

The Horizon HCC is a 16 Channel Din Rail Pulse Collector capable of receiving pulses from variety of utility meters. Each input is totally independently programmed for both Utility type and Tariff Structure enabling Water, Gas, Electric and Heat meters etc to be collected on a single device.

Using Modbus Connectivity to the Master Horizon HC1 Collector, there can be up to 254 HCC Collectors connected on a single LAN of no more than 1000 Metres length, giving the potential for over 4000 Pulses to be collected to a Single HC1 Master. (for more information on the HC-1 see publication HC1-0513)

The versatility of the HCC is completed by the internal memory, the HCC can be programmed to store pulses in each input to either Single, Two, Three or Four Tariff registers without the need for external time switches.

Each input on the HCC is fully programmable for pulse Value and Input type, i.e. Electricity, Water, Gas etc. All Pulses are stored with in onboard registers in a non volatile memory until requested from the Master HC-1 in a pre programmed log interval.

Due to the Internal memory and the internal time switch it is now possible to program up to four tariffs per pulse input for shift pattern.

## Installation

The HCC should be installed in a dry, dirt free environment away from heat sources and very high electric fields. Temperatures should not exceed 70°C or fall below -20°C.

The HCC comes as standard with its own enclosure, this should be fitted to ensure easy access at all times, fitted at a height allowing the user to open the front window with out the need for ladders. A good height would be 1,5 metres from the floor.

Check contents before installing, you should receive the HCC with a small plastic bag containing a number of plastic grommets. Where possible we advise to use conduit to protect the cables.

Before you install the HCC it is imperative that you check that the HCC has been programmed as per your order, this will be indicated by the document supplied with the HCC meter. (Programming sheet HC0001) It is recommended that a double pole fused spur box is fitted near the HCC for local isolation.

## Horizon HCC wiring schematic

When wiring cables into the enclosure make sure there is plenty of length and that the connections are tight. Where possible allow approximately 100 mm extra spare length on each cable.

## Connecting the HCC

### Pulse Input Connections

Terminals 1-48 are dedicated for pulses from external meters and care should be taken when connecting to these terminals. A red indicator has been allocated and will flash numbered 1-16 to indicate the HCC receiving pulses from external meters connected.

If the external meters are fitted with transistor/opto pulse output rather than a voltage free relay, it is imperative that the + and - wires have been connected to the correct HCC terminals.

The Modbus connection is used to communicate between the HCC and HC-1 Data collectors. Modbus terminals are from 48-50 and have a red light to indicate it is being used (number 18). The red light will remain on all the time when active, flashing when data is being transmitted.

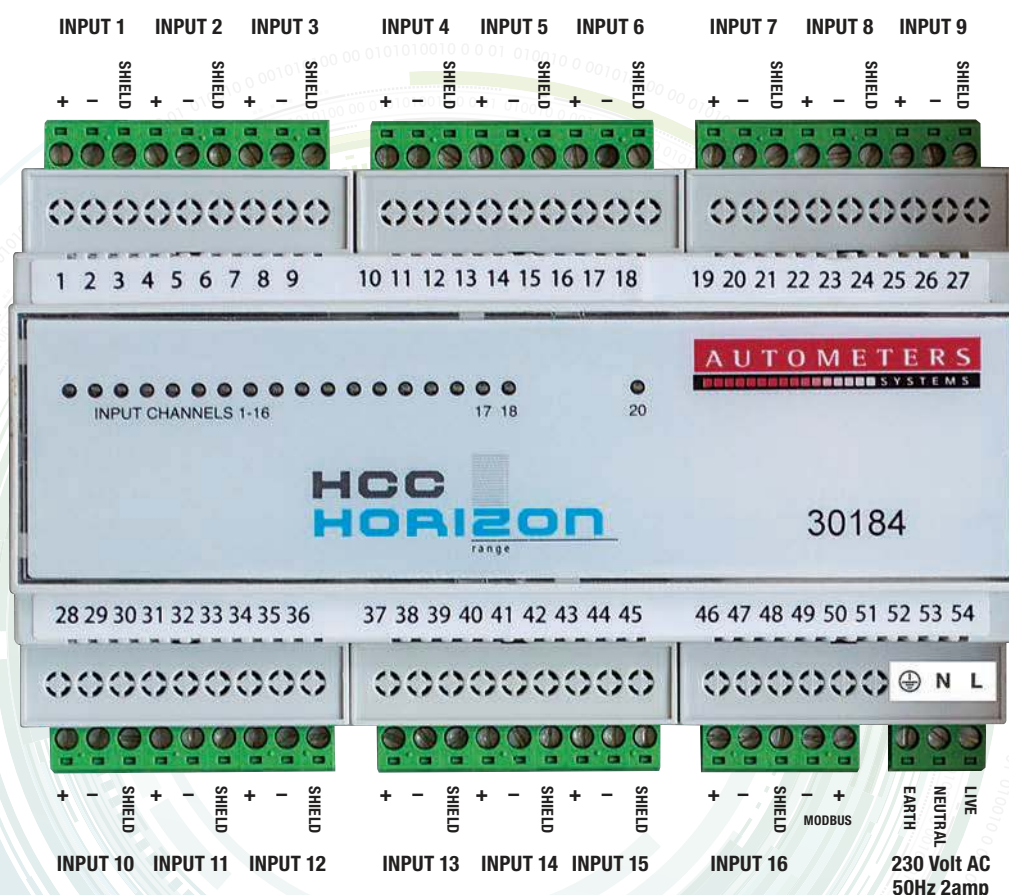
### Power Supply

The power supply to the HCC Data collector is 230 Volt, 50 Hz, 2 amp and should be supplied from a double pole fused Spur unit situated close to the HCC meter, the spur unit must be clearly marked as the disconnection switch for the HCC unit. The supply wires are connected to terminals 52 Earth, 53 Neutral and 54 Live. A green light (number 19) will illuminate indicating the HCC has mains voltage supplied.

## Autometers Commissioning

If Autometers are commissioning the HCC on site then please ensure that all the cables are properly installed in the plastic enclosure and labeled. Where possible please leave details of the meter serial number location and pulse value on each cable inside the enclosure.

**Please note:** The engineer is only available to check the connections in the enclosure and commission the HCC unit; the engineer's priority is to make sure the HCC unit is functioning correctly. Should there be a problem with one of the input pulses the engineer will assist the local electrician to rectify the problem only if time is permitting. Should an external fault still be present and can not be solved due to time allocated then another appointment with the engineer may have to be scheduled.



### Terminals:

#### NEW - Plug in terminal connections

1 - 48 Pulse inputs from meters  
48 - 50 Modbus output to HC1 Meter

52 - 54 Mains Input (230 Volt)

\* All shields are Zero volt (not earth)

#### Pulse Input Cable:

Beldon 9841 (2 core or equal)

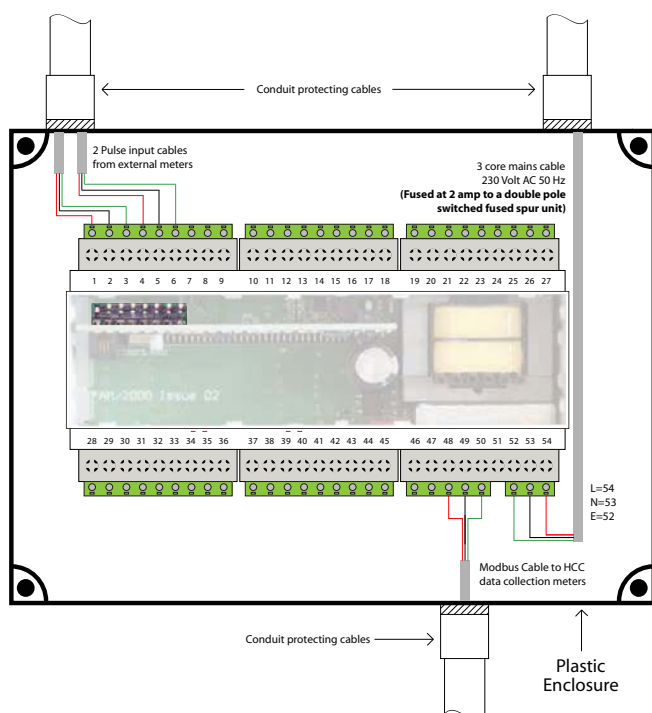
#### RS485 Modbus output:

Beldon 9841 (2 core or equal)

### Information on Indicator Lights:

- 1 - 16 Red lights flash when pulse is received from meter.
- 17 Blue light flashing indicates the processor is running and working.
- 18 Red Light: On all the time indicates Modbus is active. When flashing indicates data is being transmitted.
- 19 Green Light on indicates Power On.

### Horizon HCC data collector installed in the Horizon-9 enclosure

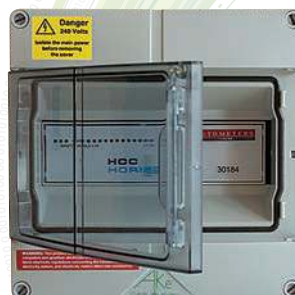


#### Terminals:

- 1 - 48 Pulse inputs from meters
- 52 - 54 Auxilliary Power connections

**Pulse Input Cable:** Beldon 9841 (2 core or equal)

**Recommended Height for Fixing Enclosure:** The enclosure should be fitted at a height to ensure it is easy to open the window, remove the card and in a position where it is protected as much as possible from mechanical damage. A good height would be 1.5 meters from the floor.



**HCC Meter mounted in the enclosure**

### Programming the Modbus Address

1. Switch the mains off which supplies the HCC (by the double pole fused switch)
2. Check that the unit has been fully isolated by using a test instrument.
3. Remove the front plastic plate on the front of the HCC meter. (This is done by placing a thin blade down the left hand side of the window and levering it out).
4. Locate the dill switch positioned on the left hand side as per the illustration opposite. To adjust the address you will need to switch the dill switches to the on position.
5. Switches 1-7 = Modbus address, is programmable from 1- 240. The switches are in binary format. 1 = 1, 2=2, 3=4, 4=8, 5= 16, 6=32, 7=64. e.g. to et the address to 40.....1= Off, 2= off, 3= off, **4= ON**, 5= off, **6= ON**, 7= off.

**WARNING: YOU MUST NOT DUPLICATE A MODBUSS ADDRESS ON THE LAN**

Switch 8 = 120 ohm resistor to indicate end of the Modbus line. This is switched on only if the HCC is at the end of the line.

### Technical Specifications

- Input/Output Terminals:** 16 sets of 3 terminals +, -, and earth  
Supplying a 5Vdc supply to external meters
- External Meter Contacts:** Must have a contact rating greater than 5Va , 20 Ma
- Burden:** Less than 10 VA
- Auxiliary Supply:** 230 +/-10% Volts
- Frequency:** 50 Hz
- Temperatures:** Operating: -10°C to + 60°C  
Storage: - 20°C to + 70°C  
Humidity: 20-90%RH Non Cond

• If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired

### Dedicated Customer Service

Customer care is the cornerstone of the company's success. A positive service policy is observed throughout every specialist area of operation.

The personal involvement of all the directors at every level, a highly trained and motivated staff, fully computerised systems and in depth stockholding combine to provide a level of service which has earned the appreciation of customers across the spectrum of the UK and overseas markets. Computerised distribution systems are geared to a consistent 24 hour despatch of products, with 20 minute despatch being possible in response to urgent demand for small orders.

#### Material:

#### Mounting:

#### Communications:

#### Modbus Details:

#### Standards:

#### LVD Test:

Grey UL94-40 Flame Retardant Lexan  
35mm Din Rail  
Number of ports - One  
2 Wire RTU  
Baud Rate: 9600  
Floating Point High Word First  
EMC - Testing for emissions and Immunity meets the specified requirements as defined in EN 61326-1 : 2006  
EN 61010-2010  
IEC 61010-1 2010

### Important.

The attention of the specifier, purchaser, installer or user is drawn to special measures and limitations to use which must be observed when these products are taken into service to maintain compliance with the CE directives. Details of these special measures and limitations of use are available from HMSO.

REF: IEC 1000-5-1(BS195/210788DC) IEC 1000-5-2 (BS 195/214642DC)

IEC 10000-5-6 (BS 195/210789DC).