



Pressure transmitter with ratiometric output signal Type AKS 32R, AKS 2050

Introduction

AKS 32R is a ratiometric pressure transmitter that converts the measured pressure to a linear output signal. The min. value of the output signal is 10% of the actual supply voltage. The max. value is 90% of the actual supply voltage.

At a supply voltage of 5 V, a linear output signal is thus obtained, i.e.

- 0.5 V at min pressure of the pressure transmitter
- 4.5 V at max. pressure of the pressure transmitter.

The robust design and the ratiometric output signal makes the transmitter suitable for systems together with ratiometric A/D converters within a number of fields:

- A/C systems
- Refrigeration plant
- CO₂ plant
- Process control
- Laboratories

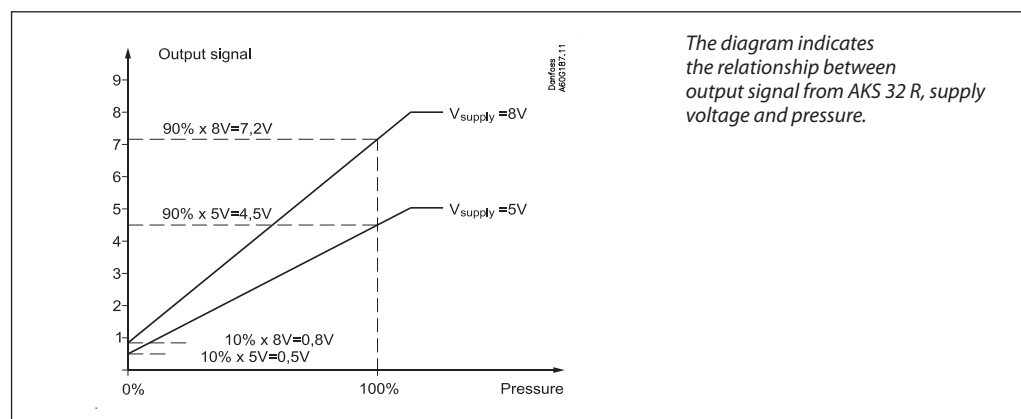


AKS 2050 is for high pressure and with pulse-snubber in the pressure connection

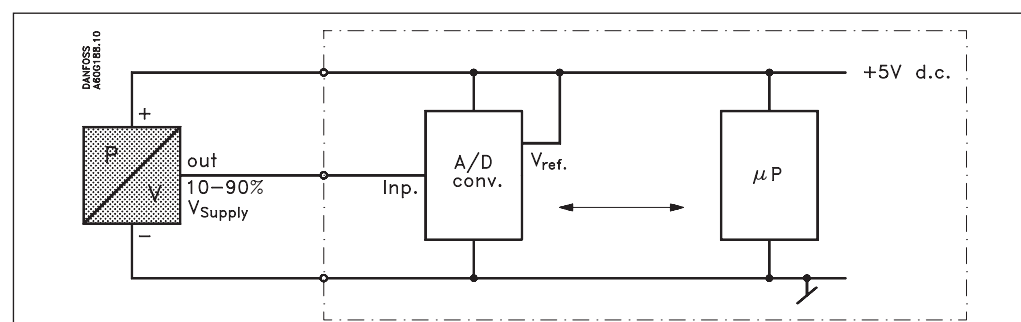
Features

- Highly developed sensor technology means great regulation accuracy.
- Selective temperature compensation
- Compatible with all refrigerants incl. ammonia.
- Built-in voltage stabilizer
- Effective protection against moisture
- Robust construction gives protection against mechanical influences such as shock, vibration, and pressure surge
- EMC protected in accordance with the EU EMC-directive (CE-marked).
- Polarity protected inlets
- Output signal specially adjusted to ratiometric A/D-converters.
- Sealed gauge measuring principle (pressure reference = 1013 mbar).
- UL approved

Output signal



Connection for A/D converter



Technical data

Performance

Accuracy (incl. Linearity, Hysteresis and repeatability)	$\pm 0.3\%$ FS (typ.) $\pm 0.8\%$ FS (max.)
Linearity deviation (Best fit straight line)	$< \pm 0.2\%$ FS
Hysteresis and repeatability	$\leq \pm 0.1\%$ FS
Thermal zero point operation	$\leq \pm 0.1\%$ FS/10K (typ.) $\leq \pm 0.2\%$ FS/10K (max.)
Thermal sensitivity operation	$\leq \pm 0.1\%$ FS/10K (typ.) $\leq \pm 0.2\%$ FS/10K (max.)
Response time	< 4 ms
Max. working pressure	See table page 4
Burst pressure	$> 6 \times$ FS

Electrical specifications

Nominal output signal (short-circuit protection)	10 to 90% of V_{supply}
Supply voltage, V_{supply} (polarity protection)	4.75 to 8 V d.c.
Power consumption, supply	< 5 mA at 5 V d.c.
Voltage dependence, supply	$< 0.05\%$ FS/10 V
Output impedance	$< 25 \Omega$
Load resistance, R_L	$R_L \geq 10 \text{ k}\Omega$

Operating conditions

Operating conditions				
Operating temperature				-40 to 185°F
Compensated temperature range				See ordering
Transport temperature				-58 to 185°F
EMC - Emission				EN 61000-6-3
EMC - Immunity	Electrostatic discharge	Air	8 kV	EN 61000-6-2
		Contact	4 kV	EN 61000-6-2
	RF	field	10 V/m, 26 MHz - 1 GHz	EN 61000-6-2
		conducted	3 V _{rms} 150 kHz - 30 MHz	EN 61000-6-2
	Transient	Burst	4 kV (CM)	EN 61000-6-2
		Surge	1 kV (CM,DM)	EN 61000-6-2
Insulation resistance				> 100 MΩ at 100 V d.c.
Vibration stability	Sinusoidal	20 g, 25 Hz - 2 kHz		IEC 60068-2-6
	Random	7,5 g _{rms} 5 Hz - 1 kHz		IEC 60068-2-64
Shock resistance	Shock	500 g / 1 ms		IEC 60068-2-27
	Free fall			IEC 60068-2-32
Enclosure	(IP protection fulfilled together with mating connector)			IP 65 - IEC 60529

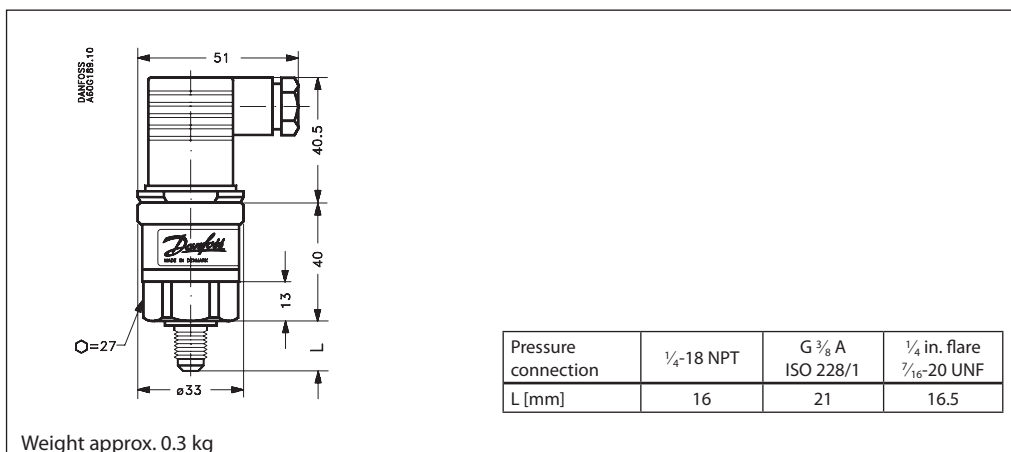
Approvals

UL recognized for sale in the USA and Canada	File no. E31024 File no. E227388
CE marked according to the EMC directive	89/ 336/ EC
Ex approval for sale in Europe	ATEX Ex II 3G Ex-nA IIAT3

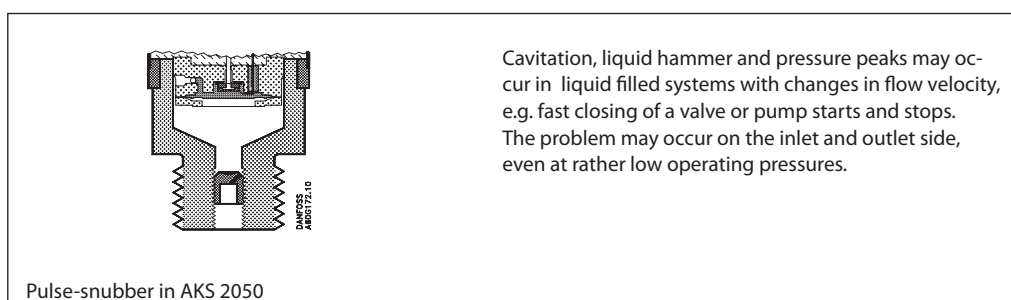
Mechanical characteristics

Housing material and material in contact with medium	EN 10088-1. 1.4404 (AISI 316L)
Weight	0.3 kg

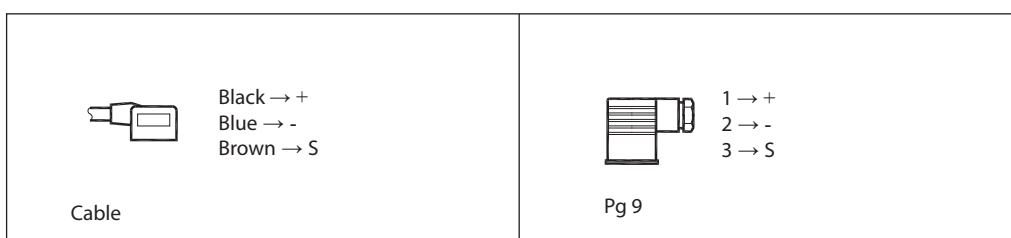
Dimensions and weight



Pulse-snubber



Plug connections



Ordering

	Type	Operating range psig	Permissible working pressure PB psig	Compensated temp. range °F	Code no.			
					1/4 NPT 1)	G 3/8 A 2)	1/4 flare 3)	3/8 solder
	AKS 32R	-14.5 to +174	480	-22 to +104	060G1037	060G1038	060G1036	060G3551
		-14.5 to +493	800	+32 to +176			060G0090	060G3552
	AKS 2050	-14.5 to +856	1,450	-22 to +104		060G5750		
		-14.5 to +1,436	2,175	-30 to +40		060G5751		
		-14.5 to +2,306	3,625	+32 to +176		060G5752		
	Connecting plug with 5 m cable (mounted on pressure transmitter obtains IP67)				060G1034			
	Plug Pg 9				060G0008			

- 1) 1/4-18 NPT.
 2) Thread ISO 228/1 - G 3/8 A (BSP).
 3) 7/16-20 UNF.