

## FPM964DTU Digital Trip Unit Instruction Manual



The FPM964DTU digital trip unit is an electronic monitoring and protection unit consisting of a digital meter and a remote DIN rail mounted relay unit. It offers increased reliability and accuracy over the traditional analogue meter relay and is available to measure all the same electrical parameters as the standard digital meters - AC Voltage, AC Current, DC Voltage, DC Current, Frequency and Power (Watts or Vars).

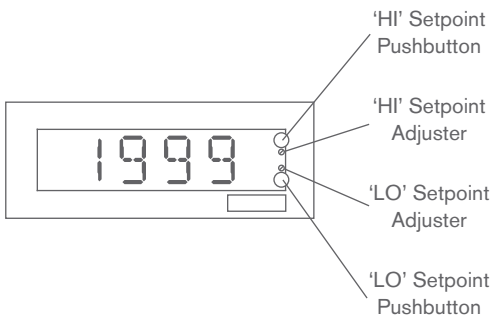
The digital trip unit has 'HI' and 'LO' trip points which can easily be set by the user with the aid of a small screwdriver and can be verified by pressing one of two push-buttons on the front of the meter. The FPM964 digital meter constantly displays the measured parameter so if a system is approaching its trip point it can be observed and action taken. Optional terminal protection covers are also available.

### OPERATING INSTRUCTIONS

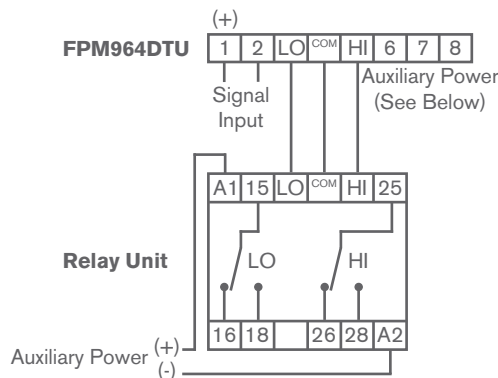
There are two adjustable set points for fault condition and to trip the relay unit. The 'LO' set point is selected by pressing the lower push-button on the front of the digital meter. The display switches from the measured signal to the 'LO' set point and this is adjusted through a multiturm preset control just above the push-button.

This is accessible by a small screwdriver through the front of the digital meter and can be adjusted to the desired set point value. When the push-button is released the display returns to show the measured input signal. The 'HI' set point can be set using the upper push-button and preset control and by following the same procedure.

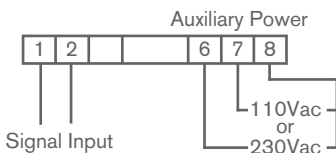
The 'LO' output relay energises upon 'LO' condition and the 'HI' output relay energises upon 'HI' condition. Two red LED's positioned adjacent to each push-button indicate whether the measured signal has passed either set point and hence the meter relay status.



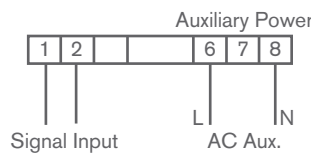
### CONNECTIONS



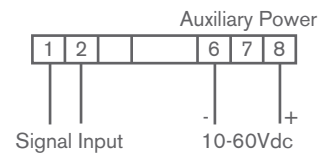
**FPM964 Standard Dual AC Auxiliary Supply**  
 110/230Vac ±20% (Burden < 3VA)



**FPM964 Non Standard AC Auxiliary Supply**  
 12Vac, 24Vac, 48Vac, 415Vac ±20% (Burden < 3VA)

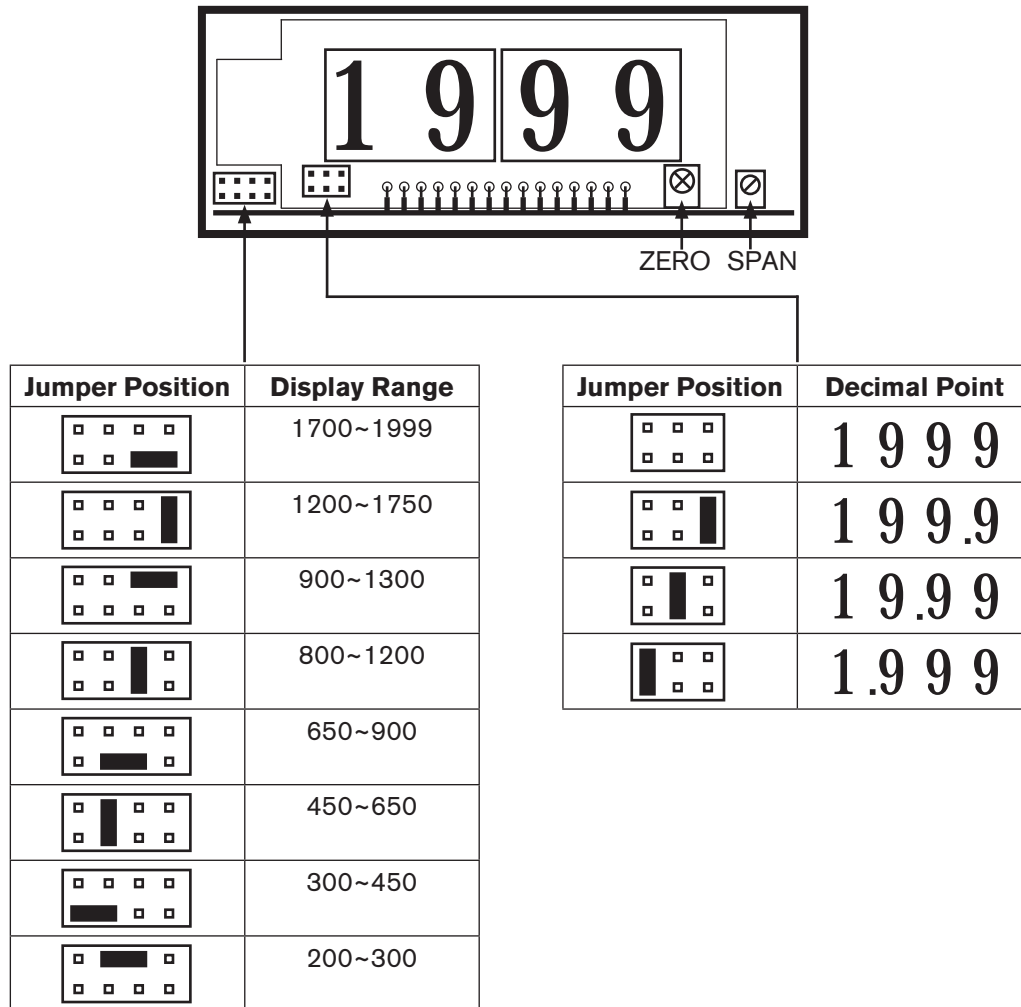


**FPM964 DC Auxiliary Supply**  
 10-60Vdc (Burden < 2W)



## Calibration Instructions for FPM964 Digital Panel Meter (Except 4-20mA)

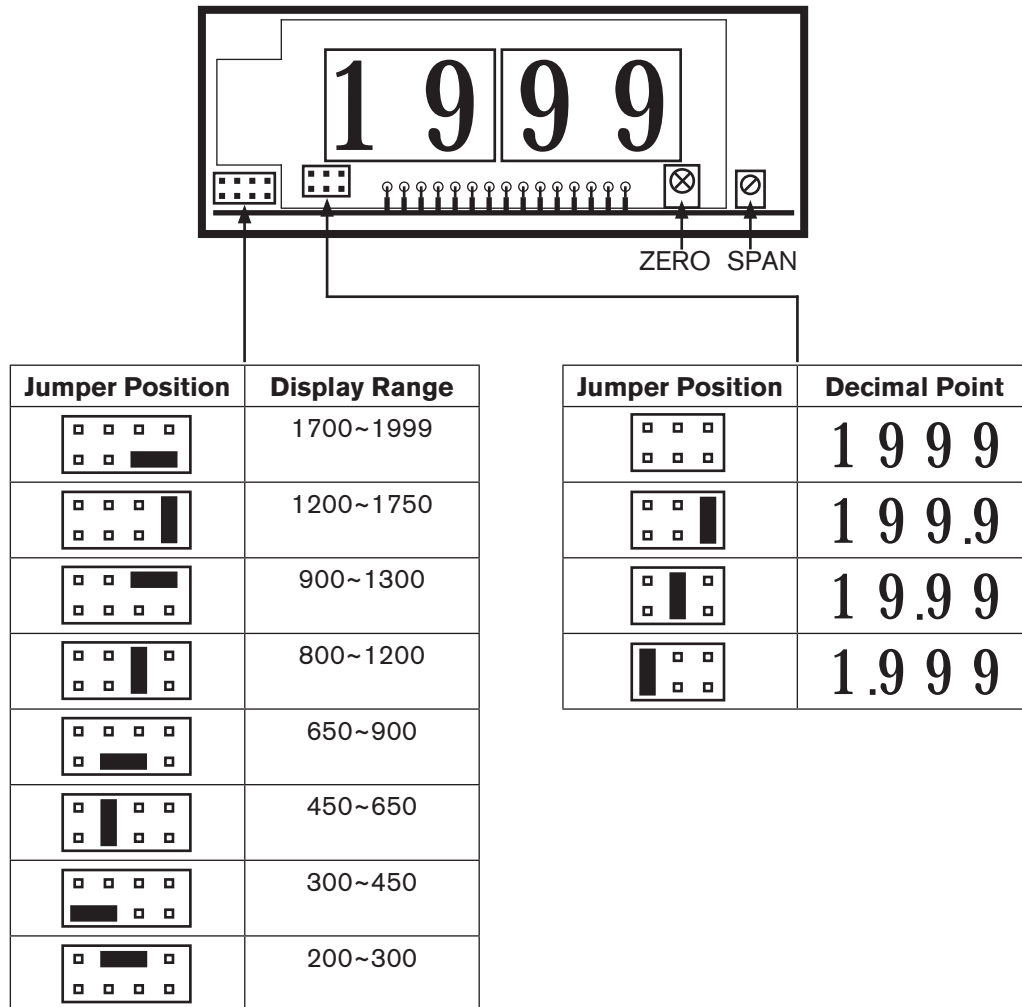
1. Remove the front lens from the panel meter.
2. Select the overall display range. This is done by repositioning the ratio jumpers JC1 and JC2 (see tables below).



3. Connect the auxiliary power supply to the panel meter and switch on for at least 3 minutes.
4. With no input signal being measured, check the display is reading zero. If necessary, adjust the single turn potentiometer marked 'ZERO' until zero reading is displayed.
5. Inject full scale input into terminals 1 (+/~) and 3 (-/~) and adjust the multturn potentiometer marked 'SPAN' until display reads the full range required.
6. Check the meter calibration at zero, half scale and full scale and repeat steps 4 and 5 above if necessary.
7. Replace the front lens.

## Calibration Instructions for FPM964DCA 4-20mA Digital Panel Meter

1. Remove the front lens from the panel meter.
2. Select the required overall display range by repositioning the ratio jumpers JC1 and JC2 (see tables below).



3. Connect the auxiliary power supply to the panel meter and switch on for at least 3 minutes.
  4. Inject 4mA input into terminals 1(+) and 3(-) and adjust the single turn potentiometer marked 'ZERO' until display reads zero.
  5. Inject 20mA input into terminals 1(+) and 3(-) and adjust the multiturn potentiometer marked 'SPAN' until display reads the full range required.
  6. Inject 4mA input into terminals 1(+) and 3(-). Display should now read zero.
  7. Check the meter calibration at the following points:-
    - Input = 4mA      display reading = zero
    - Input = 12mA    display reading = half scale
    - Input = 20mA    display reading = full scale
- and repeat steps 4 to 6 above if necessary.
8. Replace the front lens.