


Flow transmitter FLUXUS F706

Technical data

FLUXUS	F706**-NN, F706**-A2
design	field device with 4 measuring channels in stainless steel housing
	
measurement	
measurement principle	transit time difference correlation principle, automatic NoiseTrek selection for measurements with high gaseous or solid content
flow velocity	0.01...25 m/s
repeatability	0.15 % of reading ± 0.01 m/s
fluid	all acoustically conductive liquids with < 10 % gaseous or solid content in volume (transit time difference principle)
temperature compensation	corresponding to the recommendations in ANSI/ASME MFC-5.1-2011
accuracy ¹	± 1 % of reading ± 0.01 m/s ² ± 0.5 % of reading ± 0.01 m/s (with field calibration) ³
flow transmitter	
power supply	100...230 V/50...60 Hz or 20...32 V DC or 11...16 V DC
power consumption	< 20 W
number of flow measuring channels	4
damping	0...100 s, adjustable
measuring cycle (1 channel)	100...1000 Hz
response time	1 s (1 channel)
housing material	stainless steel 316L (1.4404)
degree of protection according to IEC/EN 60529	IP66
dimensions	see dimensional drawing
weight	7.2 kg
fixation	wall mounting, optional: 2" pipe mounting
ambient temperature	-40...+60 °C, (< -20 °C without operation of the display)
display	2 x 16 characters, dot matrix, backlight
menu language	English, German, French, Dutch, Spanish
explosion protection	
A transmitter	F706**-A2
T zone	2
E marking	CE 0637 Ex II 3G II 2D
/	Ex nA nC ic IIC T4 Gc
I	Ex tb IIIC T 120 °C Db
E	T _a -40...+60 °C
C certification ATEX	IBExU11ATEX1015
E certification IECEx	IECEx IBE 11.0008
x	
measuring functions	
physical quantities	volumetric flow rate, mass flow rate, flow velocity, heat flow (if temperature inputs are installed)
totalizer	volume, mass, optional: heat quantity
calculation functions	average, difference, sum
diagnostic functions	sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitudes and transit times

¹ for transit time difference principle, reference conditions and $v > 0.15$ m/s

² 4 transducer pairs at one measuring point

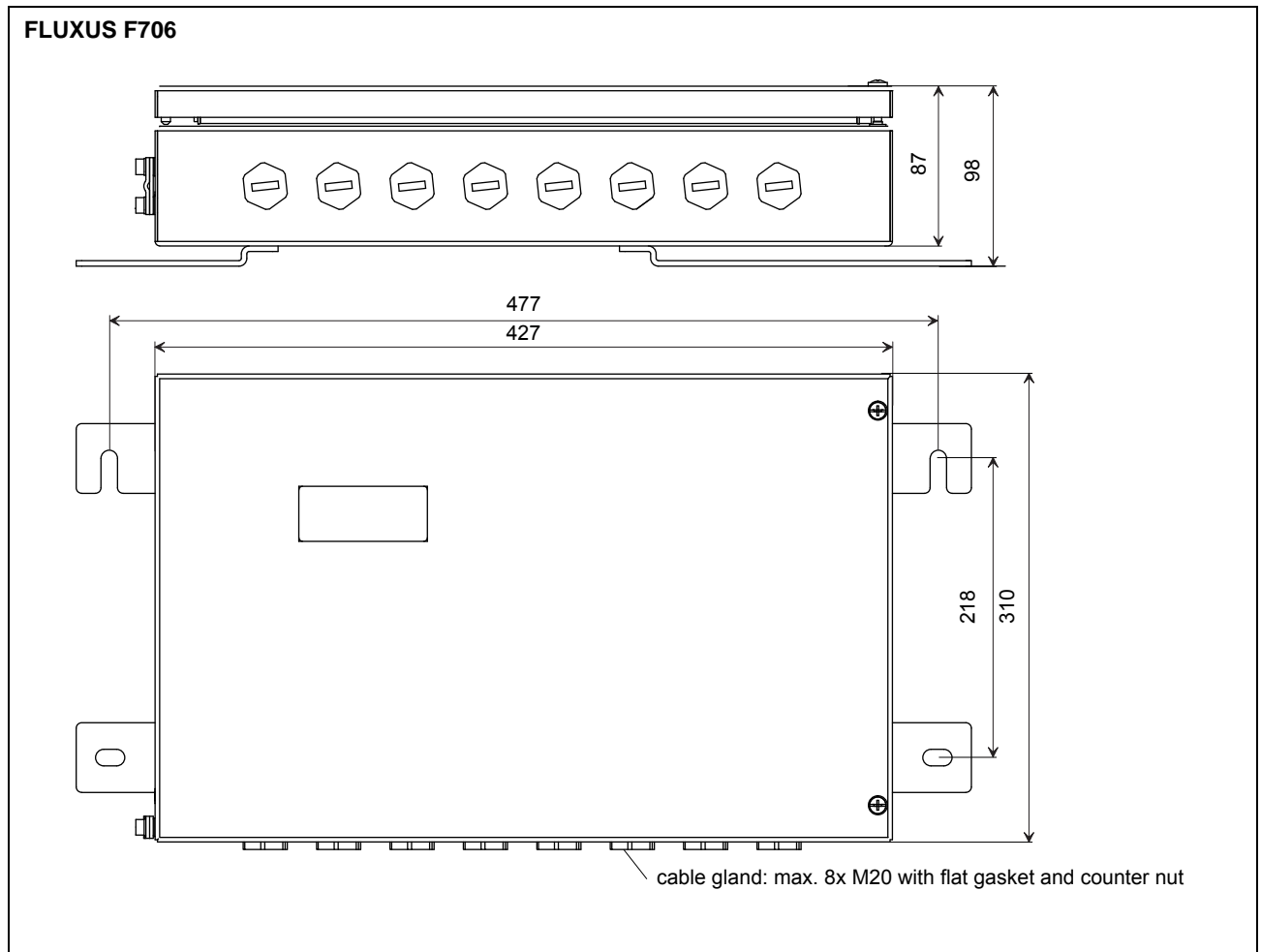
³ reference uncertainty < 0.2 %

FLUXUS	F706**-NN, F706**-A2
communication interfaces	
diagnostic interfaces	- RS232 ⁴ - USB (with adapter) ⁴
process interfaces (max. 1 optional)	- RS485 (sender) - Modbus RTU - HART - SD card
serial data kit (optional)	
software	- FluxDiagReader: download of measured values and parameters, graphical presentation - FluxDiag (optional): download of measurement data, graphical presentation, report generation - FluxSubstanceLoader: upload of fluid data sets
cable	RS232 ⁴
adapter	RS232 - USB ⁴
data logger	
loggable values	all physical quantities, totalized values and diagnostic values
capacity	> 100 000 measured values
SD card, removable (optional)	
loggable values	all physical quantities and totalized values
capacity	min. 2 GB
outputs (optional)	
	The outputs are galvanically isolated from the transmitter.
number	on request active inputs and outputs: max. 4
switchable current output	
- range	All switchable current outputs are switched to active or passive mode at the same time. 4...20 mA (3.2...22 mA)
- accuracy	0.04 % of reading $\pm 3 \mu\text{A}$
- active output	$R_{\text{ext}} < 350 \Omega$
- passive output	$U_{\text{ext}} = 8...30 \text{ V}$, depending on R_{ext} , $R_{\text{ext}} < 1 \text{ k}\Omega$
current output	
current output	
- range	0/4...20 mA
- accuracy	0.1 % of reading $\pm 15 \mu\text{A}$
- active output	$R_{\text{ext}} < 500 \Omega$
- passive output	$U_{\text{ext}} = 4...24 \text{ V}$, depending on R_{ext} , $R_{\text{ext}} < 1 \text{ k}\Omega$
current output I1 in HART mode	
- range	4...20 mA
- passive output	$U_{\text{ext}} = 10...24 \text{ V}$
voltage output	
range	0...1 V or 0...10 V
accuracy	0...1 V: 0.1 % of reading $\pm 1 \text{ mV}$ 0...10 V: 0.1 % of reading $\pm 10 \text{ mV}$
internal resistance	$R_{\text{int}} = 500 \Omega$
frequency output	
range	0...5 kHz
open collector	24 V/4 mA, $R_{\text{int}} = 66.5 \Omega$
binary output	
Reed relay	48 V/100 mA, P1...P6: $R_{\text{int}} = 22 \Omega$
open collector	24 V/4 mA, P1...P6: $R_{\text{int}} = 22 \Omega$
optorelay	26 V/100 mA
binary output as alarm output	
- functions	limit, change of flow direction or error
binary output as pulse output	mainly for totalizing
- pulse value	0.01...1000 units
- pulse width	optorelay: 1...1000 ms Reed relay, open collector: 80...1000 ms

⁴ F706**-A2: connection of the interface RS232 outside of explosive atmosphere (housing cover open)

FLUXUS	F706**-NN, F706**-A2
inputs (optional)	
	The inputs are galvanically isolated from the transmitter.
number	max. 4, on request active inputs and outputs: max. 4
temperature input	
type	Pt100/Pt1000
connection	4-wire
range	-150...+560 °C
resolution	0.01 K
accuracy	±0.01 % of reading ±0.03 K
current input	
accuracy	0.1 % of reading ±10 µA
active input	$U_{int} = 24 \text{ V}$, $R_{int} = 50 \Omega$, $P_{int} < 0.5 \text{ W}$, not short-circuit proof
- range	0...20 mA
passive input	$R_{int} = 50 \Omega$, $P_{int} < 0.3 \text{ W}$
- range	-20...+20 mA
voltage input	
range	0...1 V
accuracy	0.1 % of reading ±1 mV
internal resistance	$R_{int} = 1 \text{ M}\Omega$
binary input	
switching signal	5...30 V, 1 mA
functions	<ul style="list-style-type: none"> - resetting the measured values - resetting the totalizers - stopping the totalizers - activation of the measuring mode for highly dynamic flows

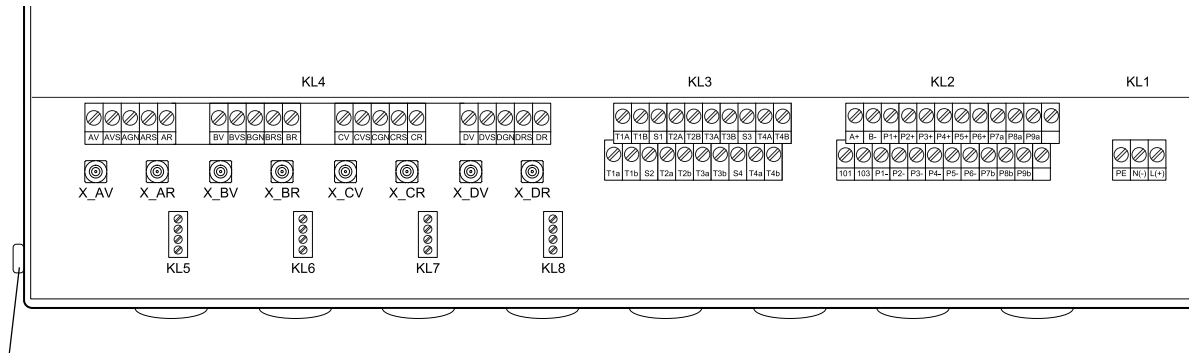
Dimensions



in mm

Terminal assignment

FLUXUS F706



equipotential bonding terminal

power supply

terminal strip KL1

terminal	connection (AC)	connection (DC)
PE	earth	earth
N(-)	neutral	-
L(+)	phase	+

transducers

terminal strip KL4

extension cable (transducers *****8*, ****LI*, *****52) transducer cable (transducers *****8*, ****LI*)	
measuring channel A, B, C, D	
terminal	connection
xV	signal
xVS	shield
xRS	shield
xR	signal

transducer cable (transducers *****52)	
measuring channel A, B, C, D	
terminal	connection
X_xV	SMB connector
X_xR	SMB connector

outputs¹

terminal strip KL2

terminal	connection
P1+...P6+, P1-...P6-	current output, voltage output, frequency output or binary output (Reed relay, open collector)
P7a...P9a, P7b...P9b	binary output (Reed relay, optorelay)

RS485, Modbus, BACnet (optional)

terminal strip KL2

terminal	connection
A+	signal +
B-	signal -
101	shield

analog inputs¹

terminal strip KL3

terminal	temperature probe		passive current source	active current source
	direct connection	connection with extension cable	connection of an active input	connection of a passive input
T1a...T4a	red	red	not connected	not connected
T1A...T4A	red/blue	grey	-	+
T1b...T4b	white/blue	blue	+	not connected
T1B...T4B	white	white	not connected	-
S1...S4	shield	shield	not connected	not connected

binary inputs¹

terminal strip KL2

terminal
P1+...P2+, P1-...P2-

¹ The number, type and terminal assignment of the outputs and inputs will be customized.