

# Y910 Intrinsically Safe Pressure Transmitter

Measurement of vacuum, absolute or gauge pressure

TRANSBAR® ceramic technology

Zero adjustment as standard ( $\pm 10\%$  of range)

Welded construction – reinforced product

Modularity of electrical and hydraulic connections

Highly resistant to severe process conditions ( $\geq 10^7$  pressure cycles)

Marine version (Bureau Veritas Marine)

LCIE 02 ATEX 6133X

CE 0081



I M1  
Ex ia I



II 1 G D  
Ex ia IIC T6 or T5  
Ex iaD A20 T80°C or T95°C IP6x

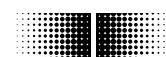


Hazardous area: 0, 1, 2, 20, 21, 22

The Y910 pressure transmitters allows pressure measurements on most corrosive fluids, in hazardous areas.

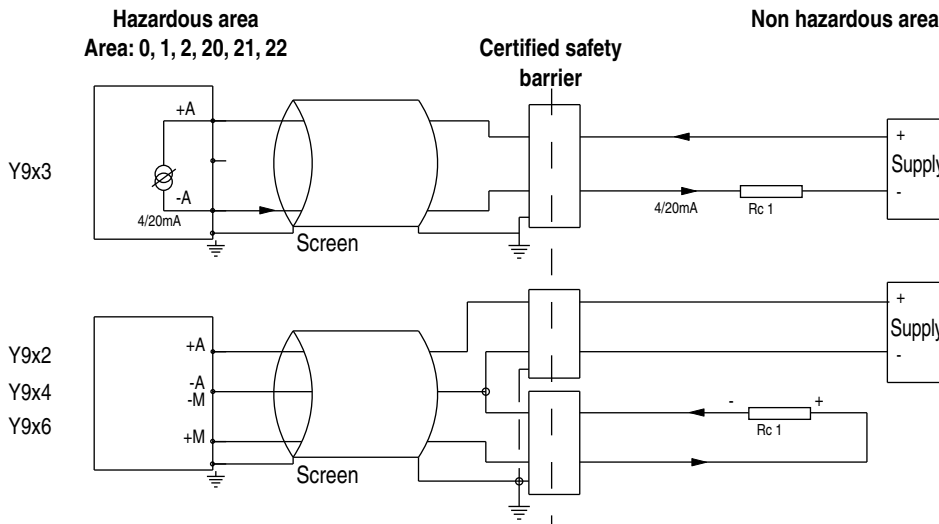
## Technical data (20°C)

<b>Measurement range</b>	From 0...25 mbar to 0...600 bar Compound, gauge or absolute pressure	<b>Operating temperature</b>	
<b>Output signal</b>	<b>Y912</b> : 0...10 Vdc. <b>Y913</b> : 4...20 mA (except -1...0 bar where -1 = 20 mA, 0 = 4 mA) <b>Y914</b> : 1...5 Vdc. <b>Y916</b> : 0...20 mA	<b>Ambient (Ta)</b>	-25...+70°C Ta = +40°C      G : T6      D IP65 : T°surface = +80°C Ta = +70°C      G : T5      D IP65 : T°surface = +95°C (G = Gas ; D = Dust)
<b>Supply voltage</b>	<b>Y912</b> : 14...28 Vdc <b>Y913-Y914</b> : 11...28 Vdc <b>Y916</b> : 8...28 Vdc	<b>Fluid</b>	-25...+100°C (Ta $\leq$ 50°C) depending on class
<i>Option</i>	<i>Low voltage : 8...28 Vdc (Y913, Y914)</i> Power supply electrical parameters device must be: $U_{\text{supply}} \leq 28$ Vdc ; $I \leq 120$ mA ; $P \leq 0.8$ W See drawings overleaf for more details.	<b>Storage temperature</b>	-40...+85°C
<b>Insulation</b>	> 100 M $\Omega$ at 500 Vdc	<b>Compensated temperature range (zero and sensitivity)</b>	-10...+55°C. <i>Option</i> : -10...+70°C
<b>Maximum input current</b>	<b>Y912-Y914</b> : 6 mA <b>Y916</b> : < 25 mA	<b>Zero thermal drift</b>	$\pm 0.025\%$ F.S./°C max. (except $P \leq 1$ bar : $\pm 0.06\%$ F.S./°C) <i>Option</i> : $\pm 0.015\%$ F.S./°C max. (except $P \leq 1$ bar : $\pm 0.025\%$ F.S./°C)
<b>Load impedance (+M / -M)</b>	<b>Y912</b> : $\geq 2.5$ k $\Omega$ <b>Y914</b> : $\geq 1$ k $\Omega$ <b>Y913</b> : $R_{\Omega} \leq (U_{\text{supply}} - 11)/0.02$ <b>Y913</b> : $R_{\Omega} \leq (U_{\text{supply}} - 8)/0.02$ (low voltage option) <b>Y916</b> : $R_{\Omega} \leq (U_{\text{supply}} - 6)/0.02$	<b>Span thermal drift</b>	Typically: $\pm 0.01\%/^{\circ}\text{C}$ / Max.: $\pm 0.015\%/^{\circ}\text{C}$
<b>CE Conformity</b>	EMC Directive 2004/108/CE in accordance with standards EN61000-6-2, EN61000-6-3, EN 61326-1	<b>Wetted parts</b>	Ceramic + stainless steel 1.4404 (316L) + NBR seal (standard) for ranges $\geq 250$ mbar and Viton® for ranges < 250 mbar
<b>Global error (linearity, hysteresis and repeatability) by reference to BFSL</b>	Typically: $\pm 0.2\%$ of F.S. / Max.: $\pm 0.3\%$ of F.S. For $P \leq 60$ mbar and $P = 600$ bar: Typically: $\pm 0.6\%$ of F.S. / Max.: $\pm 1\%$ of F.S.	<b>Standard connections</b>	<b>Electrical</b> : DIN 43650 connector <b>Pressure</b> : G1/2 <i>Many options available</i>
		<b>Protection rating (EN 60529)</b>	Standard : IP65 (DIN connector) <i>Option : IP67 (depending on connection)</i>
		<b>Typical response time</b>	$\leq 3$ ms
		<b>Vibration resistance (IEC 68-2-6)</b>	1.5 mm (10-55 Hz), 20 g (55 Hz to 2 kHz)
		<b>Shock resistance (IEC 68-2-32)</b>	25 falls from 1 m on concrete ground



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# Installation instructions

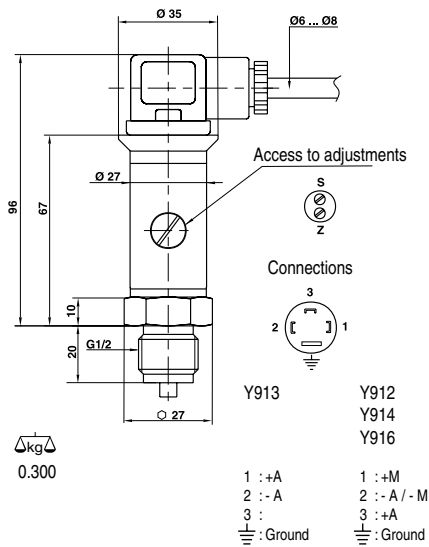


$U_{max} = 28 \text{ Vdc}$   
 $I_{max} = 120 \text{ mA}$   
 $P = 0,8 \text{ W}$   
 $C_a > C_i + C_{cable}$   
 $L_a > L_i + L_{cable}$   
 $C_i = 30 \text{ nF (Y913 - Y916)}$   
 $C_i = 60 \text{ nF (Y912 - Y914)}$

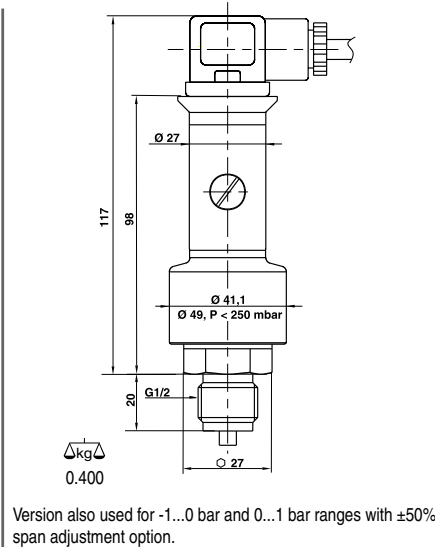
Don't forget the barrier's resistors in the determination of Rc1.  
In area 0 or 20, the loop calculation of the association transmitter with safety barrier must be approved by notified organism.

## Dimensional Drawings (mm) - Mounting Details

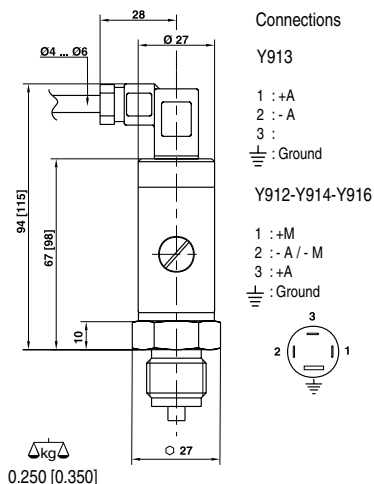
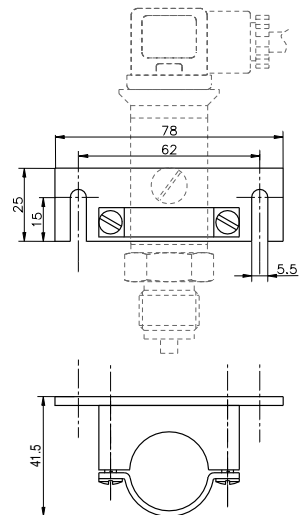
[xx] : dimensions and weight for "P < 1 bar" versions.



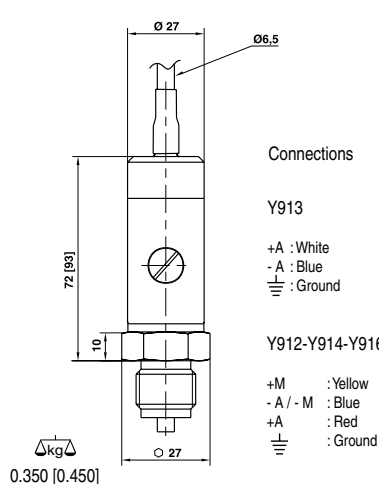
Standard version. P ≥ 1 bar  
DIN 43650 plug



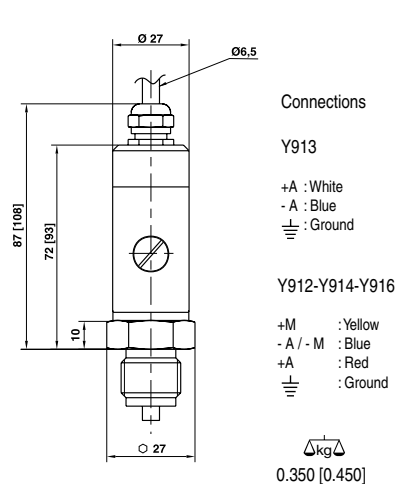
Standard version for P < 1 bar  
DIN 43650 plug



DIN 43650C micro plug (8 mm)



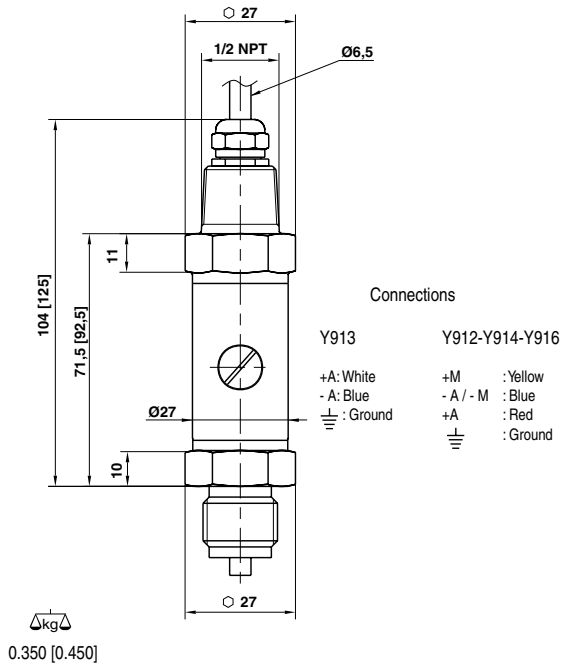
Pig tail (length 1.5 m)



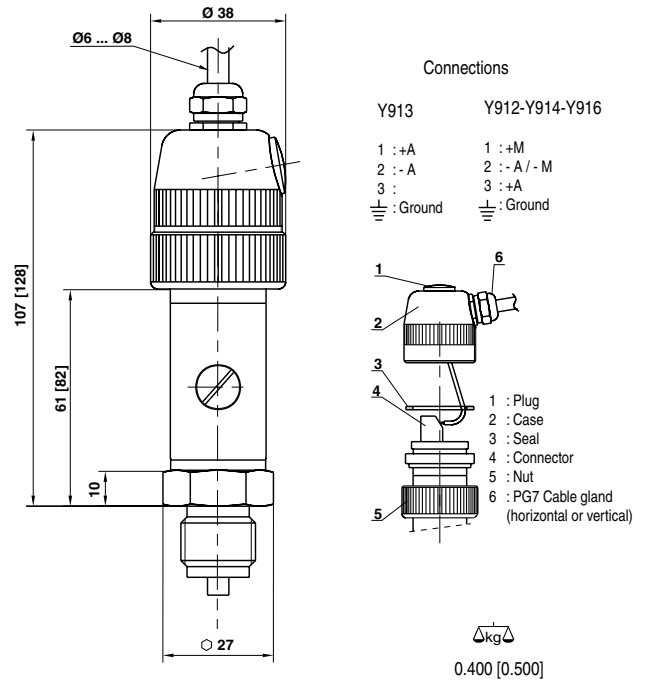
Pig tail (length 1.5 m) + PG7 Cable gland

# Dimensional Drawings (mm) - Mounting Details

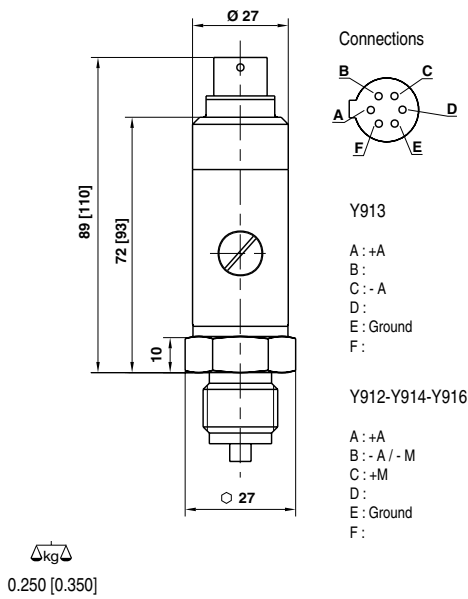
[xx] : dimensions and weight for "P < 1 bar" versions.



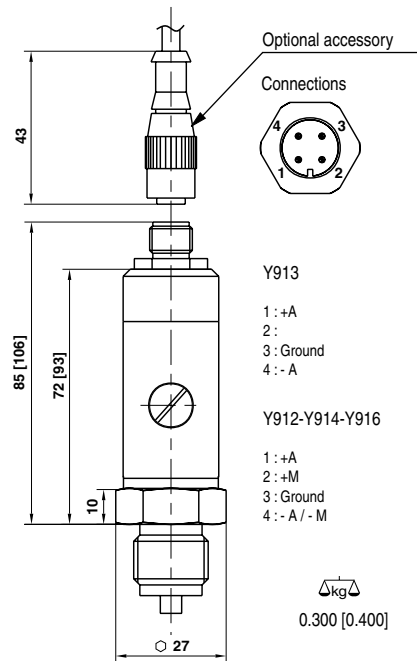
Pig tail cable outlet with 1/2 NPT male (length 1.5 m)



terminal strip outlet + screwed cap



6 contacts HE302 plug



M12, 4 contacts plug

## Options

Specific cleaning (gas application). **Code 0829**  
 Drinking water application. **Code 0619**  
 Oxygen application. **Code 0765**  
 Lightning protection. **Code 0809**  
 Marine version. **Code 0808**  
 Low supply voltage<sup>(1)</sup> - **Code 2181**  
 Compensated temperature range (-10 ... +70 °C). **Code 2158**  
 Zero thermal drift : ± 0.015 % of range/°C max. **Code 2159**  
 Span adjustment ± 10 % of range. **Code 2151**  
 Span adjustment ±50% of range (except for ranges ≤ 0...+0.25 bar and 0...+600 bar). **Code 2152**  
 Calibration of sensor with certificate: Q1060  
 Thread locking. **Code 0771**  
 Other hydraulic connections  
 Additional length of cable  
 Stainless steel surface mounting brackets. **Code 0409**  
 Other units: kPa (code D), MPa (code E), kg/cm<sup>2</sup> (code F), psi (code H), mbar (code N)  
 Atmospheric pressure measurement (Range: 800...1200 mbar absolute)

Other electrical connections:

DIN 43650C micro plug (IP65 <sup>(2)</sup>). **Code 2165**  
 Pig tail (1.5 m) (IP65). **Code 2160**  
 Pig tail (1.5 m) + PG7 cable gland (IP65, IP67 <sup>(3)</sup>). **Code 2161**  
 Pig tail cable outlet with 1/2 NPT male (1.5 m) (IP65). **Code 2162**  
 Terminal strip outlet + screwed cap (IP65, IP67). **Code 2166**  
 Terminal strip outlet + cap with M20x150 thread and gland (IP65, IP67). **Code 2167**  
 6 contacts HE302 plug (IP65). **Code 2163**  
 M12, 4 contacts plug (IP65). **Code 2164**

<sup>(1)</sup> see specifications for details / <sup>(2)</sup> IP65 : water spray / <sup>(3)</sup> IP67 : temporary immersion

## Measuring Ranges

	Pressure in mbar	Pressure in bar														
		-1+0	-1+0.6	-1+1.5	-1+3	-1+5	-1+9	-1+15	-1+24	-1+39	—	—	—	—	—	
compound pressure	—															
pressure	600	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400	600
Measurement range	660	1.1	1.75	2.75	4.4	6.6	11	17.6	27.5	44	66	110	176	275	440	660
Max. over pressure	1000	3	3	4	8	12	20	32	50	80	120	200	320	500	600	800
Burst pressure	2000	6	6	7	12	18	30	48	75	120	180	300	480	600	800	1000

## Ordering Details - Y910

Y91xxxxxxx	
<b>Model</b>	1'...3' digit
Intrinsically safe	Y91
<b>Output signal</b>	4' digit
0...10 Vdc	2
4...20 mA	3
1...5 Vdc	4
0...20 mA	6
<b>Hydraulic connection</b>	5' digit
G 1/4	2
G 1/2 standard	3
1/4 NPT	5
1/2 NPT	6
M20x150	9
<b>Sensor seal</b>	6' digit
NBR (Nitril) standard except (P < 250 mbar)	3
CR (Neoprene) except (P < 250 mbar)	4
EPDM	5
FFKM Chemraz® 505 1 bar ≤ P ≤ 250 bar	7
FKM (Viton®)	9
Viton® is a registered trademark of DuPont Dow Elastomers	
<b>Pressure range</b>	7'...9' digit
See codes in tables	xxx
<b>Pressure type</b>	10' digit
Absolute	A
Gauge	R

code	Range in mbar				
N12	0	+	600	A	R

code	Range in bar.			Vacuum pressure	
B59	-1	+	0	—	R
B72	-1	+	0.6	—	R
B74	-1	+	1.5	—	R
B76	-1	+	3	—	R
B77	-1	+	5	—	R
B79	-1	+	9	—	R
B81	-1	+	15	—	R
B82	-1	+	24	—	R
B1L	-1	+	39	—	R
B15	0	+	1	A	R
B16	0	+	1.6	A	R
B18	0	+	2.5	A	R
B19	0	+	4	A	R
B20	0	+	6	A	R
B22	0	+	10	A	R
B24	0	+	16	A	R
B26	0	+	25	A	R
B27	0	+	40	A	R
B29	0	+	60	A	R
B31	0	+	100	A	R
B33	0	+	160	A	R
B35	0	+	250	A	R
B38	0	+	400	A	R
B39	0	+	600	A	R