



## RHE26

Rack/Panel/DIN Rail  
Mount Multifunction  
Coriolis Flow  
Transmitter

### Features

- Rack/Panel/Rail Mounting
- Operate with RHM sensor in hazardous area
- Selectable Units for Mass, Volume, Density and Temperature
- Positive, negative and net totalizers for both volume and mass flow
- Two configurable pulse/frequency/status outputs
- Analog output configurable for Mass, Volume, Density or Temperature
- Digital input configurable for zeroing, measurement hold and totalizer operations
- Connectivity to control systems through Modbus RTU
- Simple user interface – Back Lit Color LCD display and 3 operator buttons with intuitive menu design
- USB connection for quick service & settings
- Built-in **Assurance View**® Advanced Diagnostic Set – simple publication of measurement status with **Assurance Factor**® and/or color changing display

- Password Protected Setup
- Upload and download of configuration files
- Power consumption less than 5W
- Optional lockable front cover

### Applications

- General process flow measurement
- Feed stocks and transfers
- OEM applications

### Benefits

- More insight into process and measurement conditions with **Assurance View**®
- **Assurance Factor**® for proactive maintenance
- Works with all Rheonik RHM flow sensors
- Fast and easy setup using **RHECom** software
- Remote electronics provides installation flexibility

## RHE26 General Specifications

<b>Housing:</b>	IEC61554 panel mount housing. Lockable front cover and DIN rail mount options available
<b>Enclosure Rating:</b>	IP20 (front IP54 with optional lockable cover)
<b>Ambient Temperature:</b>	-20°C to +60°C / -4°F to +140°F
<b>Dimensions:</b>	Please refer to RHE26 Dimensions page
<b>Display:</b>	Large high contrast backlit LCD 128 x 24. Screen changes color to indicate warning or error
<b>Weight:</b>	0.45 kg / 1 lb
<b>Operation:</b>	3 x front panel operator buttons for all menu navigation and settings
<b>Sensor Connection:</b>	Pluggable cage clamp terminal strip. Cable available in lengths up to 100 m / 328 ft for connection to remote sensor
<b>Analog Outputs:</b>	1 x 4-20mA output, active or passive, compliant to NAMUR NE-43
<b>Digital Outputs:</b>	2 x configurable pulse / frequency / status (IEC 60946), max 10 kHz
<b>Digital Inputs:</b>	1 x configurable control input (IEC60946)
<b>Power Supply:</b>	12-24 VDC ±10%, 4W
<b>Digital Data Communications:</b>	Modbus RTU (RS485) Connection to PC (USB) with Rheonik RHECom software
<b>Hazardous Area Approvals:</b>	ATEX / IECEx for RHE in ordinary locations (code AS), RHM in all zones cCSAus for RHE in ordinary locations (code CS), RHM in all divisions

## Hazardous Area Installation Overview

Zone 0,1 / Class I, Div. 1



Zone 2 / Class I, Div. 2



Ordinary Locations



Sensor and transmitter must have matching approvals

## Program Packages and Features

### Standard Package (Part Number Code SO)

The RHE2x Standard programming package provides the following measurement and function features:

#### **Direct Mass Flow Measurement**

Mass flow is calculated using the Coriolis principle to provide a high accuracy Mass Flow measurement of the fluid flowing through an Omega Tube Coriolis meter.

#### **Temperature Measurement**

Each Omega Tube Coriolis Sensor provides a temperature measurement from built in sensors.

#### **Fixed Density Function**

The Fixed Density function allows density to be generated based upon process temperature. A base/reference density at a known temperature is entered for the fluid being measured along with a coefficient describing the change in density per temperature unit. The firmware in the transmitter calculates flowing density based upon this information to use for volumetric flow calculations.

#### **Calculated Actual Volume Measurement for Liquids and Gas**

Volume measurement is calculated by dividing direct mass flow measurement by the Fixed Density.

#### **Standardized/Normalized Volume Measurement for Gas**

This function calculates the volume of gas passing through the meter at standard conditions. The density of the gas at standard conditions is entered into the transmitter and the volume is calculated using this in conjunction with the flowing mass.

#### **Password Protection**

All setup and calibration parameters within the meter are protected with passwords to prevent unintentional or unauthorized change once installed.

#### **Batch Controller**

The transmitter is equipped with an onboard batch controller that, in conjunction with external pumps and/or valves allows the precise delivery of a preset mass or volume of process fluid on demand. Operated from the instrument front panel or remotely via operator switches, the controller is configured to utilize either a one stage or a two stage delivery strategy in ensuring the right amount of fluid is batched through the meter. The electronics self-learns, adjusting shut off times as more and more batches are delivered to further refine the amount of delivery, saving material costs and improving quality.

## Program Packages and Features

### Multifunction Package (Part Number Code DO)

The RHE2x Multifunction programming package includes all features from the Standard programming package plus the following measurement and function features:

#### Direct Density and Volume Measurement

The flowing density of the fluid in an Omega Tube Coriolis Sensor is determined from the measured resonant frequency of the sensor and used to calculate instantaneous volumetric flowrate.

#### Brix/Baume Units

The unit can be configured to read out in °Brix or Baume. °Brix or Baume are used extensively in the sugar and beverage industries.

### Multifunction Package with Assurance Diagnostics Suite (Part Number Code AF)

The RHE2x Multifunction Package with Assurance Diagnostics Suite includes everything from the Multifunction package plus the following advanced diagnostic functions:

#### Assurance View® Diagnostics

Inbuilt self-monitoring functions are available that can be used to determine the reliability of the flow meter readings at all times. Diagnostics are quickly accessed through dedicated menu displays, RHECom software and the MODBUS interface.

#### Assurance Factor®

**Assurance Factor®** is a numeric value generated by an internal algorithm that indicates the overall health of the flow meter and measurement. **Assurance Factor®** value can be used to trigger changes in screen color (White – Amber – Blue – Red), providing highly visible wide area condition indication.

<h1 style="text-align: center; color: green;">ASSURANCE FACTOR®</h1>			
<b>WHITE</b> Normal Operation <i>No faults present. All parameters within expected limits. Meter fully operational</i>	<b>AMBER</b> Operation Not Optimal <i>Sensor subject to noise / changing conditions in pipe. Measurement quality may be compromised</i>	<b>BLUE</b> Operation at Limit <i>Sensor experiencing disturbance. Measurement quality compromised</i>	<b>RED</b> Measurement Failure <i>Sensor experiencing extreme disturbance / meter in fault. Measurement offline</i>

## RHECom Software

The transmitter is a fully featured device with many sophisticated functions. Careful configuration is necessary if these functions are to perform as desired. License-free RHECom is available for download or on USB drive.

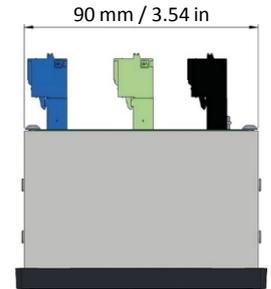
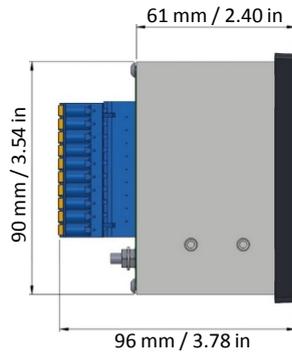


RHECom software is designed to ensure simple and expedient setup of the transmitter features and functions. The program operates on Windows™ based computers and has an intuitive user interface. Connection is via a standard USB port or the native RS485 connection of the transmitter. Communication between RHECom software and the transmitter uses MODBUS protocol.

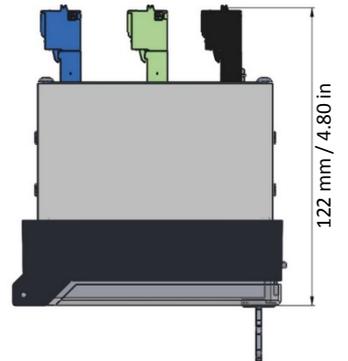
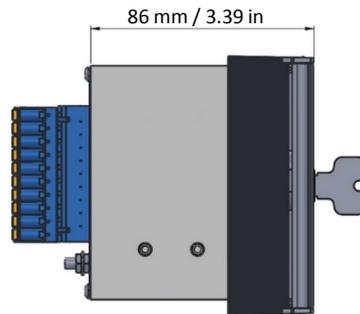
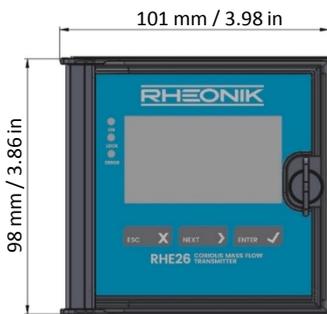
MODBUS protocol may also be used by other systems to configure the transmitter and/or read measurement results through the native RS485 port. A full and detailed MODBUS register listing is available for designers when connecting the transmitter to supervisory control systems.

## RHE26 Dimensions

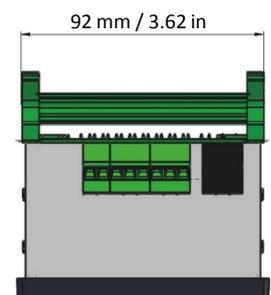
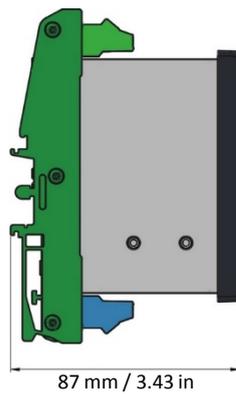
Type E1



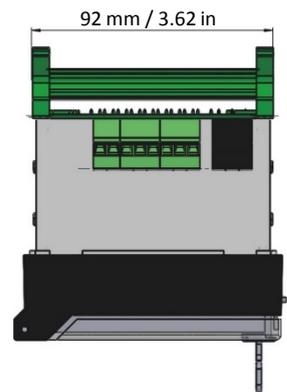
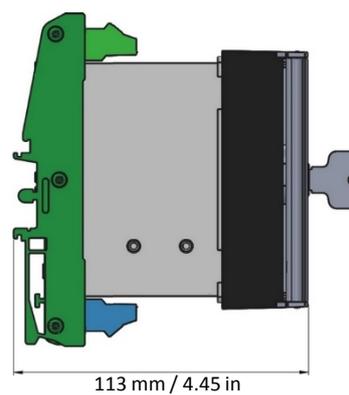
Type E2



Type H1



Type H2



## RHE26 Part Number Code

### Construction Type

- E1 Standard panel mount version (IP20)
- E2 Panel mount version with lockable cover (IP20 / IP54 front)
- H1 DIN rail mount version (IP20)
- H2 DIN rail mount version with lockable cover (IP20)

### Supply Voltage

D1 12 to 24 VDC ±10%

### Software Function

- SO Standard package: mass flow measurement, norm. density/volume
- DO Multifunction package: mass, volume flow and measured density/volume
- AF Multifunction package plus Assurance Factor® diagnostics suite

### I/O Configuration

S1 RS485 (Modbus RTU), 1 x 4-20mA, 2 x DO (pulse/freq./status), 1 x DI

### Hazardous Area Approval

- NN Without - RHM and RHE in ordinary locations
- AS ATEX / IEC Ex II (1)G [Ex ia Ga] IIC - RHE in ordinary locations
- CS cCSAus Class I, associated equipment - RHE in ordinary locations

RHE26   D1 -   S1 -  

## RHE26 Options and Accessories

Part Number	Description
ARHE-C4	Transmitter-sensor interconnecting cable with blue outer covering, fire retardant and halogen-free. Max. cable length 100 meters (30 meters max for RHM 30 and bigger sensors).
ARHE26-RM	19 in rack mount panel (3U x 42HP)
ARHE-RS	5m interconnection cable Mini USB to PC USB – to run RHECom PC software
ARHE-MO	Converter from Modbus RS485 terminals to PC USB
ARHE-SO	USB drive with RHECom software, manuals and configuration data of paired RHM sensors. Requires ARHE-RS or ARHE-MO

## Flow Sensor Range



*Some of the many RHM mass flow sensors available*

The RHM range of mass flow sensors features:

<b>Line Sizes</b>	From DN1 to DN300 / 1/24" to 12"
<b>Pressure Ratings</b>	Up to 1379 bar / 20000 psi
<b>Temperature Ratings</b>	From -196 to 400°C / -320 to 752°F
<b>Wetted materials</b>	Stainless Steel, Alloy C22, Duplex, Super Duplex, Tantalum, Others

RHE26 transmitters can be connected to all RHM Flow Sensors in the Rheonik Omega Tube range. Together they make a high performance measurement package suitable for many applications. For specific details on any sensor size, please see the relevant specification sheet.

## About Rheonik

Rheonik has a single purpose: to design and manufacture the very best Coriolis meters available. Our research and engineering resources are dedicated to finding new and better ways to provide cost effective accurate mass flow solutions. Our manufacturing group care for each and every meter we produce from raw materials all the way to shipping and our service and support group are available to help you specify, integrate, start-up and maintain each and every Rheonik meter you have in service. Whether you own just one meter or have hundreds, you will never be just another customer to us, you are a valued business partner. Need a special configuration for your plant - don't compromise with a "standard" product from elsewhere. If we can't configure it from our extensive product range, we can build you what you need as a custom meter.

Rheonik only make Coriolis meters - we are **The Coriolis Experts** - contact us for all of your Coriolis meter requirements.