

PRESSURE SWITCHES, PRESSURE TRANSMITTERS AND DIFFERENTIAL PRESSURE TRANSMITTERS

1.849





YEARS ANNIVERSARY

O U R P R O F E S S

	PRESSURE SWITCHES			
PRODUCT	DK-100	DK-200	DK-300	
FEATURES	 Silicon inner diaphragm Relative pressure measurement Configurable via PC or programming device 1 or 2 PNP output 	 Ceramic inner diaphragm Relative or absolute pressure measurement Configurable via PC or programming device 1 or 2 PNP output 	 Stainless steel inner or flush diaphragm Relative or absolute pressure measurement Up to 4 switch outputs Rotatable and configurable 4-digit LED display module 	
APPLICATION	 Ideal for pneumatic and vacuum applications Mechanical and plant engineering HVAC 	 Ideal for hydraulic and mechanical engineering applications for measuring, control and process technology Mechanical and plant engineering Energy industry Hydraulics 	 Mechanical and plant engineering HVAC Environmental engineering 	
SPECIFICATION	Sensor: silicon Nominal pressure gauge: 0 - 10 bar (0 - 145 psig) Accuracy: 1% Medium temperature: -25 °C +85 °C (-13 °F +185 °F) Ambient temperature: -40 °C +85 °C (-40 °F +185 °F) Output: 1 or 2 PNP switch output Process connection: 1%" BSP internal thread Protection: IP54	Sensor: ceramic Nominal pressure gauge: 0 - 400 bar (0 - 5800 psig) Accuracy: 1% Medium temperature: -25 °C+85 °C (-13 °F +185 °F) Ambient temperature: -25 °C +85 °C (-13 °F +185 °F) Output: 1 or 2 PNP switch output Process connection: ¼" BSP Protection: IP67	Sensor: stainless steel Nominal pressure gauge: 0 - 600 bar (0 - 8700 psig) Accuracy: 0.25 / 0.5% Medium temperature: -40 °C +125 °C (-40 °F +257 °F) Ambient temperature: -40 °C +85 °C (-40 °F +185 °F) Output: 1 - 2 - 4 PNP switch output Process connection: χ^a , χ^a , χ^a BSP (with flush membrane); χ^a , χ^a NPT Protection: IP65, IP68	
OPTIONS	 1 - 5 V analogue output 	Oxygen applicationOil- and grease free application	 Ex ia version* Analogue 4 - 20 mA output Integral cable version 	

S PRESSURE SWITCHES DK-400 DK-500 DK-600 DK-700 Welded stainless steel flush Welded stainless steel flush Welded stainless steel inner Ceramic internal diaphragm diaphragm diaphragm Relative or absolute pressure diaphragm Relative or absolute pressure Relative or absolute pressure measurement Relative or absolute pressure Robust, stainless steel housing measurement measurement measurement Stainless steel housing 1 or 2 PNP output 1 or 2 PNP output Up to 4 switch outputs 1 or 2 PNP output Rotatable and configurable Rotatable and configurable Rotatable and configurable 4-digit LED display module Rotatable and configurable 4-digit LED display module 4-digit LED display module 4-digit LED display module Ideal for high hygienic Ideal for viscous and Mechanical and plant For rough conditions and engineering difficult conditions applications pasty media

- Food and beverage industry
- Medical technology
- Pharmaceutical industry

Sensor: stainless steel Nominalpressuregauge:0-40bar (0 - 580 psig) Accuracy: 0,25 / 0,5% Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -40 °C ... +85 °C (-40 °F ... +185 °F) Output: 1 - 2 - 4 PNP switch output Process connection: ¹/₂", ³/₄", 1" BSP; 3/4", 11/2" 2" Triclamp; Dairy pipe DN25, DN40, DN50, DN40/50 VARIVENT Protection: IP65, IP68

Ex ia version*

- Analogue 4 20 mA output
- Integral cable version



Sensor: stainless steel Nominal pressure gauge: 0 - 600 bar (0 - 8700 psig) Accuracy: 0.25 / 0.5% Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -40 °C ... +85 °C (-40 °F ... +185 °F) Output: 1 or 2 PNP switch output Process connection: 1/4", 1/2" BSP; 1/4", 1/2" NPT Protection: IP67

- Ex ia version* Analogue 4 – 20 mA output



Nominal pressure gauge: 0 - 600 bar (0 - 8700 psig) Accuracy: 0.5% Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -40 °C ... +85 °C (-40 °F ... +185 °F) Output: 1 or 2 PNP switch output Process connection: 1/4", 1/2" BSP; 1/4", 1/2" NPT Protection: IP67

Ex ia version* Analogue 4 - 20 mA output

PVDF process connection



- Food and beverage industry
- Pharmaceutical industry

Sensor: stainless steel Nominal pressure gauge: 0 - 40 bar (0 - 580 psig) Accuracy: 0.25 / 0.5% Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -40 °C ... +85 °C (-40 °F ... +185 °F) Output: 1 or 2 PNP switch output Process connection: 1/2", 3/4", 1" BSP; 3/4", 11/2", 2" Triclamp; Dairy pipe DN25, DN40, DN50, DN40/50 VARIVENT Protection: IP67

Ex ia version* High temperature version

Analogue 4 - 20 mA output



- HVAC
- Environmental engineering

- - Mechanical and plant engineering
 - Environmental engineering

Sensor: ceramic

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D-200

- Ceramic internal diaphragm for overpressure measurement
- Relative pressure measurement

- Ideal for measuring aggressive mediums – gases, steam, fluids
- Not suggested to use directly with mediums tending to sedimentation, crystallization or solidification
- Mechanical and plant engineering
- Hydraulics
- HVAC

Sensor: ceramic Nominal pressure gauge: 0 - 400 bar (0 - 5800 psig) Accuracy: 0.5% Medium temperature: -25 °C ... +125 °C (-13 °F ... +257 °F) Ambient temperature: -25 °C ... +85 °C (-13 °F ... +185 °F) Output: 4 - 20 mA, 0 - 10V Process connection: ¹⁄4", ¹⁄2" BSP; ¹⁄4" NPT Protection: IP65, IP67

- Oil- and grease free version



PRESSURE TRANSMITTERS				
D-300	D-400	D-500		
 Stainless steel internal diaphragm Relative or absolute pressure measurement 	 Stainless steel flush diaphragm Relative or absolute pressure measurement (absolute pressure over 0.6 bar; 8.7 psig) Vacuum resistant Sensor with low surface roughness 	 Ceramic flush diaphragm Relative or absolute pressure measurement 		
 For static or dynamic measurement Not suggested to use directly with mediums tending to sedimentation, crystallization or solidification Mechanical and plant engineering Refrigeration engineering Hydraulics Energy industry Environmental engineering HVAC 	 Ideal for pressure measurement of contaminated mediums and at the bottom (level) Food and beverage industry Pharmaceutical industry Mechanical and plant engineering 	 For the measurement of pasty, polluted or aggressive media For oxygen applications at low pressure range Mechanical and plant engineering Energy industry Medical technology Environmental engineering 		
Sensor: stainless steel Nominal pressure gauge: 0 - 600 bar (0 - 8700 psig) Accuracy: 0.1 / 0.25 / 0.5% Medium temperature: -40 ° C +125 ° C (-40 ° F +257 ° F) Ambient temperature: -40 ° C +85 ° C (-40 ° F +185 ° F) Output: 4 - 20 mA, 0 - 10V Process connection: 1/4", 1/2" BSP; 1/4", 1/2" NPT Protection: IP65, IP67, IP68	Sensor: stainless steel Nominal pressure gauge: 0 - 400 bar ($0 - 5800$ psig) Accuracy: $0.25 / 0.5\%$ Medium temperature: -40 °C +125 °C ($-40 °F +257 °F$) Ambient temperature: -40 °C +85 °C ($-40 °F +185 °F$) Output: $4 - 20$ mA, $0 - 10V$ Process connection: 1/2", $3/4"$, 1" BSP; 3/4", 1", 2" Triclamp; DN25, DN40/50 sanitary DN40/50 VARIVENT Protection: IP65, IP67, IP68	Sensor: ceramic Nominal pressure gauge: 0 - 600 bar (0 - 8700 psig) Accuracy: 0.5% Medium temperature: -40 °C +125 °C (-40 °F +257 °F) Ambient temperature: -40 °C +85 °C (-40 °F +185 °F) Output: 4 - 20 mA, 0 - 10V Process connection: 1/4", 1/2" BSP; 1/4", 1/2" NPT Protection: IP65, IP67, IP68		
 Ex ia version* SIL 2* Integral cable version Absolute pressure measurement (over 0.4 bar; 5.8 psig) 	 Ex ia* version SIL 2* High temperature version Integral cable version Hygienic version 	 Ex ia version* Oxygen application SIL 2* PVDF process connection Integral cable version 		

- Hygienic version



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- nection
- Integral cable version



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PRESSURE TRANSMITTERS D-800 D-600 D-700 D-900 Ceramic flush diaphragm Ceramic flush diaphragm Stainless steel flush diaphragm Ceramic internal diaphragm Relative pressure measurement Relative pressure measurement Relative pressure measurement Relative or absolute pressure Ideal for measuring small Robust construction measurement Ideal for measuring small Modular construction system pressure system pressure High overpressure resistance and a high temperature and media resistance Preferred media: water, fuels and Preferred media: water, fuels and Preferred media: water, fuels Preferred media: water, gases, oils, sewage, aggressive media oils, aggressive media, pasty or and oils fuels and oils Ideal for more viscous or viscous media Mechanical and plant Mechanical and plant polluted media Mechanical and plant engineering engineering Mechanical and plant Energy industry Energy industry engineering Laboratory HVAC Environmental engineering engineering Energy industry Environmental engineering Laboratory Medical technology Environmental engineering Environmental engineering Sensor: ceramic Sensor: stainless steel Sensor: ceramic Sensor: ceramic Nominal pressure gauge: Nominal pressure gauge: Nominal pressure gauge: Nominal pressure gauge: 0 - 60 bar (0 - 870 psig) 0 - 20 bar (0 - 290 psig) 0 - 40 bar (0 - 580 psig) 0 - 20 bar (0 - 290 psig) Accuracy: 0.5% Accuracy: 0.25 / 0.5 / 1% Accuracy: 0.1 / 0.25 / 0.5% Accuracy: 0.25 / 0.5% Medium temperature: Medium temperature: Medium temperature: Medium temperature: -40 °C ... +125 °C -40 °C ... +125 °C

Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -25 °C ... +85 °C (-13 °F ... +185 °F) Output: 4 - 20 mA, 0 - 10V Process connection: 3/4" BSP Protection: IP65, IP67, IP68

- Ex ia version*
- SIL 2*
- PVDF process connection (for aggressive media)
- Integral cable version



Ex ia version*

(-40 °F ... +257 °F)

-40 °C ... +85 °C

1/2" BSP

(-40 °F ... +185 °F)

Process connection:

Ambient temperature:

Output: 4 - 20 mA, 0 - 10V

Protection: IP65, IP67, IP68

- PVDF or stainless-steel process connection
- 99.9% aluminium oxide ceramic sensor
- Teflon coating
- Integral cable version



Nominal pressure gauge: 0 - 40 bar (0 - 580 psig) Accuracy: 0.1 / 0.25 / 0.5% Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -40 °C ... +85 °C (-40 °F ... +185 °F) Output: 4 - 20 mA, 0 - 10V Process connection: 3/4" BSP Protection: IP65, IP67, IP68

- Ex ia version*
- SIL 2*
- Integral cable version



Ex ia version*

(-40 °F ... +257 °F)

-40 °C ... +85 °C

1/2" BSP, 1/2" NPT

(-40 °F ... +185 °F)

Process connection:

Ambient temperature:

Output: 4 - 20 mA, 0 - 10V

Protection: IP65, IP67, IP68

- 99.9% aluminium oxide
- ceramic sensor
- Integral cable version



PRESSURE TRANSMITTERS

R

D-A00

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- Stainless steel internal or flush diaphragm
- Relative or absolute pressure measurement
- Two chamber aluminium die cast case or stainless housing
- Turn-down 1:10
- HART® communication
- Absolute measurement of gases and steam up to 600 bar (8700 psig)
- Ideal for process, food and pharmaceutical industry
- Mechanical and plant engineering
- Chemical industry
- Paper industry
- Oil and gas industry

Sensor: stainless steel Nominal pressure gauge: 0 - 600 bar (0 - 8700 psig) Accuracy: 0.1% Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -40 °C ... +80 °C (without display) (-40 °F ... +176 °F) -20 °C ... +70 °C (with display) (-4 °F ... +158 °F) Output: 4 - 20 mA, HART® Process connection: 1/2", 1", 11/2" BSP; 1/2" NPT; DN25/PN40, DN50/PN40, DN80/PN40, 2" RF, 3" RF Protection: IP67

- Display and operating module
- Ex d version*
- High temperature version (300 °C; 572 °F)



D-B00

- Ceramic flush diaphragm
- 99.9% aluminium oxide ceramic sensor, high
- overpressure capability
- Relative pressure measurementTwo chamber aluminium die
 - cast case or stainless housing
- Turn-down 1:5
 HART[®] communication
- Relative measurement of gases, steam and fluids
- Mechanical and plant engineering
- Chemical industry
- Medical technology
- Food and beverage industry
- Paper industry
- Environmental engineering

Sensor: ceramic Nominal pressure gauge: 0 - 20 bar (0 - 290 psig) Accuracy: 0.1 / 0.2% Medium temperature: -25 °C ... +125 °C (-13 °F ... +257 °F) Ambient temperature: -40 °C ... +70 °C (without display) (-40 °F ... +158 °F) -20 °C ... +70 °C (with display) (-4 °F ... +158 °F) Output: 4 - 20 mA, HART® Process connection: ¹/₂", 1", 1¹/₂" BSP; ¹/₂" NPT; DN25/PN40, DN50/PN40, DN80/PN40, 2" RF, 3" RF Protection: IP67

- Display and operating module
- Ex ia version*
- Ex d version*



D-C00

F

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S

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F

- Welded stainless steel internal diaphragm
- Relative pressure measurement
 Extreme pressure resistance
- (up to 2000 bar; 29007 psig) • Welded thinfilm sensor
- High reliability
- Easy handling
- Ideal for high pressure hydraulic applications
- Mechanical and plant engineering
- Laboratory
- Hydraulics

Sensor: stainless steel Nominal pressure gauge: 0 - 2000 bar (0 - 29007 psig) Accuracy: 0.5% Medium temperature: -40 °C ... +140 °C (-40 °F ... +284 °F) Ambient temperature: -25 °C ... +85 °C (-13 °F ... +185 °F) Output: 4 - 20 mA, 0 - 10V Process connection: 11/2" BSP; M20 x1.5 internal thread Protection: 1P65, 1P67

- Ex ia version*
- Adjustability of span and offset
- Integral cable version



DD-100

- Silicon inner diaphragm
- Relative pressure measurement
- Can be used in 2- or 3-wire system
- Wall-mounted

- For differential pressure measurement of gases and compressed air
- Mechanical and plant engineering
- = HVAC

Sensor: silicon Nominal pressure gauge: 0 - 1 bar (0 - 14 psig) Accuracy: 1% Medium temperature: (+32 °F ... +122 °F) 0 °C ... +50 °C Ambient temperature: 0 °C ... +50 °C (+32 °F ... +122 °F) Output: 4 - 20 mA, 0 - 10V **Process connection:** Ø6.6 x 11 mm (for flexible tubes Ø6) Ø4.45 x 10 mm (for flexible tubes Ø4) Protection: IP54

5-digit LCD display



DIFFERENTIAL PRESSURE TRANSMITTERS

DD-200

- Stainless steel diaphragm
- Relative pressure measurement Aluminium die cast housing
- Turn-down 1:10
- HART[®] communication

- Differential pressure measurement of closed, pressurized tanks
 - Mechanical and plant
 - engineering Oil and gas industry
- Chemical industry
- Energy industry
- HVAC
- Food and beverage industry
- Paper industry

Sensor: stainless steel Nominal pressure gauge: 0 - 20 bar (0 - 290 psig) Accuracy: 0.1% Medium temperature: -40 °C ... +85 °C Ambient temperature: -40 °C ... +50 °C (without display) (-40 °F... +122 °F) -20 °C ... +50 °C (with display) (-4 °F ... +122 °F) Output: 4 - 20 mA, HART® Process connection: 1/4" NPT (internal) Protection: IP67

- Display and operating module
- HASTELLOY® C-276 sensor
- EPDM sealing



DD-300

- Stainless steel internal diaphragm
- Relative pressure measurement
- Can be pressurized on both sides with fluids or gases
- Mechanical robust and reliable at dynamic pressure as well as shock and vibration
- Differential pressure wet/wet
- Compact design
- Mechanical and plant engineering
- Energy industry

Sensor: stainless steel Nominal pressure gauge: 0 - 16 bar (0 - 232 psig) Accuracy: 0.5% Medium temperature: -25 °C ... +125 °C (-13 °F ... +257 °F) Ambient temperature: -25 °C ... +85 °C (-13 °F ... +185 °F) Output: 4 - 20 mA, 0 - 10V Process connection: 1/4" BSP (internal), 1/2" BSP; 7/16" UNF

Ex ia version*

DD-400

- Two stainless steel internal diaphragm
- Relative pressure measurement
- Display and process connection
- Up to 2 switch outputs

- For differential pressure measurement of gases and fluids
- Mechanical and plant engineering
- Chemical industry
- Energy industry
- HVAC
- Food and beverage industry

Sensor: stainless steel Nominal pressure gauge: 0 - 70 bar (0 - 1015 psig) Accuracy: 1% Medium temperature: -40 °C ... +125 °C (-40 °F ... +257 °F) Ambient temperature: -25 °C ... +85 °C (-13 °F ... +185 °F) Output: 4 - 20 mA Process connection: 1/4", 1/2" BSP; 1/4", 1/2" NPT Protection: IP65

Differential pressure measurement of closed, pressurized tanks

DD-500

Relative pressure measurement

Maximum static overpressure

Aluminium die cast housing

Stainless steel diaphragm

400 bar (5800 psig)

Turn-down: up to 1:100

HART[®] communication

High accuracy

- Oil and gas industry
- Chemical industry
- Energy industry
- Food and beverage industry
- Paper industry

Sensor: stainless steel Nominal pressure gauge: 0 - 20 bar (0 - 290 psig) Accuracy: 0.075% Medium temperature: -40 °C ... +100 °C (-40 °F ... +212 °F) Ambient temperature: -40 °C ... +85 °C (without display) (-40 °F ... +185 °F) -20 °C ... +65 °C (with display) (-4 °F ... +149 °F) Output: 4 - 20 mA, HART® Process connection: 1/4" NPT (internal), 1/2" NPT; M20 x1.5 Protection: IP67

Ex ia version* LCD display HASTELLOY[®] sensor



Protection: IP65



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GENERAL DESCRIPTION

In the world of industrial metrology, monitoring and controlling the pressure of fluids and gases and the processing of the measured results are high priorities.

NIVELCO covers the needs of several industries and application areas with the wide selection of the NIPRESS family.

FEATURES OF THE NIPRESS DEVICE FAMILIES:

- Advanced pressure measuring technologies
- Relative and absolute pressure measurement
- Devices for nearly all medium
- Several accuracy classes
- Several mounting options
- Excellent overload resistance
- 2- and 3-wire systems
- Devices with lots of different electrical and process connections
- Solutions for rough conditions (aggressive medium, wide temperature range, dynamic pressure changes)
- Solutions for high hygiene requirements
- Excellent price/value ratio

MAIN CATEGORIES OF THE NIPRESS DEVICE FAMILY:

- PRESSURE SWITCHES
- PRESSURE TRANSMITTERS
- DIFFERENTIAL PRESSURE TRANSMITTERS

PRESSURE SWITCHES

- Devices with or without display
- Measuring range: 0 600 bar (0 8700 psig)

The **DK-100** and **DK-200** pressure switches electronic pressure switches can be used in hydraulic and pneumatic applications for monitoring and controlling the pressure with switching outputs. The devices are easily programmable either by the optionally available tools P-Set (PC software and programming adapter) or via the programming device P6. Due to the simple handling as well as the variety of software features (switching points and hysteresis freely configurable, delay function, min/ max-value data storage, display and analogue output signal scalable, etc.) the **DK-300**, **DK-400** and **DK-500** intelligent switches are especially suitable as a pressure switch for general plant and machine construction and for the processing industry.

MAIN APPLICATION AREAS:

mobile hydraulics, dry running protection, flow monitoring, grease monitoring, gas compressors, test and construction engineering.

PRESSURE TRANSMITTERS

- Measurement of vacuum, overpressure and absolute pressure
- Measuring range: 0 2000 bar (0 29007 psig)

The wide selection of pressure measuring technologies, housing materials (stainless steel, plastics) provides possibility to complete almost all gas and fluid pressure measurement tasks. Their design, high overload capability and the possibility to install the units in any physical position allows for a wide range of industrial applications.

MAIN APPLICATION AREAS:

HVAC, hydraulics, pneumatics, mechanical and plant engineering, energy industry, food and beverage industry, pharmaceutical industry, chemical industry, oil and gas industry.

DIFFERENTIAL PRESSURE TRANSMITTERS

- For differential pressure measurement
- Measuring range: 0 70 bar (0 1015 psig)

Thanks to different sensor technologies combined with compact aluminium die-cast cases or plastic housings, our differential pressure transmitters may be used for numerous fluids and gases, e. g. for monitoring ventilation ducts, filters and fans in HVAC areas as well as for level measurement in closed pressurized tanks.

MAIN APPLICATION AREAS:

HVAC, mechanical and plant engineering, oil and gas industry, chemical industry, energy industry, food and beverage industry.