

# 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, Dresser 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.

## 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

\*Optional.

# 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
- » Ambient Temperature 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:
  - ⊕ II 1G Ex ia IIB T4 Ga
- » *With optional modules p.3: Internal modem (battery):*
  - ⊕ II 1G Ex ia IIB T3 Ga
  - Internal modem powered from external source and module:*
  - ⊕ 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  
0.8 - 10 ; 0.8 - 20 ; 0.8 - 35 ; 0.8 - 70 ; 0.8 - 130
- » 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 linearisation
- » 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
- » Double pack option
- » Smart battery pack for easy replacement, no specific procedure to change the battery
- » Active capacity calculation.

*options available p.3*

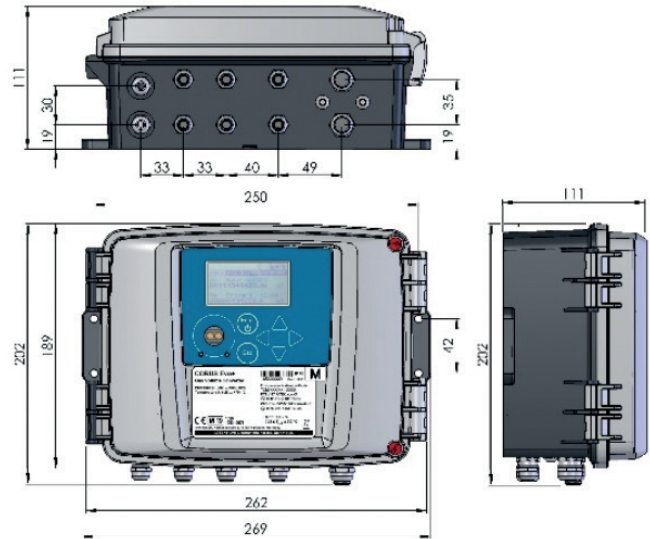
## Environmental

- » 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, ft <sup>3</sup> 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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