

Technical Specifications

Model EVC 444

- Accuracy : ±0.5% of reading
- Temperature Sensor : PTC silicon resistance element embedded in SS probe (6x50mm) 2m screened cable
- Gas Temperature Range : -30°C to 60°C
- Pressure Sensor : internal pressure sensor, ranges 0-1.5/ 0-3.0/ 0-7/ 0-10/ 0-20 bar abs.
- Pressure Connection : 1/8" NPT female
- Calibration : Software calibration for p & t
- Base Conditions : pn, tn (free programmable)
- Default values : Pressure, Temperature (or disabled)
- Max. Input Frequency : 1 Hz (nominal <0.5Hz)
- Housing : Aluminium Polyester Coated
- Dimensions : 120 x 120 x 75 mm (wall mount)
- Protection : Weatherproof IEC.144 / IP 66
- IS Approved : ATEX EEx ia IIB T4
- NMi Approved : TC3492 / T6083
- Ambient Conditions : -20°C to +55°C
- Cable Entries (glands) : 2 x PG9, 1 x PG7 (weatherproof)
- Battery Life Time : Nominal 10 years at gas meter frequency <0.5 Hz (medium pulse o/p length)
- Low Battery Alarm : ±1 month operation remains
- Serial port : ModBus ASCII/RTU or 444/555 protocol MV90 compatible (TIM I999) 300-4800 baud (8,N,1)
- Data Logger : Max. 15900 logs (+ Date/Time)
- Logger parameters : Max. 5 from list p, t, CF, C, Q, Qn, V, Vn, VE, VEn, Peak Hour and/ or Day values
Period Totals (Hour, Day, Month)
- Logging Interval : 1, 2, 3, 4, 6, 8, 12 and 24 hour
- Pulse Output function : V, Vn, VE, VEn, V+VE and Vn+VEn
- Dial-out function : On Alarm, On Time (or both)

Model 444 Modem Unit

- | | |
|--|--|
| Mains powered GSM Modem unit | Mains : 200-240 VAC via PG16 gland. |
| Back-up : 2 'D'-size lithium cells. Battery Low alarming via SMS | Comms : Continuously - 4800 baud |
| EVC alarm : Serial link, Alarm O/P or SMS | Antenna : Internal (ext. via PG9 gland) |
| <hr/> | |
| Battery powered GSM Modem unit | Battery : 2 'D'-size lithium cells 3.6V |
| Estimated life time 2 years (15 min./day comms) | Battery Low alarming via SMS |
| Comms : Time Controlled - 4800 baud | EVC alarm : Serial link or SMS |
| Antenna : Internal (ext. via PG9 gland) | |
| <hr/> | |
| Mains powered PSTN Modem unit | Mains : 200-240 VAC via PG16 gland. |
| Back-up : 2 'D'-size lithium cells | Comms : Continuously - 2400 baud |
| EVC alarm : Serial link or Alarm Output | PSTN : 2-wire via PG9 gland |
| <hr/> | |
| Battery powered PSTN Modem unit | Battery : 2 'D'-size lithium cells 3.6V |
| Estimated life time 2 years | Comms : Continuously - 2400 baud |
| EVC alarm : Serial link or Alarm Output | PSTN : 2-wire via PG9 gland |
| <hr/> | |
| All versions | Housing : Polycarbonate Enclosure (wall mount) |
| Dimensions : 240 x 160 x 90 mm | Protection : Weatherproof IEC.144 / IP65 |
| IS approved : [EEx ia] IIC connection to EVC Model 444 (ATEX) | |
| Pulse/Alarm : 2 Isolated MOSFET outputs | Serial : RS232 (EVC 444 and Modem set-up) |
| Indicators : LED (GSM and Output status) | |



Instromet News

Ref.no. IN-444 2004-10

ELECTRONIC VOLUME CORRECTOR Model 444



Highlights

**COMPLETE SYSTEM DESIGNED FOR AMR
INTEGRATED DATA LOGGER
BATTERY OR MAINS POWERED
PSTN OR GSM MODEM WITH SMS ALARMING
NMI AND ATEX APPROVED
USER SOFTWARE under MS WINDOWS®**

INSTROMET Products & Offices

Products

**Rotary Flow Meters - Turbine Flow Meters - Ultrasonic Flow Meters - Flow Computers
Gas Chromatographs - Filters, Valves & Regulators - Calibration Equipment & Systems
Metering & Regulator Stations - Supervisory Systems & Software**

Worldwide Sales Offices

**Argentina - Australia - Austria - Belgium - Brazil - China - Croatia - France
Germany - Hungary - India - Italy - Korea Malaysia - The Netherlands - Nigeria
Poland - Portugal - Spain - Switzerland - United Kingdom - Ukraine - USA**

Information

Instromet B.V.

Munstermanstraat 6 NL-7064 KA Silvolde The Netherlands
Phone: +31 315 338911 Fax: +31 315 338679
E-Mail: info@instromet.nl Internet: www.instromet.nl



Instromet B.V.

Munstermanstraat 6
NL- 7064 KA SILVOLDE

Phone +31(0)315 338911
Fax +31(0)315 338679

www.instromet.nl
info@instromet.nl

Instromet has a continuing program of product research and development. Technical specifications and construction may change due to improvements. This publication serves as general information only, all specifications are subject to conformation by Instromet B.V.



The Company



The Instromet Group of companies is one of the world's leading manufacturers of gas measurement and control equipment. With over 20 manufacturing facilities and international sales offices, and with representation in more than 40 countries, Instromet can satisfy all the requirements of today's global gas sector with an extensive product range covering all areas of measurement, regulation, gas, supervision and control.

Since end of the year 2000 the Instromet Group is a part of Ruhrgas Industries. This Group of companies employs over 10500 people world-wide and is active in gas measurement and control and industrial furnaces.

General



The current requirements for electronic volume correctors (EVC) have a strong focus on communication of the measured data or Automated Meter Reading. For this reason Instromet has designed a new type of EVC together with an interface and communication system, the Modem Unit, that offers full flexibility and therefore fulfils all customers requirements.

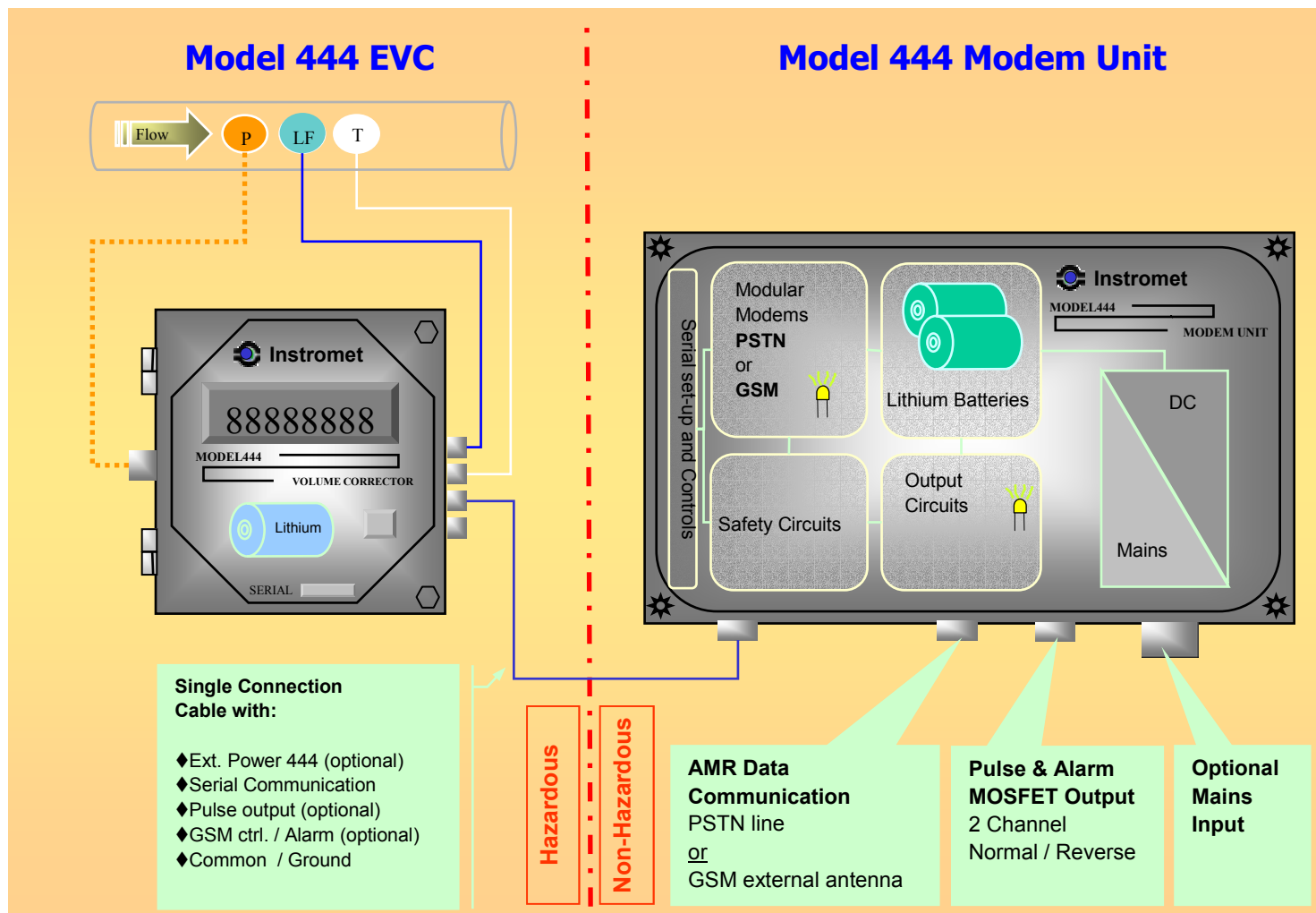
Model 444 Electronic Volume Corrector

The new EVC is a high performance low power device. Advanced technology allows the user to configure the Corrector to the operating requirements. The model 444 is a battery powered, microprocessor based Corrector, designed to convert Uncorrected Volume derived from a gas meter to Corrected Volume using active inputs for pressure and temperature.

Model 444 Modem Unit

In the Modem Unit all necessary peripheral components are integrated in one system. This includes the safety input circuits, the output circuits, the modem (PSTN or GSM) and the (Battery or Mains) power supply unit.

System Configuration



High Performance Electronic Volume Corrector

The Volume Corrector is designed with the latest developments in electronics and therefore offers increased functionality with a very good price performance ratio.

The unit is powered by a replaceable Lithium Battery Unit, battery life will be in excess of 10 years. Alternatively the Corrector can be externally DC powered from the Modem Unit. When externally powered the Corrector Lithium Battery provides full operation during power failure from the Modem Unit. Equally, the Modem Unit can be powered from mains (AC) or from internal Lithium Batteries to maintain system operation. Non-volatile memory provides configuration data retention during battery changes.

The Corrector is designed to the intrinsically safe standards (ATEX) and can be located in either the hazardous area or non-hazardous area.

Functionality

High operating accuracy

Pressure range up to 20 bar abs.

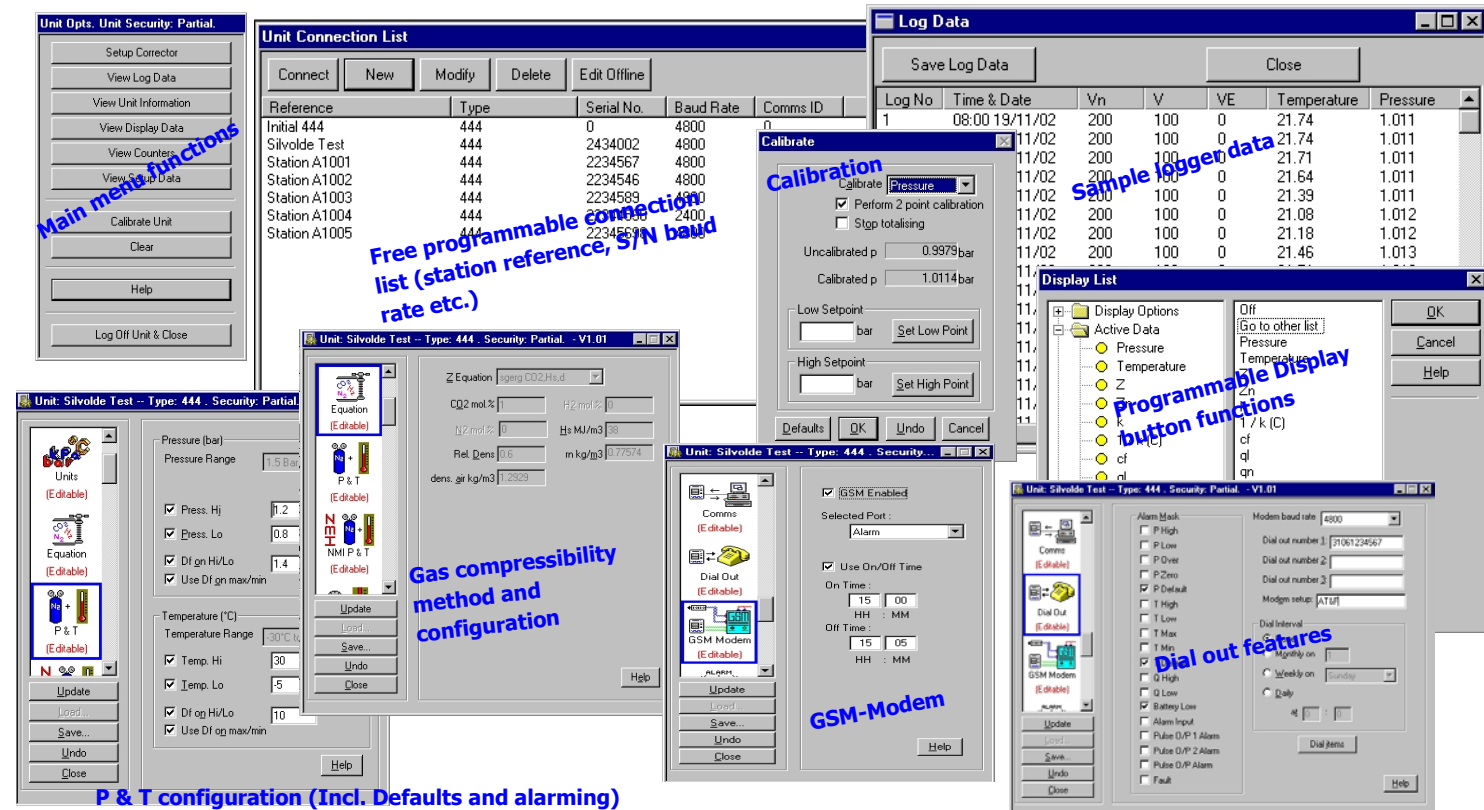
Gas compressibility equations

Data logging facilities

Alarm functions & Dial out facility

Serial port: Modbus or MV90 Compatible

Easy Configuration Software



Versatile Modem Unit

The modem unit combines a wide range of AMR functionality in one system. The main items in the system are the intrinsically safe barriers, the modem for data communication and the power supply. With a mains power supply the unit also provides the intrinsically safe power for the Model 444 Electronic Volume Corrector, the battery in the EVC will be used as a back-up facility. In case of a battery powered operation, the EVC will be able to control the GSM modem unit with an intrinsically safe control input to the modem unit.

Executions

Mains powered GSM modem unit

Battery powered GSM modem unit

Mains powered PSTN modem unit

Battery powered PSTN modem unit

A GSM antenna is also integrated in the unit, when necessary an external antenna can be connected to the modem unit. On the unit there are LED indicators to signalise the GSM network and for the Pulse Output State

For easy installation and connection the EVC and the modem unit will be connected with one IS cable. All external interfacing, e.g. pulse / alarm outputs, will be connected to the modem unit only.