

# Transmitter Unit for Meter Readings ENCO F / M



PTB - 7.711  
Approval No.: 02.03

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Serving the Gas Industry  
- WORLDWIDE

# Transmitter Unit for Meter Readings

## ENCO - F

### Description

The ENCO-F transmitter unit for meter readings allows the mechanical digital index reading of a turbine meter with an "F" meter head to be displayed and digitally transmitted to a volume corrector.

The ENCO-F is to be directly installed on the RMG turbine meter with an "F" meter head. The associated transmitter is to be inserted into the mechanical meter head.

The ENCO-F consists of an incremental encoder and an electronic totalizing unit. The pulse transmitters of the encoder are extremely reliable and absolutely bounce-free Wiegand sensors which can also detect the direction of rotation. Therefore, if the meter runs backwards, the electronic totalizing unit will run backwards, too, and always show the same reading as the digital index.

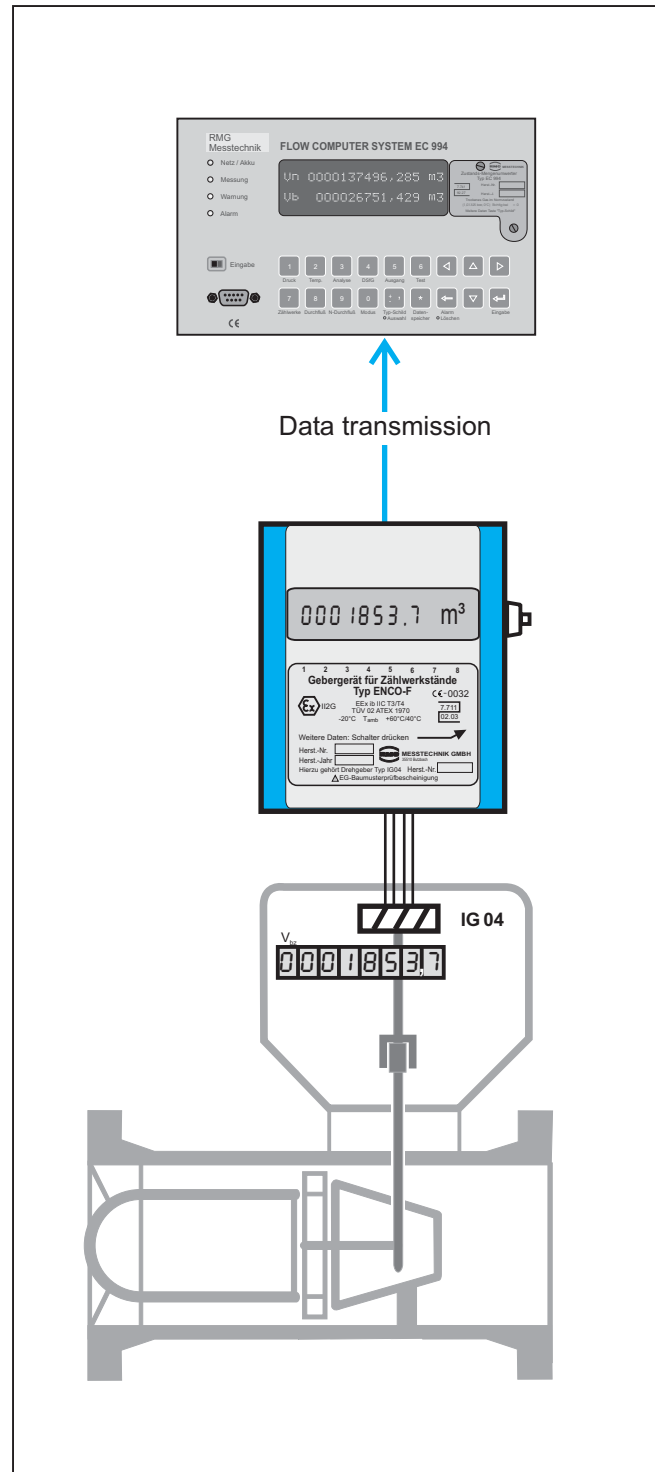
The electronic unit shows not only the meter reading, but also the flow rate and the maximum value. It is supplied by the digital interface and additionally comprises a back-up battery.

The original frequency of the sensors is outputted through the pulse output, and maximum values are between 2 Hz (DN 600) and 30 Hz (DN 50), if RMG gas meters are used.

### Features

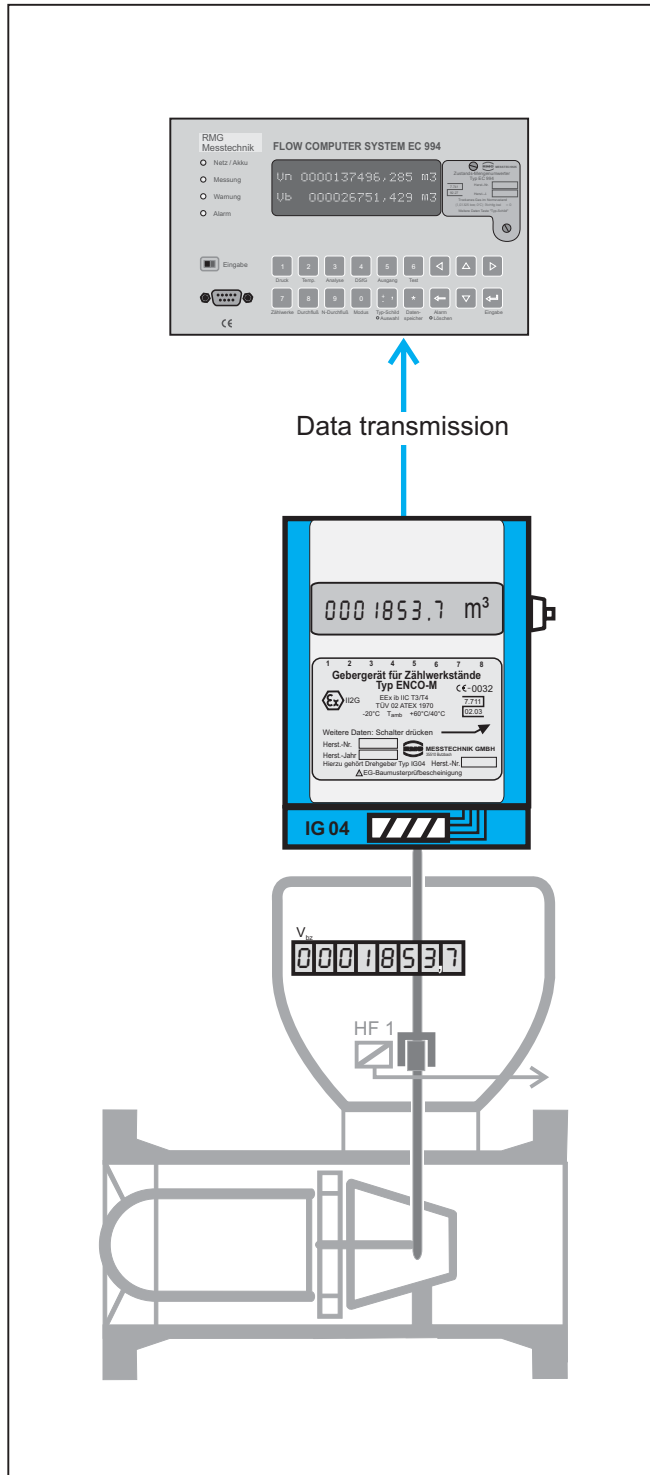
- **PTB-approved**
- **Flow display**
- **Display of maximum values**
- **Alarm output**
- **Meter reading can be adjusted digitally.**
- **Additional HF pulse output** available on the ENCO-F.
- For **retrofitting** to all Type F totalizing units (from Oct. 1999).
- **Explosion-protected (Ex) and not explosion-protected (Non-Ex) designs**
- **Custody transfer transmission of meter readings** in accordance with the data protocol as per DSfG-AK "Primary devices with a digital interface".

### ENCO-F Example of installation



# Transmitter Unit for Meter Readings ENCO - M

## ENCO-M Example of installation



## Description

The ENCO-M transmitter unit for meter readings allows the mechanical digital index reading of a turbine meter or a rotary displacement meter with a mechanical drive shaft to be displayed and digitally transmitted to a volume corrector.

The ENCO-M is to be directly installed on a gas meter with a mechanical drive shaft. The transmitter is located inside the ENCO housing.

The ENCO-M consists of an incremental encoder and an electronic totalizing unit. The pulse transmitters of the encoder are extremely reliable and absolutely bounce-free Wiegand sensors which can also detect the direction of rotation. Therefore, if the meter runs backwards, the electronic totalizing unit will run backwards, too, and always show the same reading as the digital index.

The electronic unit shows the meter reading. It is supplied by the digital interface and additionally comprises a back-up battery.

## Features

- PTB-approved
- Alarm output
- Meter reading can be adjusted digitally.
- Direction of rotation of the mechanical drive shaft can be programmed.
- For retrofitting to all totalizing units with mechanical drive shafts (in accordance with EN 12261)
- Explosion-protected (Ex) and not explosion-protected (Non-Ex) designs
- Custody transfer transmission of meter readings in accordance with the data protocol as per DSfG-AK "Primary devices with a digital interface".



# Transmitter Unit for Meter Readings

## ENCO - F / M

### Specifications

	ENCO - F	ENCO - M
PTB approval	No. 7.711/02.03	No. 7.711/02.03
Temperature range	-20°C to +60°C <sup>1)</sup>	-20°C to +60°C <sup>1)</sup>
Degree of protection	IP 65	IP 65
Explosion-protection class	II 2 G EEx ib[ia] IIC T3/T4 <sup>1)</sup>	II 2 G EEx ib[ia] IIC T3/T4 <sup>1)</sup>
Explosion-protection approval	TÜV 02 ATEX 1970	TÜV 02 ATEX 1970
Dimensions	W x H x D = 145 x 100 x 80 mm	W x H x D = 225 x 135 x 100 mm
Weight	0.85 kg	1.35 kg
Interfaces	- NAMUR (towards the corrector) - Service interface	- NAMUR (towards the corrector) - Service interface
Pulse / alarm outputs	2 pulse outputs (up to approx. 30 Hz) 1 alarm output "Open drain" transistor $T_{\text{pulse}}=1\text{ms}$ , $U_{\text{max}}=28\text{V}$ , $I_{\text{max}}=20\text{mA (Ex)}$ , 400 mA (NonEx)	Alarm output "Open drain" transistor $T_{\text{pulse}}=1\text{ms}$ , $U_{\text{max}}=28\text{V}$ , $I_{\text{max}}=20\text{mA (Ex)}$ , 400 mA (NonEx)
Flow display	Available	Not available
Display of maximum values	Available, for the flow value	Not available
Current output (option)	4 to 20 mA $U_{\text{min}}=12\text{V}$ , $U_{\text{max}}=28\text{V}$ , max. load (at 28 V): 800	Not available

<sup>1)</sup> If the maximum temperature is 60°C, the temperature class is T3; in the case of a maximum of 40°C, it is T4.

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