

4-20mA control signal from Utility Meters

Installation And Operational Instructions



Order Code **um420-230** (230 volts Version)

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Installation Instructions

Mounting

The UM420 is designed for wall mounting, a screw case hanging position is located at the top centre of the case with two wall fixing positions located under the terminal cover

Wiring

Wiring block list -- terminals are marked on the pcb – Remove Meter front cover to expose wiring block

Wiring Terminal List

1 = Power In (+) -- Either Mains 230v (110v USA) or 24v

2 = Power In (-) -- Either Mains 230v (110v USA) or 24v

3 =

4 =

5 =

6 = Flow Meter 1 (+) (Or Electricity Meter)

7 = Flow Meter 1 (-) (Or Electricity Meter)

8 = Pulse (+) (Out -- To BMS)

9 = Pulse (-) (Out --To BMS)

10 = Analog Output (4 -20 mA) 1 Active (where fitted)

11 = Analog Output (4 - 20 mA) 2 (where fitted)

12 = Analog Output (4 - 20 mA Passive (where fitted)

13 = CAT Terminal 1 (+) – Caution Alarm Terminal

14 = CAT Terminal 1 (-) – Caution Alarm Terminal

15 =

16 =

17 =

18 =

19 =

20 =

21 =

Input Terminals From Meter
Flow (Water – Oil etc)
Energy (Electric)



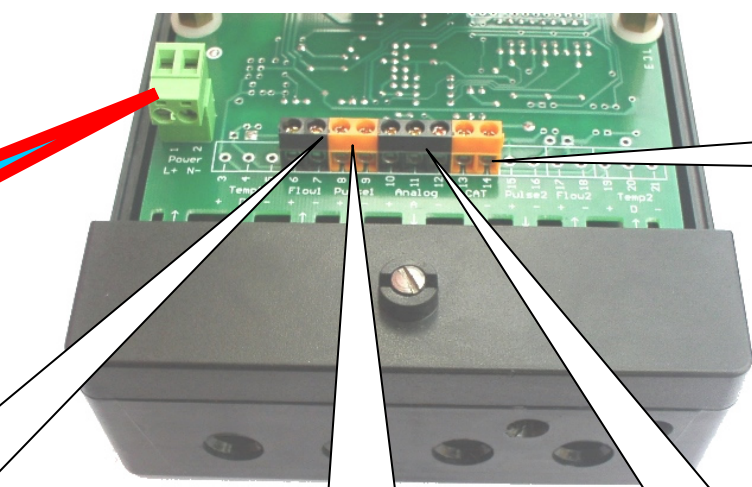
Mains Power

Cat Terminal

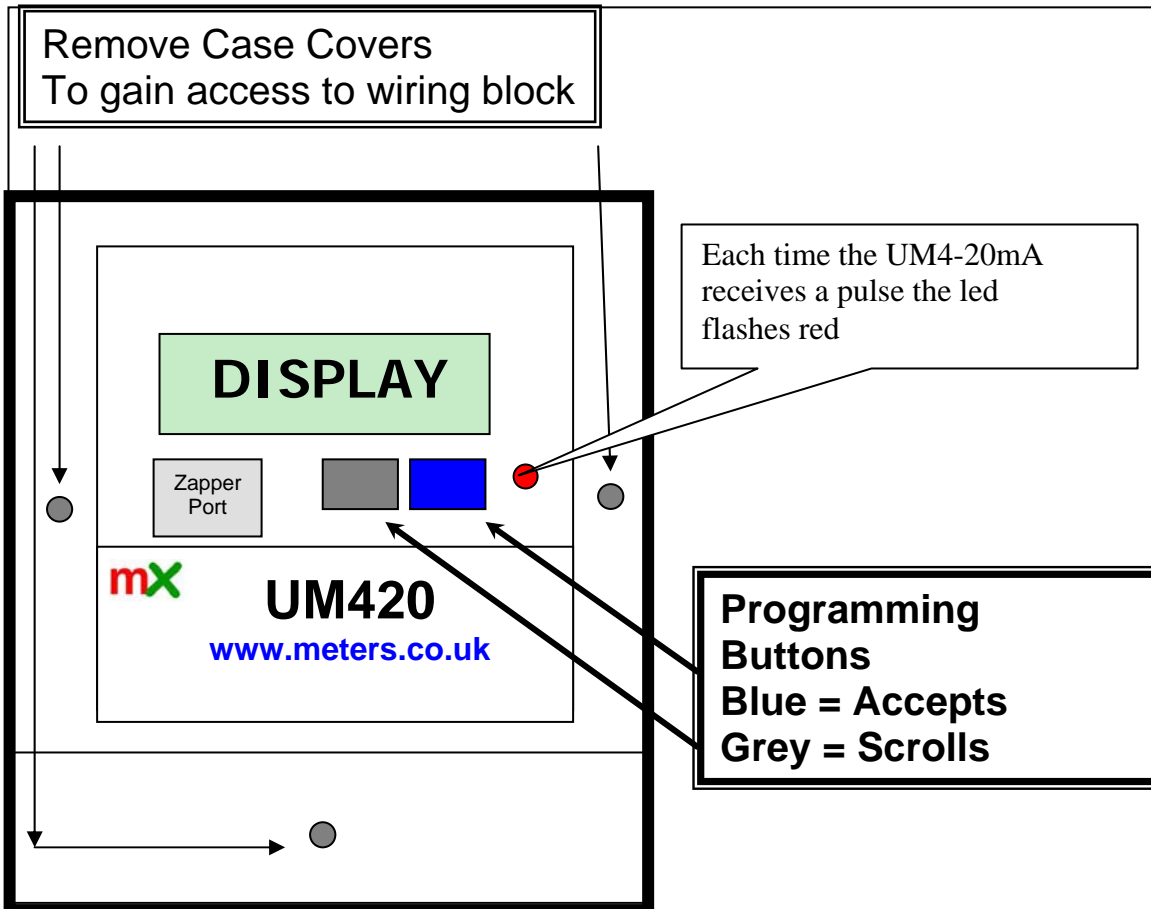
Flow Input
Water or Electric Meter

Pulsed Output
To BMS etc

Analog inputs



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Installation

Remove **UM4-20** cover and install all wiring leaving the **connection of either mains supply 230v or 24v until last**

Wiring standards must conform to IEE regulations

It is recommended to use shielded cable manufactured to BS4360 Class 5 or VDE0295 Class 5

Programming UM4-20

At Boot up - Sequence

Matrix Metering

UM4-20 Version No

Boot Up –

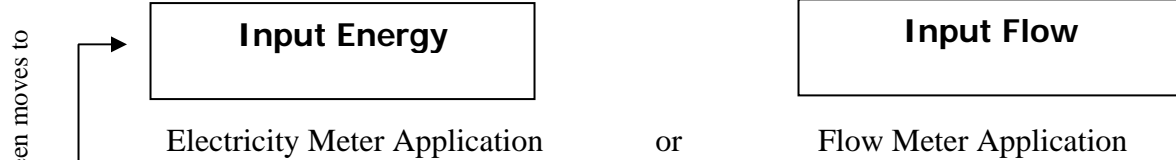
Is split into 4 sections each section scroll (Left/Grey Button) and Accept with (Right/Blue Button)



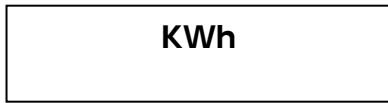
Installation Tip
Buttons
Left/Grey = Scroll
Right /Blue = Accept

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1st Screen Set (Setting of Energy or Flow)



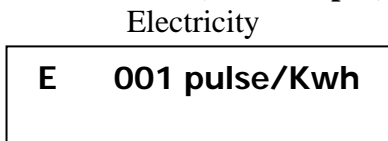
2nd Screen Set (If kWh requested)



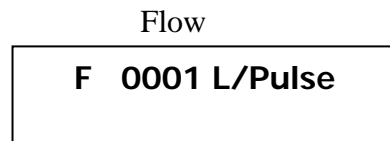
Counter either Kilowatt Hours
or Mega Watt Hours (commercial)



3rd Screen Set (Pulsed input)

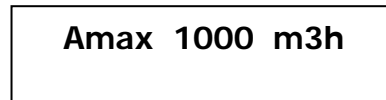
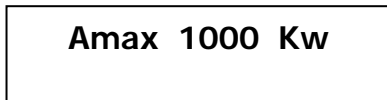


Number of pulses per kWh



No of pulses per Litre
(Pre selectable 1,10,100 or 1000)

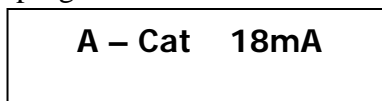
4th Screen (A max – Settings -- Water Flow Meter)



The maximum setting (what the 20mA value is)

5th Screen A Cat – Caution Alarm Terminal

Acts as a caution point – despatches a voltage at a pre programmed point from terminals 13 & 14 if not required either program 00 or don't connect



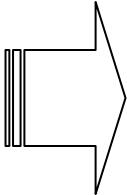
18 mA default setting

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Installation Tip
So Important

END OF PROGRAMMING
THE UM 4-20 NOW AUTOMATICALLY SCROLLS
THROUGH THE SETTINGS

5th Screen Set



Reject Settings

Accept Settings

THIS STAGE IS VERY IMPORTANT

If during the auto scroll you are unsure of the setting – press Reject Settings and start again

Should you be sure the settings are correct - press Accept Setting

6th Screen

Hold to Save

You will need to hold the Blue/Right button down firmly for 10secs – the buzzer will sound continuously

Last screen

Saved

At this point all the settings are saved

Operational Data

Default Screen

Current Energy/Flow

IE/IF 123 m3/h

Actual at this moment in time in KWh's (or MWh'S) m3h

Minimum

10 mA

What the low 4mA is set for

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Maximum

Amax 650

What the 20mA maximum is set for

Cat Terminal

A- cat 18 mA

Settings

Flow in metres cubed per hour 1 m³h = 3.6 litres
1 megawatt = 1000 kilowatts

To Change Settings

Once passed screen set no 6 – the only way to access the settings is with a Zapper Unit
Reference www.hcm4.com/zapper.htm

4 – 20 mA Data

Can be set for either instantaneous Flow or Energy

Total no of graduations 800

Value of each graduation 20 micro amps

Supply Voltage 15 volts

Maximum Voltage 30 volts

High Refresh Rate = 1 second

Source – Active (outward) Terminal No's 10 & 11

Highest Permissible Load Resistance 600 Ohms

Sink – Passive – (inward) Terminals No's 11 & 12

(Terminal 11 = common)

CAT Terminals (Caution Alarm Terminal)



Offer the option of providing a error/caution alarm when points are reached near the high operating level (Orange 18 mA) and at the peak level (Red 20 mA)

How it works -- The UM4-20 despatches a voltage (24 volts outward

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from terminal 13 at 18mAmps (Orange Alert) and a 24 volts outward from terminal 15 at 20mAmps (Red Alert)

Guarantee

All products are guaranteed on a return to base basis only, for a period of 12 months from dispatch date. No compensation can be offered, relating to consequential loss.

The company reserve the right to refuse claims where it has been deemed the product has been incorrectly installed

NEED REMOTE READINGS ACCESS TO METERS!!!

Remote Counter Unit

PROVIDES EASY ACCESS TO READING FOR ALL TYPES OF UTILITY METERS – Electricity, Gas, Heat & Water etc

- mX 1 & 6 way versions
- mX Easy programming – (two buttons on front)
- mX kWh/m3h/lph or Monetary Read Outs (£ \$ E)
- mX Manufactured to ISOEN 8859-2
- mX Simple User Friendly Readout
- mX 230/24 volts
- mX Pulse Output – (Open collector –with grab circuit)
- mX Zero Display Option (Resettable Display)
- mX 230v or 24v

Reference www.meters.co.uk/rcu.htm



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