

## HPM135 Refrigeration Pressure Transmitter



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## Product Overview

HPM135 pressure transmitter for refrigeration industry adopts high-performance ceramic sensor, with high-precision electronic conditioning circuit, assembled and produced by strict process. The product is cost-effective and has a variety of pressure interfaces and electrical outputs. The product is well-designed, not only compact structure, but also outstanding performance, with a unique anti-condensate design, for the safe and efficient operation of the equipment to play a role in pressure protection. It is mainly used in water-cooled screw units, ground source heat pumps, freezers, ice machines and other fields.

## Features

- ◆ Unique anti-condensation design
- ◆ Small form factor for applications where installation space is at a premium
- ◆ Multiple pressure connections available
- ◆ Multiple electrical output options
- ◆ Wide operating temperature range
- ◆ Good long-term stability
- ◆ Stainless steel housing, multiple output options available

## Applications

Refrigeration industry.

HVAC.

Water-cooled screw units.

Ground source heat pump, water source heat pump units, etc.

## Technical Parameters

| Measuring Range  |                                                                  |
|------------------|------------------------------------------------------------------|
| Gauge Pressure   | 0 ~ 1...50bar                                                    |
| Overload         | 200%FS                                                           |
| Measuring Medium |                                                                  |
| Type             | All types of liquids and gases compatible with contact materials |

| Output Signal/Power supply |                                                                       |
|----------------------------|-----------------------------------------------------------------------|
| Standard                   | Two-wire: 4~20mA <sub>DC</sub> / V <sub>S</sub> =24V <sub>DC</sub>    |
| Standard                   | Three-wire: 0 ~ 5V <sub>DC</sub> / V <sub>S</sub> =24V <sub>DC</sub>  |
| Standard                   | Three-wire: 0 ~ 10V <sub>DC</sub> / V <sub>S</sub> =24V <sub>DC</sub> |

|          |                                                                                              |
|----------|----------------------------------------------------------------------------------------------|
| Standard | Three-wire: 0.5 ~ 4.5V <sub>DC</sub> proportional voltage / V <sub>s</sub> =5V <sub>DC</sub> |
|----------|----------------------------------------------------------------------------------------------|

|                           |  |
|---------------------------|--|
| <b>Process Connection</b> |  |
|---------------------------|--|

|          |                                                                  |
|----------|------------------------------------------------------------------|
| Standard | 7/16-20UNF Female, with thimble; 7/16-20UNF Male; G1/4 Male etc. |
|----------|------------------------------------------------------------------|

|                    |  |
|--------------------|--|
| <b>Performance</b> |  |
|--------------------|--|

|                     |                |
|---------------------|----------------|
| Accuracy            | ±0.5%FS, @25°C |
| Long-term Stability | ±0.5%FS/year   |

|                                 |  |
|---------------------------------|--|
| <b>Environmental Conditions</b> |  |
|---------------------------------|--|

|                   |                                               |
|-------------------|-----------------------------------------------|
| Temperature range | Ambient temp.: -20 ~ 85°C                     |
|                   | Medium temp.: -35 ~ 85°C                      |
|                   | Storage temp.: -40 ~ 85°C                     |
| Protection grade  | IP65: Packard Metri-Pack, Hirschmann DIN43650 |

|                              |  |
|------------------------------|--|
| <b>Electrical Protection</b> |  |
|------------------------------|--|

|                               |                                |
|-------------------------------|--------------------------------|
| Short circuit protection      | Permanent                      |
| Reverse polarity protection   | No damage, circuit inoperative |
| Electromagnetic compatibility | Conforms to EN 61326           |

|                             |  |
|-----------------------------|--|
| <b>Mechanical Stability</b> |  |
|-----------------------------|--|

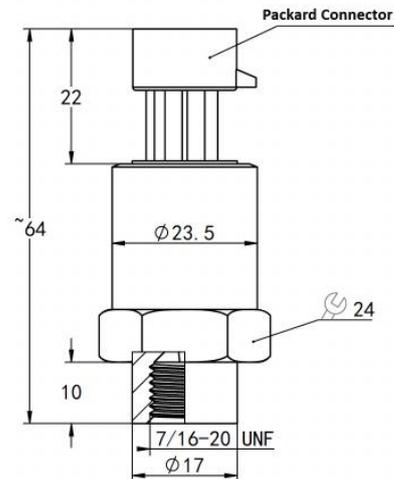
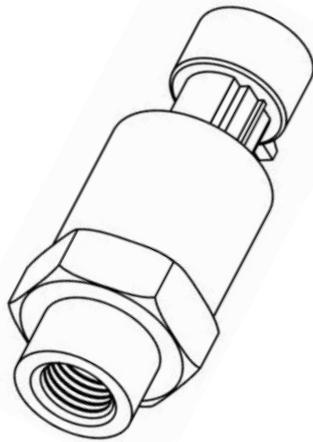
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|------------------|----------------|
| Vibration        | 10g(20~2000Hz) |
| Shock resistance | 100g(11ms)     |

|                   |  |
|-------------------|--|
| <b>Insulation</b> |  |
|-------------------|--|

|                       |                    |
|-----------------------|--------------------|
| Insulation resistance | >20MΩ @500VDC      |
| Dielectric strength   | <2mA @ 500VAC 1min |

## Structural Drawings

### HPM135 Packard Metri-Pack



#### Notes:

- 1、 The dimensions listed in the picture may change with the update of the process
- 2、 Please consult the sales engineer for other shapes and sizes.

## Structural Material

| Ordering code | Part               | Material              |
|---------------|--------------------|-----------------------|
| S4            | Process connection | SS304                 |
| S6            |                    | SS316L                |
| X             |                    | Other customized      |
| M5            | Sensor             | Ceramic               |
| CR            | O-ring             | CR neoprene seal ring |
| X             |                    | Other customized      |

## Electrical Connection

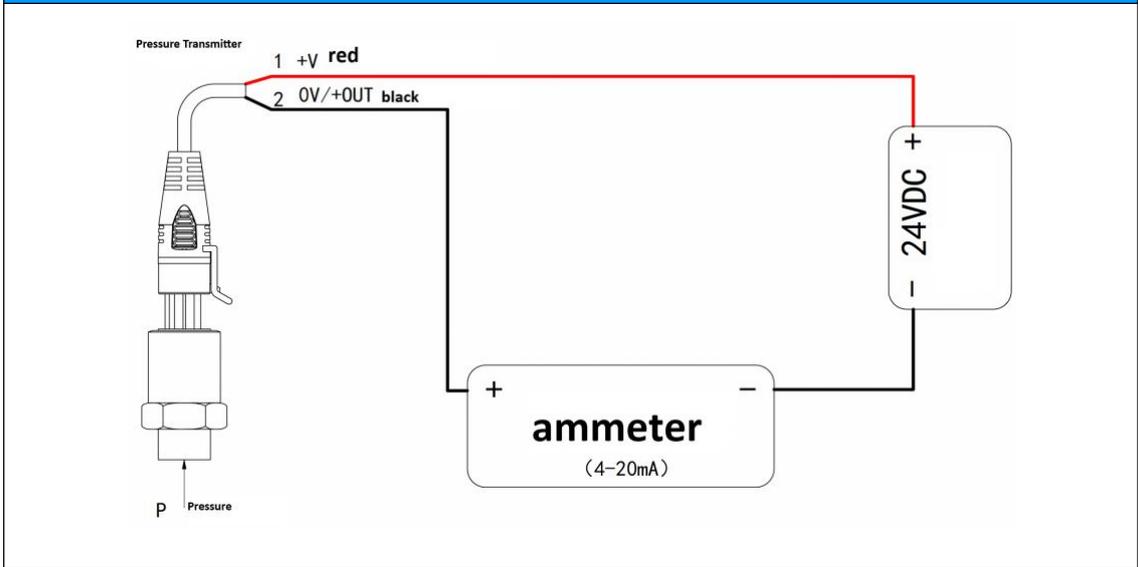
Two wire 4 ~ 20mA current output

| Signal Definition  | Power+ (+V) | Power- (0V/+OUT) |
|--------------------|-------------|------------------|
| Hirshmann DIN43650 | 1           | 2                |

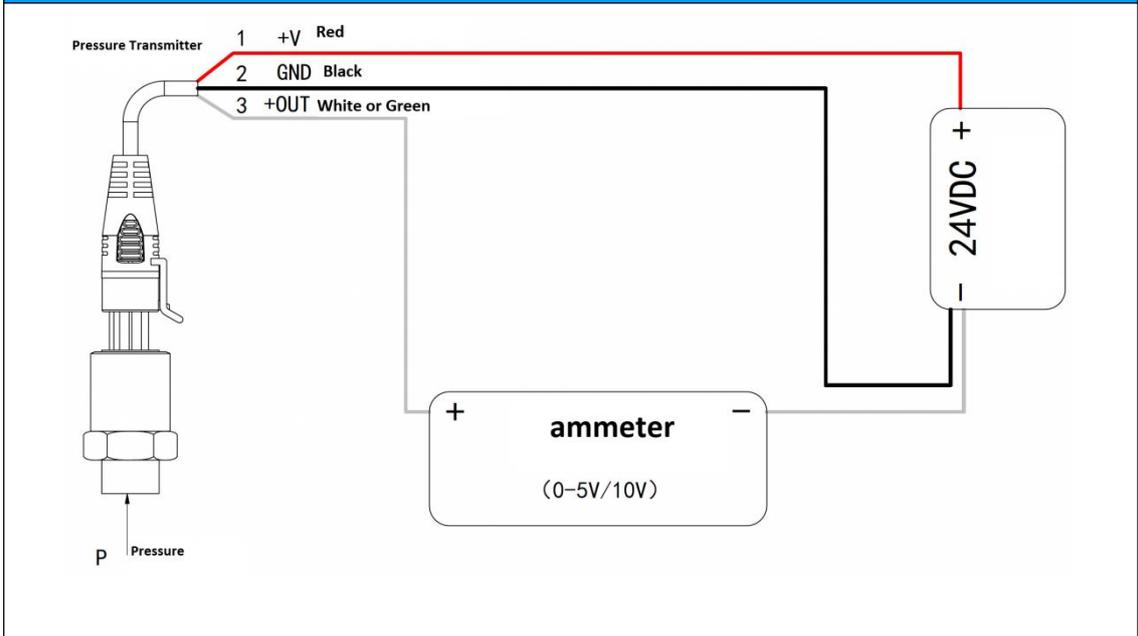
|                              |     |       |
|------------------------------|-----|-------|
| Packard connector with cable | red | black |
|------------------------------|-----|-------|

|                                    |            |             |                |
|------------------------------------|------------|-------------|----------------|
| Three wire 0~5V/10V voltage output |            |             |                |
| Signal Definition                  | Power+(+V) | Power-(GND) | Signal+(+OUT)  |
| Hirshmann DIN43650                 | 1          | 2           | 3              |
| Packard connector with cable       | red        | black       | White or green |

**Two wire 4 ~ 20mA current output**



**Three-wire voltage output**



## Ordering Guide

| Model        | Type                               |                     |                       |  |  |     |  |
|--------------|------------------------------------|---------------------|-----------------------|--|--|-----|--|
| HPM135       | Refrigeration pressure transmitter |                     |                       |  |  |     |  |
| E.g.: HPM135 | (0 ~ X)bar                         | Measuring Range     |                       |  |  |     |  |
|              |                                    | Fill out X directly |                       |  |  |     |  |
|              |                                    | Code                | Output Signal         |  |  |     |  |
|              |                                    | B1                  | (4 ~ 20)mA            |  |  |     |  |
|              |                                    | B3                  | (0 ~ 10)V             |  |  |     |  |
|              |                                    | B6                  | (0.5 ~ 4.5)V          |  |  |     |  |
|              |                                    | Code                | Process Connection    |  |  |     |  |
|              |                                    | P3                  | G1/4 Male             |  |  |     |  |
|              |                                    | P8                  | NPT1/4 Male           |  |  |     |  |
|              |                                    | P10                 | 7/16-20UNF-Male       |  |  |     |  |
|              |                                    | P11                 | 7/16-20UNF-Female     |  |  |     |  |
|              |                                    | Code                | Electrical Connection |  |  |     |  |
|              |                                    | C1                  | DIN43650              |  |  |     |  |
|              |                                    | C4                  | Packard Connector     |  |  |     |  |
|              |                                    | Code                | Housing Material      |  |  |     |  |
| S4           | 304                                |                     |                       |  |  |     |  |
| S6           | 316L                               |                     |                       |  |  |     |  |
| Code         | Seal Ring                          |                     |                       |  |  |     |  |
| CR           | CR neoprene                        |                     |                       |  |  |     |  |
| Code         | Additional Functions               |                     |                       |  |  |     |  |
| V24          | 24V power supply                   |                     |                       |  |  |     |  |
| V5           | 5V power supply                    |                     |                       |  |  |     |  |
|              |                                    |                     |                       |  |  | V24 |  |