

IC 995

Electrical Network Analyser

Autometers Information Centres - Simple, Reliable, Accurate.

Introduction

The IC 995 is the latest in the developing range of IC 900 Series Information Centres. In addition to the standard measured features of its predecessors, the IC 995 breaks new ground. Its large graphic display enables tabulated, bar and line graphs of Harmonic content, making the IC 995 a true engineering network analyser.

Built-in Modbus Communication, Voltage Pulsed output, programmable Digital inputs and outputs ensure simple, accurate, remote monitoring of data, particularly when used in conjunction with the Autometers Horizon Monitoring System.

User-friendly installation, programming and operation make the IC 995 the choice of installers, operators and engineers alike. This, combined with Protocol compatibility across the Autometers Range, ensures that network communication remains one of the key strengths of the Information Centre Range.

Functionality

- 1. Multi-function:** accurately measures phase voltages, line voltages, line currents, active, reactive and apparent power, phase and total power factors, frequency and maximum demand.
- 2. Harmonics:** the IC 995 measures component harmonics up to the 31st inst and THD for both current and voltage.
- 3. Network Analysis:** displays 4-quadrant energies, including active capacitive energy, active inductive energy, reactive capacitive energy and reactive inductive energy. Also measures current "K" factor, voltage crest factor, waveform factor and degree of voltage and current imbalance.
- 4. Inputs/Outputs:** the IC 995 is provided with 4 digital inputs, 2 digital relay outputs, 1 volt-free pulse output (set at 10kwh/pulse) and 1 RS 485 (Modbus protocol) output in order to satisfy remote meter reading and system control monitorings.

Features

- Volts line to neutral
- Volts line to line
- Amps per phase and total
- Instantaneous Kw and total
- Instantaneous Kvar and total
- Instantaneous Kva and total
- Power factor
- Total power Kw, Kvar, Kva
- Max demand Kw, Kvar, Kva
- Energy Kwh, Kvarh, Kva
- Harmonics to the 31st inst.
- Values of voltage and current
- Waveform graph of Harmonics voltage and current
- Bar graph of voltage and current
- 4 digital inputs
- 2 digital outputs
- Alarm contact for over voltage, under voltage, over current,
- Volt free pulse output (Kwh)
- Modbus RS 485 Autometers Protocol

The IC 995 meter is manufactured in compliance to:

EN 62052-11: 2004 (AC) General requirements

EN 62053-21: 2003 (Particular requirements part 21 static meters)

EN61010: 2001 LVD approval



Information

On pressing the Menu key, a sequence of readouts indicating the meter's parameters will be displayed on the front panel:

MEASURE: displays Line voltage, Phase to phase, Line current, Instantaneous power, Power factor, Total power and Max demand

HARMONIC: displays Current and Voltage harmonic data to the 31st inst, wave form showing comparison of voltage and current and bar graph comparing voltage and current

QUALITY: displays Crest factor, THFF, K Factor, Unbalanced factor, Voltage peak, Voltage vector, Current vector

ENERGY: displays Import and Export of Kwh, Kvarh and import of Kvarh

D.RELAYS: indicates status of digital relays

SOE: displays time and date of relays which have been activated

SETTING: programming of meter parameters

Measurement Accuracy

The accuracy-critical components in the measurement circuitry are all passive, high quality and stable. The IC 995 conforms to meter standard BS EN 61036. Overall measurement accuracy is, however, dependant on the accuracy of the external current transformers.

System Use

Although the IC 995 meter can be used in a stand-alone situation, it is ideal for sub metering measuring from different departments and locations. The meter is supplied as standard with RS 485, which enables it to work with the new Autometers Systems Horizon range of data loggers and data transfer systems, as well as many other management systems.

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.

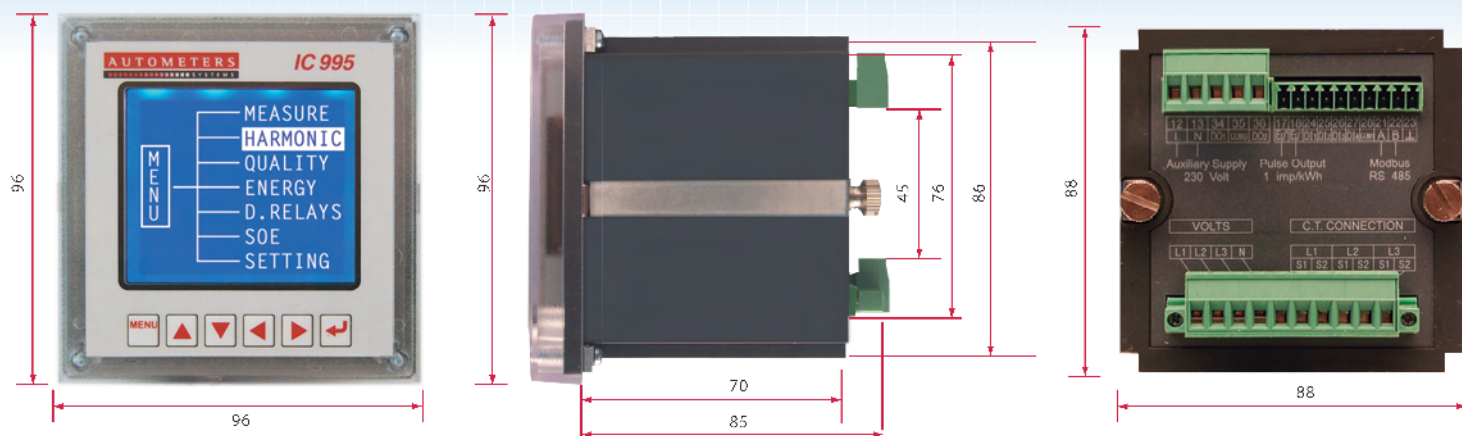
Product Range

Autometers' new metering and monitoring systems range from simple electronic meters to fully programmable electronic multi-function meters displaying Harmonics with voltage and current sign wave graphs. Also available is the new Horizon data logging and billing system, enabling the data to be captured and sent to a dedicated and secure web site for monitoring, creating cost centres and billing.

AUTOMETERS
SYSTEMS

IC 995 Technical Data & Performance

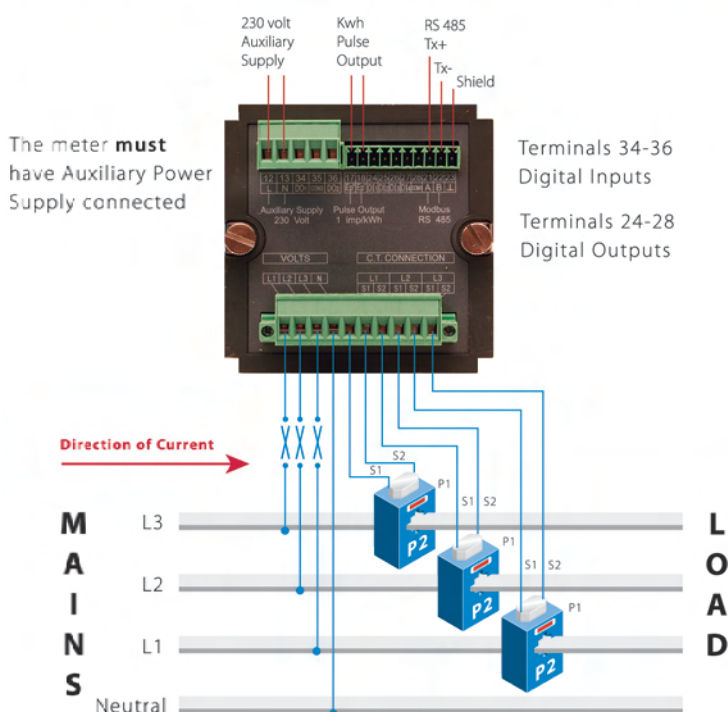
Dimensions



Technical Parameters

Feature	Values
Network	1ph2w, 3P3W, 3P4W
Frequency	45~65Hz
Input	Voltage Normal: AC 100V, 400V Overloading: 600V (continuous); 1000V / 30s Consumption: < 0.2VA
	Current Normal: AC 1A, 5A Overloading: 6A(continuous); 50A / 1s Consumption: < 0.2VA
	Pulse output Mode: Optocoupler pulse output, volt free
Communication	RS485 (Modbus-RTU)
Digital input (DI)	4 drying contact inputs, with +5V power
Digital output (DO)	Mode: 2 NO contacts (AC 250V/3A, DC 30V/3A)
Accuracy	Frequency 0.01Hz, reactive energy 1 class, others 0.5 class
Display	LCD with backlight
Power supply	AC/DC 85~270V; consumption: ≤4VA
Isolation	Power / current input / voltage input: AC2kV/1min; Power / Digital inputs / RS485: AC1.5kV/1min; Inputs / outputs / housing >5M _U
Environment	Working T: -10C~+45C; Storing T: -20C~+70C Relative humidity: 5%~95% Non-Condensing; Altitude: ≤2500m
Material used	Polycarbonate v.0 rated

Connection Diagram 3 phase 4 wire, 230/400v 50Hz



Performance and Data

Measurements

The unit is designed for measuring 3 phase 4 wire star 230/400 volt, 50Hz

Outputs

There is one optically isolated volt free relay kwh on the IC 995 meter

Pulse duration: Default 100 ms

Pulse Value: Default 10 kwh/imp

Relay contacts maximum switching voltage 230 volt 100 Ma

Maximum switching current 0.75 amp (switching power 30 va)

Communication Output

Fully programmable 485 Modbus

Baud Rate: 9600

Wire Mode: 2 WIRE

Modbus Type: RTU

Parity Type: EVEN

Data Format: FLOATING POINT

FP. Format: HIGH WORD 1st

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.

Product development is continuous and Autometers Systems Ltd reserves the right to make alterations and manufacture without notice. Products as delivered may therefore differ from the descriptions and illustrations in this publication.

AUTOMETERS
SYSTEMS

Autometers Systems Limited,
18 Albany Road,
Chorlton-cum-Hardy,
Manchester.
M21 0AW

Tel: +44 (0) 161 861 9056
Fax: +44 (0) 161 881 3745
www.autometers.co.uk
Email: sales@autometers.co.uk
Sales Leaflet: IC995.01.09.09