



Kessler-Ellis Application Note F026

Ten MASStrol Frequently Asked Questions and Best Kept Secrets

Q1: Can the MASStrol be used in an orifice flow system where the square root function is extracted by the DP transmitter?

A2: No, because of the way in which the math is carried out inside the MASStrol. The same problem will be encountered if a target meter, with internal linearization, is used. The solution to the problem is to use a DPFC or SUPERtrol II, because the math functions are implemented differently.

Q2: I have set up the current output to track mass flow but the output sits at 4 mA all the time.

A2: You have probably assumed that the current output is scaled in units per hour. It is scaled in units per minute. Simply divide you units per hour value by 60 and enter that value.

Q3: I have set the current output up correctly but when I connect it to my PLC analog input card I don't get a reading.

A3: The 4 to 20 mA current output is usually converted to 1 to 5 volts on the input card by passing the current through a 250 ohm resistor. Many PLC's and building management systems ground one side of the resistor. The MASStrol does not have an isolated output and this action effectively shorts the MASStrol current output to ground. The solution is to install a loop isolator between the MASStrol and the PLC input card. SUPERtrol II has isolated inputs and outputs.

Q4: Can the MASStrol accept a 1 to 5 volt input?

A4: No this is not possible because of the way the software is written. SUPERtrol I and II are able to accept 1 to 5 volt inputs.

Q5: I do not have a pressure transmitter on my process how can I make the MASStrol see a constant pressure.

A5: In the variables menu set the PRESSURE LOW **and** PRESSURE HI variables to your desired constant pressure. The same procedure works for the TEMPERATURE LOW and TEMPERATURE HI variables if you wish to set the temperature to a constant value.

Q6: Can the MASStrol be made to follow the saturated steam curve using only either a pressure or temperature process transmitter?

A6: If you have only a temperature transmitter then set your TEMPERATURE LOW and TEMPERATURE HI variables as normal. Set the PRESSURE LOW **and** PRESSURE HI variables to zero. This lets the MASStrol know that there is only a temperature transmitter present and that the value being read must be used as the entry point to the saturated steam tables. A similar procedure can be used if only a pressure transmitter is available.

Q7: What is the K-factor?

A7: The K-factor is a number that converts incoming pulses to engineering units such as gallons. If the K-factor is 14.7 this means that the MASStrol will wait until 14.7 pulses have been accumulated before incrementing the totalizer by one unit.

Q8: If I am using an RTD for temperature input to the MASStrol does it have to be of any particular type?

A8: The MASStrol only accepts a PT100 RTD that has a fundamental interval of 38.5 ohms. This is known as a DIN type 43-760.

Q9: Does the MASStrol need a ground connection from the 110 ac volt supply?

A9: No the MASStrol **must not be grounded** to the supply. **Do not** put a ground connection on to the terminal labeled "chassis ground".

Q10: I was connecting a transmitter to the MASStrol and I accidentally connected the two transmitter wires together, will I have damaged the MASStrol?

A10: It is likely that you will have caused thermal damage to the 100 ohm high precision resistor on the transmitter's input channel. You have effectively connected 24 volts to ground via the 100 ohm resistor. The MASStrol should have its calibration checked.