

UNIK 5000

Pressure sensing platform

The new UNIK 5000 is a high performance configurable solution to pressure measurement. The use of micromachined silicon technology and analogue circuitry enables best in class performance for stability, low power and frequency response. The new platform enables you to easily build up your own sensor to match your own precise needs. This high performance, configurable solution to pressure measurement employs modular design and lean manufacturing techniques.

High quality

The combination of a high technology sensor, together with advanced signal conditioning and packaging techniques, provides an ideal long term solution for reliable, accurate and economical measurements.

Bespoke as standard

Custom-built from standard components, manufacturing sensors to your requirement is fast and simple; each UNIK 5000 is a "bespoke" pressure sensing solution, but with the short lead times and competitive pricing you would expect from standard products.

Expertise

We have the people and the knowledge to support your needs for accurate and reliable product performance; our team of experts can help you make the right sensor selection, guiding you and providing the help and tools you need. It is important to ensure that the sensor material and performance selected are suitable for your application.

Features

- Ranges from 70 mbar (1 psi) to 700 bar (10000 psi)
- Accuracy to ±0.04% Full Scale (FS) Best Straight Line (BSL)
- Stainless steel construction
- Frequency response to 3.5 kHz
- High over pressure capability
- Hazardous area certifications
- mV, mA, voltage and configurable voltage outputs
- Multiple electrical and pressure connector options
- Operating temperature ranges from –55 to +125°C (-67 to +257°F)
- Online configuration tool

UNIK 5000 specifications

Measurement
Operating pressure ranges:

Gauge ranges
Any zero based range 70 mbar to 70 bar (1 to 1000 psi)

Note: All psi values are approximate.

Sealed gauge ranges
Any zero based range 10 to 700 bar (145 to 10000 psi)

Absolute ranges
Any zero based range 100 mbar to 700 bar (1.5 to 10000 psi)

Differential ranges
Wet/Dry
Uni-directional or bi-directional 70 mbar to 35 bar (1 to 500 psi)

Wet/Wet
Uni-directional or bi-directional 350 mbar to 35 bar (5 to 500 psi)

Line pressure: 70 bar (1000 psi) maximum

Barometric ranges
Barometric ranges are available with a minimum span of 350 mbar (5.1 psi)

Non-zero based ranges
Non-zero based ranges are available. For non-zero based gauge ranges, please contact Druck to discuss your requirements.

Over pressure
- 10 × FS for ranges up to 150 mbar (2 psi)
- 4 × FS for ranges <350 mbar (5 psi)
- 6 × FS for ranges up to 700 mbar (10 psi)
- 2 × FS for barometric ranges
- 4 × FS for all other ranges (up to 200 bar for ranges ≤70 bar and up to 1200 bar for ranges >70 bar)*

For differential versions the negative side must not exceed the positive side by more than:

- 6 × FS for ranges up to 150 mbar (2 psi)
- 4 × FS for ranges up to 700 mbar (10 psi)
- 2 × FS for all other ranges up to a maximum of 15 bar (200 psi)

Containment pressure
- Ranges up to 150 mbar (2 psi) gauge 10 x FS
- Ranges up to 70 bar (1000 psi) gauge 6 x FS (200 bar (2900 psi) max)
- Ranges up to 70 bar (1000 psi) absolute 200 bar (2900 psi)
- Ranges above 70 bar (1000 psi)
- 1200 bar (17400 psi)*

Differential (-ve port) must not exceed positive port by more than 6 × FS (15 bar (200 psi) maximum.

*600 bar (8700 psi) for pressure connector options PX, RA and RF

Supply and outputs

Electronics option	Description	Supply voltage (V)	Output	Current consumption (mA)
0	mV Passive	2.5 to 12	10 mV/V^	<2 at 10 V
1	mV Linearised	7 to 12	10 mV/V^	<3
2	mA	7 to 28**	4-20 mA	<30
3	0 to 5 V 4-wire	7 to 16**	0 to 5 V	<3
4	0 to 5 V 3-wire	7 to 16**	0 to 5 V*	<3
5	Basic Configurable (3-wire)	See below	See below	<3
6	0 to 10 V 4-wire	12 to 16**	0 to 10 V	<3
7	0.5 V to 4.5 V Ratiometric	5.0 ± 0.5	0.5 to 4.5 V	<3
8	Configurable (4-wire)	7 to 36	See below	See below
9	Configurable (3-wire)	7 to 36	See below	See below

^ with a 10 V supply mV output sensors give 100 mV over the full scale pressure.

- Output is ratiometric to the supply voltage
- Output reduces pro-rata for pressure ranges below 350 mbar (5 psi)

*0 to 5 V 3-wire output is non true zero. At pressures below 1% of span the output will be fixed at approximately 50 mV

**32 V in non-hazardous area operation

~ Supply voltage is between [Maximum output + 1 V] (7 V minimum) to 16 V (32 V in non-hazardous area operation)

Basic configurable (option 5), configurable 4-wire (option 8), configurable 3-wire (option 9)

Any pressure signal output configurations will be available, subject to the following limitations:

Output specification	Basic configurable (option 5)	Configurable (options 8, 9)
Minimum span:	4 V	2 V
Maximum span:	10 V	20 V
Maximum output limit:	11 V	±10 V
Maximum zero offset:	Span / 2	±Span
Current consumption:	< 3 mA	< 20 mA @ 7 Vdc decreasing to < 5 mA @ 32 Vdc
Reverse output response:	No	Yes
Maximum operating temperature:	+125˚C	+80˚C

Output voltage range can be specified to a resolution of 0.1 V.

The output will continue to respond to 110% FS. i.e. if a 0 to 10 V output is specified, the output will continue to increase proportionally to applied pressure until at least 11 V.

Option 5: Not true zero, the output will saturate at < 50 mV.

Options 8, 9: On startup <100 mA drawn for 10 ms typically.

Options 8, 9: Shunt calibration: not available with reverse output.

Examples

Configuration	Allowed	Not Allowed
Basic Configurable (Option 5)	0 to 5 V	1 to 4 V (span too small)
	0.5 to 4.5 V	4 to 11 V (offset too big)
	1 to 6 V	
	1 to 11 V	
Configurable (Options 8, 9)	-10 to 0 V	0 to 12 V (outside ±10 V limits)
	0 to 5 V	6 to 10 V (offset too big)
	-5 to 5 V	0 to 0.5 V (span too small)
	-2 to 10 V	
	1 to 6 V	
	10 to 0 V	

Power-up time

- mV, Voltage and current versions: 10 ms
- Configurable 3-wire and 4-wire versions: 500 ms

Insulation

- 500 Vdc: 100 MΩ
- 500 Vac: < 5 mA leakage current (mV and mA versions only)

Shunt calibration

Shunt calibration provides a customer accessible connection which, when applied, causes a shift in output of 80% FS in order to simulate applied pressure. It is fitted to the mV, configurable 4-wire and configurable 3-wire versions as standard. It is not available with DIN, M12 x 1 or M20 x 1.5 electrical connectors (options 7, D, G and R).

Shunt calibration is activated in different ways depending on the electrical connector and version:

- mV versions: connect shunt cal to -ve supply or where available, connect both shunt cal connections together.
- Configurable 4-wire and configurable 3-wire versions: connect Shunt cal to -ve output or, where available, connect both shunt cal connections together.

Note: Not available with reverse output.

Performance specifications

There are three grades of performance specification: Industrial, Improved and Premium.

Accuracy

Voltage, current and mV linearized

Combined effects of non-linearity, hysteresis and repeatability:

- Industrial: ±0.2% FS BSL
- Improved: ±0.1% FS BSL
- Premium: ±0.04% FS BSL

mV passive

≤ 70 bar
Industrial/Improved: ±0.25% FS BSL
Premium not available

> 70 bar
Industrial/Improved: ±0.5% FS BSL
Premium not available

Note 1: For the barometric pressure range, accuracy is of span, not full scale.

Note 2: For bi-directional ranges, accuracy is specified for each direction separately.

Zero offset and span setting

Demountable electrical connector options allow access to potentiometers that give at least ±5% FS adjustment (see Electrical connector section).

Factory set to:

Product Description	Industrial	Improved and Premium
Current and voltage versions (Demountable electrical connections and cable gland)	±0.5% FS	±0.2% FS
Current and voltage versions (All other electrical connections)	±1.0% FS	±1.0% FS
mV versions	±3.0 mV	±3.0 mV

Long term stability

±0.05% FS typical (±0.1% FS maximum) per year increasing pro-rata for pressure ranges below 350 mbar

Temperature effects

Four compensated temperature ranges can be chosen.

Industrial accuracy performance:

- -10 to +50°C (+14 to +122°F): ±0.75% FS TEB*
- -20 to +80°C (-4 to +176°F): ±1.5% FS TEB
- -40 to +80°C (-40 to +176°F): ±2.25% FS TEB
- -40 to +125°C (-40 to +257°F): ±2.25% FS TEB

*TEB = Temperature Error Band

Improved and premium accuracy performance:

- -10 to +50°C (+14 to +122°F): ±0.5% FS TEB
- -20 to +80°C (-4 to +176°F): ±1.0% FS TEB
- -40 to +80°C (-40 to +176°F): ±1.5% FS TEB
- -40 to +125°C (-40 to +257°F): ±1.5% FS TEB

Temperature effects increase pro-rata for pressure ranges below 350 mbar (5 psi) and are doubled for barometric ranges.

Line pressure effects (differential version only)

Zero shift: <±0.03% span/bar of line pressure
Span shift: <±0.03% span/bar of line pressure

Effects increase pro-rata for differential pressure ranges below 700 mbar (10 psi).

Physical specifications

Environmental protection

- See Electrical connector section
- Hyperbaric pressure: 20 bar (300 psi) maximum

Operating temperature range

See Electrical connector section

Pressure media

Fluids compatible with stainless steel 316L and Hastelloy C276

Do not use with media that has an oxygen concentration >21% or other strong oxidising agents.

For the wet/dry differential version, negative pressure port: Fluids compatible with stainless steel 316L, stainless steel 304, Pyrex, silicon and structural adhesive.

Enclosure materials

Stainless steel (body), nitrile- or silicone-rubber (o-rings, gaskets), EPDM (gaskets), PVDF (depth cone), PTFE (vent filter), nickel plated brass (lock rings), glass filled nylon (electrical connector assemblies), delrin (depth cone). Cable sheaths as specified (see Electrical connector).

Pressure connector

Available options are:

- G1/4 female*
- G1/4 male flat
- G1/4 male 60° internal cone
- G1/4 male flat long
- G1/4 male flat with snubber
- G1/4 male flat with cross bore protection
- G1/4 male with nipple
- G1/4 quick connect
- G1/8 male 60° internal cone
- G1/2 male via adaptor*
- 1/4 NPT female*
- 1/4 NPT male
- 1/8 NPT male
- 1/8-27 NPT female
- 1/2 NPT male via adaptor
- 7/16-20 UNJF female*
- 7/16-20 UNF male short flat*
- 7/16 UNF long 37° flare tip*
- 7/16-20 UNJF male 74° external cone
- 3/8-24 UNJF
- 1/4 swagelok bulkhead
- M10 x 1 80° internal cone
- M12 x 1 60° internal cone
- M14 x 1.5 60° internal cone
- M20 x 1.5 male (3 mm bore)
- M20 x 1.5 male (8 mm bore)
- Depth cone (G1/4 female open face)
- M12 x 1.0 74° external cone
- Quick release male
- VCR female*
- VCR male*
- NW16 flange
- R3/8 male
- R1/4 male

Choose connectors marked * for pressure ranges over 70 bar. Other pressure connectors may be available, contact Druck to discuss your requirement.

Electrical connector

Various electrical connector options are available offering different features:

Code No.	Description	Maximum operating temperature range		IP rating	Zero/ span adjust
		°C	°F		
0	No connector	-55 to +125	-67 to +257	-	Y
1	Cable Gland	-40 to +80	-40 to +176	65	N
2	Raychem Cable	-55 to +125	-67 to +257	65	N
3	Polyurethane Depth	-40 to +80	-40 to +176	68	N
4	Hytrel Depth	-40 to +80	-40 to +176	68	N
6/E	Bayonet MIL-C-26482	-55 to +125	-67 to +257	67	N
7	DIN 43650 Form A Demountable	-40 to +80	-40 to +176	65	Y
A/F	Bayonet MIL-C-26482 Demountable	-55 to +125	-67 to +257	65	Y
C	1/2 NPT Conduit	-40 to +80	-40 to +176	65	N
D	Micro DIN (9.4 mm pitch)	-40 to +80	-40 to +176	65	N
G	M12 x 1 4-pin	-55 to +125	-67 to +257	67	N
K	Zero Halogen Cable Demountable	-40 to +80	-40 to +176	65	Y
N	Kynar Depth	-40 to +80	-40 to +176	68	N
R	M20 x 1.5 Inline Conduit	-40 to +80	-40 to +176	65	Y

Note 1: Electronics output options 8 and 9 are restricted to a maximum operating temperature of 80°C (176°F).

Note 2: Hazardous area approved versions are restricted to a maximum operating temperature range of -40°C to +80°C (-40°F to +176°F).

Note 3: Electrical connector option R IP65 rating only with suitable conduit/ cable fitting.

Note 4: IP67 rating on options 6/E and G applies to absolute, differential and sealed gauge reference sensors only. Gauge reference sensors are rated IP65.

Regulatory Compliance Information

Australia/New Zealand

- EMC (RCM) – compliant
- IECEx - Hazardous area (optional, refer to approvals)

Note: RCM mark is placed on H0 and IECEx approved options H1, H2 and HA

Brazil

- Hazardous area (optional, refer to approvals)

Canada

- CRN registered, OF18611.513467890YTN-Rev1 & OF18611.52 New design for Alberta, for operating pressures <= 350 bar (5076 psi)

Canada & USA

- Hazardous locations (optional, refer to approvals)

China

- RoHS – compliant
- Hazardous Area (optional, refer to approvals)

Eurasian Economic Union

- EMC CU TR 020/2011 - exempt
- Hazardous area CU TR 012/2011 (optional, refer to approvals)
- Kazakhstan metrology - approved

European Union: CE Marked

- PED 2014/68/EU - Sound Engineering Practice
- ATEX Directive 2014/34/EU (optional, refer to approvals)
- EMC Directive 2014/30/EU - compliant

Note: EN 61000-6-2:2005: Susceptibility – heavy industrial applies to PMP/PTX models with electrical connector options 6, A, C, E, F, G, N and R with cable screen connected to case.

- RoHS Directive 2011/65/EU – compliant
- WEEE 2012/19/EU - compliant
- REACH EC 1907/2006 - compliant

Refer to EU Declaration of Conformity for details on CE compliance standards

India

Hazardous area (optional, refer to approvals)

Note: India CCOE approval is added on H1 apparatus approval option.

Japan

Hazardous area (optional, refer to approvals)

South Korea

EMC approved

UAE

Hazardous Area (optional, refer to approvals)

South Africa

Hazardous Area (optional, refer to approvals)

Note: This approval is added on H1, H2 and HA apparatus approval options.

Hazardous Area Approvals (optional)

Approval Type (Intrinsic Safety)	Ex Coding	
	Apparatus	Component
ATEX - EU IECEx - Global	Ex ia IIC T5 Ga, Ex ia I Ma (mining) (-40°C ≤ Ta ≤ +80°C)	Ex ia IIC Ga, Ex ia I Ma (mining)
FM - USA FM - Canada	CL I DIV 1 GP ABCD T5 Ex ia, CL I, ZN 0, AEx/Ex ia IIC T5 (-40°C ≤ Ta ≤ +80°C), IP64 SINGLE SEAL (-40°C to +125°C)	CL I DIV 1 GP ABCD T5 Ex ia, CL I, ZN 0, AEx/Ex ia IIC T5 (-40°C ≤ Ta ≤ +80°C) IP20 SINGLE SEAL (-40°C to +125°C)
INMETRO - Brazil	Ex ia IIC T5 Ga, Ex ia I Ma (mining) (-40°C ≤ Ta ≤ +80°C)	Not available
CU TR 012 - Kazakhstan	0Ex ia IIC T5 Ga X, PO Ex ia I Ma X (mining) (-40°C ≤ Ta ≤ +80°C)	Not available
CCOE (PESO) - India	Ex ia IIC T5 Ga (-40°C ≤ Ta ≤ +80°C)	Not available
NEPSI – China	Ex ia IIC T5 Ga (-40°C ≤ Ta ≤ +80°C)	Ex ia IIC Ga
ECASEx – UAE	Ex ia IIC T5 Ga (-40°C ≤ Ta ≤ +80°C)	Not available
Japan	Ex ia IIC T5 Ga (-40°C ≤ Ta ≤ +80°C)	Not available
South Africa-IA	Ex ia IIC T5 Ga Ex ia I Ma (mining) (-40°C ≤ Ta ≤ +80°C)	Not available

Note: For full certification details, refer to the type examination certificates (or approval listings) and supplied hazardous area installation instructions.

Electrical connector

Connector type	Option code		Electronics option					
			4 to 20 mA	Voltage (3-wire) and basic configurable	Voltage (4-wire)	Configurable voltage (4-wire)	Configurable voltage (3-wire)	mV
Molex	0	1 Red	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		2 Yellow	-	+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		3 Green	-	-	-ve Output	-ve Output	0V Common	-ve Output
		4 Blue	-ve Supply	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		5 Orange	-	-	-	Shunt Cal	Shunt Cal	Shunt Cal
		6 Black	Case	Case	Case	Case	Case	-
Cable (Not Raychem)	1, 3, 4, C, N	Red	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		Yellow	-	+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		Blue	-	-	-ve Output	-ve Output	0V Common	-ve Output
		White	-ve Supply	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		Orange	-	-	-	Shunt Cal	Shunt Cal	Shunt Cal
		Black	-	-	-	-	-	-
		Screen	-	-	-	-	-	-
Raychem Cable	2	Red	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		White	-	+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		Green	-	-	-ve Output	-ve Output	0V Common	-ve Output
		Blue	-ve Supply	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		Black	-	-	-	Shunt Cal	Shunt Cal	Shunt Cal
		Screen	-	-	-	-	-	-
MIL-C-26482	6, A	A	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		B	-ve Supply	+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		C	-	-	-ve Output	-ve Output	0V Common	-ve Output
		D	-	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		E	-	-	-	Shunt Cal	Shunt Cal	Shunt Cal
		F	-	-	-	-	-	Shunt Cal
DIN Form A Micro DIN	7 D	1	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		2	-ve Supply	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		3	-	+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		E	Case	Case	-ve Output	-ve Output	0V Common	-ve Output
MIL-C-26482 Alternative Wiring Options	E, F	A	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		B	-	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		C	-	+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		D	-ve Supply	-	-ve Output	-ve Output	0V Common	-ve Output
		E	-	-	-	Shunt Cal	Shunt Cal	Shunt Cal
		F	-	-	-	Shunt Cal	Shunt Cal	-
M12 x 1 4-pin	G	1	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		2		+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		3	-ve Supply	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		4	Case	Case	-ve Output	-ve Output	0V Common	-ve Output
Zero Halogen Cable (Demountable)	K	Pink	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply	+ve Supply
		White	-	+ve Output	+ve Output	+ve Output	+ve Output	+ve Output
		Green	-	-	-ve Output	-ve Output	0V Common	-ve Output
		Blue	-ve Supply	0V Common	-ve Supply	-ve Supply	0V Common	-ve Supply
		Grey	-	-	-	Shunt Cal	Shunt Cal	Shunt Cal
		Brown	-	-	-	-	-	-
		Yellow	-	-	-	-	-	-
		Screen	-	-	-	-	-	-
M20 x 1.5 Female Demountable	R	+ve	+ve Supply	-	-	-	-	-
		-ve	-ve Supply	-	-	-	-	-

Ordering information (see the online configuration tool at Druck.com)

(1) Select model number

Main Product Variant

PMP Amplified Pressure Transducer
PDCR mV Pressure Transducer
PTX 4-20 mA Pressure Transmitter

Product Series

5 UNIK 5000

Diameter and Material

0 25mm Stainless Steel

Electrical Connector (Note 6)

0 No Electrical Connector (Note 7)
1 Cable Gland (Polyurethane Cable)
2 Raychem Cable
3 Polyurethane Cable (Depth)
4 Hytrel Cable (Depth)
6 MIL-C-26482 (6-pin Shell Size 10) (Mating connector not supplied)
7 DIN 43650 Form A Demountable (Mating connector supplied)
A Demountable MIL-C-26482 (6-pin Shell Size 10) (Mating connector not supplied)
C 1/2" NPT Conduit (Polyurethane cable)
D Micro DIN (9.4 mm Pitch) (Mating connector supplied)
E MIL-C-26482 (6 pin Shell Size 10) Alternative Wiring (Mating connector not supplied)
F Demountable MIL-C-26482 (6 pin Shell Size 10) Alternative Wiring (Mating connector not supplied)
G M12 x 1 4-pin male (Mating connector not supplied)
K Zero Halogen Cable Demountable
N Kynar Cable (Depth)
R M20 x 1.5 Inline Female Conduit Demountable (Note 8)

Electronics Option

0 mV Passive 4-wire (PDCR) (Note 1)
1 mV Linearised 4-wire (PDCR)
2 4 to 20 mA 2-wire (PTX)
3 0 to 5 V 4-wire (PMP)
4 0 to 5 V 3-wire (PMP)
5 Basic Configurable 3-wire (PMP)
6 0 to 10 V 4-wire (PMP)
7 0.5 to 4.5 V Ratiometric 3-wire (PMP) (Note 5)
8 Configurable 4-wire (PMP) (Note 4, 5)
9 Configurable 3-wire (PMP) (Note 4, 5)

Compensated Temperature Range

TA -10 to +50 °C (14 to +122 °F)
TB -20 to +80 °C (-4 to +176 °F)
TC -40 to +80 °C (-40 to +176 °F)
TD -40 to +125 °C (-40 to +257 °F) (Note 2, 5)

Accuracy

A1 Industrial
A2 Improved
A3 Premium

Calibration

CA Zero/Span Data
CB Room Temperature
CC Full Thermal
CR Room Temperature/Measured Reading

Hazardous Area Approval (Note 6)

H0 None
H1 IECEx/ATEX Intrinsically Safe 'ia' Group IIC
H2 IECEx/ATEX Intrinsically Safe 'ia' Group I
H6 FM (C & US) Intrinsically Safe 'ia' Group IIC/ABCD
HA IECEx/ATEX Intrinsically Safe 'ia' Groups I/IIC [H1 + H2]
HS IECEx/ATEX/FM (C & US) Intrinsically Safe 'ia' Groups IIC/ABCD [H1 + H6]
J1 IECEx/ATEX/NEPSI Intrinsically Safe 'ia' Group IIC
JA INMETRO Intrinsically Safe 'ia' Group IIC
JB INMETRO Intrinsically Safe 'ia' Group I
JF INMETRO Intrinsically Safe 'ia' Group I/IIC [JA + JB]
JH EAEU Intrinsically Safe 'ia' Group IIC
JJ EAEU Intrinsically Safe 'ia' Group I
JN EAEU Intrinsically Safe 'ia' Groups I/IIC [JH+JJ]
K6 IECEx/ATEX/Japan Intrinsically Safe 'ia' Group IIC

Pressure Connector

PA G1/4 Female (Note 3)
PB G1/4 Male Flat
PC G1/4 Male 60° Internal Cone
PD G1/8 Male 60° Internal Cone
PE 1/4 NPT Female (Note 3)
PF 1/4 NPT Male
PG 1/8 NPT Male
PH M20 x 1.5 Male (3 mm bore)
PJ M14 x 1.5 60° Internal Cone
PK M12 x 1 Internal Cone
PL 7/16-20 UNJF Male 74° External Cone
PN G1/2 Male via Adaptor (Note 3)
PQ G1/4 Quick Connect
PR 1/2 NPT Male via Adaptor (Note 3)
PS 1/4 Swagelok Bulkhead
PT G1/4 Male Flat Long
PU 7/16-20 NF Long 37° Flare Tip (Note 3)
PV 7/16-20 UNJF Female (Note 3)
PW Depth Cone (G1/4 Female Open Face)
PX 7/16-20 UNF Male Short Flat (Note 3, 9)
PY 3/8-24 UNJF
PZ M10 x 1 80° Internal Cone
RA VCR Female (Note 3, 9)
RB G1/4 Male Flat with Snubber
RC G1/4 Male Flat with Cross Bore Protection
RD M12 x 1.0 74° External Cone
RE Quick Release Mount
RF VCR Male (Note 3, 9)
RJ M20 x 1.5 Male (8 mm bore)
RQ NW16 Flange
RT 1/8-27 NPT Female
RU R3/8 Male
RV R1/4 Male
RW G1/4 Male with Nipple

PTX 5 0 7 2 – TA – A2 – CB – H0 – PA (Example Model Number)

Ordering notes

Note 1: Premium accuracy is not available on this version

Note 2: Please ensure that the electrical connector selected is option 0, 2, 6, A, E, F or G.

Note 3: Select one of these pressure connectors for pressure ranges over 70 bar

Note 4: Maximum operating temperature is 80°C (176°F)

Note 5: Hazardous area certifications not available

Note 6: Hazardous area certifications are restricted by electrical connector options in line with the following table:

	Connector													
Approval	0	1	2	3	4	6/E	7	A/F	C	D	G	K	N	R
H0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
H1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
H2	Y	–	Y	Y	Y	Y	–	–	Y	–	Y	–	Y	–
H6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HA	Y	–	Y	Y	Y	Y	–	–	Y	–	Y	–	Y	–
HS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
J1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	–	Y	Y
JA	–	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
JB	–	–	Y	Y	Y	Y	–	–	Y	–	Y	–	Y	–
JF	–	–	Y	Y	Y	Y	–	–	Y	–	Y	–	Y	–
JH	–	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
JJ	–	–	Y	Y	Y	Y	–	–	Y	–	Y	–	Y	–
JN	–	–	Y	Y	Y	Y	–	–	Y	–	Y	–	Y	–
K6	–	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Note 7: Available with component certification for certain regions, use of which requires incorporation into a certified apparatus with an IP rated enclosure appropriate to the certificate type supplied.

Note 8: Electronics option 2 only

Note 9: Pressure ranges less than 500 bar

2) State pressure range and units (e.g., 0 to 10 bar, -5 to +5 bar)

Pressure unit options are:

Symbol	Description
bar	bar
mbar	millibar
psi	pounds/sq. inch
Pa	Pascal
hPa	hectoPascal
kPa	kiloPascal
MPa	MegaPascal
mmH_2O	mm water
cmH_2O	cm water
mH_2O	metres water
inH_2O	inches water
ftH_2O	feet water
mmHg	mm mercury
inHg	inches mercury
kgf/cm^2	kg force/sq. cm
atm	atmosphere
Torr	torr

3) State pressure reference (e.g., gauge)

Reference options are:

- gauge
- absolute
- barometric
- sealed gauge
- wet/dry differential
- wet/wet differential

4) State cable lengths and units

Integer values only, e.g. 1 m cable, 8 ft. Minimum length 1 m (3 ft) cable (only required with certain electrical connectors).

Maximum cable length 100 m (300 ft) for approval options not H0; 200 m (600 ft) for approval option H0.

5) Output options 5, 8 and 9

State voltage output at minimum and maximum pressure (e.g., output –1 to 9 V)

Typical order examples

PTX5012-TB-A2-CA-H0-PA: 0 to 10 bar, gauge, 3 m cable

PMP5028-TC-A3-CC-H0-PE: -15 to 75 psi, gauge, 15 ft cable, output voltage -1 to 5 volts

PDCR5071-TB-A1-CB-H0-PA: 0 to 100 bar, sealed gauge

Accessories (order as separate line items)

P/N 202-034-05: Sensor termination enclosure
P/N 600-914: Desiccant gel pack for STE
P/N 222-117-01: Short sink weight (to fit G1/4 female)
P/N 222-179-01: Depth cone injection moulded for PW connection
P/N 163-009: Mating connector for MIL-C-26482 (Electrical connector options 6, A, E, and F) (Note 10)

Cable assemblies (Note 10)

A made up electrical connector with a length of cable.

1) Select part number

Main product (Note 10)

UNIKCABLE — Cable assembly

Electrical connector

6	MIL-C-26482
7	DIN 43650
D	MICRO DIN (9.4 mm Pitch)

Cable

1	Polyurethane cable (Note 11)
2	Raychem cable

UNIKCABLE - 6 - 2 (Example part number)

2) State cable length and units (Integer value only)

Minimum length 1 m (3 ft)

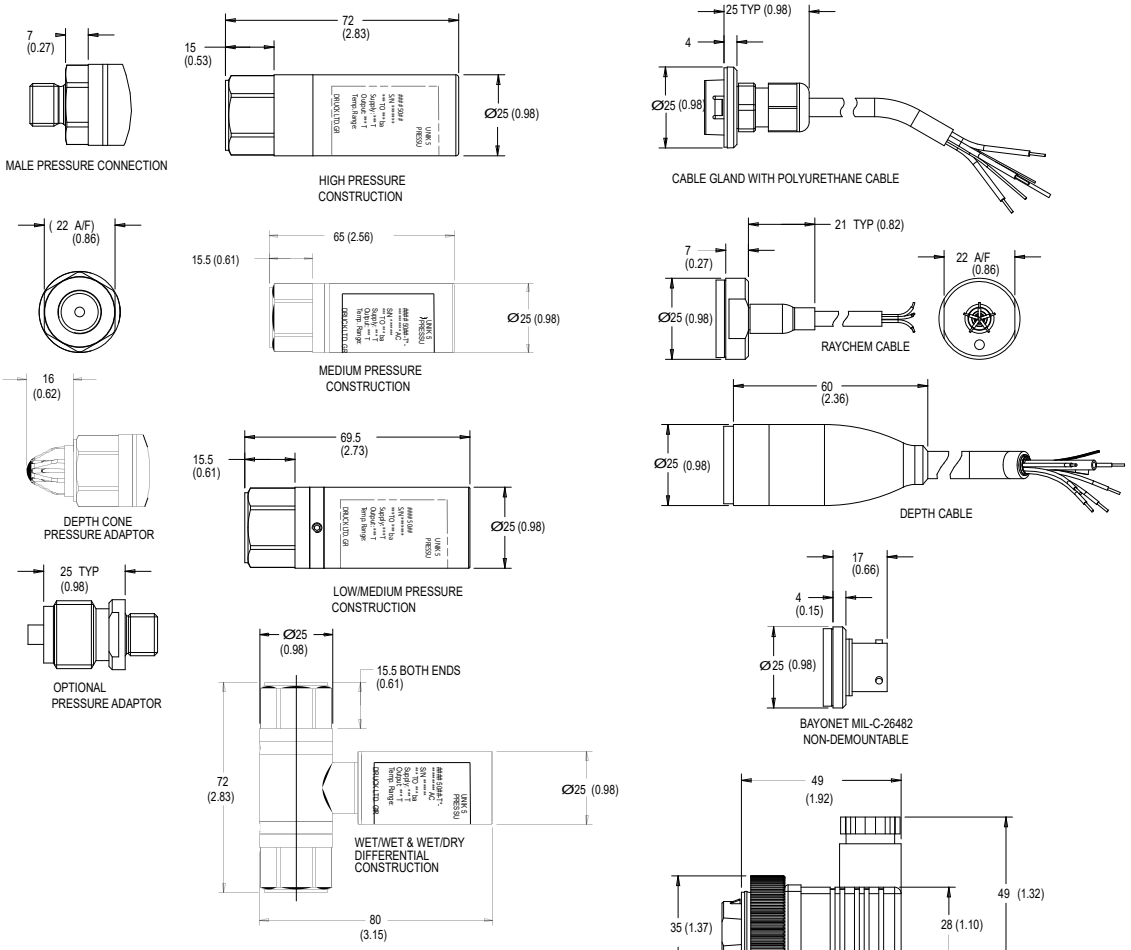
Maximum length 200 m (600 ft)

Example: UNIKCABLE-6-2 5 m

Note 10: Not considered suitable for use in hazardous areas.

Note 11: This cable is the same as that used in the electrical connector cable gland (UNIK5000 electrical connector Option 1).

Mechanical drawings



NOTES:

[1] DIMENSIONS SHOWN ARE FOR STANDARD LENGTH PRODUCTS WITH THE FOLLOWING ELECTRICAL OUTPUT OPTIONS:
- mV LINEARISED (PDCR)
- 4 TO 20 mA (PTX)
- STANDARD VOLTAGE OPTIONS (PMP)
- BASIC CONFIGURABLE (PMP)

FOR mV PASSIVE (PDCR) - SUBTRACT 10 mm (0.39 in)
FOR CONFIGURABLE 4-WIRE AND CONFIGURABLE 3-WIRE (PMP) - ADD 15 mm (0.59 in)

[2] REFER TO PAGE 4 FOR LIST OF PRESSURE CONNECTION OPTIONS (ORIENTATION NOT CRITICAL)

[3] ALL DIMENSIONS ARE IN MILLIMETRES (INCHES IN PARENTHESES)

[4] **HIGH PRESSURE IS >70 BAR**
MEDIUM PRESSURE
INDUSTRIAL ACCURACY >1 BAR TO < 50 BAR
LOW/MEDIUM PRESSURE
INDUSTRIAL ACCURACY < 1 BAR, ≥ 50 BAR TO ≤ 70 BAR
IMPROVED/PREMIUM ACCURACY ≤ 70 BAR

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