

# Pressure transmitter for refrigeration and HVAC applications Model R-1

WIKA Data Sheet PE 81.45

## Applications

Refrigeration and HVAC applications

- Compressors
- Condensers
- Chillers

## Special Features

- Stainless steel wetted parts
- Resistant against all common refrigerants
- Special design for the best possible condensation tightness
- Customised pin configuration possible



Fig. left: R-1 with M 12x1  
Fig. center: R-1 with Metri Pack 150  
Fig. right: R-1 with flying leads

## Description

### Refrigeration and HVAC applications

The R-1 pressure transmitter is optimally suited to the special requirements of refrigeration and HVAC applications. Its monolithic design eliminates the need for seals on the process connection. This qualifies the R-1 for use with all typical refrigerants (e.g. Freon and Ammonia).

### Excellent performance

The hermetically welded, dry, thin-film measuring cell guarantees long-term leak tightness. In addition, the sputtered stainless steel measuring cell features high long-term stability, along with an especially high burst pressure.

### Attractive price/performance ratio

Production on highly-flexible manufacturing lines ensures a very attractive price/performance ratio, also for high volumes.

# Specifications

# Model R-1

Pressure ranges	bar	6	10	16	25	40	60
Over pressure safety	bar	20	20	32	50	80	100
Burst pressure	bar	100	100	160	250	400	400
All pressure ranges also from -1 bar available. {Vacuum, gauge pressure, compound ranges are available}							
<b>Materials</b>							
■ Wetted parts	Stainless steel						
■ Case	Stainless steel						
■ Electrical connection	Highly resistive, fibreglass- enforced plastic (PBT GF 30)						
		Signal output		Power supply UB		Maximum load RA	
		4 ... 20 mA, 2-wire		DC 7 ... 30 V		$R_A \leq (UB - 7 V) / 0.02 A$	
		1 ... 5 V, 3-wire		DC 8 ... 30 V		$R_A > 5 k\Omega$	
		0 ... 10 V, 3-wire		DC 14 ... 30 V		$R_A > 10 k\Omega$	
		0.5 ... 4.5 V, ratiometric		DC 5 ± 0.5 V		$R_A > 4.5 k\Omega$	
Response time (10 ... 90 %)	ms	≤ 5					
Insulation voltage	DC 500 V						
Accuracy	% of span	≤ 2 *)					
*) Including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement per IEC 61298-2).							
1-year stability	% of span	≤ 0.3 (at reference conditions)					
<b>Permissible temperature of</b>							
■ Medium			-40 ... +100 °C	-40 ... +212 °F			
■ Ambience			-25 ... +80 °C	-13 ... +176 °F			
■ Storage			-25 ... +80 °C	-13 ... +176 °F			
Rated temperature range			-25 ... +80 °C	-13 ... +176 °F			
Temperature coefficients within rated temperature range							
■ Mean TC of zero	% of span	typ. ≤ 0.5 / 10 K					
■ Mean TC of range	% of span	≤ 0.3 / 10 K					
<b>CE-conformity</b>							
■ EMC directive	2004/108/EC, EN 61 326 Emission (Group 1, Class B) and Immunity (industrial locations)						
<b>Wiring protection</b>							
■ Short-circuit protection	S+ towards 0V						
■ Reverse polarity protection	UB towards 0V						
■ Overvoltage protection	DC 36 V						
Weight	kg	Approx. 0.08					

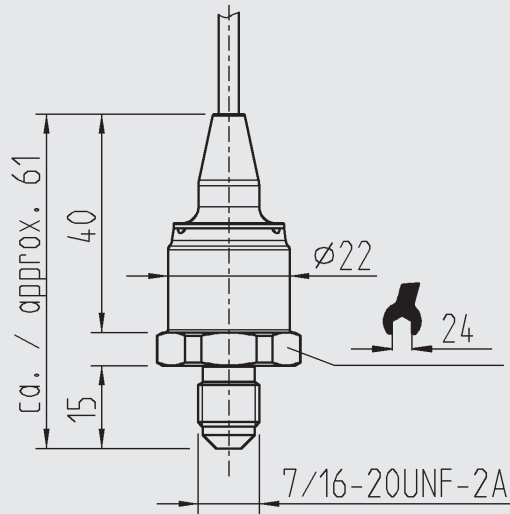
{ } Items in curved brackets are optional extras for additional price

## Dimensions in mm

### Example

**Electrical connection**  
Flying leads

**Pressure connection**  
7/16-20 UNF-2A  
Cone 90°

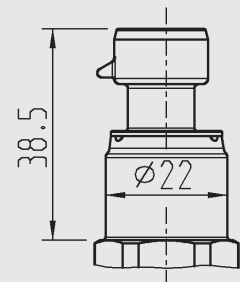
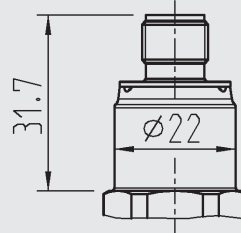
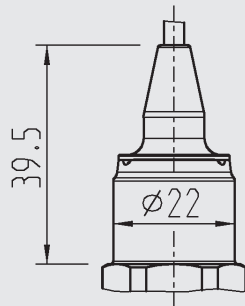


### Electrical connections

Flying leads

Circular connector  
M 12x1

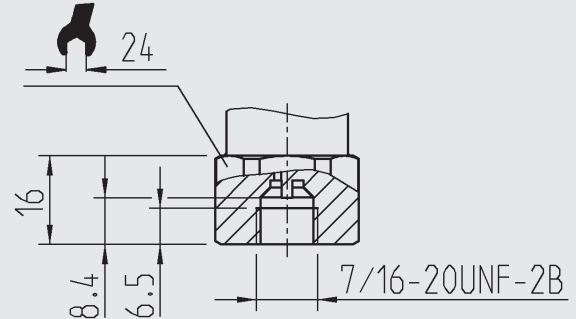
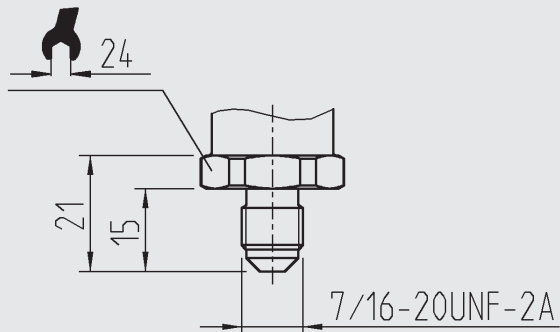
Connector  
Metri Pack Series 150



### Pressure connections

7/16-20 UNF-2A  
Cone 90°


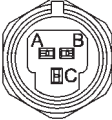
7/16-20 UNF-2B  
Schrader internal thread



For installation and safety instructions see the operating instructions for this product.

For tapped holes and welding sockets please see Technical Information IN 00.14 for download at [www.wika.de](http://www.wika.de)

## Electrical connections

Wiring									
	Circular connector M12x1, 4-pin			Connector Metri Pack Series 150, 3-pin			Flying leads, 1 m		
									
2-wire	UB = 1	0V = 3		UB = B	0V = A		UB = brown	0V = green	
3-wire	UB = 1	0V = 3	S+ = 4	UB = B	0V = A	S+ = C	UB = brown	0V = green	S+ = white
Wire gauge							3 x 0.14 mm <sup>2</sup>		
Cable diameter							3.2 mm		
Ingress Protection per IEC 60 529	IP 67			IP 67			IP 69K		
The ingress protection classes specified only apply while the pressure transmitter is connected with female connectors that provide the corresponding ingress protection.									

other pin assignments on request

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

