

# AUTOMETERS

SYSTEMS

## Programming the meter

When you receive the meter there will be at least one value that you must programme into the meter. This is the current transformer ratio.

If the meter has been purchased with the intention of using the RS 485 Modbus output then you will have to program the Modbus parameters you require. See reverse Communication. (RS 485 Modbus)


## IMPORTANT NOTICE

The HT-1095 is a MID approved panel meter, once you have altered any of the parameters e.g. Current transformer ratio or voltage ratio and you have come out of the programming mode you cannot alter them again. This rule does not apply to the Modbus settings.

## Meter programming check

To check the settings which have been programmed into the meter.

Long press  Modbus Address.

Short press  to scroll through the other settings:

Baud Rate

Parity

Primary current transformer ratio ( c. t. 1)

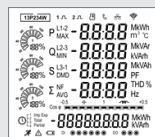
Secondary current transformer ratio ( c.t. 2)

Meter serial number, 7 day program time

Date and Time


Tariff 1-8

Full test icons on display



## Password Entry



Setting-up mode is password protected, so you must enter the correct password.

By firmly pressing the button  for 3 seconds, the password screen appears.

The default password is 1000.

If an incorrect password is entered, the display shows ERR.


## C.T. (Current Transformer)


From the main Set-up menu, Use  and  to select the CT option.



And long press  for confirmation

## C.T.2 (Current Transformer)

Set C.T.2 secondary current input.  
Options: 5A or 1A  
Default CT2: 5A

Long press  to enter the CT2 routine.


Press  for 3s, the CT2 setting will flash.


Use  and  to choose CT2 with 5A or 1A.



And long press  for confirmation

## C.T. Rate (Current Transformer)

To set the primary current ratio in the meter you must program the divider into the meter. e.g. to set 200/5 amp input "0040" (Divide the primary by 5) 5 amp being the secondary of the c.t. See table below.  
Options: 1~2000  
Default CT rate 1. ( New Ratio Must Be Programmed Into The Meter)

Long press  to enter the CT Rate routine.

Press  for 3s, the CT rate setting will flash.

Use  and  to choose CT rate with 1~2000.

And long press  for confirmation

# HT-1095 METER

## Quick setup guide



## Example of meter set at 200/5 amp

Example of how the display should look for a meter programmed to 200/5 amp. See table for more settings.

C.T Primary	Number to program into the meter
100/5	0020
150/5	0030
200/5	0040
250/5	0050
300/5	0060
400/5	0080
500/5	0100
600/5	0120
800/5	0160

## Example of meter set at 200/1 amp

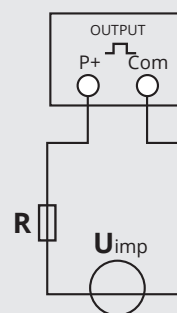
Example of how the display should look for a meter programmed to 200/1 amp. See table for more settings.

C.T Primary	Number to program into the meter
100/1	0100
150/1	0150
200/1	0200
250/1	0250
300/1	0300
400/1	0400
500/1	0500
600/1	0600
800/1	0800

## Pulse Output

The pulse outputs can be set to generate pulses to represent kWh/kVarh  
Pulse constant: 0.001/0.01/0.1/1/10/100/1000 kWh or kVarh per Pulse  
Pulse width: 200/100/60 Ms.  
The pulse output is passive type, complies with IEC62053-31 Class A.




**ATTENTION:** Pulse output must be fed as shown in the wiring diagram below. Scrupulously respect polarities and the connection mode. Opto-coupler with potential-free SPST-No Contact.  
Contact range: 5~27VDC Max. current Input: 27mADC



## Pulse

This option allows you to configure the pulse output. The output can be set to provide a pulse for a defined amount of energy active or reactive.


This option sets the pulse output type, pulse rate, duration time.

From the Set-up menu, Use  and  to select the Pulse option.  
And long press  for confirmation


## Pulse rate

Pulse rate options: 0.001 , 0.01 , 0.1 , 1 , 10 , 100 , 1000 kWh / kVarh per Pulse. Default : 0.01 kWh (100imp/kWh)

Use  and  to select Pulse Rate option.

Long press  the setting will flash.

Use  and  to choose Options.

Long press  for confirmation.

## Pulse Duration



Pulse Duration time option 200, 100, 60mS  
Default : 100mS

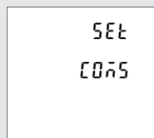
Use **PF Hz MD** and **P** to enter Pulse duration routine.

Long press **E**, the setting will flash. Use **PF Hz MD** and **P** to choose Options.

And long press **E** for confirmation.

Press **Ph S** to return the Pulse Duration set up menu.

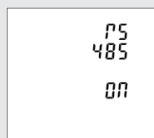
## Communication (RS 485 Modbus)



The RS485 port can be used for communications using Modbus RTU protocol. Parameters such as Address, Baud rate, Parity, Stop bit can be selected.

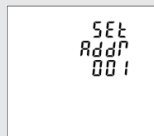
Long press **E** to enter the Address option.

## Communication status



Indication only

## Address



An RS485 network can accommodate up to 255 different devices, each identified by an individual address. The Modbus address range on the HT-1095 is between 001~247

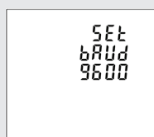
Default setting from Autometers is 001

Long press **E** to enter the selection routine.

The address setting will flash. Use **PF Hz MD** and **P** to increment or reduce the number.

Long press **E** for confirmation.

## Baud rate



Baud rate options: 2400 4800 9600 19200 38400 (bps).  
Default: 9600bps

From the Set-up menu, Use **PF Hz MD** and **P** to select the Baud rate options.

Long press **E** to enter the selection routine.

The Baud Rate setting will flash. Use **PF Hz MD** and **P** to choose Baud Rate.

And long press **E** for confirmation

## Parity



Parity Options: NONE, EVEN, ODD.

Default Parity : EVEN

Note that if parity is set to ODD or EVEN, Stop Bits will be set to 1 and cannot be changed.

From the Set-up menu, Use **PF Hz MD** and **P** to select the Parity options.

Long Press **E** to enter the selection routine.

The Parity setting will flash. Use **PF Hz MD** and **P** to choose Parity.

Example shows:

Set Parity: EVEN

And long press **E** for confirmation.

Press **Ph S** to return the main set up menu.

## Electrician

The HT-1095 panel meter should only be installed by a fully qualified electrician who has knowledge of electricity meters connected with current transformers.

It is the installer who is fully responsible for the safe installation of this meter. It must be installed to meet the current electrical regulations concerning installation of panel meters.

## EMC Installation Requirements

Please see full installation brochure for details - visit [autometers.co.uk](http://autometers.co.uk)

## Wiring Information

### Power Supply

The HT-1095 receives its power from any one of the voltage connections and Neutral.

### Wiring

Electrical and communication connections are made directly to the back of the meter.

The electrical connections of voltage, current and Pulse output are made directly to the back of the meter. The RS 485 Modbus connections are at the top on the side of the meter.

All terminals are green in colour and can be unplugged, The current terminals are screwed in but can be unplugged if the screws are removed

### Electrical Connections

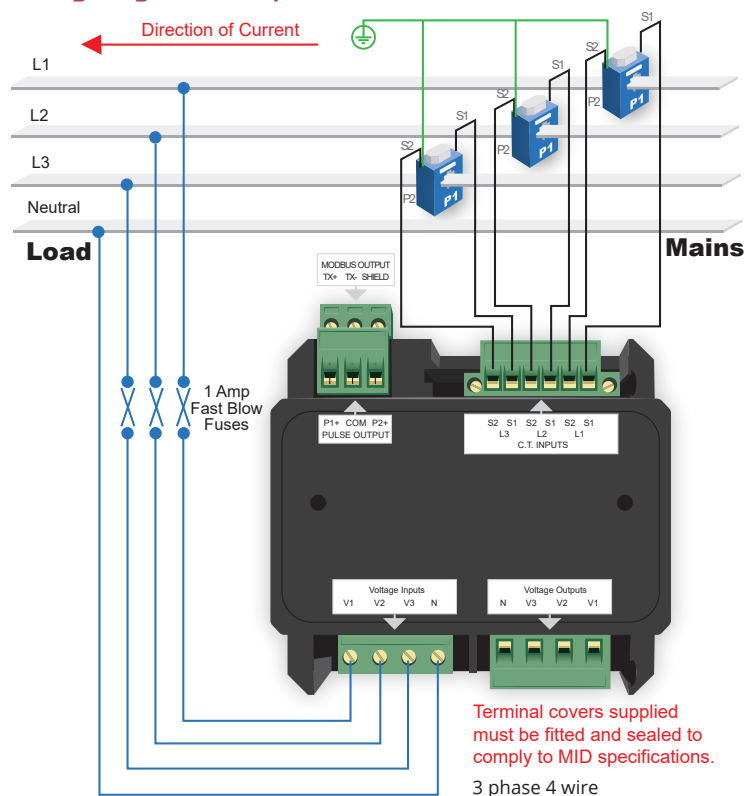
2.5mm flexible stranded cable is recommended for all main electrical connections. For the low voltage communication connections we recommend a twisted shielded cable Belden 9841 2 wire or 9842 4 wire or equivalent.

Phasing and polarity of the AC current and voltage inputs and their relationship is critical to the correct operation.

## Dimensions

The meter is a 96 x 96 mm panel mounted meter with a depth of 70mm  
The cut out hole for the panel meter is 92 x 92 mm.

## Wiring Diagram for 3 phase 4 wire



For full installation brochure please visit [autometers.co.uk](http://autometers.co.uk)