

# Installation Instructions - Model 5016-12V Voltmeter

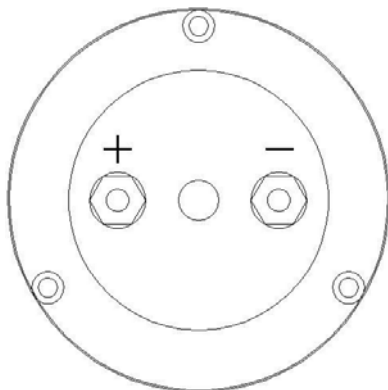
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Your new Voltmeter has been designed to fit exactly into the 1919-1925 Model T Ford dash panel location that normally housed the 20-0-20 Ammeter. Your voltmeter's primary function is not like that of an ammeter but rather it shows the present voltage at whatever point in the vehicle system that it is connected to. It can be connected in place of the ammeter by connecting both of the heavy ammeter wires together at the same (+) connection on the voltmeter and then connecting the (-) connection of the voltmeter to a frame or body ground. You must remember that unlike ammeters, voltmeters do not have a low resistance path through them for high DC current. Voltmeters draw a small amount of residual current and you therefore cannot simply leave a voltmeter connected permanently in vehicles that are not driven enough to keep the battery charged. Some form of disconnect switch will need to be provided to disconnect the voltmeter when the car is in long term storage. The typical Model T does not have a connection at the ignition switch that provides a DC connection to the battery only when the key is ON unless the car has no magneto. Be careful not to connect your voltmeter to any circuit that has a connection to the magneto since the magneto puts out up to 30 Volts AC and can damage your DC voltmeter if connected to it.

If your Model T has a small battery used for Hot Shot Starting only and you want to monitor that battery then you might want to consider wiring the voltmeter through a "push to test" (doorbell button) device to only connect the voltmeter to the small battery long enough to take a voltage reading. Alternatively a toggle switch could be used to connect the voltmeter to a small battery whenever that battery is being charged by a trickle charging device running off the magneto. It is important to remember that the 12V voltmeter will draw nominally .003 Amps when connected to a 12V DC source. This is a very small amount of current such that a typical 80 amp hour full sized Model T battery would take more than 2 years to completely discharge using this volt meter as the only load. Smaller batteries will not take as long to discharge with this same load.

Your new voltmeter uses a very accurate D'Arsonval movement and the meter is 1% accurate for readings 11.6 volts and higher. Being an expanded scale meter it is assumed the main purpose of the meter is to accurately read voltages 11.6 Volts and higher to determine the charge level of a battery or to monitor the charging voltage of the system. Remember that there might be large DC charge/discharge currents flowing that cause voltage losses within the wiring so if your primary concern is to monitor the battery voltage then connect the voltmeter (+) connection to the (+) connection at the battery source. If you wish to monitor the charging voltage at the charging source end then connect the voltmeter to the output of the cutout or Voltage Regulator at the generator. Alternatively you can connect the voltmeter to the alternator output to monitor the charging voltage at that point. In all connections the (-) of the voltmeter will generally be connected to ground.

Do not connect the voltmeter to a source of voltage greater than 15 VDC



The polarity of the connections to the voltmeter is important and the (-) connection should always go to ground in a negative ground system. The (+) connection would connect to whatever point in the system that you wish to monitor.

In the rear view of the meter at left note that the (+) terminal is on the left side when viewed from the rear.

DO NOT OPEN the Voltmeter or remove rubber plug - return to FPI for repair if needed. There are no user serviceable parts inside.

**DRIVE SOBER**

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