

Installation Instructions for the Digital Voltmeter

The Digital voltmeter reads up to 20 volts DC and has a resolution of .1 volt. There is actually a .01 volt digit in the meter but I cover it up when I make them because that digit would be jumping all over the place as the bike is running and would be a distraction. I adjust the meters when I build them to within a few hundredths of a volt to my DMM so the accuracy is quite good.

The meter has two leads. The Red lead is connected to the positive side of the system and in that lead is a fuseholder with a 1 amp AGC fuse. I don't suspect that the fuse will ever blow but it put there to protect the wiring from a meltdown and a possible fire in the event that the meter would short out. The Black lead is connected to the negative side of the system. Please make sure you are connecting the leads correctly as I don't know what the result will be if you reverse them. The meter may burn up instantly if you do so as I haven't tried it. So make sure of your connections.

To get the most accurate reading of the system voltage I recommend that you take the reading directly at the battery. Since the meter is on all the time when connected and, even though it doesn't pull very much current, it will, given enough time, run the battery down. I suggest that you use a relay to switch the positive lead on and off. The relay doesn't need a very high capacity (the voltmeter draws very little amperage) so most 12V automotive relays that will switch a few amps or more will be fine. You may also use a simple slide, rocker or toggle switch if you don't mind switching the meter on and off manually.

If using a relay, you can tap into any circuit that comes on when the ignition is in the run position. I pulled power from the brown wire coming off the ignition switch. The negative side of the relay can be connected directly to ground or can be tapped into any black or black with white tracer wire as they all eventually lead to ground. I used "t-taps" to connect the relay wires to the bike wiring as they allow the use of a standard insulated male spade terminal. They are available at any autoparts store. When connecting the wiring back to the battery, I would use ring terminals and connect them directly to the battery posts.

The front faceplate of the meter, the wire entrance and the 4 holes on the back of the meter have been waterproofed but if you want to make it completely waterproof you can do so by backing out the 4 screws on the front face about 1/4" and running a small bead of silicone in the gap between the faceplate and the housing. Retighten the screws (be careful, the case is plastic and you can crack the screw bosses inside if you overtighten the screws) and then wipe of the excess silicone with a rag or trim off the excess after it sets up. That should make the meter fairly well waterproof. I wouldn't let it stand in water but it should survive water spray and rain without incident. If mounting the meter behind the dash panel, there is no need to go through the waterproofing step.

If you are using the supplied brackets to mount the meter behind the dash panel those instructions are on the reverse side of this page. If mounting the meter elsewhere, you can use the 4 holes drilled in the back of the meter for attachment. NOTE! Use self-tapping (sheetmetal or wood) screws NO larger than #6 and Do Not let the screws penetrate into the back of the meter more than 3/8". Any futher and the screws may contact the PC board and cause a short. If you didn't order brackets with the meter, I included a double-sided self adhesive pad that you can use to stick the meter onto a clean flat surface. Make sure to clean both surfaces (back of meter and the mounting location) well with rubbing alcohol. I haven't personally used the adhesive pads so I can't attest to their durability.

If you have any questions, please don't hesitate to call or e-mail me. 620-241-1515 adnet@mpks.net

Mounting the Digital Voltmeter behind the dash panel with the supplied brackets.

1) Remove the dash panel. This entails the removal of numerous things like the windshield, false tank, steering head cover and the like. I recommend that you have the dash panel sitting on the bench but it's not absolutely necessary.



2) Remove the blank plastic cover over the left-hand opening. Save the screws, you will reuse them.

3) Install the bracket with both legs bent in the same direction to the left-hand hole (facing the back of the dash panel) as shown using one of the screws that held the blank plate in place. The bracket should be at an angle as shown. Don't worry about getting it exact at this point as you will need to adjust the position later. Tighten the screw fairly securely.



4) Attach the remaining bracket (legs bent in opposite directions to the back of the meter with one of the included screws to the right-lower hole drilled into the back of the meter. Use one of the included lock washers between the screwhead and the bracket. Leave the screw slightly loose.

NOTE! You can determine the top and bottom of the meter by looking at the decimal point on the face of the meter. The decimal point is on the bottom. Also, your meter will probably have the wires coming out of the bottom of the meter unlike the picture shown here.



5) Slide the meter behind the leg of the left bracket installed in step 3 and attach it to that bracket with the remaining included screw and lock washer. Leave the screw a little loose. Attach the right bracket to the dash panel with the other blank-plate screw and just snug it.

6) Looking at the front of the dash panel, adjust the position of the meter in the hole until it is aligned and tighten the screws securely. BE CAREFUL! The screws are threaded into plastic and can strip if tightened too tight.



7) When reinstalling the dash panel, plug the meter in and test it for operation before installing all of the screws and removed bodywork.

8) The picture at left shows one possible place to tap into the wiring to trigger the relay. There are other places that you can get the needed power but this is where I installed my taps since they were exposed when the steering head cover is off.