" a measurement for later reference.

- Press the DATA HOLD button to "freeze" the reading on the display. The indicator "H" will be appear in the display.
- Press the DATA HOLD button to return to normal operation.

Backlight Button

- The BACKLIGHT button is used to turn the backlight on or off. Press the BACKLIGHT button to turn the backlight on.
- Press the BACK LIGHT button to turn the back light off.

WARNING: Risk of electrocution. High-voltage circuits, both AC and DC, are very dangerous and should be measured with great care.

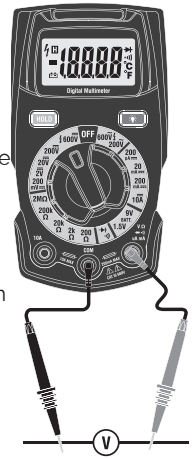
- ALWAYS turn the function switch to the OFF position when the Multimeter is not in use.
- If "OL" appears in the display during a measurement, the value exceeds the range you have selected. Change to a higher range.

NOTE: On some low AC and DC voltage ranges, with the test leads not connected to a device, the display may show a random, changing reading.
This is normal and is caused by the high-input sensitivity. The reading will stabilise and give a proper measurement when connected to a circuit.

DC VOLTAGE MEASUREMENTS

CAUTION: Do not measure DC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the Multimeter.

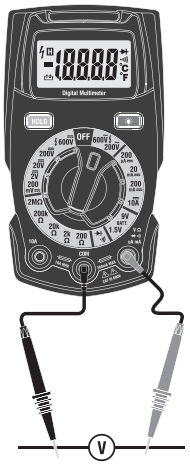
- Set the function switch to the highest VDC position.
- Insert the black test lead banana plug into the negative (COM) jack. Insert the red test lead banana plug into the positive (V) jack.
- Touch the black test probe tip to the negative side of the circuit. Touch the red test probe tip to the positive side of the circuit.
- Read the voltage in the display. Reset the function switch to successively lower VDC positions to obtain a higher resolution reading.
  The display will indicate the proper decimal point and value. If the polarity is reversed, the display will show (-) minus before the value.



AC VOLTAGE MEASUREMENTS

WARNING: Risk of Electrocution. The probe tips may not be long enough to contact the live parts inside some 240V outlets of appliances because the contacts are recessed deep in the outlets. As a result, the reading may show O Volts when the outlet actually has voltage on it. Make sure the probe tips are touching the metal contacts inside the outlet before assuming that no voltage is present.

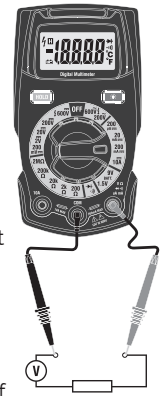
- Set the function switch to the highest VAC position.
- Insert the black test lead banana plug into the negative (COM) jack. Insert red test lead banana plug into the positive (V) jack.
- Touch the black test probe tip to the negative side of the circuit. Touch the red test probe tip to the positive side of the circuit.
- Read the voltage in the display. Reset the function switch to successively lower VAC positions to obtain a higher resolution reading. The display will indicate the proper decimal point and value.



DC CURRENT MEASUREMENTS

CAUTION: Do not make current measurements on the 10A scale for longer than 30 seconds. Exceeding 30 seconds may cause damage to the multimeter and/or the test leads.

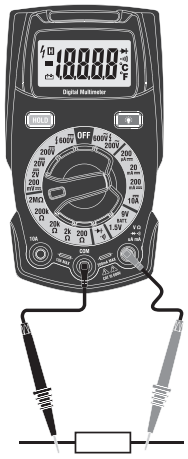
- Insert the black test lead banana plug into the negative (COM) jack.
- For current measurements up to 200mA DC, set the function switch to the highest DC mA position and insert the red test lead banana plug into the (mA) jack.
- For current measurements up to 10A DC, set the function switch to the 10A range and insert the red test lead banana plug into the (10A) jack.
- Remove power from the circuit under test, then open up the circuit at the point where you wish to measure current.
- Touch the black test probe tip to the negative side of the circuit. Touch the red test probe tip to the positive side of the circuit.
- Apply power to the circuit.
- Read the current in the display. For mA DC measurements, reset the function switch to successively lower mA DC positions to obtain a higher resolution reading. The display will indicate the proper decimal point and value.



RESISTANCE MEASUREMENTS

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the power lead.

- Set the function switch to the highest Ω position.
- Insert the black test lead banana plug into the negative (COM) jack Insert the red test lead banana plug into the positive Ω jack.
- Touch the test probe tips across the circuit or part under test. It is best to disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading.
- Read the resistance in the display and then set the function switch to the lowest Ω position that is greater than the actual or any anticipated resistance. The display will indicate the proper decimal point and value.



CONTINUITY CHECK

WARNING: To avoid electric shock, never measure continuity on circuits or wires that have voltage on them.

- Set the function switch to the ⊣•))) position.
- Insert the black lead banana plug into the negative (COM) jack Insert the red test lead banana plug into the positive Ω jack.
- Touch the test probe tips to the circuit or wire you wish to check.
- If the resistance is less than approximately 30Ω, the audible signal will sound. If the circuit is open, the display will indicate "OL"

DIODE TEST

- Insert the black test lead banana plug into the negative COM jack and the red test lead banana plug into the positive diode jack.
- Turn the function switch to the ⊣•))) position.
- Touch the test probes to the diode under test. Forward voltage will indicate 400 to 700mV. Reverse voltage will indicate "OL". Shorted devices will indicate near OmV and an open device will indicate "OL" in both polarities.

BATTERY TEST

- Insert the black test lead banana plug into the negative COM jack and the red test lead banana plug into the positive V jack.
- Select the 1.5V or 9V BATT position using the function switch.
- Connect the red test lead to the positive side of the 1.5V or 9V battery and the black test lead to the negative side of the 1.5V or 9V battery.
- Read the voltage in the display.

	Good	Weak	Bad
9V battery	>8.2V	7.2 to 8.2V	<7.2V
1.5V battery	>1.35V	1.22 to 1.35V	<1.22V

REPLACING THE BATTERIES

WARNING: To avoid electric shock, disconnect the test leads from any source of voltage before removing the battery cover.

- When the batteries become exhausted or drop below the operating voltage, " ▭ " will appear in the right-hand side of the LCD display. The batteries should be replaced.
- Follow instructions for installing batteries. See the Battery Installation section of this manual.
- Dispose of the old batteries properly.

WARNING: To avoid electric shock, do not operate your Multimeter until the battery cover is in place and fastened securely.

REPLACING THE FUSES

WARNING: To avoid electric shock, disconnect the test leads from any source of voltage before removing the back cover.

- Disconnect the test leads from the Multimeter and any item under test.
- Remove the back cover using a Phillips head screwdriver.
- Remove the old fuse from its holder by gently pulling it out.
- Install the new fuse into the holder.
  - Always use a fuse of the proper size and value (0.2A / 600V fast blow for the 200mA range, 10A/600V fast blow for the 10A range).
  - Put the back cover back in place. Insert the screws and tighten securely.

WARNING: To avoid electric shock, do not operate your multimeter until the back cover is in place and fastened securely.

THE ENVIRONMENT

Always dispose of unwanted tools, accessories and packaging materials in an environmentally friendly manner.
In observance of European Directive on Waste Electrical and Electronic Equipment (WEEE) and its implementation in accordance with national law, electrical goods that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.
Do not dispose of electrical goods with domestic waste materials as inappropriate disposal may cause potential hazards to the environment and human health.
For further information, please contact your local authority or the retailer from whom you purchased the product.

QUALITY GUARANTEE & WARRANTY

OXFORD PRECISION products carry a one year manufacturer's warranty.
OXFORD PRECISION products are designed & manufactured to the highest standards & specifications.
Assuring the quality and performance required by all sectors of industry.
OXFORD PRECISION products are fully guaranteed against faulty materials & workmanship.
Should they be found to be defective, they will either be repaired or replaced free of charge (fair wear and tear and/or misuse excepted).
Please retain supplier invoice as proof of purchase.

DECLARATION OF CONFORMITY

We hereby certify that the OXFORD COMPACT DIGITAL MULTIMETER (ORDER CODE: OXD-516-1325K)
Complies with all the relevant provisions of the
EMC Electromagnetic Compatibility Directive 2014/30/EU
Standards Applied: EN61326-1:2013, EN61326-2-2:2013
LVD Low Voltage Directive 2014/35/EU
Standards Applied: EN61010-1:2010, EN61010-2-033:2012, EN61010-031:2015
RoHS2 Restriction of Hazardous Substances Directive 2011/65/EU

Signed: **Name:** Toni Johnson
Date: September 2019 **Position:** Compliance Director.

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