CPT-04 E

QUANTOMETER (TURBINE FLOW METER) WITH ELECTRONIC INDEX HEAD

*The **CPT-04 E** Quantometer (Turbine Flow Meter) has a modular construction which combines modern electronics and proven mechanical solutions.*

Measurement data security, measurement continuity and self-diagnostics are ensured by two redundant tracks of hardware sensors and counters, each with an independent battery backup, while LCD runs on separate third battery.

Gas volume measurement is carried out using a precise mechanical system and electronic non-contact sensors.

The design of the device allows it to be equipped with one of the many available versions of the communication interface.

Electronic systems ensure high accuracy and resolution of the flow measurement (based on internal HF signal).

Information on volume, flow and measurement history can be accessed directly on the LCD.

The basic functions of the device are operated using two buttons.

The standard equipment of the CPT-04 E includes LF and HF pulse outputs and configurable OUT outputs.

The communication interface facilitates the integration of the Quantometer (Turbine Flow Meter) with SCADA and BMS systems.

- ✓ **Size: DN25 G40 to DN150 G1000**
- ✓ **9 – digit LCD**
- ✓ **LF and HF outputs (standard)**
- ✓ **Interfaces (special version): 4-20mA, or RS-485, or M-Bus, or ENCODER;**
- ✓ **Data reading protocols: Modbus, GazModem, M-Bus**
- ✓ **High accuracy and resolution of flow measurement**
- ✓ **Flow direction detection**
- ✓ **Flow profile and alarms register**
- ✓ **Hourly gas consumption watchdog**

ELECTRONIC INDEX HEAD – VERSIONS

Standard version:

Special version:

Socket 1

OC open collector type:

- ✓ ***LF sensor***
- ✓ ***2 OUT outputs configurable as:***
  - *additional **LF** pulse output*
  - *Magnetic field interference indication, control circuit (**AFK**)*
  - *Hourly gas consumption watchdog*
  - *Actual flow direction (**F-DIR**)*

Socket 2

Namur sensors (galvanically separated):

- ✓ ***LF Output***
- ✓ ***HF Output***

Socket 4

INPUT

Socket 3

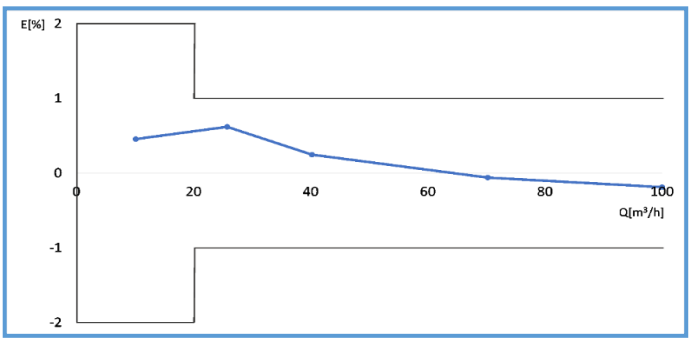
Can be equipped with one of four interfaces (galvanically isolated):

- ✓ *Current loop **4-20mA**, or*
- ✓ *Digital interface **M-Bus**, or*
- ✓ *Digital interface **RS-485**, or*
- ✓ *Digital interface **ENCODER Namur***

TECHNICAL DATA

Accuracy	$Q_t \div Q_{max}$: ±1,5% (±1%) $Q_{min} \div Q_t$: ±3,% (±2%)
Ambient temperature	-25°C ≤ t ≤ + 55°C
Operating conditions	Ex II 2G Ex ib [ia Ga] IIB T3 Gb
Max. pressure p_{max}	2 MPa
Working position	HV
Ingress protection	IP66/67
Sensors: LF, 2x OUT	Open Collector (OC)
Sensors: NAMUR LF+HF	EN IEC 60947-5-2:2020 EN 60947-5-6:2000
Battery life	Up to 10 years
EMC class	E2
Interface connectors type	Male sockets M12 (4-pin)
OPTO communication port	EN 62056-21

SAMPLE ERROR CURVE
CPT-04 E DN50 G65



METROLOGICAL PARAMETERS

DN	G	Q_{max}	Δp_{max}	Q_{min} at rangeability 1:10	1:20	1:30
-	-	[m³/h]	[mbar]		[m³/h]	
DN25 (1˝)	G 16	25	5,0	2,5		
	G 25	40	4,0	4		
DN32 (1¼)	G 16	25	5,0	2,5		
	G 25	40	3,4	4		
DN 40 (1½")	G 40	65	3,6	6,5	-	-
	G 65	100	6,8	10	-	-
DN 50 (2")	G 40	65	3,0	6,5	-	-
or DN 50	G 65	100	5,6	10	-	-
DN 65	G 65	100	1,6	8	-	-
	G 100	160	3,8	16	8	-
DN 80	G 100	160	3,7	16	8	-
	G 160	250	6,4	25	13	8
	G 250	400	15,0	40	20	13
DN 100	G 160	250	2,1	-	13	8
	G 250	400	5,0	-	20	13
	G 400	650	11,4	-	32	20
DN 150	G 400	650	2,4	-	32	20
	G 650	1000	6,4	-	50	32
	G 1000	1600	16,0	-	80	50

where:

DN – nominal diameter,
G – meter size,
Q_{max} – maximum flow,
Q_{min} – minimum flow,
Δp_{max} – maximum pressure drop.
Specified at gas density ρ=1,2 [kg/m3].

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