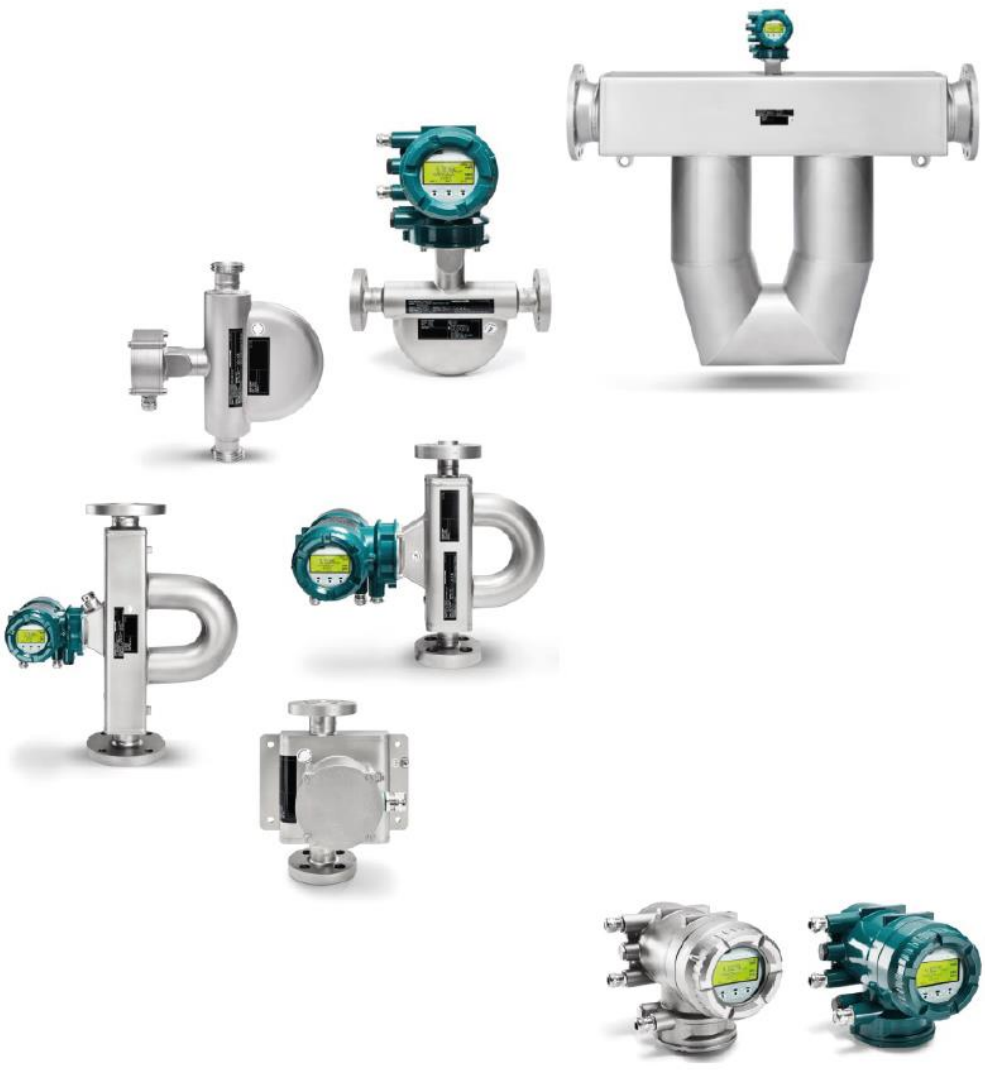
User's Manual

ROTA***MASS*** Total Insight
Coriolis Mass Flow and Density Meter
Addendum for General Instruction Manual Ed.4

IM 01U10B00-13EN-R



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1 Introduction

This manual adds instructions for FOUNDATION Fieldbus and changes in configuration access by display.

1.1 General information

This document is an addendum to the General Instruction Manual IM01U10B00-00EN-R, 4th edition.

It describes the differences of the delivered product compared to the applicable documentation that describes standard devices of ROTAMASS Total Insight series.

Deviations could be model code related, design or configuration only and are described on the next pages.

1.2 Applicable documents

This addendum is applicable to the following documents and chapters.

Applicable Documents	Chapters of this addendum
General Instruction Manual, IM01U10B00-00EN-R, 4th edition	All chapters
Quick Reference Instruction Manual IM01U10A00-00EN-R, 4th edition	2 Wiring 3.1 Default settings 4 Troubleshooting
Quick Reference Instruction Manual for Spare IM01U10A01-00EN-R, 1st edition	2 Wiring 3.1 Default settings 5 Transmitter replacement
FOUNDATION Fieldbus Software Instruction Manual IM01U10S02-00EN-R, 2nd edition	3.1 Default settings
Modbus Software Instruction Manual IM01U10S03-00EN-R, 2nd edition	3.1 Default settings
PROFIBUS PA Software Instruction Manual IM01U10S04-00EN-R, 1st edition	3.1 Default settings

2 Wiring

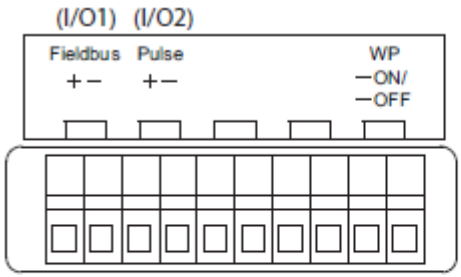
2.1 Transmitter

FOUNDATION Fieldbus Connection terminals

For the FOUNDATION Fieldbus version there is only one configuration of the connection terminal.

Following is the configuration of the connection terminal (value F0 and F1 on model code

position 13, see Inputs and outputs for details).



I/O1:	Fieldbus	FOUNDATION Fieldbus communication
I/O2:	Pulse	Pulse / Frequency output
WP:		Write-protect bridge

Assignment of FOUNDATION Fieldbus

The table below shows possible connection terminal assignments for I/O outputs depending on model code Position 13. The following figure shows the relevant position of the model code:

Model code position 13	Connection terminal assignment			
	IO1 +/-	IO2 +/-	IO3 +/-	IO4 +/-
F0[1)]	FOUNDATION Fieldbus	Pulse passive	-	-
F1[1)]	FOUNDATION Fieldbus (IS)	Pulse passive (IS)	-	-

1) Only with Ultimate transmitter

FOUNDATION Fieldbus: FF communication
Pulse Passive: Pulse / Frequency output

Intrinsically safe (IS) outputs are only available in combination with selecting Ex approval of the device, see General Specifications (GS) GS01U10B␣␣-00␣␣-R, chapter Ex approval.

FOUNDATION Fieldbus communication

FOUNDATION Fieldbus interface of ROTAMASS Total Insight is based on FOUNDATION Fieldbus protocol (ITK6) and standard IEC61158, for details of instrumentation see website of the FieldComm Group organization (https://www.fieldcommgroup.org).

Output signals FOUNDATION Fieldbus

Digital communication signal based on FOUNDATION Fieldbus. Maximum voltage and correct polarity must be observed for wiring.

	Value
Power supply	9 – 32 V_{DC}
Current draw	15 mA (max)

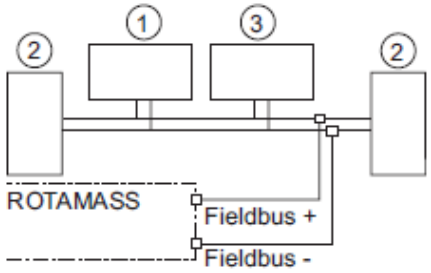


Fig. 47: FOUNDATION Fieldbus connection

① Fieldbus power supply and condition
② Termination
③ HOST

FOUNDATION Fieldbus cable

Type of cable	Cable specifications	Max. Length of cable (reference value)
Type A: Individually-shielded twisted pair cable	#18AWG (0.82 mm²)	1.900 m

Default FOUNDATION Fieldbus setting

For further details, see applicable Software Instruction Manual (SW-IM) IM01U10S02-00␣␣-R.

Applicable Documents and Chapters are following.

Applicable Documents and Chapters	
General Instruction Manual, IM01U10B00-00EN-R, 4th edition	7.4 Transmitter
Quick Reference Instruction Manual, IM01U10A00-00EN-R, 4th edition	7.4 Transmitter
Quick Reference Instruction Manual for Spare, IM01U10A01-00EN-R	7.4.4 Transmitter

3 System configuration and operation

3.1 Default settings

If the Indicator Software Revision is the following or later, please replace the following procedure.

- HART : R4.01.01
- FOUNDATION Fieldbus : R2.01.03
- Modbus : R1.01.03
- PROFIBUS PA : R1.01.03

[Procedure before change]
1. Press [SET] switch for 2 seconds to enter [Operation level].

[Procedure after change]
1. Press and hold [SET] for 2 seconds.
   Press [SET] + [INC] switches to enter [Setting].
   ⇒ Menu [No] is preselected.
   Press [INC] switch and select [Yes], then press [SET].
   [Yes] is blinking, then press [SET] switch to enter the menu [Operation level].

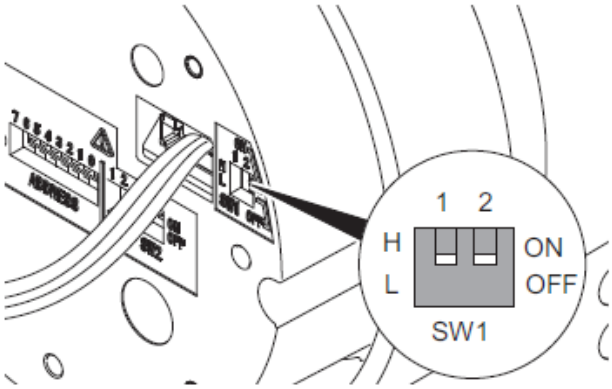
Applicable Documents and Chapters are following.

Applicable Documents and Chapters	
General Instruction Manual, IM01U10B00-00EN-R, 4th edition	9.3.1 Setting display language 9.3.2 Setting date 9.3.3 Setting time 9.3.5 Performing autozero
Quick Reference Instruction Manual IM01U10A00-00EN-R, 4th edition	9.1.2 Performing autozero
Quick Reference Instruction Manual for Spare IM01U10A01-00EN-R, 1st edition	8.1.2 Performing autozero
FOUNDATION Fieldbus Software Instruction Manual IM01U10S02-00EN-R, 2nd edition	4.1.1 Select operation level
Modbus Software Instruction Manual IM01U10S03-00EN-R, 2nd edition	4.1.1 Select operation level
PROFIBUS PA Software Instruction Manual IM01U10S04-00EN-R, 1st edition	4.1.1 Select operation level

3.2 Advanced settings

FOUNDATION Fieldbus Simulation Mode

When DIP switch 1 is set to *ON* position using a sharp-pointed object, Simulation Mode can be enabled in the Software. Default position is *OFF*.



For details refer to applicable Software Instruction Manual IM01U10S02-00EN-R.

Applicable Document and Chapter are following.

Applicable Document and Chapter	
General Instruction Manual, IM01U10B00-00EN-R, 4th edition	9.4 Advanced settings

4 Troubleshooting

4.1 Malfunction of operation

Malfunction	Possible causes	Remedy
FOUNDATION Fieldbus Host does not detect ROTAMASS Total Insight	FOUNDATION Fieldbus EDD not installed on the Host	Install FOUNDATION Fieldbus EDD on the Host
	FOUNDATION Fieldbus CFF[1)] file is not installed on the Host	Install FOUNDATION Fieldbus CFF file on the Host
	FOUNDATION Fieldbus terminator is not connected to the Host	Connect FOUNDATION Fieldbus terminator with Host
	FOUNDATION Fieldbus modem is not connected to the terminator	Connect FOUNDATION Fieldbus modem with terminator
	ROTAMASS Total Insight is not connected to the FOUNDATION Fieldbus modem	Connect FOUNDATION Fieldbus modem with ROTAMASS Total Insight

1) meaning of "CFF": The CFF file is necessary for FOUNDATION Fieldbus communication with host system. Before starting communication, the device must be specified by the CFF file in the host system and the Device type of the device.

Applicable Documents and Chapters are following.

Applicable Documents and Chapters	
General Instruction Manual, IM01U10B00-00EN-R, 4th edition	10.1 Malfunction of operation
Quick Reference Instruction Manual IM01U10A00-00EN-R, 4th edition	10.1 Malfunction of operation

5 Transmitter replacement

5.1 Parameter setting

5.1.1 Setting methods

Method overview to set the spare transmitter in dependency of defective transmitter's model code

Defective transmitter model code	Setting method for sensor parameters	
	Model code	Category 1
Pos. 13 values:	**By display**	**By FieldMate**
F␣ (FOUNDATION Fieldbus)	Possible	Recommended

Applicable Documents and Chapters are following.

Applicable Documents and Chapters	
General Instruction Manual, IM01U10B00-00EN-R, 4th edition	13.3.2 Setting methods
Quick Reference Instruction Manual for Spare IM01U10A01-00EN-R, 1st edition	7.3.2 Setting methods

Manufacturer:

ROTA YOKOGAWA GmbH & Co. KG
Rheinstr. 8
D-79664 Wehr
GERMANY

For the actual manufacturing location of your device, refer to the model code and/or serial number.

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001 =