Corus Evo+

Electronic Volume Gas Converter for Commercial and Industrial use

Corus Evo+ is an electronic volume converter for commercial and industrial natural gas applications. By measuring temperature and pressure from the gas flow in the meter, Corus Evo+ provides extremely accurate data improving billing precision for utilities and gas distributors. With superior accuracy certifications, simplified maintenance, and evolutivity options, Corus Evo+ is the fundamental component of a reliable gas distribution solution for C&I customers.

Safeguards Billing Processes

Conceived to safeguard billing processes, Corus Evo+ offers the unique capability to measure gas consumption with a certified 0.3% accuracy*. With embedded anti-tampering, security and encryption features, Corus Evo+ ensures precision and security in the billing process for utilities.

Simplifies Field And Maintenance Operations

Built with proven components, Corus Evo+ features external pressure sensors that facilitate field operations. Enclosed calibration coefficients alleviate on-site maintenance and simplify the replacement of units in the field. With an intuitive Human-Machine Interface crafted through decades of expertise, Actaris Gas's Corus Evo+ helps streamline field and maintenance efforts.

Evolves With Your Needs

With a distinctive modular design, Corus Evo+ offers flexibility with up to 6 expansion slots. Supporting alarms with on-site reading, Corus Evo+ is programmable to trigger alerts based on user-defined events. Upgradeable remotely, Corus Evo+ adjusts to current and future needs from the field.

*Optional.

Features

» High accuracy: compliant with MID according EN12405-1:2018 (0.5%) with optional Class A accuracy (0.3%) according EN12405-2:2012

» High modularity (6 optional slots)

» ATEX and IEC Ex approved for hazardous area zone 0 or 1

» Up to 15 years autonomy

» IP 66 Enclosure

» Tampering detection features

» Encrypted communication with individual keys

» Energy index management

» Multiple volume interfaces (LF, HF, Cyble, Cyble SC, Encoder)

» Operating temperature range: -25°C or -40°C to +70°C

» Graphic LCD

» Integrated cellular modem

Standard Product Features

Metrology

T, PT or PTZ type 1 converter

» 0.5% accuracy conform to EN12405-1:2018 (MID approval)

» Optional class A available (0.3%) conform to EN12405-2

» MID certificate: TCM 143/20 – 5716 by CMI (module B)

» MID production approval by PTB (module D)

» Gas temperature range:
  - - 30°C to +70°C

» Measuring Range:
  - Standard -25°C to +70°C
  - Extended -40°C to +70°C

» Available Z calculation formulae:
  - S-GERG 88
  - AGANX19 mod
  - GOST 30319,2-2015
  - GOST 30319.3-2015
  - AGA8 – Gross method (GM1 or GM2)
  - AGA8 – Detailed method (DM)

» Energy calculation and display conform to EN12405-2

Safety

» ATEX classification without internal modem:
  ⟨Ex⟩ II 1G Ex ia IIB T4 Ga

» *With optional modules p.3: Internal modem (battery):*
  ⟨Ex⟩ II 1G Ex ia IIB T3 Ga
  Internal modem powered from external source and module:
  ⟨Ex⟩ II 1G Ex ib IIA T3 Gb

» ATEX Certificate: FTZÚ 19 ATEX 0035 X

» IEC-Ex classification: Ex ia IIB T4 Ga

» *With optional modules p.3: Internal modem (battery): Ex ia IIB T3 Ga*
  Internal modem powered from external source and module: Ex ib IIA T3 Gb

Anti-tampering features

» Box opening detection

» Meter magnetic tampering detection (via anti tampering input and reed detector of meter).

» Back-flow management

» Support operation with passwords and encrypted   communication with unique keys per device for the encryption.

Communication

» Standard 1 optical port (EN 62056-21),
  options available p.3

» Main supported protocols:
  - IFLAG Evo
  - Modbus RTU
  - Modbus Enron
  - Modbus TCP
  - Idom
  - CTR

Sensors

» MID approved pressure ranges (bar):
  0.8 – 5.2 ; 2 - 10 ; 4 - 20 ; 7- 35 ; 14 - 70 ; 25 - 130 ; 0.8- 10

» MID approved extended pressure ranges (bar):
  0.8 - 20 ; 4 - 70

» Non MID approved ranges (gauge) (bar):
  0 - 0.2 ; 0 – 1 ; 0 - 1.6 ; 0 – 4 ; 0 – 6 ; 0 – 10 ; 0 – 25 ; 0 – 40 ; 0 - 70

» Non MID pressure ranges:
  - accuracy 0.4% full scale - below 1 bar
  - accuracy 0.2% full scale - above 1 bar

» Pressure sensor type: External piezo-resistive transducer with integrated coefficients for linearisation

» Temperature transducer: Transducer with platinum probe sensor- PT1000 with integrated coefficients for linearistation

» Metering input (volume): Low frequency type (2Hz max), signal from reed sensors of Cyble Sensor ATEX). A second LF or an HF input can be used for coherence check of metering input.
  With optional module p.3 : High Frequency (3kHz max), Namur Encoder input (Cyble SC or other Namur encoders.

» Cables length: Max 2.5 or 5m, approved with up to 30m

Database

» Permanent memory FRAM for the parameters and a FLASH memory for the database.

» Flexible configuration for storage of selected items into the different logs.

» Database structure:
  - Monthly archive (up to 80 years)
  - Daily archive (up to 11 years)
  - Billing archive (up to 10 years)
  - Hourly (up to 12 years)
  - Binary archive
  - Status archive
  - Settings archive
  - Gas composition archive (up to 5 years)

Power Supply

» Internal back-up lithium battery (part of the CPU module)

» Standard battery 17Ah lithium - up to 10 years,
  options available p.3

## Environmental

» Ambient temperature range:
  - -25°C – +70°C with graphic display
  - -40°C – +70°C with alphanumeric display (optional)
» IP 66 protection
» Polycarbonate enclosure
» Mechanical Environment Class M2
» Electromagnetic Environment Class E2
» Designed for condensing and non-condensing humidity environments.

User Interface	LCD backlit display, 128 x 64 pixels
Language Support	English, other languages available upon request
Keyboard	6 keys – Capacitive type
Units of main data	Pressure (absolute): bar, psi, kPa, kgm/cm2 Temperature: °C, °F, °R Volume: m3, ft³ Energy: MJ, kWh, Btu
Dimensions	263 x 201 x 111 mm
Weight	2 kg

Standards

» 2014/34/EU ATEX
» 2014/30/EU EMC
» 2014/32/EU MID
» 2014/53/EU RED
» 2011/65/EU RoHS
» 2012/19/EU WEEE2
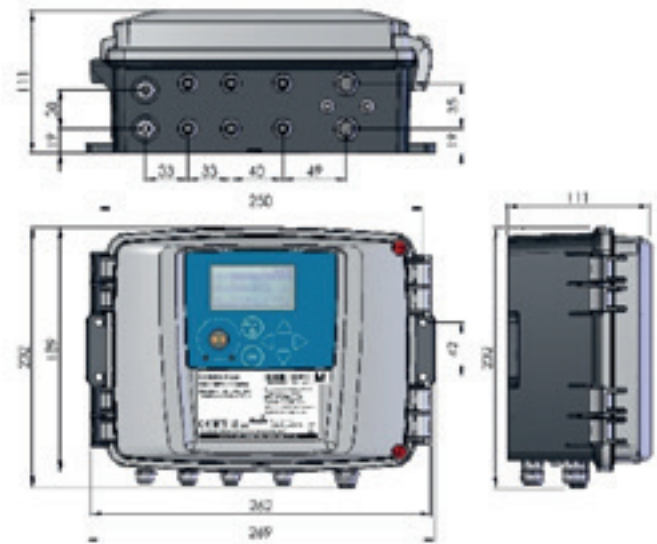
Modularity And Available Options

Optional Modules

For Slot 0 one of the following modules:

» Module with 1 Namur Encoder or 1 HF input
» Module with 2 Namur Encoder or 2 HF inputs
» Module with 6 digital- and 2 analog-inputs, 2 sensor-inputs and 2 Namur Encoder or 2 HF inputs

For Slot 1 and 2 two of the following modules:

» Module with 2 analog inputs 4-20mA
» Module with 2 analog outputs 4-20mA
» Module with 1 serial interface RS232 or RS485 com port

For Slot 3:

» Module with external power supply interface for EVC part

For Slot 4 one of the following modules:

» Module with external power supply interface for modem part
» Module with 2G cellular modem
» Module with 2G/3G/4G LTE Cat 1 cellular modem
» Module with LTE M1 cellular modem
» Module with 4G LTE NB-IoT cellular modem

For Slot 5:

» Used for modem module if external power supply used in Slot 4

Other Options

» Display:
  - Multi-segment display (for -40°C environment)
» EVC part batteries selection:
  - Lithium battery (30Ah) - up to 15 years
  - Alkaline battery - 6 years
» Modem battery options:
  - GSM/GPRS modem, lithium battery, 12Ah - 6 years
  - GSM/GPRS modem, lithium battery, 20Ah - 11 years
  - LTE modem, lithium battery, 12Ah - 6 years

Accessories

» Configuration software Wincor Evo
» Optical probe
» External antenna
» Isolator pulse
» Isolator serial com port
» Analog output external module CLO
» Solar panel charger
» Mounting kit for pipe installation
» Thermowells
» 3 way valve for pressure transducer

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