Transmitter

Technical data

		FLUXUS F808LF-A1	FLUXUS F808LF-F1	FLUXUS F801LF-A1		FLUXUS F801C24
						
design		explosion proof field device zone 1	explosion proof field device FM Class I Div. 1	explosion proof offshore device zone 1 active current outputs or passive current outputs	explosion proof offshore device zone 1 frequency output	explosion proof offshore device zone 1 intrinsically safe outputs
application		extreme low flow measurement for liquids				
transducers		CDQ*N**				
transducer mounting fixture		• Variofix L with bolt mounting plates VLQ-DS-B (outer pipe diameter ≤ 48 mm) • Variofix L VLQ-DS-S (outer pipe diameter > 48 mm)				
measurement						
measurement principle		transit time difference correlation principle				
flow velocity	m/s	depending on pipe diameter, see diagrams				
fluid		all acoustically conductive liquids with < 2 % gaseous or solid content in volume				
Reynolds number		< 1 000				
temperature compensation		corresponding to the recommendations in ANSI/ASME MFC-5.1-2011				
accuracy		depending on pipe diameter, see diagrams				
transmitter						
power supply		• 100...230 V/50...60 Hz or • 20...32 V DC		• 100...230 V/50...60 Hz or • 20...32 V DC or • on request: 11...16 V DC		• 24 V DC ±10 %
power consumption	W	< 8		< 8		< 4
number of measuring channels		1				
damping	s	0...100 (adjustable)				
measuring cycle	Hz	100...1000				
response time	s	1				
housing material		cast aluminum, special heavy-duty coating		stainless steel 316/316L (1.4401, 1.4404, 1.4432)		
degree of protection		IP66				
dimensions	mm	see dimensional drawing				
weight	kg	5		6.6		
fixation		wall mounting, 2" pipe mounting				
ambient temperature	°C	-30...+60 °C (< -20 °C without operation of the display)	-25...+60 °C (< -20 °C without operation of the display)	-20...+60		-20...+50
display		2 x 16 characters, dot matrix, backlight				
menu language		English, German, French, Dutch, Spanish				
explosion protection						
• **ATEX/IECEx**						
marking		CE 0637 Ex II2G II2D Ex db eb IIC T6 Gb Ex tb IIIC T100 °C Db T_a -40...+60 °C	-	CE 0637 Ex II2G II2D Ex db eb IIC T6 Gb Ex tb IIIC T100 °C Db T_a -20...+60 °C		CE 0637 Ex II2G Ex db eb [ib] IIC T4 Gb T_a -20...+50 °C
certification ATEX		IBExU11ATEX1022 X	-	IBExU05ATEX1078		IBExU05ATEX1078
certification IECEx		IECEx IBE 11.0006X	-	IECEx IBE 12.0020		-
intrinsic safety parameters		-	-	-		U_m = 250 V AC intrinsically safe outputs: U_i = 28.2 V P_i = 0.76 W L_i, C_i negligible

[1] connection of the interface RS232 outside of explosive atmosphere (housing cover open)

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		FLUXUS F808LF-A1	FLUXUS F808LF-F1	FLUXUS F801LF-A1	FLUXUS F801C24
• FM					
marking		-	 Cl. I, II, III/Div. 1/ GP. A, B, C, D, E, F, G/ For Group A, conduit seal of connection compartment is required within 18 inches.  Cl. I, II, III/Div. 1/ GP. B, C, D, E, F, G T4A Ta = 60 °C	-	
measuring functions					
physical quantities		volumetric flow rate, mass flow rate, flow velocity			
totalizer		volume, mass			
diagnostic functions		sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitudes and transit times			
communication interfaces					
service interfaces		• RS232[1] • USB (with adapter)[1]			
process interfaces		max. 1 option: • RS485 (ASCII sender) • Modbus RTU • HART		-	-
accessories					
serial data kit • cable • adapter		 RS232 RS232 - USB			
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			
data logger					
loggable values		all physical quantities, totalized values and diagnostic values			
capacity		> 100 000 measured values			

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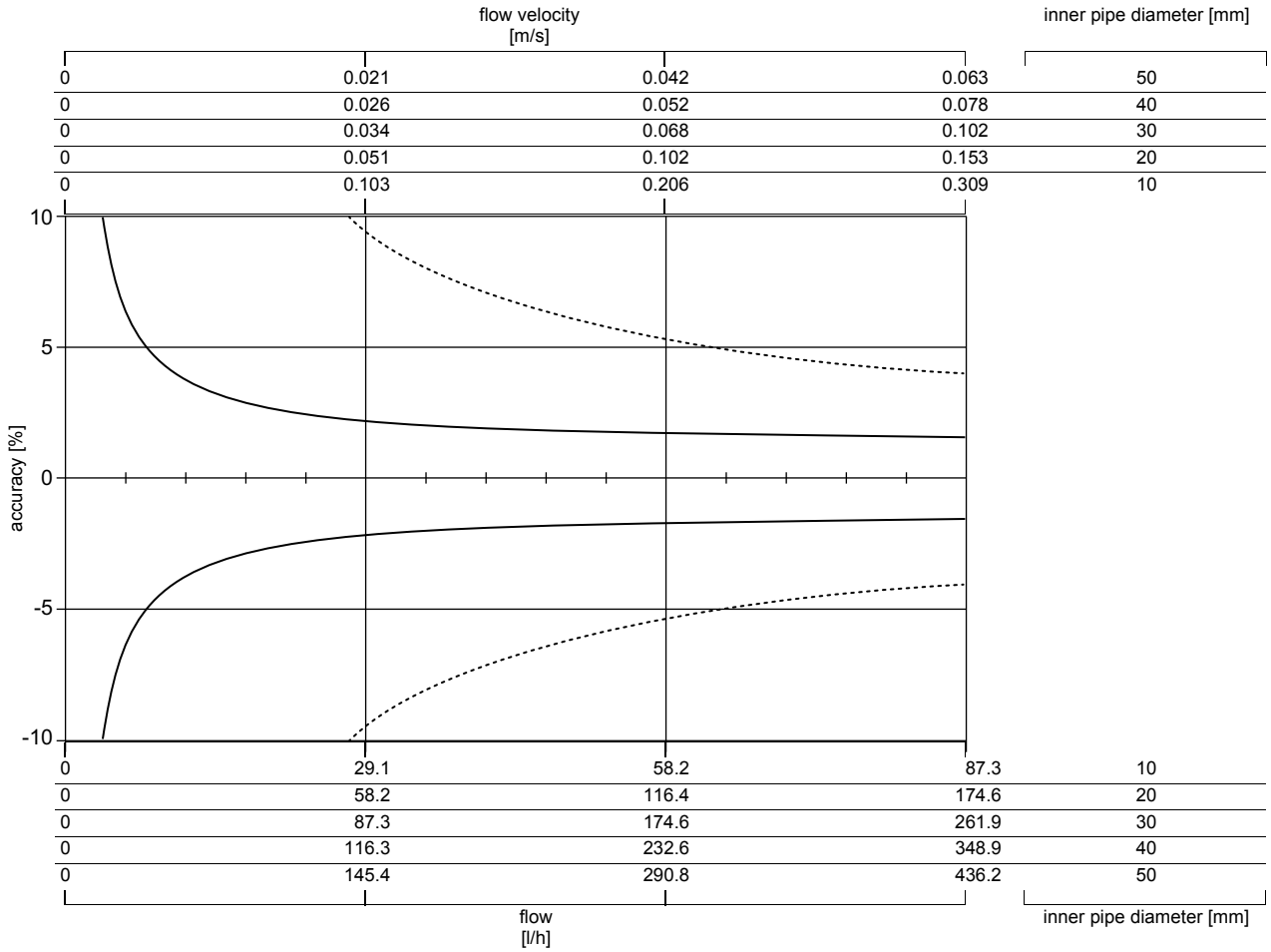
		FLUXUS F808LF-A1	FLUXUS F808LF-F1	FLUXUS F801LF-A1		FLUXUS F801C24
outputs						
		The outputs are galvanically isolated from the transmitter.				
number		• current output: 1 • binary output: 1 or • current output: 1 • Modbus or • current output: 1/HART • binary output: 1		• current output: 1...2 • binary output (open collector): 1...2 or • current output: 1...2 • binary output (open collector): 1 • binary output (Reed relays): 1	• frequency output: 1 • binary output (open collector): 1	• current output: 1 • binary output (open collector): 1
• current output						
range	mA	0/4...20			-	4...20
accuracy		0.1 % of reading ±15 µA			-	0.1 % of reading ±15 µA
active output		R_{ext} < 500 Ω			-	-
passive output		U_{ext} = 4...26.4 V, depending on R_{ext} (R_{ext} < 1 kΩ at 26.4 V)			-	U_{ext} = 4...28.2 V, depending on R_{ext} (R_{ext} < 1 kΩ at 28.2 V) intrinsic safety
current output in HART mode		I1			-	-
• range	mA	4...20		4...20	-	-
• active output		U_{int} = 24 V		U_{int} = 24 V	-	-
• passive output		U_{ext} = 7...30 V DC		U_{ext} = 10...24 V	-	-
• frequency output						
range	kHz	-	-	-	0...5	-
open collector		-	-	-	30 V/100 mA I_{off} = 0.8 mA optional: 8.2 V DIN EN 60947-5-6 (NAMUR)	-
• binary output						
open collector		24 V/4 mA optional (in combination with HART only): • 30 V/100 mA or • 8.2 V DIN EN 60947-5-6 (NAMUR)		24 V/4 mA	30 V/100 mA I_{off} = 0.8 mA	24 V/4 mA intrinsic safety
Reed relay		-	-	48 V/100 mA	-	-
binary output as alarm output						
• functions		limit, change of flow direction or error				
binary output as pulse output						
• functions		mainly for totalizing				
• pulse value	units	0.01...1000				
• pulse width	ms	1...1000				

[1] connection of the interface RS232 outside of explosive atmosphere (housing cover open)

Diagrams



reflection arrangement
number of sound paths: 8
Reynolds number: < 1 000 (low power mode)

max. accuracy FLUXUS F80*LF (with low flow calibration)

max. accuracy FLUXUS F80* (with standard calibration)