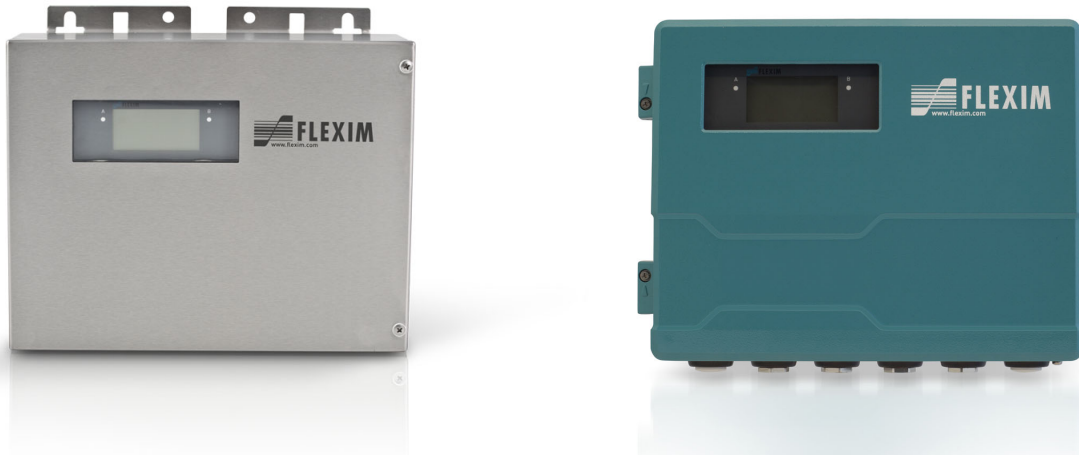


Flexim FLUXUS G721CA Ultrasonic Flowmeter



Stationary Ultrasonic Clamp-on System for Flow Measurement of Compressed Air and Other Industrial Gases

Transmitter for Permanent Outdoor Wall or Pipe Mounting

Features

- Accurate and reliable flow measurement
- Bidirectional measurement for flow direction detection in compressed-air networks
- Installation and start-up do not require any pipe work nor any process interruptions
- Measurement unaffected by gas density, viscosity, dust content and humidity
- Measurement at extremely low pressure:
 - min. 44 psia in metal pipes
 - 15 psia in plastic pipes
- Extremely high turndown ratio > 1000:1
- High measuring accuracy, even at low flow velocities down to 0.03 ft/s
 - Monitoring of small flows (e.g., during the night)
 - Leakage detection
- For pipe diameters of 0.6 to 9.8"
- Maintenance-free acoustic coupling using permanent coupling material
- Support of numerous fieldbus systems
- FM Class I Div. 2 approved transducers for hazardous areas available

Applications

- Industrial manufacturing facilities:
 - Air compressors and compressed-air distribution networks
 - Pressure generators and distribution networks for inert or purge gases
 - Pressure generators and distribution networks for oxygen, e.g. for steel production
- Measurement of atmospheric gases consumption: compressed air, nitrogen, oxygen, argon, helium

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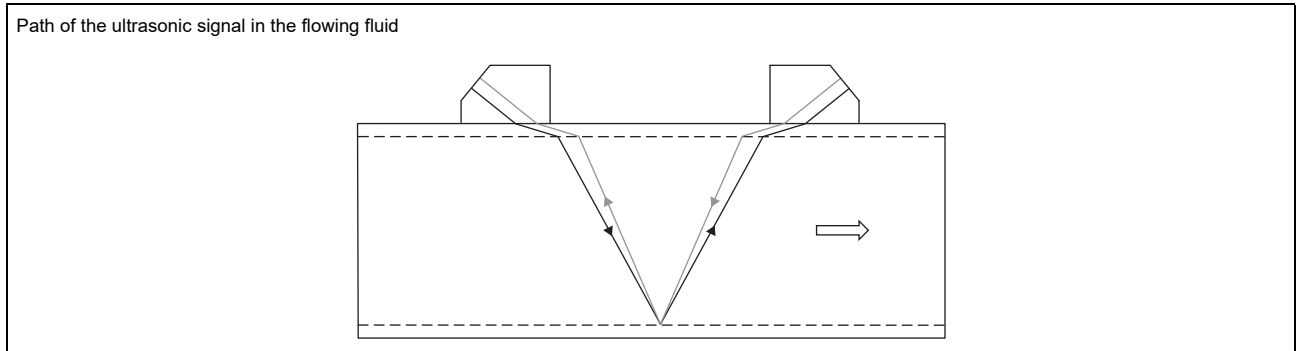
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Function

Measurement principle

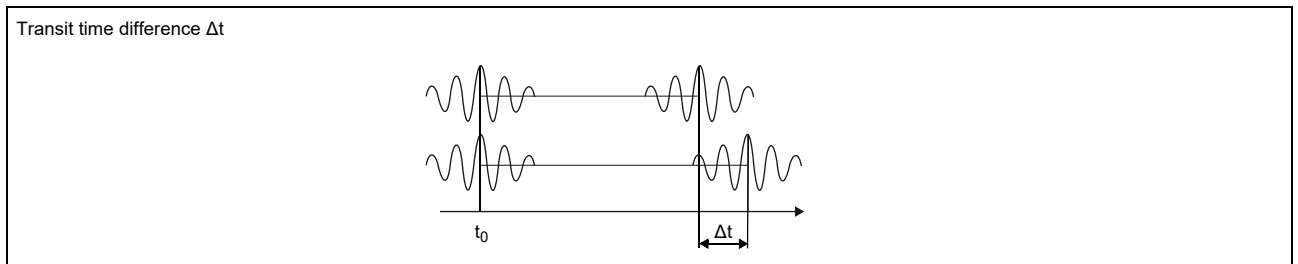
The transducers are mounted on the pipe which is completely filled with the fluid. The ultrasonic signals are emitted alternately by a transducer and received by the other. The physical quantities are determined from the transit times of the ultrasonic signals.



As the fluid where the ultrasound propagates is flowing, the transit time of the ultrasonic signal in flow direction is shorter than the one against the flow direction.

The transit time difference Δt is measured and allows the flowmeter to determine the average flow velocity along the propagation path of the ultrasonic signals. A flow profile correction is then performed in order to obtain the area averaged flow velocity, which is proportional to the volumetric flow rate.

The integrated microprocessors control the entire measuring cycle. The received ultrasonic signals are checked for measurement usability and evaluated for their reliability. Noise signals are eliminated.



Calculation of volumetric flow rate

$$\dot{V} = k_{Re} \cdot A \cdot k_a \cdot \frac{\Delta t}{2 \cdot t_y}$$

where

- \dot{V} - volumetric flow rate
- k_{Re} - fluid mechanic calibration factor
- A - cross-sectional pipe area
- k_a - acoustic calibration factor
- Δt - transit time difference
- t_y - average of transit times in the fluid

Calculation of standard volumetric flow rate

The standard volumetric flow rate can be selected as physical quantity. It is calculated with the following formula:

$$\dot{V}_N = \dot{V} \cdot \frac{p}{p_N} \cdot \frac{T_N}{T} \cdot \frac{1}{K}$$

where

- \dot{V}_N - standard volumetric flow rate
- \dot{V} - operating volumetric flow rate
- p_N - standard pressure (absolute value)
- p - operating pressure (absolute value)
- T_N - standard temperature in K
- T - operating temperature in K
- K - compressibility coefficient of gas: ratio of the compressibility factors of the gas at operating conditions and at standard conditions Z/Z_N

The operational pressure p and the operational temperature T of the fluid will be entered directly as fixed values into the transmitter.

or:

- If inputs are installed (optional), pressure and temperature can be measured by the customer and fed in the transmitter.

Number of sound paths

The number of sound paths is the number of transits of the ultrasonic signal through the fluid in the pipe. Depending on the number of sound paths, the following methods of installation exist:

- **reflect arrangement**

The number of sound paths is even. The transducers are mounted on the same side of the pipe. Correct positioning of the transducers is easy.

- **diagonal arrangement**

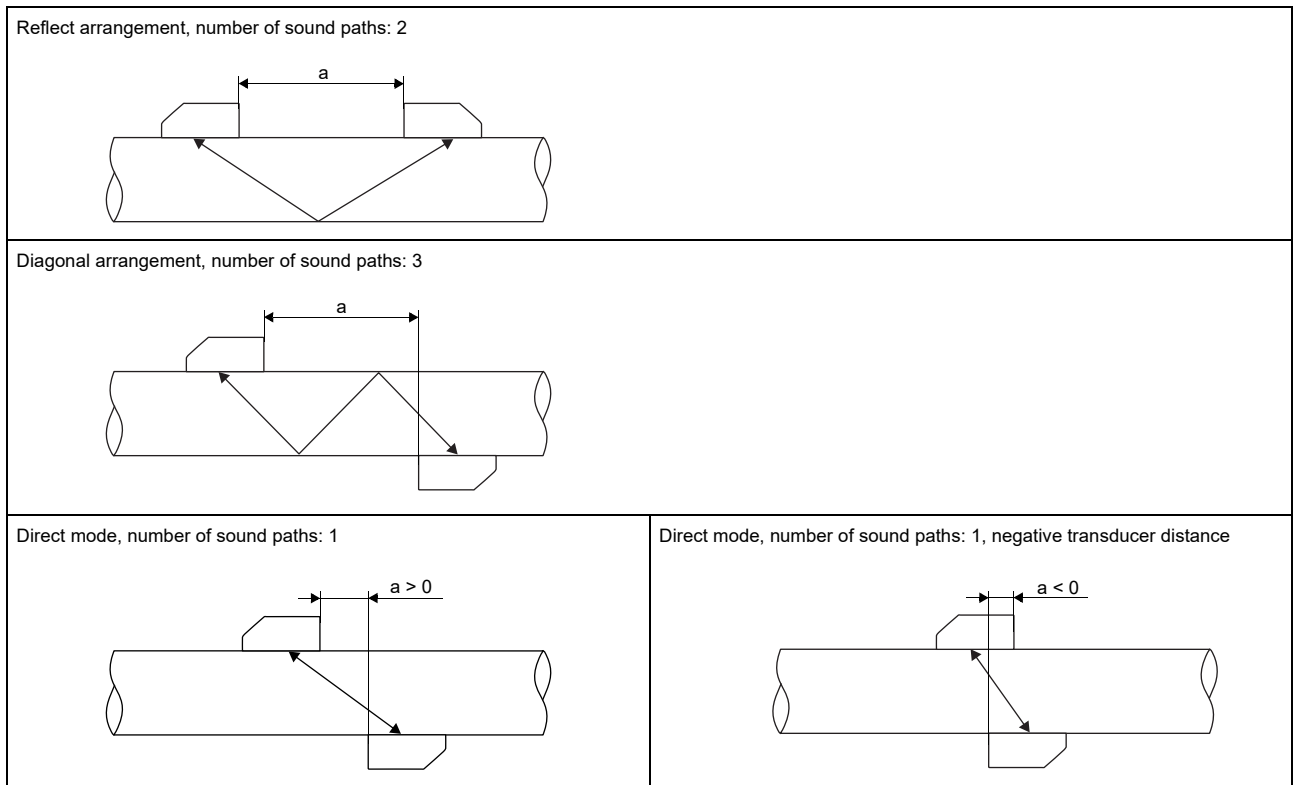
The number of sound paths is odd. The transducers are mounted on opposite sides of the pipe.

- **direct mode**

Diagonal arrangement with 1 sound path. This should be used in the case of a high signal attenuation by the fluid, pipe or coatings.

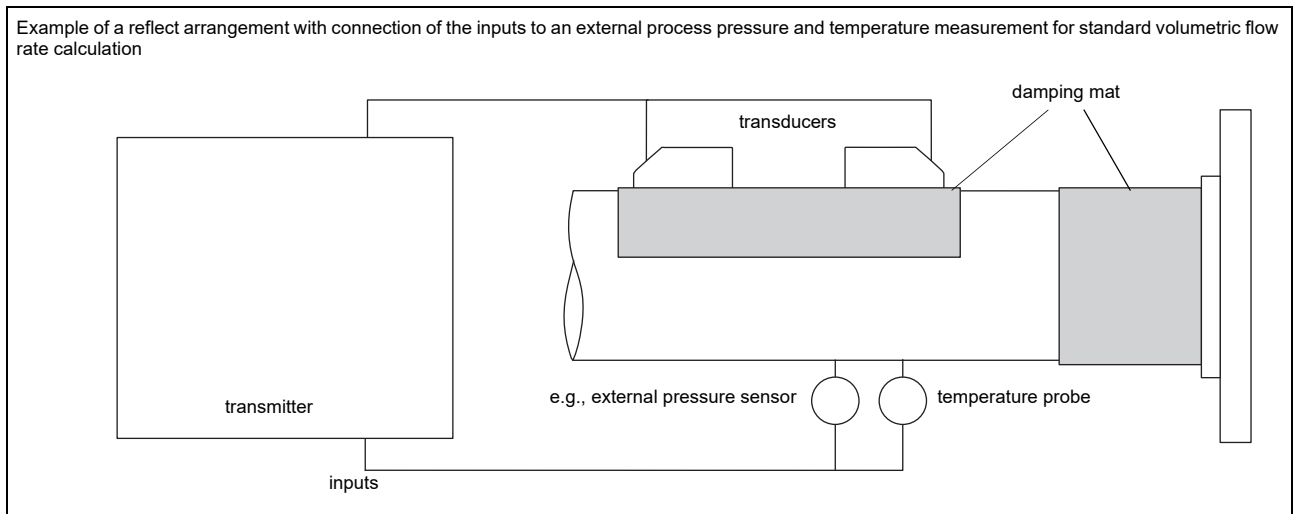
The preferred method of installation depends on the application. While increasing the number of sound paths increases the accuracy of the measurement, signal attenuation increases as well. The optimum number of sound paths for the parameters of the application will be determined automatically by the transmitter.

As the transducers can be mounted with the transducer mounting fixture in reflect arrangement or diagonal arrangement, the number of sound paths can be adjusted optimally for the application.






a - transducer distance

Typical measurement setup



Transmitter

Technical data

	FLUXUS G721CA-NNN**.*AL G721CA-NNN**.*ST	FLUXUS G721CA-A2N**.*AL G721CA-A2N**.*ST	FLUXUS G721CA-F2N**.*AL G721CA-F2N**.*ST
			
design	standard field device	standard field device zone 2	standard field device FM Class I Div. 2
application	flow measurement of compressed air and industrial gases		
measurement			
measurement principle	transit time difference correlation principle		
flow direction	bidirectional		
flow velocity	ft/s 0.03 to 115, depending on pipe diameter		
repeatability	0.15 % MV ±0.02 ft/s		
fluid	compressed air, oxygen, nitrogen, argon, helium		
temperature compensation	corresponding to the recommendations in ANSI/ASME MFC-5.1-2011		
measurement uncertainty (volumetric flow rate)			
measurement uncertainty of the measuring system ¹	±0.3 % MV ±0.02 ft/s includes calibration certificate traceable to NIST		
measurement uncertainty at the measuring point	±1 to 2 % MV ±0.02 ft/s, contact FLEXIM for an application specific uncertainty evaluation		
transmitter			
power supply	<ul style="list-style-type: none"> • 100 to 230 V/50 to 60 Hz or • 20 to 32 V DC or • 11 to 16 V DC 		
power consumption	W	< 15	
number of measuring channels		1, optional: 2	
damping	s	0 to 100 (adjustable)	
measuring cycle	Hz	100 to 1000 (1 channel)	
response time	s	1 (1 channel), option: 0.02	
housing material		aluminum, powder coated or stainless steel 316L	
degree of protection		IP66	aluminum housing: IP66/NEMA 4X stainless steel housing: IP65
dimensions	inch	see dimensional drawing	
weight	lb	aluminum housing: 11.9 stainless steel housing: 11.2	
fixation		wall mounting, optional: 2" pipe mounting	
ambient temperature	°F	-40 to +140 (< -4 without operation of the display)	aluminum housing: -40 to +131/140 (< -4 without operation of the display) stainless steel housing: -4 to +131/140
display		128 x 64 pixels, backlight	
menu language		English, German, French, Spanish, Dutch, Russian, Polish, Turkish, Italian, Chinese	
explosion protection			
• ATEX/IECEx			
marking	-	G721**.-A20*A, G721**.-A20*S: CE 0637 Ex II3G II2D Ex nA nC ic IIC T4 Gc Ex tb IIIC T120 °C Db T _a -40...+60 °C	-
certification	-	IBExU11ATEX1015, IECEx IBE 11.0008	-
• FM			
marking	-	-	G721**.-F20*S2, G721**.-F20*S3:  NI/Cl. I,II,III/Div. 2/ GP. A,B,C,D,E,F,G/ T5 G721**.-F20*S1:  NI/Cl. I,II,III/Div. 2/ GP. A,B,C,D,E,F,G/ T4A
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	

¹ with aperture calibration of the transducers

² outside the explosive atmosphere (housing cover open)

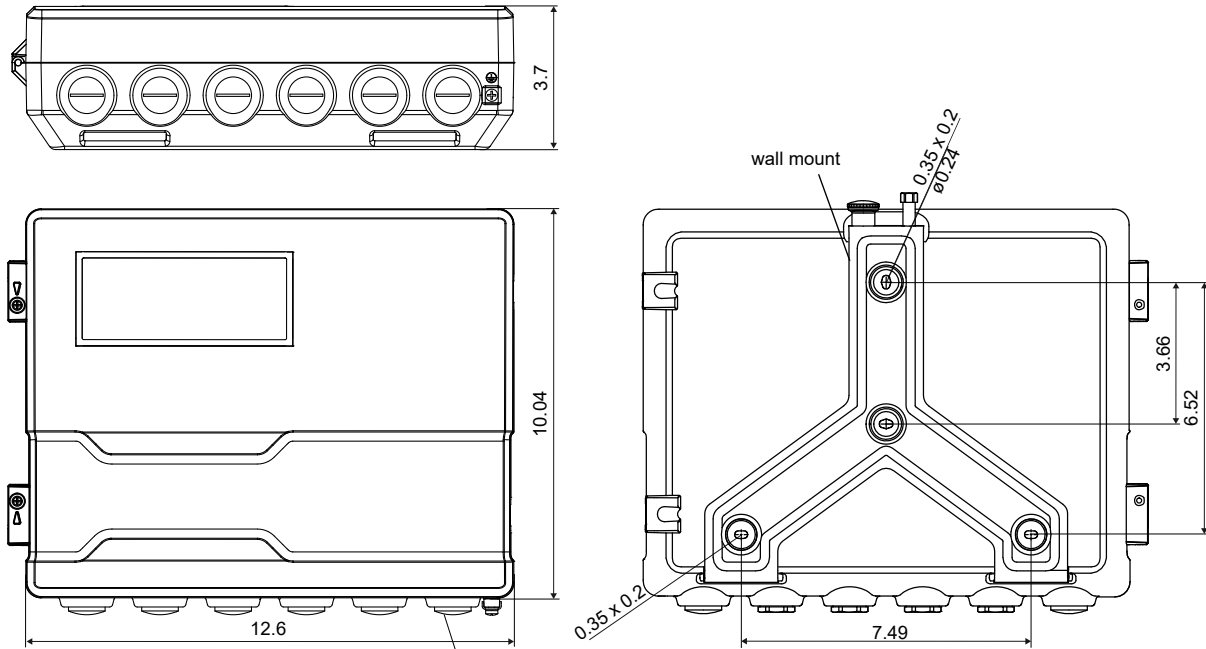
	FLUXUS G721CA-NNN**.*AL G721CA-NNN**.*ST	FLUXUS G721CA-A2N**.*AL G721CA-A2N**.*ST	FLUXUS G721CA-F2N**.*AL G721CA-F2N**.*ST
communication interfaces			
service interfaces	Messwertübertragung, Parametrierung des Messumformers: <ul style="list-style-type: none"> • USB² • LAN² 		
process interfaces	max. 1 option: <ul style="list-style-type: none"> • RS485 (ASCII sender) • Modbus RTU • BACnet MS/TP • Profibus PA • FF H1 • Modbus TCP • BACnet IP 	max. 1 option: <ul style="list-style-type: none"> • RS485 (ASCII sender) • Modbus RTU • BACnet MS/TP • Profibus PA • FF H1 • Modbus TCP • BACnet IP 	max. 1 option: <ul style="list-style-type: none"> • RS485 (ASCII sender) • Modbus RTU • BACnet MS/TP • Profibus PA • FF H1 • Modbus TCP • BACnet IP
accessories			
data transmission kit	USB cable		
software	<ul style="list-style-type: none"> • FluxDiagReader: reading of measured values and parameters, graphical representation • FluxDiag (optional): reading of measurement data, graphical representation, report generation, parametrization of the transmitter 		
data logger			
loggable values	all physical quantities, totalized physical quantities and diagnostic values		
capacity	max. 800 000 measured values		
outputs			
	The outputs are galvanically isolated from the transmitter.		
• switchable current output			
	All switchable current outputs are jointly switched to active or passive.		
number	2 or 4		
range	mA	4 to 20 (3.2 to 22)	
accuracy		0.04 % MV ±3 µA	
active output		$R_{ext} < 250 \Omega$	
passive output		$U_{ext} = 8 \text{ to } 30 \text{ V}$, depending on R_{ext} ($R_{ext} < 1 \text{ k}\Omega$ at 30 V)	
• digital output			
functions	<ul style="list-style-type: none"> • frequency output • binary output • pulse output 		
number	3		
operating parameters	5 to 30 V / < 100 mA		
frequency output			
• range	kHz	0 to 5	
binary output			
• binary output as alarm output		limit, change of flow direction or error	
pulse output			
• functions		mainly for totalizing	
• pulse value	units	0.01 to 1000	
• pulse width	ms	0.05 to 1000	
inputs			
	The inputs are galvanically isolated from the transmitter.		
• temperature input			
number	1 (1 measuring channel), 2 (2 measuring channels)		
type	Pt100/Pt1000		
connection	4-wire		
range	°F	-238 to +1040	
resolution	K	0.01	
accuracy		±0.01 % MV ±0.03 K	
• current input			
number	1 (1 measuring channel), 2 (2 measuring channels)		
accuracy	0.1 % MV ±10 µA		
active input		$U_{int} = 24 \text{ V}$, $R_{int} = 50 \Omega$, $P_{int} < 0.5 \text{ W}$, not short-circuit proof	
• range	mA	0 to 20	
passive input		$R_{int} = 50 \Omega$, $P_{int} < 0.3 \text{ W}$	
• range	mA	-20 to +20	

¹ with aperture calibration of the transducers

² outside the explosive atmosphere (housing cover open)

Dimensions

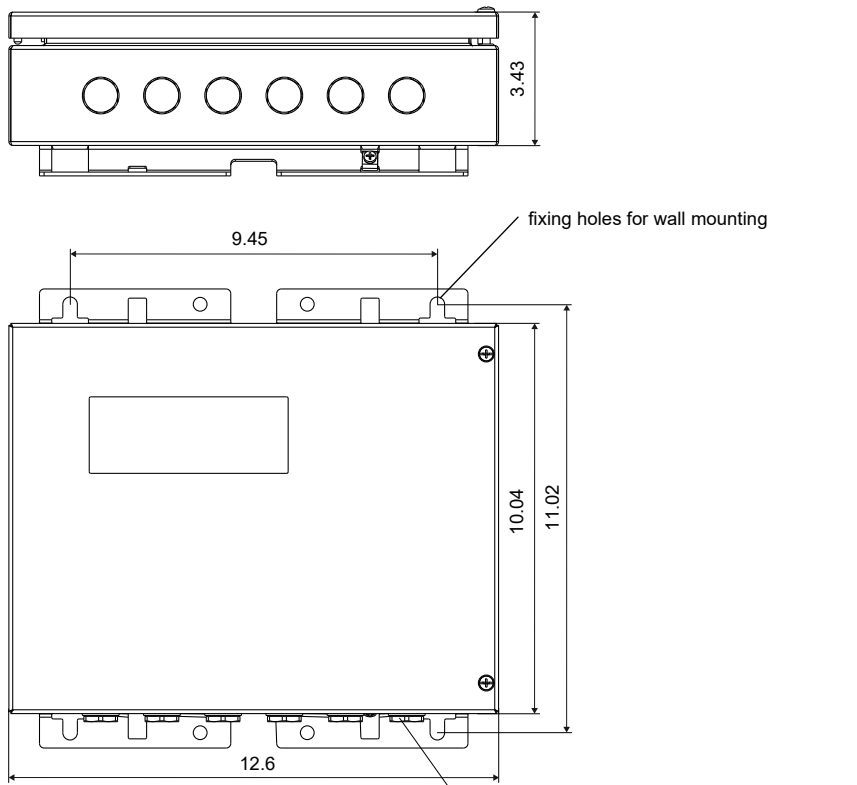
*72***_*****_AL



in inch

thread: 6x M20 x 1.5
cable gland: max. 6x 1/2 NPT

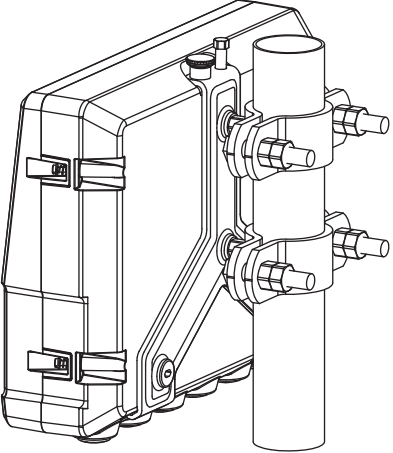
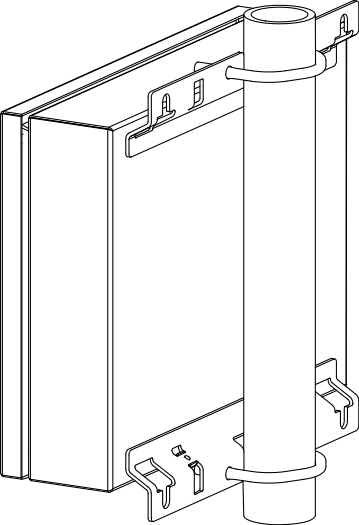
*72***_*****_ST



in inch

cable gland: max. 6x 1/2 NPS with counter nut

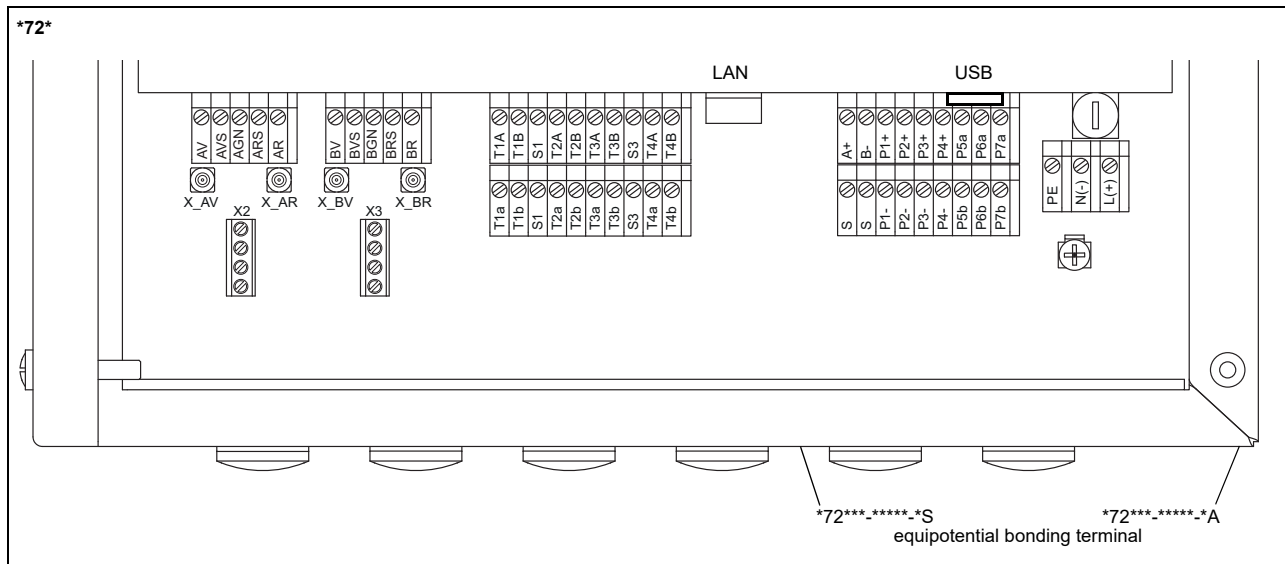
2" pipe mounting kit

<p>*72***_****-*AL</p> 	<p>item number: 721037-4</p>
<p>*72***_****-*ST</p> 	<p>item number: 721110-4</p>

Storage

- do not store outdoors
- store within the original package
- store in a dry and dust-free place
- protect against sunlight
- keep all openings closed
- storing temperature: -4...+140 °F

Terminal assignment



power supply ¹							
terminal		connection (AC)			connection (DC)		
PE		protective conductor			protective conductor		
N(-)		neutral conductor			-		
L(+)		outer conductor			+		
transducers							
extension cable				transducer cable			
measuring channel A				measuring channel B			
terminal	connection	terminal	connection	transducer	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				
outputs ¹							
terminal	connection	terminal	connection	communication interface			
P1+ to P4+ P1- to P4-	current output	A+	signal +	<ul style="list-style-type: none"> • RS485¹ • Modbus RTU¹ • BACnet MS/TP¹ • Profibus PA¹ • FF H1¹ 			
		B-	signal -				
P5a to P7a P5b to P7b	digital output	S	shield				
		USB	type B Hi-Speed USB 2.0 Device	<ul style="list-style-type: none"> • service (FluxDiag/ FluxDiagReader) 			
		LAN	RJ45 10/100 Mbps Ethernet	<ul style="list-style-type: none"> • service (FluxDiag/ FluxDiagReader) • Modbus TCP • BACnet IP 			
analog inputs ^{1, 2}							
terminal	temperature probe		passive sensor		active sensor		
	direct connection	connection with extension cable	connection	connection	connection		
T1a to T4a	red	white	not connected	not connected	not connected		
T1A to T4A	red	black	-	+	+		
T1b to T4b	white	red	+	not connected	not connected		
T1B to T4B	white	green	not connected	-	-		
S1, S3	shield	shield	not connected	not connected	not connected		

¹ cable (by customer):
 - e.g., flexible wires, with insulated wire ferrules, wire cross-section: AWG14 to 24
 - outer diameter of the cable (*72***.*****.*S with ferrite nut): max. 0.3 inch

² The number, type and terminal assignment are customized.

Transducers

Technical data

Lamb wave transducers

order code		GLK-N*****TS	GLM-N*****TS	GLP-N*****TS	GLQ-N*****TS
technical type		G(RT)K1N52	G(RT)M1N52	G(RT)P1N52	G(RT)Q1N52
transducer frequency	MHz	0.5	1	2	4
fluid pressure¹					
min. extended	psi	metal pipe: 145 (d > 4.7 inch) 44 (d < 4.7 inch)	metal pipe: 44 (d < 2.4 inch)	metal pipe: 44 (d < 1.4 inch)	metal pipe: 44 (d < 0.59 inch)
min.	psi	metal pipe: 218 (d > 4.7 inch) 145 (d < 4.7 inch) plastic pipe: 15	metal pipe: 145 (d > 2.4 inch) 73 (d < 2.4 inch) plastic pipe: 15	metal pipe: 145 (d > 1.4 inch) 73 (d < 1.4 inch) plastic pipe: 15	metal pipe: 145 (d > 0.59 inch) 73 (d < 0.59 inch) plastic pipe: 15
inner pipe diameter d					
min. extended	inch	2.4	1.2	0.59	0.28
min. recommended	inch	3.1	1.6	0.79	0.39
max. recommended	inch	9.8	5.9	2	0.87
max. extended	inch	9.8	7.1	2.4	1.2
pipe wall thickness²					
min.	inch	0.2	0.1	0.05	0.02
max.	inch	0.39	0.2	0.12	0.05
material					
housing		PPSU with stainless steel cover 316L			
contact surface		PPSU			
degree of protection		IP66			
transducer cable					
type		1699			
length	ft	16	13		9
dimensions					
length l	inch	5.06	2.91		1.65
width b	inch	2.01	1.26		0.87
height h	inch	2.66	1.59		1
dimensional drawing					
weight (without cable)	lb	1	0.17		0.04
pipe surface temperature	°F	-40 to +266			
ambient temperature	°F	-40 to +266			
temperature compensation		x			
explosion protection					
• ATEX/IECEx					
order code		GLK-NA2N-**TS	GLM-NA2N-**TS	GLP-NA2N-**TS	GLQ-NA2N-**TS
pipe surface temperature (Ex)	°C	gas: -50 to +165 dust: -50 to +155			
marking		CE 0637 Ex II 3G II 2D Ex nA IIC T6...T3 Gc Ex tb IIIC T80 °C...T160 °C Db			
certification		IBExU10ATEX1163 X, IECEx IBE 12.0005X			
• FM					
order code		GLK-NF2N-**TS	GLM-NF2N-**TS	GLP-NF2N-**TS	GLQ-NF2N-**TS
pipe surface temperature (Ex)	°F	-40 to +329			
degree of protection		IP66			
marking		NI/Cl. I,II,III/Div. 2 / GP A,B,C,D,E,F,G/ Temp. Codes dwg 3860			

¹ depending on the application, typical absolute value for compressed air, nitrogen, argon

² typical values for steel, aluminum and titanium pipes, for other pipe materials please contact FLEXIM

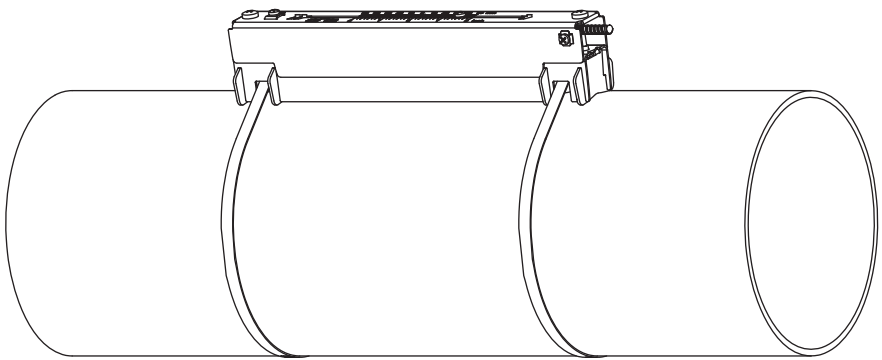
Shear wave transducers (optional)

order code		GSK-N*** **TS	GSM-N*** **TS	GSP-N*** **TS	GSQ-N*** **TS
technical type		G(DL)K1N52	G(DL)M2N52	G(DL)P2N52	G(DL)Q2N52
transducer frequency	MHz	0.5	1	2	4
fluid pressure¹					
min. extended	psi	metal pipe: 290			
min.	psi	metal pipe: 435, plastic pipe: 15			
inner pipe diameter d					
min. extended	inch	2.4	1.2	0.59	0.28
min. recommended	inch	3.1	1.6	0.79	0.39
max. recommended	inch	9.8	5.9	2	0.87
max. extended	inch	9.8	7.1	2.4	1.2
pipe wall thickness²					
min.	inch	0.2	0.1	0.05	0.02
material					
housing		PEEK with stainless steel cover 316L			
contact surface		PEEK			
degree of protection		IP66	IP66/IP67		
transducer cable					
type		1699			
length	ft	16	13	9	
dimensions					
length l	inch	4.98	2.52	1.57	
width b	inch	2.01	1.26	0.87	
height h	inch	2.66	1.59	1	
dimensional drawing					
weight (without cable)	lb	0.79	0.15	0.04	
pipe surface temperature	°F	-40 to +266			
ambient temperature	°F	-40 to +266			
temperature compensation		x			
explosion protection					
• ATEX/IECEx					
order code		GSK-NA2N- **TS	GSM-NA2N- **TS	GSP-NA2N- **TS	GSQ-NA2N- **TS
pipe surface temperature (Ex)	°C	gas: -55 to +190 dust: -55 to +180			
marking		CE 0637 Ex II 3G II 2D Ex nA IIC T6...T3 Gc Ex tb IIIC T80 °C...T185 °C Db			
certification		IBExU10ATEX1163 X, IECEx IBE 12.0005X			
• FM					
order code		GSK-NF2N- **TS	GSM-NF2N- **TS	GSP-NF2N- **TS	GSQ-NF2N- **TS
pipe surface temperature (Ex)	°F	-40 to +257	-40 to +374		
degree of protection		IP66			
marking		NI/CI. I,II,III/Div. 2 / GP A, B, C, D, E, F, G/ Temp. Codes dwg 3860			

¹ depending on the application, typical absolute value for compressed air, nitrogen, argon

² typical values for steel, aluminum and titanium pipes, for other pipe materials please contact FLEXIM

Transducer mounting fixture

<p>PermaRail (VL)</p> 	<p>material: stainless steel 316Ti, 316L, 17-7PH inner length: VLK: 13.7 inch VL(MP): 9.2 inch VLQ: 6.9 inch dimensions: VLK: 16.65 x 3.54 x 3.66 inch VL(MP): 12.17 x 2.24 x 2.48 inch VLQ: 9.72 x 1.69 x 1.85 inch</p>
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Coupling materials for transducers

type	ambient temperature °F
coupling compound type N	-22 to +266
coupling pad type VT	14 to +392

Damping mats

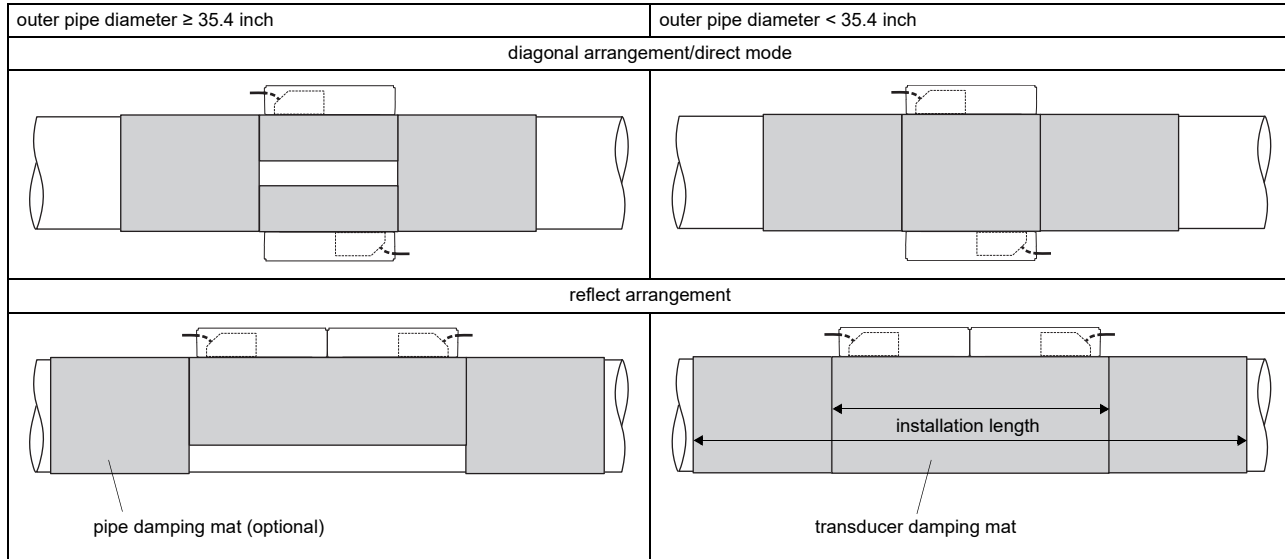
Damping mats will be used for the gas measurement to reduce acoustic noise influences on the measurement.

transducer damping mat

Transducer damping mats will be installed below the transducers.

pipe damping mat

Pipe damping mats will be installed if the sound propagation is disturbed at reflection points (e.g., flange, weld). Depending on the noise, the pipe damping mats will be installed at one or both sides of the transducer damping mat. If the local conditions are unknown, pipe damping mats should be installed.



Technical data

type		E30R4	E30R3
item number		992080-11	992080-10
width	inch	8.9	2
thickness	inch	0.03	
length (per roll)	ft	32	
weight	lb/ft ²	2.2	
ambient temperature	°F	-22 to +176	
properties		self-adhesive	

Dimensioning

transducer		damping mat								
transducer mounting fixture	order code	type	number of layers	transducer damping mat			transducer damping mat + 2x pipe damping mat			
				max. installation length [inch]	number of rolls ¹		max. installation length [inch]	number of rolls ¹		
					standard ²	extended ²		standard	extended	
PermaRail										
VLK	GLK	E30R4	1	35	1	1	72	2	2	
	GSK		1		1	2		2		
VLM	GLM	E30R3	1	26	1	1	53.5	2	2	
	GSM		1		1	2		2		
	GLP		1		1	1		1		
	GSP		1		1	1		1		

¹ calculation on the base of:
 max. installation length (installation of one transducer mounting fixture per transducer in reflect arrangement) and
 max. recommended pipe diameter (standard) or max. extended pipe diameter (extended)

² calculation of the number of rolls when both transducers are mounted in one transducer mounting fixture (reflect arrangement) or in diagonal arrangement/direct mode: number of rolls/2 and round up to the nearest integer

Connection systems

connection system TS		
connection with extension cable	direct connection	transducers technical type
		*****52

Cable

transducer cable		
type		1699
weight	lb/ft	0.06
ambient temperature	°F	-67 to +392
cable jacket		
material		PTFE
outer diameter	inch	0.11
thickness	inch	0.01
color		brown
shield		x
sheath		
material		stainless steel 316Ti
outer diameter	inch	0.31

extension cable			
type		2615	5245
weight	lb/ft	0.12	0.26
ambient temperature	°F	-22 to +158	-22 to +158
properties		halogen-free fire propagation test according to IEC 60332-1 combustion test according to IEC 60754-2	halogen-free fire propagation test according to IEC 60332-1 combustion test according to IEC 60754-2
cable jacket			
material		PUR	PUR
outer diameter	inch	max. 0.47	max. 0.47
thickness	inch	0.08	0.08
color		black	black
shield		x	x
sheath			
material		-	steel wire braid with copolymer sheath
outer diameter	inch	-	max. 0.61

Cable length

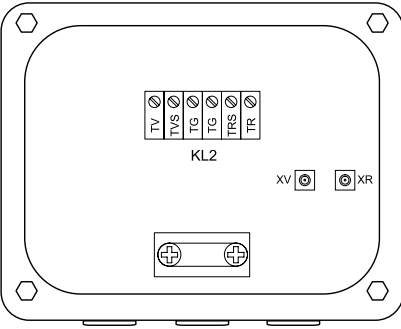
transducer frequency	F, G, H, K		M, P		Q		S	
connection system TS								
transducers technical type	x	l	x	l	x	l	x	l
*(DR)***5*	ft 16	≤ 984	13	≤ 984	9	≤ 295	6	≤ 131
*(LT)***5*	ft 29	≤ 984	29	≤ 984	29	≤ 295	-	≤ 131

x = transducer cable length

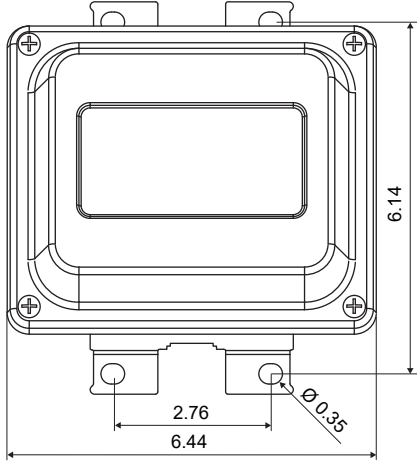
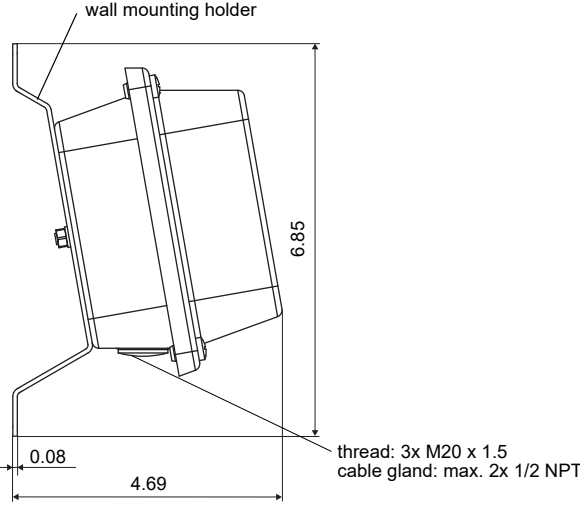
l = max. length of extension cable (depending on the application)

Junction box

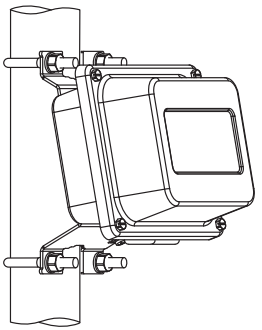
Technical data

JB02, JB03, JB04													
weight	lb 2.6 lb												
fixation	wall mounting optional: 2" pipe mounting												
material													
housing	stainless steel 316L												
gasket	silicone												
degree of protection	JB02, JB03: IP66/IP67 JB04: Type 4X, IP66												
ambient temperature													
min.	°F -40												
max.	°F +176												
explosion protection													
• ATEX													
junction box marking	JB02 CE UK CR Ex II3G Ex nA IIC T6...T4 Gc II3D Ex tc IIIC T 100 °C Dc -40 ≤ Ta ≤ +70 °C/+80 °C												
• FM													
junction box marking	JB04 N/CI, I,II,III/Div. 2 / GP A,B,C,D,E,F,G/ T6 Ta = -40...+60 °C												
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Connection</p>  </div> <div style="width: 45%;"> <p>Transducers</p> <table border="1"> <thead> <tr> <th></th> <th>terminal</th> <th>connection</th> <th>transducer</th> </tr> </thead> <tbody> <tr> <td></td> <td>XV</td> <td>SMB connector</td> <td>↑</td> </tr> <tr> <td></td> <td>XR</td> <td>SMB connector</td> <td>⤴</td> </tr> </tbody> </table> </div> </div>			terminal	connection	transducer		XV	SMB connector	↑		XR	SMB connector	⤴
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<p>Extension cable</p> <table border="1"> <thead> <tr> <th>terminal strip</th> <th>terminal</th> <th>connection</th> </tr> </thead> <tbody> <tr> <td rowspan="4">KL2</td> <td>TV</td> <td>signal</td> </tr> <tr> <td>TVS</td> <td>internal shield</td> </tr> <tr> <td>TRS</td> <td>internal shield</td> </tr> <tr> <td>TR</td> <td>signal</td> </tr> </tbody> </table>		terminal strip	terminal	connection	KL2	TV	signal	TVS	internal shield	TRS	internal shield	TR	signal
terminal strip	terminal	connection											
KL2	TV	signal											
	TVS	internal shield											
	TRS	internal shield											
	TR	signal											

Dimensions

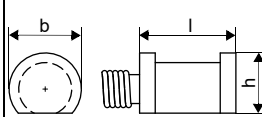
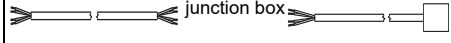

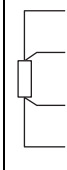
JB0*, JBP*	
 <p>in inch</p>	

2" pipe mounting kit

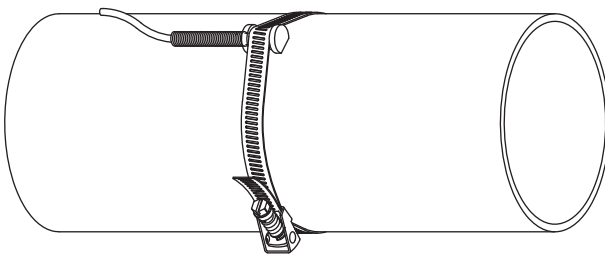
<p>JB**</p> 	<p>item number: 751035-2</p>
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Clamp-on temperature probe (optional)

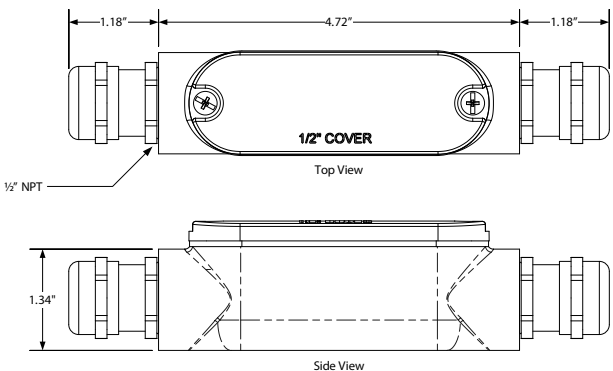
Technical data

PT13N		
design	clamp-on	
type	Pt1000	
connection	4-wire	
measuring range	°F -40 to +392	
accuracy T	$\pm(0.27 \text{ }^\circ\text{F} + 2 \cdot 10^{-3} \cdot (T \text{ }^\circ\text{F} - 32 \text{ }^\circ\text{F}))$ class A	
accuracy ΔT (2x Pt matched according to EN 1434-1)	$\leq 0.03 \text{ }^\circ\text{F}$ (at 50 °F)	
housing material	360 brass alloy	
degree of protection	NEMA 4	
dimensions		
length l	inch 0.79	
width b	inch 0.59	
height h	inch 0.49	
dimensional drawing		
weight	lb 0.437	
accessories		
thermal conductivity foil 482 °F	x	
Connection system		
connection with extension cable		
extension cable 		
direct connection		
		
Connection		
	temperature probe	
	red	
	red	
	white	
	white	
Cable		
	temperature probe	extension cable
type	4 x 24 AWG	4 x 18 AWG
standard length	ft 20	-
max. length	ft -	656
cable jacket	PTFE	LS PVC

Fixation

<p>tension strap PT13N</p> 	<p>material: stainless steel 301, 410 thermal insulation necessary</p>
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Junction box

	<p>Connection</p> <table border="1"> <thead> <tr> <th>temperature probe</th> <th>extension cable</th> </tr> </thead> <tbody> <tr> <td>red</td> <td>white</td> </tr> <tr> <td>red</td> <td>black</td> </tr> <tr> <td>white</td> <td>green</td> </tr> <tr> <td>white</td> <td>red</td> </tr> </tbody> </table>	temperature probe	extension cable	red	white	red	black	white	green	white	red
temperature probe	extension cable										
red	white										
red	black										
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white	red										

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