

PN0029



Pressure sensor with display

PN-0-1KRBR14-QFNKG/US/ IV

Article no longer available - archive entry



- 1 7-segment LED display
- 2 Programming button



Product characteristics

|                              |                                           |
|------------------------------|-------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2              |
| Measuring range [kPa]        | -100...0                                  |
| Process connection           | threaded connection G 1/4 Internal thread |

Application

|                              |                             |
|------------------------------|-----------------------------|
| System                       | gold-plated contacts        |
| Application                  | for industrial applications |
| Media                        | liquids and gases           |
| Medium temperature [°C]      | -25...80                    |
| Min. bursting pressure [kPa] | 3000                        |
| Pressure rating [kPa]        | 1000                        |
| Type of pressure             | relative pressure           |

Electrical data

|                                 |                 |
|---------------------------------|-----------------|
| Operating voltage [V]           | 18...30 DC      |
| Current consumption [mA]        | < 60            |
| Min. insulation resistance [MΩ] | 100; (500 V DC) |
| Protection class                | III             |
| Reverse polarity protection     | yes             |
| Power-on delay time [s]         | 0.2             |
| Integrated watchdog             | yes             |



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| Inputs / outputs                                                |  |                        |                                                                                          |     |    |    |    |    |    |     |     |     |
|-----------------------------------------------------------------|--|------------------------|------------------------------------------------------------------------------------------|-----|----|----|----|----|----|-----|-----|-----|
| Number of inputs and outputs                                    |  |                        | Number of digital outputs: 2                                                             |     |    |    |    |    |    |     |     |     |
| Outputs                                                         |  |                        |                                                                                          |     |    |    |    |    |    |     |     |     |
| Total number of outputs                                         |  |                        | 2                                                                                        |     |    |    |    |    |    |     |     |     |
| Output signal                                                   |  |                        | switching signal                                                                         |     |    |    |    |    |    |     |     |     |
| Electrical design                                               |  |                        | NPN                                                                                      |     |    |    |    |    |    |     |     |     |
| Number of digital outputs                                       |  |                        | 2                                                                                        |     |    |    |    |    |    |     |     |     |
| Output function                                                 |  |                        | normally open / closed; (configurable)                                                   |     |    |    |    |    |    |     |     |     |
| Max. voltage drop switching output DC                           |  | [V]                    | 2                                                                                        |     |    |    |    |    |    |     |     |     |
| Permanent current rating of switching output DC                 |  | [mA]                   | 250                                                                                      |     |    |    |    |    |    |     |     |     |
| Short-circuit protection                                        |  |                        | yes                                                                                      |     |    |    |    |    |    |     |     |     |
| Type of short-circuit protection                                |  |                        | yes (non-latching)                                                                       |     |    |    |    |    |    |     |     |     |
| Overload protection                                             |  |                        | yes                                                                                      |     |    |    |    |    |    |     |     |     |
| Measuring/setting range                                         |  |                        |                                                                                          |     |    |    |    |    |    |     |     |     |
| Measuring range                                                 |  | [kPa]                  | -100...0                                                                                 |     |    |    |    |    |    |     |     |     |
| Set point SP                                                    |  | [kPa]                  | -99...-0.5                                                                               |     |    |    |    |    |    |     |     |     |
| Reset point rP                                                  |  | [kPa]                  | -99.5...-1                                                                               |     |    |    |    |    |    |     |     |     |
| In steps of                                                     |  | [kPa]                  | 0.5                                                                                      |     |    |    |    |    |    |     |     |     |
| Accuracy / deviations                                           |  |                        |                                                                                          |     |    |    |    |    |    |     |     |     |
| Switch point accuracy                                           |  | [% of the final value] | < ± 1,0                                                                                  |     |    |    |    |    |    |     |     |     |
| Repeatability                                                   |  | [% of the final value] | < ± 0,25; (with temperature fluctuations < 10 K)                                         |     |    |    |    |    |    |     |     |     |
| Temperature drift per 10 K                                      |  |                        | < ± 0.3                                                                                  |     |    |    |    |    |    |     |     |     |
| Reaction times                                                  |  |                        |                                                                                          |     |    |    |    |    |    |     |     |     |
| Switching frequency for a given set response time of one output |  |                        | Response time (dAP)                                                                      | 3   | 6  | 10 | 17 | 30 | 60 | 125 | 250 | 500 |
|                                                                 |  |                        | Switching frequency                                                                      | 170 | 80 | 50 | 30 | 16 | 8  | 4   | 2   | 1   |
| Response time                                                   |  | [ms]                   | at rectangular pressure characteristic; Set point (SPx) = 70 %; Reset point (rPx) = 30 % |     |    |    |    |    |    |     |     |     |
| Delay time programmable dS, dr                                  |  | [s]                    | 0, 0,2,...10, 11,...50                                                                   |     |    |    |    |    |    |     |     |     |
| Software / programming                                          |  |                        |                                                                                          |     |    |    |    |    |    |     |     |     |
| Adjustment of the switch point                                  |  |                        | Programming button                                                                       |     |    |    |    |    |    |     |     |     |
| Parameter setting options                                       |  |                        | hysteresis / window; normally open / closed; switch-on/switch-off delay; Damping         |     |    |    |    |    |    |     |     |     |
| Operating conditions                                            |  |                        |                                                                                          |     |    |    |    |    |    |     |     |     |
| Ambient temperature                                             |  | [°C]                   | -25...80                                                                                 |     |    |    |    |    |    |     |     |     |
| Storage temperature                                             |  | [°C]                   | -40...100                                                                                |     |    |    |    |    |    |     |     |     |
| Protection                                                      |  |                        | IP 65                                                                                    |     |    |    |    |    |    |     |     |     |

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| Tests / approvals    |                           |                     |
|----------------------|---------------------------|---------------------|
| EMC                  | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD   |
|                      | EN 61000-4-3 HF radiated  | 10 V/m              |
|                      | EN 61000-4-4 Burst        | 2 kV                |
|                      | EN 61000-4-6 HF conducted | 10 V                |
| Shock resistance     | DIN IEC 68-2-27           | 50 g (11 ms)        |
| Vibration resistance | DIN IEC 68-2-6            | 20 g (10...2000 Hz) |

| Mechanical data          |                                                                |
|--------------------------|----------------------------------------------------------------|
| Material                 | EPDM/X; FKM; PA; PBT; PC; PTFE; stainless steel (1.4301 / 304) |
| Materials (wetted parts) | stainless steel (1.4305 / 303); ceramics; FKM                  |
| Min. pressure cycles     | 100 million                                                    |
| Process connection       | threaded connection G 1/4 Internal thread                      |

| Displays / operating elements |                  |                       |
|-------------------------------|------------------|-----------------------|
| Display                       | Switching status | 2 x LED, red          |
|                               | Function display | 7-segment LED display |
|                               | Measured values  | 7-segment LED display |

| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection

