



Transmitter

Technical data

		F704SR-NN F704SR-A2
		
design		standard field device SIL2
supported transducer frequencies		K, M, P, Q, S on request: G
measurement		
measurement principle		transit time difference correlation principle, automatic NoiseTrek selection for measurements with high gaseous or solid content
flow velocity	m/s	0.01...25
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
accuracy¹		
with standard calibration		± 1.6 % of reading ± 0.01 m/s
with advanced calibration (optional)		± 1.2 % of reading ± 0.01 m/s
with field calibration ²		± 0.5 % of reading ± 0.01 m/s
transmitter		
power supply		100...230 V/50...60 Hz
power consumption	W	< 15
number of measuring channels		1, optional: 2
damping	s	0...100 (adjustable)
measuring cycle	Hz	100...1000 (1 channel)
response time	s	1 (1 channel), option: 0.07
housing material		aluminum, powder coated
degree of protection		IP65
weight	kg	3.1
fixation		wall mounting, optional: 2" pipe mounting
ambient temperature	°C	-20...+60 °C
display		2 x 16 characters, dot matrix, backlight
menu language		English, German, French, Dutch, Spanish
explosion protection		
• ATEX/IECEX		
transmitter		F704SR-A2
marking		CE 0637  II3G II2D Ex nA nC ic IIC T4 Gc Ex tb IIIC T 120 °C Db T _a -40...+60 °C
certification ATEX		IBExU11ATEX1015
certification IECEX		IECEX IBE 11.0008
measuring functions		
physical quantities		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
communication interfaces		
service interfaces		• RS232 ³ • USB (with adapter) ³

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

² reference uncertainty < 0.2 %

³ outside of explosive atmosphere (housing cover open)

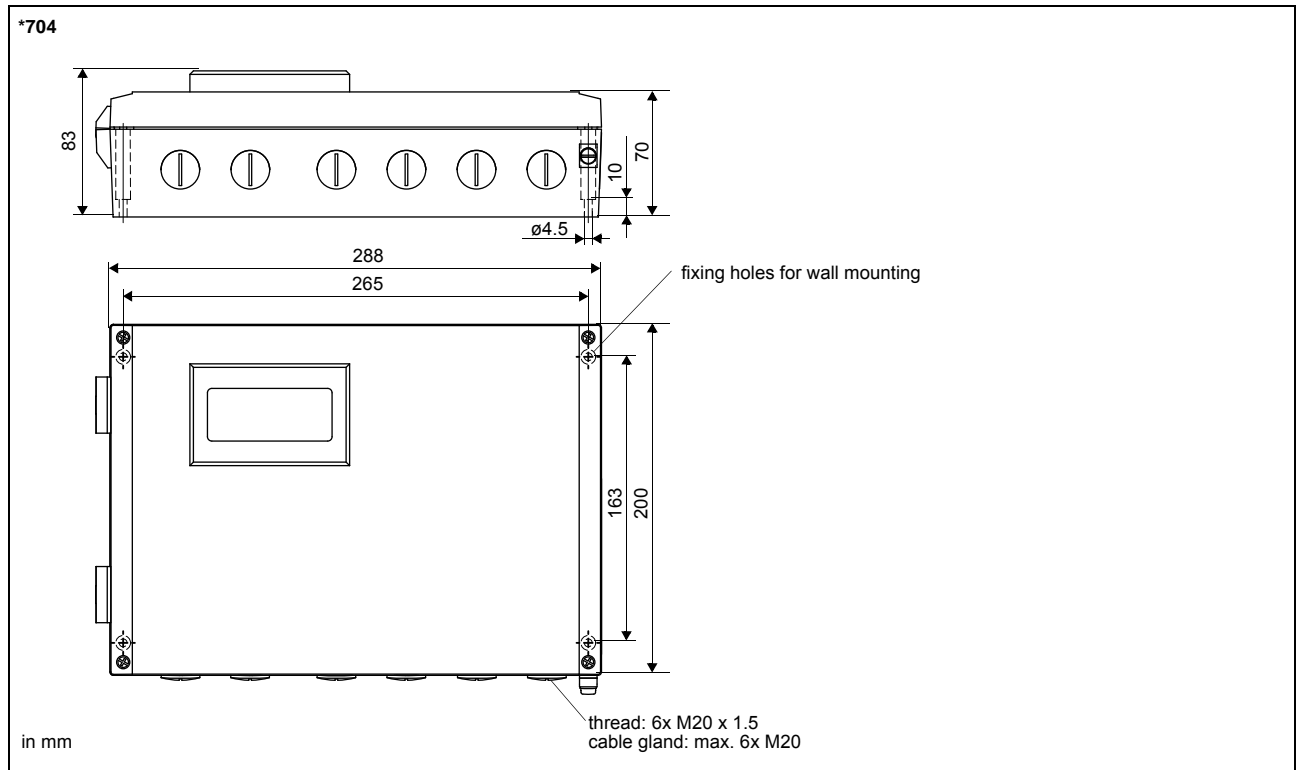
F704SR-NN F704SR-A2	
accessories	
serial data kit	RS232
• cable	RS232 - USB
• adapter	
software	<ul style="list-style-type: none"> • FluxDiagReader: download of measured values and parameters, graphical presentation • FluxDiag (optional): download of measurement data, graphical presentation, report generation • FluxSubstanceLoader: upload of fluid data sets
data logger	
loggable values	all physical quantities, totalized values and diagnostic values
capacity	> 100 000 measured values
outputs	
The outputs are galvanically isolated from the transmitter.	
• current output	
number	2 (1 (SIL2), 1 (diagnosis))
range	0/4...20 mA
accuracy	0.1 % of reading ±15 µA
active output	R _{ext} < 500 Ω
• binary output	
number	0...3 (diagnosis)
optorelay	26 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

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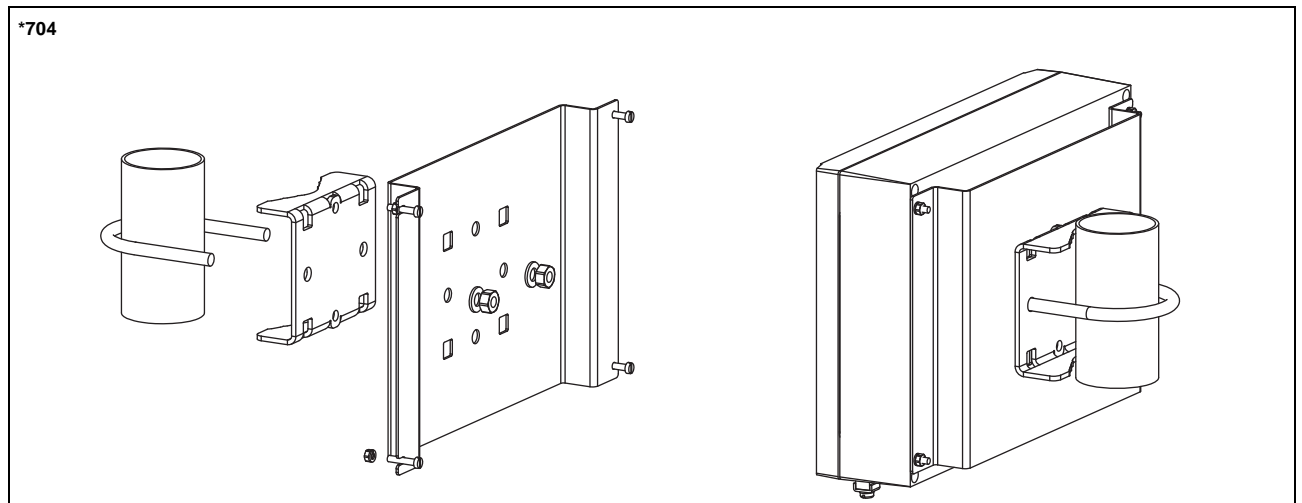
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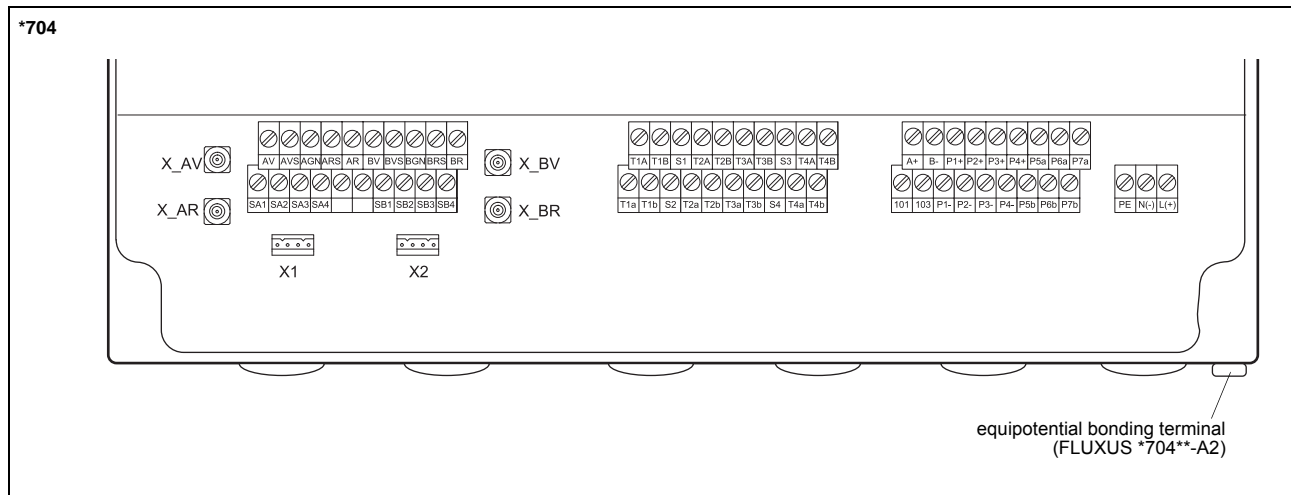
Dimensions



2" pipe mounting kit



Terminal assignment



power supply ¹							
terminal				connection (AC)			
PE				earth			
N(-)				neutral			
L(+)				phase			
transducers							
transducer cable (transducers *****8*, ****L1*) extension cable (transducers *****8*, ****L1*, *****52)				transducer cable (transducers *****52) extension cable connection system AS (transducers *****Z7, *****C3)			
measuring channel A		measuring channel B		transducer	measuring channel A		measuring channel B
terminal	connection	terminal	connection		terminal	terminal	connection
AV	signal	BV	signal	↑	X_AV	X_BV	SMB connector
AVS	shield	BVS	shield				
ARS	shield	BRS	shield	⬇	X_AR	X_BR	SMB connector
AR	signal	BR	signal				
					X1	X2	AMP-Quick connector ²
² connection system AS							
outputs ¹							
terminal				connection			
P1+...P2+ P1-...P2-				current output			
P5a...P7a P5b...P7b				binary output			

¹ cable (by customer): e.g. flexible leads, with insulated wire end ferrules, lead cross sectional area: 0.5...1.5 mm²