


PDCR Series

Type PDCR IS-0069 Pressure Transducer Instruction Manual

UKEX Intrinsically Safe Models

A1

PDCR aaaa-b..b	[1]
### ##### ##	[2]
## Vdc	[3]
### mV	[4]
S/N #####/20##	[5]
DRUCK LTD. GROBY, LE6 0FH, UK	[6]
MADE IN #####	[7]
PDCR IS-0069/#	[8]
Ex ia IIC T4 Ga (-40°C<=Ta<=80°C)	[9]
Ui = ## V Pi = 1 W Ii = ### mA	[10]
Ci = ## µF Li = ## mH	[10]
BAS21UKEX0410X	[11]
UK CA####  II 1 G	[11]

A2

	PDCR IS-0069	PDCR IS-0069/A	PDCR IS-0069/B	PDCR IS-0069/C	PDCR IS-0069/D
Ui (V)	32	32	12	12	24
Ii (mA)	384	384	384	384	261
Pi (W)	1.0	1.0	1.0	1.0	1.0
Ci (µF)	0.030	0.002	1.300	1.300	0.000
Li (mH)	0	0	0	0	0

A3

	PDCR IS-0069	PDCR IS-0069/A	PDCR IS-0069/B	PDCR IS-0069/C	PDCR IS-0069/D
C (µF)					
Gas Group IIC	0.026	0.054	0.110	0.110	0.125
Gas Group IIB	0.445	0.473	7.700	7.700	0.930
Gas Group IIA	1.530	1.558	34.70	34.70	3.350
L (mH)					
Gas Group IIC	0.22	0.22	0.22	0.22	0.50
Gas Group IIB	0.80	0.80	0.80	0.80	2.20
Gas Group IIA	1.80	1.80	1.80	1.80	4.50

Requirements in Hazardous Areas

The original language of these instructions is English.

The data that follows is only applicable to equipment with the specified marking details.

The equipment for use in potentially explosive atmospheres complies with UK Statutory Instruments 2016 No. 1107 regulation (as amended by SI 2019 no. 696).

The applied standards are:

- EN IEC 60079-0: 2018
- EN 60079-11: 2012

Read and understand all the related data before installing and using the equipment. This includes: all local safety procedures and installation standards (for example IEC/EN 60079-14), this document, and the product datasheet or, if applicable, the specification drawing.

Copies of the UKEX type examination certificate are available from the manufacturer.

To install and use the equipment in potentially explosive atmospheres ("hazardous areas"), use only approved engineers who have the necessary skills and qualifications.



WARNING Do not use tools on the transducer that might cause incendive sparks - this can cause an explosion.

Do not do live maintenance while an explosive atmosphere is present - this can cause an explosion. Use a safe work procedure. Refer to "Connections to Other Equipment" for permitted work.

Marking Details

Refer to Figure A1, and the explanation below:

1. Product identifier (PDCR aaaa-b...b).
aaaa: Model number.
b...b: Specification drawing number (if applicable).
2. Pressure range.
3. Supply voltage.
4. Output voltage (optional marking).
5. Serial number and year of manufacture.
6. Certificate holder's name and address.
7. Country of assembly: made in UK/China (UK if omitted).
8. Approved type and variant (* - optional variant letter).
9. Hazardous area markings.
10. Entity parameters (optional marking).
11. UKEX certification markings.

Transducer Materials

The materials used for the primary enclosure and pressure bearing surfaces are identified in the product datasheet or, if applicable, the specification drawing. Make sure the materials are applicable for the installation.

Installation

Before using the equipment, remove the plastic/rubber protection cap from the pressure and electrical connectors

External Temperature Limits

The permitted ambient temperature range for the equipment is -40°C to +80°C. Make sure the process media also stays within these limits.

Position

Attach the equipment in a safe configuration that prevents unwanted stress (vibration, physical impact, shock, mechanical and thermal stresses). Do not install the equipment where it can be damaged by a material that causes corrosion. Provide additional protection for equipment that may be damaged in service.

Ingress Protection

As specified by the certification, the enclosure has a minimum ingress protection (IP) rating of IP20 when correctly installed.

Note: The enclosure can have a higher IP rating - refer to the datasheet or, if applicable, the specification drawing.

When installed, the electrical connectors and wiring must provide the minimum ingress protection rating indicated above.

Some models feature a white PTFE vent filter in the wall of the enclosure. Make sure the vent filter is correctly installed and flush with the enclosure body.

Electrical Connections

To identify the electrical connections, refer to the product datasheet or, if applicable, the specification drawing.

The power supply and signal connections to the pressure transducer must be made through a certified intrinsically safe associated apparatus, where the output current is limited by a resistor (R) such that $I_o = U_o / R$.

The circuit must be intrinsically safe, refer to IEC/EN 60079-25.

Table A2 gives the maximum input voltage (U_i), current (I_i), power (P_i), capacitance (C_i) and inductance (L_i) values for the pressure transducer. The values exclude the capacitance and inductance of any factory-fitted cable.

Table A3 gives the maximum capacitance (C) and inductance (L) of the cable that may be fitted. This includes any factory-fitted cable and any cable fitted by the installer.

The maximum capacitance and inductance of factory-fitted cables supplied with type PDCR IS-0069/" transducers are:

Parameter	Maximum Factory-fitted Cable Value
Capacitance	461 pF/m between all core conductors and the cable screen conductor.
Inductance	1.36 µH/m loop inductance.

Connect the earth/ground connections that are applicable to the installation. If applicable, make sure that the cable screen is isolated from the transducer.

Except for variant PDCR IS-0069/B, the equipment is resistant to an AC test voltage of 500 V RMS as specified in IEC/EN 60079-11.

Connections to Other Equipment

Before connecting a diagnostic device make sure it is certified "intrinsically safe" and that all the electrical connections are intrinsically safe.

Stay within the permitted limits for the electrical system.

Maintenance

Clean the case with a moist, lint-free cloth and a weak detergent.

Repair

Do not do local repairs. Return the equipment to the manufacturer or an approved service agent.

Specific Conditions of Use

1. The apparatus enclosure may be titanium which is considered to be a potential frictional ignition risk. It

- must be mounted such that it is protected from impact or friction.
2. Variant PDCR IS-0069/B of the apparatus will not withstand the 500 V RMS test specified in IEC 60079-11. This must be taken into account during installation.
 3. Do not rub non-metallic parts with a dry cloth or mount in a high velocity dust laden atmosphere.

**Declaration Requirements – UK SI 2016/1107
(as amended by SI 2019/696)**

This equipment is designed and manufactured to meet the essential health and safety requirements not covered by UK-Type Examination Certificate BAS21UKEX0410X when installed as detailed above.

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