

APM Advanced Panel Meters

Digital process meters for analogue sensors.

The APM Series Digital Readouts provide accurate and economical measurement. These devices can be implemented on hydraulic test stands, machinery and other control systems.

These panel meters are supplied fully pre-calibrated and pre-configured, however the configuration can be changed at any time via the USB port. The easy-to-read display provides a wide viewing angle, 40 segment bar graph, large 4-digit display, separate Starburst display area for annunciators (custom messages and alarm information) and dynamic back light colour.

The digital readouts together with our range of digital flowmeters, temperature and pressure transducers, provide the instrumentation needed to analyse the performance of pumps, motors, valves and hydrostatic transmissions.



Features

- Combined digital and bar graph display.
- USB port for custom user settings.
- Warning flash backlight.
- Less than 53mm deep.
- Visibility:
 - User-adjustable backlight brightness and colour (red, green, white).
 - Wide viewing angle (horizontal and vertical).
 - Custom annunciators.
- Programmable:
 - Display Range (Both Min & Max values).
 - Two independent alarm set-points.
 - Two independent outputs or 4-20mA analogue monitor outputs.



Sales Order Code

Please contact our technical sales team to discuss any special order requirements.

CODE	INPUT TYPE	ANALOGUE OUTPUTS *	RESET INPUT FOR PEAK VALUE **
APM-MA	4-20 ma	2 x 4-20mA	Yes
APM-5V	0-5 V	2 x 4-20mA	Yes

* Analogue and digital outputs share the same terminals.

** Preconfigured to reset the peak value after 14 seconds.

Functional Specifications

INPUT	VOLTAGE	CURRENT
Range	0 to +/- 10 Vdc	0 - 50 mA
Impedance	100 kΩ	15 Ω
Accuracy	0.1% of input or 5 mV whichever is greater	0.01% of input or 5μA whichever is greater

Environmental

Operating Temperature: -10 to +60 °C

Storage Temperature: -40 to 70 °C

IP rating (from the front): IP65

Power Supply:

Nominal Input (ac or dc): 12 – 24 Vac/Vdc***

Max power consumption: 1.6 W

Display:

Number of Digits: 4

Digit height: 12 mm [0.47"]

Number of message characters: 4

Backlight Colours: Red, Green, White (Preconfigured to Green. Changes to Red when reading is HI).

Decimal Places: User configurable (3 max)

Digit update frequency: 0.08 – 1.8 s (Preconfigured to 0.94s)

Outputs:

Max Voltage: 24V

Max Current: 500mA

Analogue Output: 4-20mA

Connection Type:

Signals+ and Power: Screw Terminal – rear of unit

Configuration port: USB B – rear of unit

Material: Makrolon® 2858

Weight: 150 g (0.4 pounds)

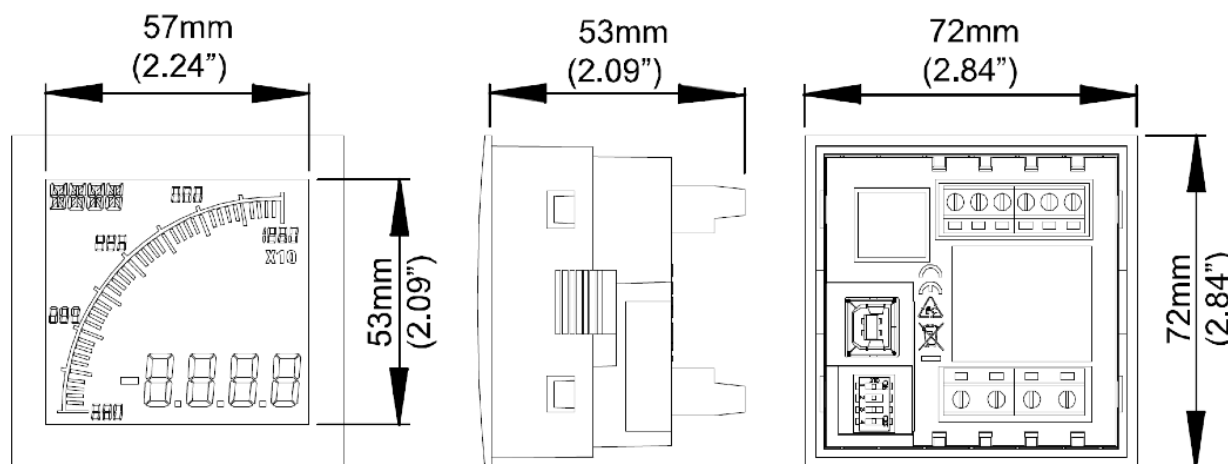
*** Power supply to the unit must be fused at 0.5A / 250V Type F with a breaking capacity of 35A or greater.

Signal cables connected to this device must not exceed 30 metres long.

Installation Details

Dimensions in millimetres (Inches)

The APM digital readouts are designed to be panel mounted.



Panel cutout: 68mm x 68mm +0.7 -0mm [2.68" x 2.68" +0.02" -0"] as per DIN43700/IEC61554

Max panel thickness: 10mm

Accessories

For cable (M12x1 5-pin) to leads:

- 5 meters: FT10228-05
- 10 meters: FT10228-10
- 30 meters: FT10228-30

For Pressure Transducer see WIKA-A-10 Type Bulletin

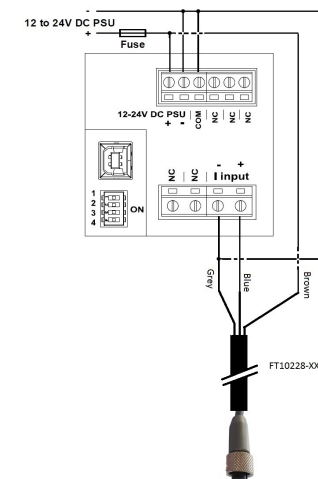
For Temperature Transducers see TP125 Bulletin

For Flow meter see CT, CTR, GF or FlowHub Bulletin

Connection Schemes:

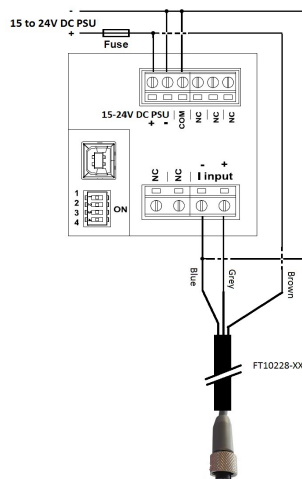
Cut and insulate the unused wires.

4-20mA 3-wire (CT-mA & CTR-mA)



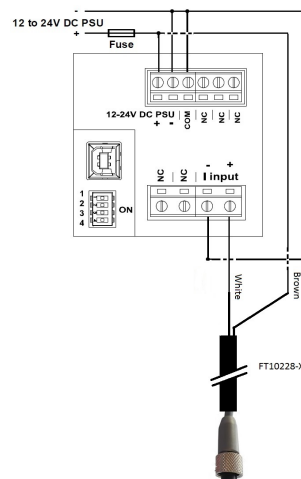
Flow

4-20 mA 3-wire (FlowHub-mA)



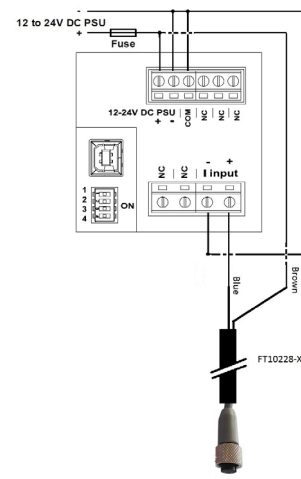
Flow

4-20mA 2-wire (TP125-mA)



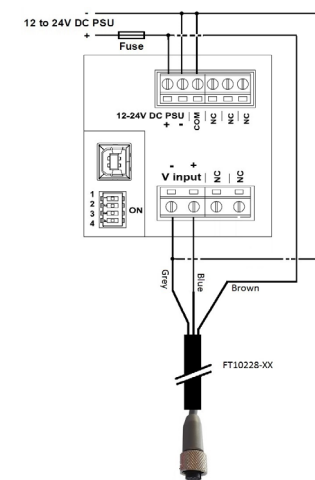
Flow

4-20mA 2-wire (WIKA-A-10)



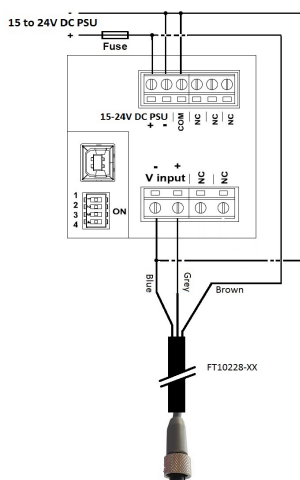
Pressure

0-5V (CT-5V & CTR-5V)



Flow

0-5V (FlowHub-5V)

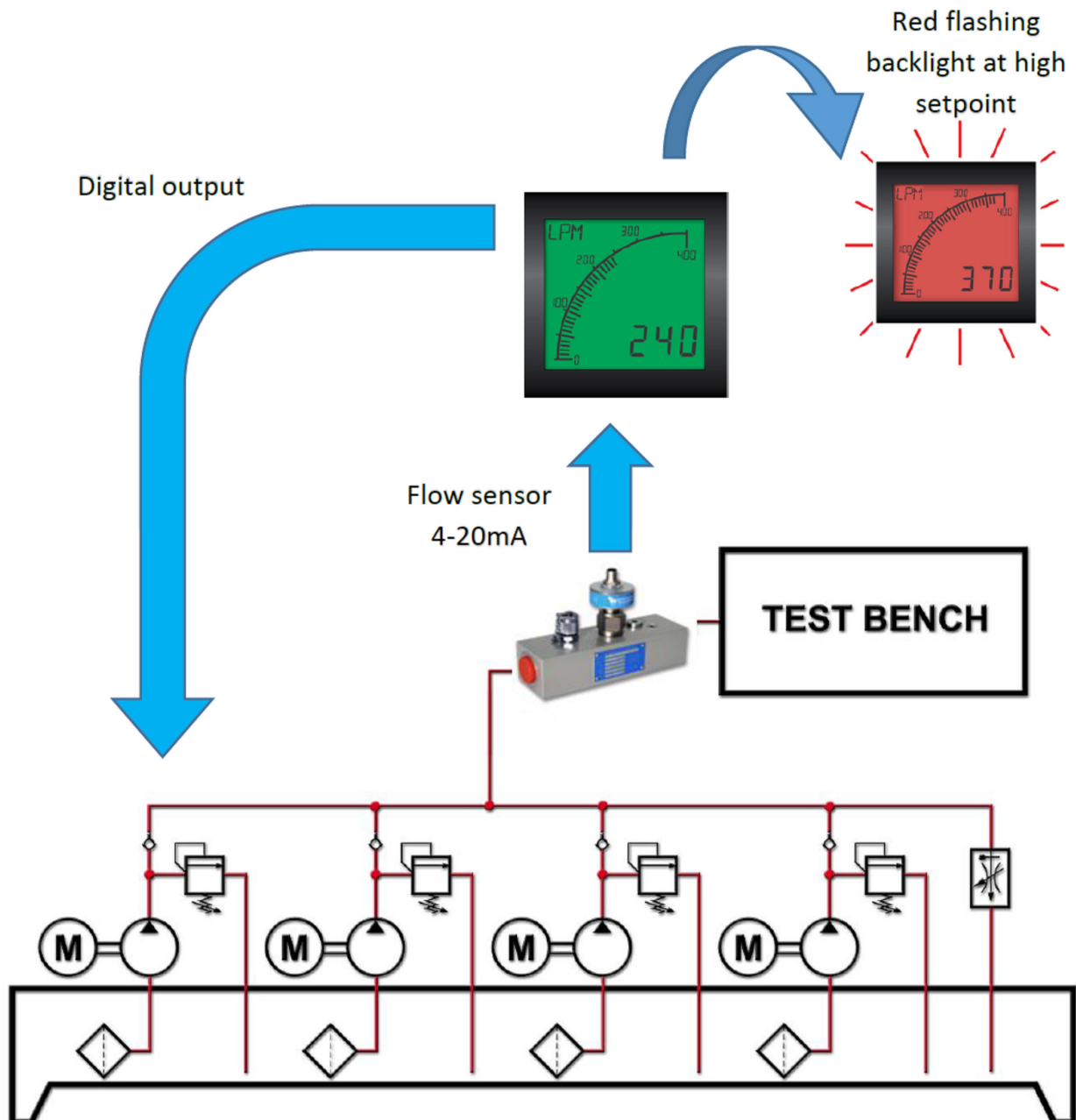


Flow

Flow Rate Application Example

The APM digital readout is used to display the flow rate of oil flowing to the test bench. The 4-20mA analogue output from the CT400-MA is scaled to litres per minute, and the custom annunciator set to "LPM".

High setpoint is configured so that the normal green display will flash red when the flow rate is over 370LPM, thereby alerting the operator. Additionally the APM digital outputs are integrated into the pump system so the pumps are stopped if the setpoint is exceeded.



APM Advance Panel Meter - Configuration Sheet

Sensor Range:

Display Units:

LPM (Litres Per Minute)	
GPM (US Gallons Per Minute)	
BAR (Bar)	
PSI (Pound per Square Inch)	
°C (Degrees Celsius)	
°F (Degrees Fahrenheit)	
K (Kelvin)	
Other:	

Choose one option or select 'Other' and specify units

Backlight Colour:

Red	
Green****	
White	

Choose one option

Backlight Colour when Reading is HI:

Red	
Green****	
White	

Choose one option

****Default option

The selected configuration and additional settings can be changed at any time via the USB port (USB cable not supplied) and the APM Configurator software (available to download free of charge from <http://truapm.com/download-software/>).

Flashing:

Yes	
No****	

Choose one option

Clear Peak Bar After:

0 sec	
2 sec	
6 sec	
14 sec****	
30 sec	
1 min	
2.1 min	
4.2 min	
8.5 min	
Never	

Choose one option (Times are Approximate)