Flow Transmitter G800

Technical Data

FLUXUS	**G800** **G800L** **G800P** **G800LP**	**G800P**	**G800C24** **G800LC24**	**G800C24a** **G800LC24a**
design	explosion proof field device			
				
measurement				
measurement principle	transit time difference correlation principle			
flow velocity	0.01...35 m/s, depending on pipe diameter			
repeatability	0.15 % of reading ±0.01 m/s			
fluid	all acoustically conductive gases, e.g. nitrogen, air, oxygen, hydrogen, argon, helium, ethylene, propane			
temperature compensation	corresponding to the recommendations in ANSI/ASME MFC-5.1-2011			
accuracy				
volumetric flow rate	± 1...3 % of reading ±0.01 m/s depending on application ± 0.5 % of reading ±0.01 m/s with field calibration			
flow transmitter				
power supply	100...240 V/50...60 Hz or 20...32 V DC or on request: 11...16 V DC		24 V DC ±10 %	24 V DC ±10 %
power consumption	< 10 W		< 4 W	< 4 W
number of flow measuring channels	1, optional: 2			
damping	0...100 s, adjustable			
measuring cycle (1 channel)	100...1000 Hz			
response time	1 s (1 channel), option: 70 ms			
housing material	cast aluminum G800, G800P, G800C24, G800C24a: powder coated G800L, G800LP, G800LC24, G800LC24a: special offshore coating			
degree of protection according to IEC/EN 60529	IP66			
dimensions	see dimensional drawing			
weight	6 kg			
fixation	wall mounting, 2 " pipe mounting			
ambient temperature	-20...+60 °C		-20...+50 °C	-20...+50 °C
display	2 x 16 characters, dot matrix, backlight			
menu language	English, German, French, Dutch, Spanish			

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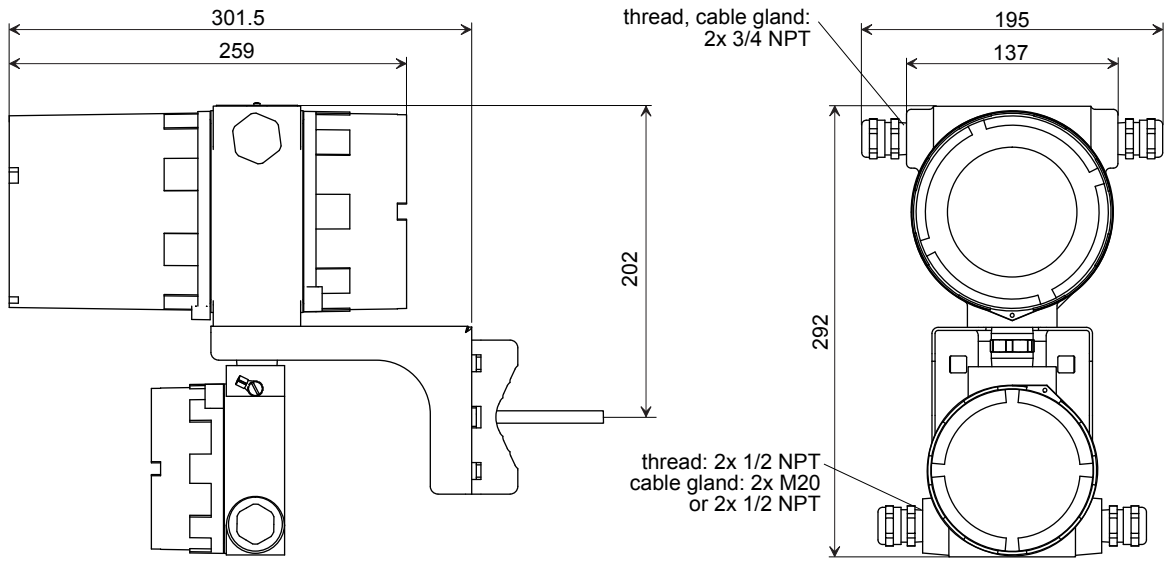
explosion protection					
ATEX	zone	1		1	
	marking	**G800**: CE 0637 Ex II2G Ex db eb IIC T6 Gb T_a -20...+60 °C **G800L**: CE 0637 Ex II2G Ex db eb IIB T6 Gb T_a -20...+60 °C **G800P**: CE 0637 Ex II2G Ex db eb IIC T4 Gb T_a -20...+60 °C **G800LP**: CE 0637 Ex II2G Ex db eb IIB T4 Gb T_a -20...+60 °C		**G800C24**: CE 0637 Ex II2G Ex db eb [ib] IIC T4 Gb T_a -20...+50 °C **G800LC24**: CE 0637 Ex II2G Ex db eb [ib] IIB T4 Gb T_a -20...+50 °C	**G800C24a**: CE 0637 Ex II2G Ex db eb ia IIC T4 Gb T_a -20...+50 °C **G800LC24a**: CE 0637 Ex II2G Ex db eb ia IIB T4 Gb T_a -20...+50 °C
	certification ATEX	IBExU01ATEX1064			
	type of protection	electronics compartment: flameproof enclosure connection compartment: increased safety		electronics compartment: flameproof enclosure connection compartment: increased safety output circuits: intrinsic safety	
	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	U_m = 250 V AC intrinsically safe outputs: U_i = 30 V P_i = 0.42 W I_i = 56 mA C_i = 3 nF
measuring functions					
physical quantities		operating volumetric flow rate, standard volumetric flow rate, mass flow rate, flow velocity			
totalizer		volume, mass			
calculation functions		average, difference, sum (2 measuring channels necessary)			
diagnostic functions		sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitudes and transit times			
data logger					
loggable values		all physical quantities, totalized values and diagnostic values			
capacity		> 100 000 measured values			
communication					
interface		- process integration (optional): RS485 (emitter) or Modbus RTU or HART - diagnosis: RS232[1]	- diagnosis: RS232[1]	- diagnosis: RS232[1]	- diagnosis: RS232[1]
serial data kit (optional)					
software (all Windows™ versions)		- FluxData: download of measurement data, graphical presentation, conversion to other formats (e.g. for Excel™) - FluxDiag (optional): online diagnostics and report generation - FluxKoef: creating fluid data sets - FluxSubstanceLoader: upload of fluid data sets			
cable		RS232[1]			
adapter		RS232 - USB[1]			

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

FLUXUS	**G800** **G800L** **G800P** **G800LP**	**G800P**	**G800C24** **G800LC24**	**G800C24a** **G800LC24a**
outputs (optional)				
	The outputs are galvanically isolated from the transmitter.			
number	current output: 1...2 and binary output (open collector): 1...2 **or** current output: 1...2 and binary output (open collector): 1 and binary output (Reed relays): 1	frequency output: 1 and binary output (open collector): 1	current output: 1 and binary output (open collector): 1	current output: 1
	current output			
current output I1, I2				
- range	0/4...20 mA	-	4...20 mA	4...20 mA
- accuracy	0.1 % of reading ±15 µA	-	0.1 % of reading ±15 µA	0.1 % of reading ±15 µA
- active output	**G800,** **G800L**: R_{ext} < 500 Ω	-	-	-
- passive output	**G800P,** **G800LP**: U_{ext} = 4...26.4 V, depending on R_{ext} R_{ext} < 1 kΩ	-	U_{ext} = 4...28.2 V, depending on R_{ext} R_{ext} < 1 kΩ intrinsic safety	U_{ext} = 7...30 V, depending on R_{ext} R_{ext} < 1 kΩ (for U_{ext} = 29 V) intrinsic safety
current output I1 in HART mode				
- range	4...20 mA	-	-	-
- passive output	U_{ext} = 10...24 V	-	-	-
	frequency output			
range	-	0...5 kHz	-	-
open collector	-	30 V/100 mA I_{off} = 0.8 mA optional: 8.2 V DIN EN 60947-5-6 (NAMUR)	-	-
	binary output			
Reed relay	48 V/100 mA	-	-	-
open collector	24 V/4 mA	30 V/100 mA I_{off} = 0.8 mA	24 V/4 mA intrinsic safety	-
binary output as alarm output				
- functions	limit, change of flow direction or error			
open collector as pulse output				
- pulse value	0.01...1000 units			
- pulse width	1...1000 ms			

Dimensions

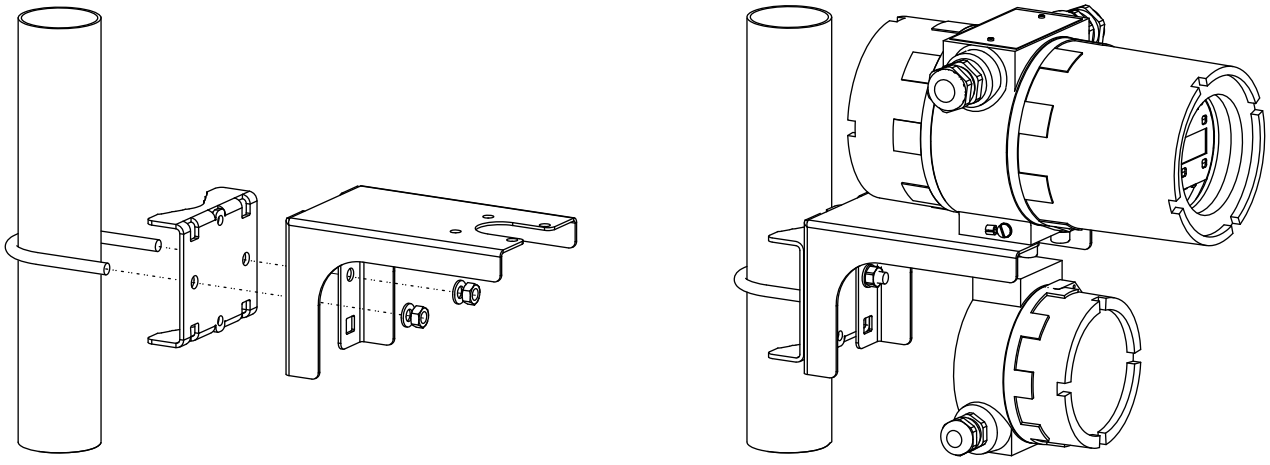
FLUXUS G800



in mm

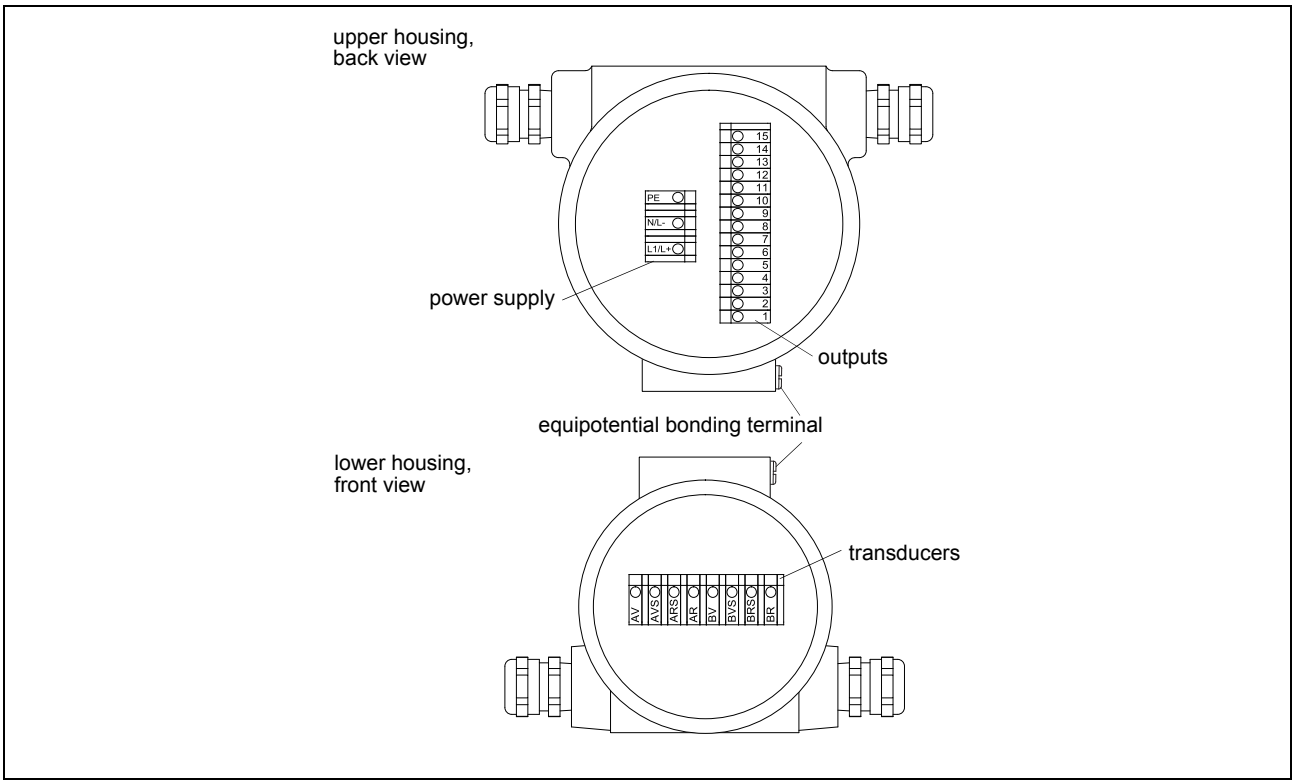
Wall and 2 " Pipe Mounting Kit

FLUXUS G800



Terminal Assignment

FLUXUS G800, G800L, G800LP
FLUXUS G800P (transmitter without frequency output)



power supply

AC		DC	
terminal	**connection**	**terminal**	**connection**
PE	earth	PE	earth
N	neutral	L-	-
L1	phase	L+	+

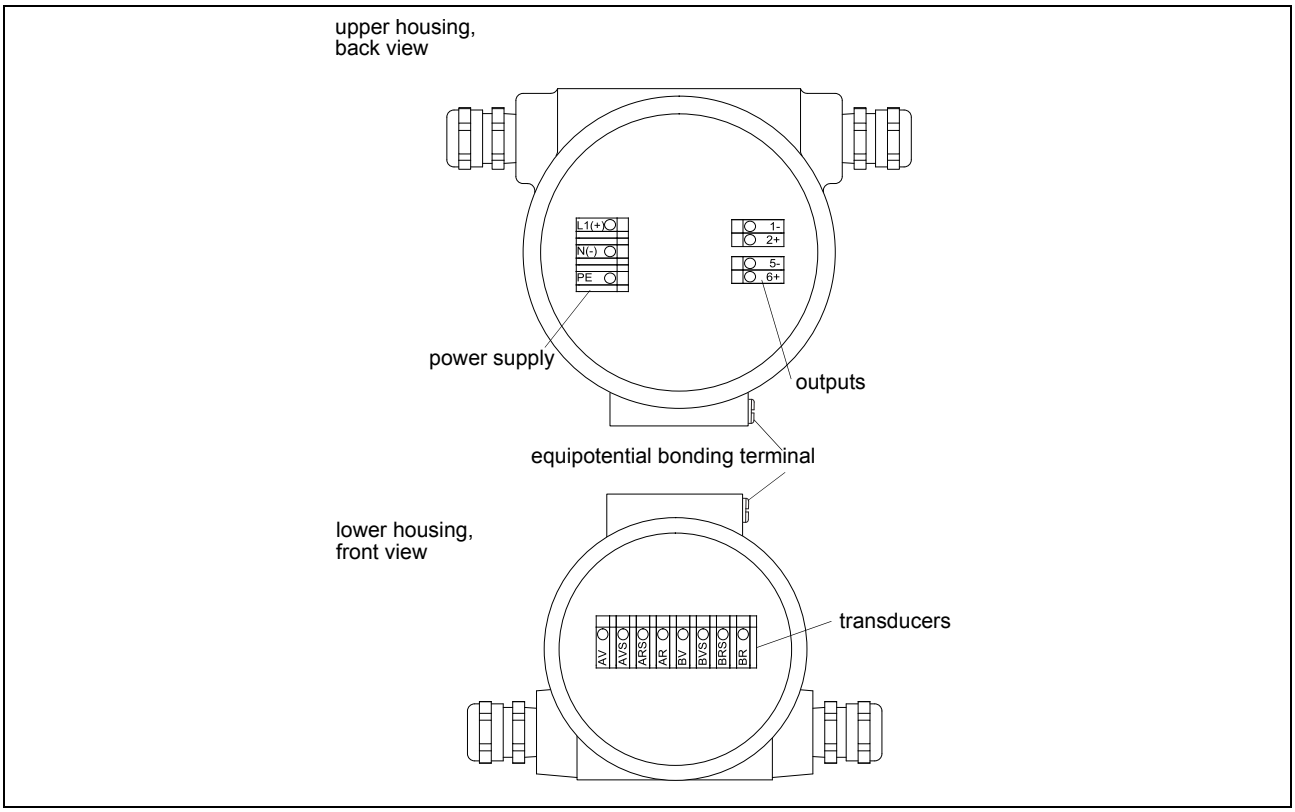
transducers

measuring channel A		measuring channel B	
terminal	**connection**	**terminal**	**connection**
AV	transducer ↑, signal	BV	transducer ↑, signal
AVS	transducer ↑, internal shield	BVS	transducer ↑, internal shield
ARS	transducer ⇈, internal shield	BRS	transducer ⇈, internal shield
AR	transducer ⇈, signal	BR	transducer ⇈, signal
cable gland	external shield	cable gland	external shield

outputs

G800, G800L		G800P, G800LP	
terminal	**connection**	**terminal**	**connection**
1(-), 2(+)	active current output I1	1(+), 2(-)	passive current output I1
3(-), 4(+)	active current output I2 (optional)	3(+), 4(-)	passive current output I2 (optional)
5(-), 6(+)	binary output B1 (open collector)		
7(-), 8(+)	binary output B2 (open collector, optional)		
9(a), 10(b)	binary output B1 (open collector, Reed relay, optional)		
11(a), 12(b)	binary output B2 (open collector, Reed relay, optional)		
13(B-), 14(A+), 15 (shield)	RS485 (optional)		

FLUXUS G800C24, G800LC24
FLUXUS G800C24a, G800LC24a
FLUXUS G800P (transmitter with frequency output)



power supply

AC (G800P)		DC	
terminal	**connection**	**terminal**	**connection**
PE	earth	PE	earth
N	neutral	L-	-
L1	phase	L+	+

transducers

measuring channel A		measuring channel B	
terminal	**connection**	**terminal**	**connection**
AV	transducer, signal	BV	transducer, signal
AVS	transducer, internal shield	BVS	transducer, internal shield
ARS	transducer, internal shield	BRS	transducer, internal shield
AR	transducer, signal	BR	transducer, signal
S	not connected	S	not connected
cable gland	external shield	cable gland	external shield

outputs

	G800C24, G800LC24	G800C24a, G800LC24a	G800P
colour of terminals	blue (intrinsic safety)		green
terminal	**connection**		
1(-), 2(+)	current output I1	current output I1	frequency output F1
5(-), 6(+)	binary output B1 (open collector)	-	binary output B1 (open collector)

FLEXIM GmbH
Wolfener Str. 36
12681 Berlin
Germany
Tel.: +49 (30) 93 66 76 60
Fax: +49 (30) 93 66 76 80

internet: www.flexim.com
e-mail: info@flexim.com