MTX 3290/MTX 3291, *ASYC IV*
Portable Digital Multimeters
6,000 cts – 60.000 cts

X04001A02, Ed.1, 07/14

The full user's manual is available on the CD supplied with the instrument. Download is possible from our support site: *www.chauvin-arnoux.com.*

This multimeter complies with the EN 61010-1 safety standard on double insulation for electronic measuring instruments.
IP 67 as per standard IEC 60529.

Symbols used on the instrument:

Warning: Risk of danger.
Refer to the user's manual to find out about the potential dangers and any action to be taken in order to avoid them.

Earth Double insulated

If you use this instrument in a way which is not specified, the protection provided may be compromised, thus endangering you.
The safety of any system including this instrument is the responsibility of the assembler of the system.

This instrument has been designed for use indoors:
- in an environment with pollution level 2,
- at an altitude of less than 2,000 m,
- at a temperature between 0°C and 50°C,
- with relative humidity < 80 % up to 35°C.

It can be used for measurements on the circuits of:
- **Category III installations** for voltages up to 1,000 V (AC or DC) relative to earth for the ***MTX 3291*** and 300 V (AC or DC) for the ***MTX 3290***.
- **Category IV installations** for voltages up to 600 V (AC or DC) relative to earth for ***MTX 3291*** and 300 V (AC or DC) for the ***MTX 3290***.

- **CAT III**: Measurement category III corresponds to measurements carried out on installations in buildings.
Example: measurements on switchboards, wiring, etc.

- **CAT IV**: Measurement category IV corresponds to the measurements carried out on the source of low-voltage installations.
Example: meters and measurements on the safety devices protecting against overcurrents, etc.

For safety reasons, only use suitable cords supplied with the instrument: they comply with the EN 61010-031 standard. Before each use, make sure that they are in perfect condition.

When the instrument is connected to the measuring circuits, never touch a terminal which is not in use. Use only suitable accessories delivered with the instrument or approved by the manufacturer.
If the measurement category of the accessory is different from that of the instrument, the lowest category applies to the unit.

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Thank you for your confidence in the quality of our products.

	MTX 3290	***MTX 3291***
Display	Digital, monochrome. (70 x 52)	Digital, monochrome. backlit (70 x 52)
Power supply	4 R6 batteries (AA format) or 4 rechargeable batteries	
Counts	**6,000**	**60,000**
Communication	-	IR / USB

Fuses:
MTX 3290: 10 A, 6 x 32, 600 V, F, breaking capacity > 50 kA
MTX 3291: 11 A, 10 x 38, 1,000 V, F, breaking capacity >18 kA

Battery replacement:

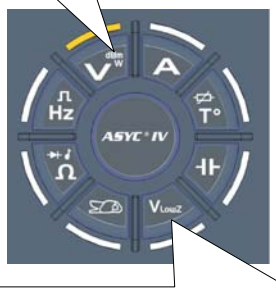
Terminal block:
with 3 x 4 mm banana sockets and an optical connector for USB communication (***MTX 3291***):

MTX3290 keypad:

MTX3291 keypad:

Voltage: VAC, VDC, VAC+DC or VlowZ

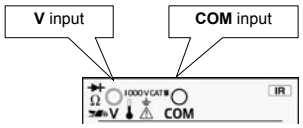
1. Activate **V,** then AC or DC or AC+DC **Coupling mode**
2. ***MTX 3291*** secondary measurements by successive short presses : dBm or W.



3. Select **VlowZ** in **AC mode** to perform measurements on electrical installations. Input impedance < 1 MΩ avoids "stray" voltage measurements due to coupling between the lines.

MAX, MIN, AVG measurement activation:
- **MAX** and **MIN** indicate the highest and lowest values of the RMS measurement.
- **AVG** indicates the signal's average value since the key press.
Stamped value for the MIN and MAX [temporary display (4s) on the main display, then returns to the current value].
If time (h:min:sec) exceeds (9:59:59) then : "---- " is displayed (***MTX 3291*** only).
- 1st press: MAX, MIN, AVG recording (on the secondary display unit).
By default, the MAX value is displayed.
- Subsequent presses: viewing of stored values (volatile).

Frequency: Hz



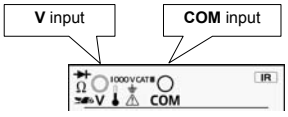
1. Activate Hz, display of the frequency and the period on secondary display.
2. 2nd press: **Hz** for the secondary measurements:

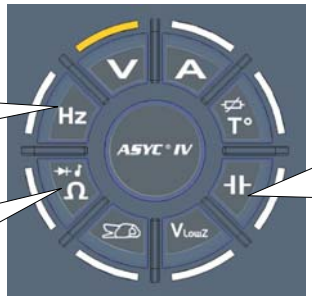
DC± duty cycle, then PW± resistive power.

AC, DC, AC+DC coupling selection:

→ for dBm: modification of impedance
50 Ω, 75 Ω, 90 Ω, 600 Ω (***MTX 3291*** only).

Resistance: Ω, diode, continuity



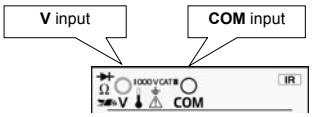


1. Activate Ω by pressing.
2. 2nd press: access to ♪ (continuity).
3. 3rd press: diode test → (3 V diode).

4. Activate Peak ± for **Peak+ Peak-** measurements:
- **Peak+**: shows the maximum peak value of the instantaneous measurement.
- **Peak-**: shows the minimum peak value of the instantaneous measurement.
- 1st press: recording of Peak+, Peak- value (on the secondary display).
By default, the Peak+ is displayed.
- Subsequent presses: viewing of stored values (volatile).

3. Activation / deactivation of filter of BW ≈ **300 Hz**:
Thanks to the low-pass filter (4th order), it is possible to measure the RMS voltage supplied by a PWM-type variable speed drive (for asynchronous motors).

Capacitance: F



Activate : .

Read the value indicated on the display.

"OL" is displayed if the measured value exceeds the capacity of the range or if the capacitor is short-circuited.

For high values, the measurement cycle includes display of "run" with a decimal point "chaser." This means that acquisition is in progress; wait for display of the numeric result.

"Run" is displayed immediately if the previous measurement was on a small scale.

Temperature: °C, °F

Pt100 ou Pt100

1. Press T° to select the type of probe: Pt100 or Pt1000.
2. Then press MODE AC/DC to switch the temperature scale unit (°C or °F) from one display to the other.

Direct current

Press: A.

Select the type of signal: AC, DC or AC+DC by pressing: MODE AC/DC.

According to your selection, the display shows: AC, DC or AC+DC.

Connect the black cord to the "**COM**" input and the red cord to the "**A**" input.

If it is not connected correctly, a beep and a visual display (LEADS) are activated.

Current via *clamp with voltage output*

1. Activate: .
2. Select the type of signal (AC, DC or AC+DC) by pressing MODE AC/DC.

   According to your selection, the display shows AC, DC or AC+DC.
3. Connect the black cord of the clamp to the "**COM**" input and the red cord of the clamp to the "**V**" input.
4. Select the transformation ratio (identical to that of the clamp) **1 mV/A, 10 mV/A, 100 mV/A, 1,000 mV/A** by pressing: "clamp" to read the current value directly.

Activation of the REL mode display

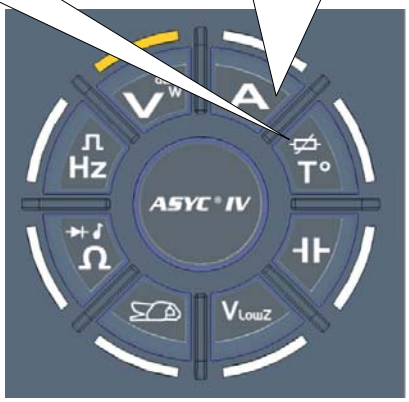
ΔRel

MTX 3291:

- Display and storage of the reference and differential values in the unit of the measured quantity.
- 1st press: activates the ΔREL relative mode

  (current value – reference value)

  and memorizes the measured value as the reference.
- "REF" indicates the memorizing of the reference.
- Subsequent presses: toggles the display between the measured value and the relative measurement ΔREL.
- MODE AC/DC → Value in %



Keys, switches and measurements

Function keys

To obtain the following functions:

VLowZ, V, , Hz, Ω, , T°, A, dBm, W, continuity, diode, duty cycle, pulse duration, press the button of the switch corresponding to the selected function.

Possible combinations depending on the type of measurement

Type of measurement	MAX/MIN/ AVG	PEAK ±	ΔREL	0	RANGE		HOLD	
					Auto.	Manu.		
Voltage VLowZ Voltage VAC Voltage VAC+DC Current AAC, AAC+DC	✓	✓	✓	in ΔREL only	✓	✓	✓	✓
Voltage VDC Current ADC	✓	-	✓	✓	✓	✓	✓	-
Voltage 60mVDC	✓	-	✓	✓	-	✓	✓	-
Voltage 60mVAC Voltage 60mVAC+DC	✓	✓	✓	in ΔREL only	-	✓	✓	✓
Temperature	✓	-	✓	-	✓	✓	✓	-
Ohmmeter	✓	-	✓		✓	✓	✓	-
Capacitance	✓	-	✓	in ΔREL only	✓	✓	✓	-
Frequency	✓	-	✓		✓	-	✓	✓
Period (1/F)	✓	-	✓	-	✓	-	✓	✓
Continuity	-	-	-	-	✓	-	-	-
Diode	-	-	-	-	✓	-	✓	-
dBm	-	-	-	-	✓	-	✓	-
W	-	-	-	-	✓	-	✓	-
Duty cycle (DC+, DC-)	-	-	-	-	✓	-	✓	-
Pulse duration (PW+, PW-)	-	-	-	-	✓	-	✓	-

MTX 3291

MTX 3291 configuration parameters:
USER / BASIC mode: when switched on, the device is in BASIC mode (default configuration: VAC+DC). The main display shows the change to **BASIC** or **USER** mode for 3s.

- When starting your multimeter, if you want to enable the **USER** mode to retrieve the configuration after switching off the meter → press and hold Range, then press ON / OFF .
- After an automatic shutdown, the device restarts in **USER** mode.
- 0: the central bargraph 0 is handled automatically by IDC and VDC).

  Activation / deactivation of the auto power off (APO) P by long press on MODE AC/DC.
-
- Activation of the Backlight:

  - Subsequent presses to increase the brightness
  - Circular operation:

    brightness 1 → brightness 2 → brightness 3 → brightness 1 etc.

300 Hz PWM Filter

- **for voltage measurement**

1. Press: dBm W, VLowZ.
2. Select the type of signal (AC+DC, AC or DC)

   By pressing: MODE AC/DC.

   According to your selection, the display shows: AC, DC or AC+DC.
3. Select the filter by pressing: .
4. Connect the black cord to the "**COM**" input and the red cord to the "**V**" input. The presence of the symbol indicates that the filter is active.

- **for current measurement**

1. Press: A.
2. Select the type of signal (AC+DC, AC or DC)

   by pressing: MODE AC/DC.

   According to your selection, the display shows: AC, DC or AC+DC.
3. Select the filter by pressing: .
4. Connect the black cord to the "**COM**" input and the red cord to the "**A**" input. The presence of the symbol indicates that the filter is active.