

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres  
Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **Baseefa16ATEX0002X – Issue 4**

4 Product: **DPI620G-IS Intrinsically Safe Calibrator and Communicator Series**

5 Manufacturer: **Druck Limited**

6 Address: **Fir Tree Lane, Groby, Leicester, LE6 0FH, UK**

7 This re-issued certificate extends EU Type Examination Certificate No. **Baseefa16ATEX0002X** to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. **See Certificate History**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

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

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

**⊕ II 2G Ex ib IIC T4 Gb (-10°C ≤ T<sub>a</sub> ≤ +50°C)**

SGS Fimko Oy Customer Reference No. **0312**

Project File No. **22/0498**

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Mikko Välimäki  
Authorised Signatory for SGS Fimko Oy

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## Schedule

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### Certificate Number Baseefa16ATEX0002X – Issue 4

#### 15 Description of Product

The DPI620G-IS Intrinsically Safe Calibrator and Communicator Series is designed to be mounted on to the PV62X-IS Series Pressure Station (Certificate Baseefa10ATEX0011X) and to measure, record and to provide a local display of the voltage, current, 2W, 3W and 4W resistance, and thermocouple outputs from intrinsically safe sources. The DPI620G-IS also provides a voltage or current source for a 4-20mA loop pressure transmitter and a simulated thermocouple output. The DPI620G-IS can also source a simulated resistance and measure or provide a frequency source. It may also be used on its own or connected to a MC620-IS Dual Transducer Carrier marked as ‘Part of Baseefa10ATEX0010X’.

The MC620-IS Dual Transducer Carrier just provides the mounting facilities for two PM 620-IS Pressure Transducers (Certificate Baseefa10ATEX0012X) and the electrical connections between the transducer and the DPI620G-IS. It does not contain any source of electrical power.

The PV62X-IS Series Pressure Station is designed to provide a source of pressure for the calibration of a pressure gauge or single pressure transducer. The PV62X-IS Series Pressure Station comprises a hand operated pump for the generation of the source of pressure, the mounting arrangement for a pressure gauge or pressure transducer, the mounting arrangement for the DPI620G-IS and the electrical connections between the DPI620G-IS and the pressure transducer. It does not contain any source of electrical power and may be used without the DPI620G-IS, if required.

DPI620G-IS Intrinsically Safe Calibrator and Communicator Series comprise a range of units which differ by the hardware and software that is fitted to suit the application but the Input / Output Parameters are common to all, as appropriate.

Type Number	Description	Functions Fitted					
		Channel 1 Electrical	Channel 2 Electrical	Pressure Interface	HART	Foundation Fieldbus	Profibus
DPI620G-IS-FFPB	Intrinsically Safe Multifunction Calibrator with Fieldbus, Profibus and HART Communicator	YES	YES	YES	YES	YES	YES
DPI620G-IS-FF	Intrinsically Safe Multifunction Calibrator with Fieldbus and HART Communicator	YES	YES	YES	YES	YES	NO
DPI620G-IS-PB	Intrinsically Safe Multifunction Calibrator with Profibus and HART Communicator	YES	YES	YES	YES	NO	YES
DPI620G-IS	Intrinsically Safe Multifunction Calibrator with HART Communicator	YES	YES	YES	YES	NO	NO
DPI620G-IS-L	Intrinsically Safe Multifunction Calibrator	YES	YES	YES	NO	NO	NO
DPI620G-IS-CHFP	Intrinsically Safe Fieldbus, Profibus and HART Communicator	NO	YES	NO	YES	YES	YES
DPI620G-IS-CHF	Intrinsically Safe Fieldbus and HART Communicator	NO	YES	NO	YES	YES	NO
DPI620G-IS-CHP	Intrinsically Safe Profibus and HART Communicator	NO	YES	NO	YES	NO	YES
DPI620G-IS-CH	Intrinsically Safe HART Communicator	NO	YES	NO	YES	NO	NO

The DPI620G-IS is supplied from a removable rechargeable battery pack, marked as ‘Part of Baseefa16ATEX0002X,’ which contains a single Lithium Ion rechargeable prismatic cell encapsulated within an outer moulded plastic case. Two printed circuit boards contain the recharging terminal protection circuit components and the output current limitation protection components and the assembly is encapsulated within the plastic case. The battery pack is provided with four contacts for recharging in the safe area when removed from the DPI620G-IS and eleven contacts (six are common battery negative) which provide the outputs for the DPI620G-IS when installed. The battery pack terminals all provide a degree of protection of at least IP20, and the output at any of the terminals is intrinsically safe, so the removable rechargeable battery pack may be replaced in a DPI620G-IS Intrinsically Safe Calibrator and Communicator Series within a hazardous area.

The DPI620G Intrinsically Safe Calibrator and Communicator Series comprise four printed circuit boards, two for the power supply circuits, the analogue measurement circuit, and the processor circuits. The two power supply circuit boards are encapsulated in one half of the DPI620G-IS moulded plastic case which also has an external recess for the removable rechargeable battery pack. The remaining two printed circuit boards are mounted in the other half of the DPI620G-IS moulded plastic case along with the LCD display and backlights. The processor circuit board contains a small rechargeable Manganese Lithium button cell to maintain date and time whilst the main battery pack is replaced. The analogue board is provided with external terminals for connection to voltage, current, frequency, resistance and thermocouple inputs from an external intrinsically safe source.

**Input / Output Parameters:**

<b>Channel 1. V/Hz Terminal to Com (or T/C + to -)</b> (Voltage, Frequency, T/C or 2W Resistance, Measure Voltage, Frequency or T/C Source, Resistance Simulate)		<b>Channel 1. mA+/4W Terminal to mA-/3W</b> (Current Mode, Measure or Source)	
$U_i = 30V$	$U_o = 18.9V$	$U_i = 30V$	$U_o = 6.51V$
$I_i = 60mA$	$I_o = 47mA$	$I_i = 100mA$	$I_o = 14mA$
$P_i = 1W$	$P_o = 103mW$	$P_i = 1W$	$P_o = 22mW$
$L_i = 46.2\mu H$	$L_o = 1.57mH$	$L_i = 42.9\mu H$	$L_o = 1.38mH$
$C_i = 15.73nF$	$C_o = 17.2nF$	$C_i = 2.4nF$	$C_o = 30.6nF$
<b>Channel 1. mA+/4W and mA-/3W Terminal to Com</b> (3W Resistance, Measure)		<b>Channel 1. All Four Channel 1 terminals.</b> (4W Resistance, Measure)	
$U_i = 30V$	$U_o = 18.9V$	$U_i = 30V$	$U_o = 18.9V$
$I_i = 60mA$	$I_o = 61mA$	$I_i = 60mA$	$I_o = 61mA$
$P_i = 1W$	$P_o = 125mW$	$P_i = 1W$	$P_o = 125mW$
$L_i = 89\mu H$	$L_o = 1.18mH$	$L_i = 89\mu H$	$L_o = 1.18mH$
$C_i = 18.13nF$	$C_o = 14.8nF$	$C_i = 18.13nF$	$C_o = 14.8nF$
<b>Channel 2. V/mA+ Terminal to mA-/Com</b> (Voltage Measure. Current Mode, Measure or Source) (No connection to the 15Vo Loop Power Terminal)		<b>Channel 2. 15Vo to mA-/Com</b> (Loop Power Terminal)	
$U_i = 30V$	$U_o = 6.51V$	$U_i = 30V$	$U_o = 16.8V$
$I_i = 100mA$	$I_o = 15.8mA$	$I_i = 100mA$	$I_o = 218mA$
$P_i = 1W$	$P_o = 26mW$	$P_i = 26mW$	$P_o = 0.917W$
$L_i = 10\mu H$	$L_o = 1.376mH$	$L_i = 10\mu H$	$L_o = 137\mu H$
$C_i = 2.53nF$	$C_o = 30.47nF$	$C_i = 2.53nF$	$C_o = 30.47nF$
<b>Channel 2. V/mA+, 15Vo Terminals and mA-/Com</b> (Current Mode, Measure or Source. Device Powered from 15Vo. Refer to Operation Manual for connection details)			
No connection to devices with independent power source	$U_o = 16.8V$		
	$I_o = 234mA$		
	$P_o = 0.943W$		
$L_i = 10\mu H$	$L_o = 286\mu H$		
$C_i = 2.53nF$	$C_o = 30.47nF$		

<b>External PV620 / MC620 Connectors</b> (All Four connections on underside of DPI620G-IS)		<b>RTD (RS485) Accessory Interface Socket</b>	
No connection to devices with independent power source	$U_o = 7.9V$ $I_o = 345mA$ $P_o = 0.68W$ $L_i = 44\mu H$ $C_i = 0.462\mu F$	No connection to devices with independent power source	$U_o = 6.51V$ $I_o = 1.34A$ $P_o = 1.16W$ $L_o = 8.4\mu H$ $C_o = 10.08\mu F$
	$L_o = 91\mu H$ $C_o = 3.9\mu F$	$L_i = 0$ $C_i = 2.42\mu F$	

The DPI 620G-IS Advanced Modular Calibrator must only be fitted with the removable rechargeable battery pack certified and marked as “part of” this certificate, so input / output parameters are not quoted for this item.

**16 Report Number**

See Certificate History

**17 Specific Conditions of Use**

1. The DPI620G-IS USB Client Connection must only be connected to external apparatus within a Safe Area with  $U_m = 254V$ .
2. When a remote sensor is powered using the Channel 2, 15V,  $U_o$  loop supply, the remote sensor must be disconnected from all other sources of power.
3. The Channel 2, V terminals can be connected to a FISCO System if the power for the system is provided from the DPI620G-IS Channel 2, 15V,  $U_o$  loop supply and the electrical parameters of the field devices are compatible with those of the DPI620G-IS.
4. The DPI620G-IS should not be connected to a powered FISCO system unless its defined electrical parameters are compatible with the DPI620G-IS.
5. If the Channel 1 Terminals and the Channel 2 Terminals are used together then they must always be connected as separate Intrinsically Safe Circuits.
6. The rechargeable battery pack may be removed from or replaced in a DPI620G-IS within a hazardous area
7. The rechargeable battery pack must be removed from the DPI620G-IS for recharging in the safe area using only the Socket 3 charging contacts and the Druck charger with  $U_m = 254V$ . No connections must be made to the IS outputs.
8. Both the MC620-IS Dual Transducer Carrier, or the PV62X-IS Series Pressure Station have a location for either one or two transducers which screw into the pressure connection and the two slip rings on the lower face of a transducer make contact with two spring loaded pins. When either a MC620-IS Dual Transducer Carrier, or the PV62X-IS Series Pressure Station is connected to a DPI620G-IS Advanced Modular Calibrator, these pins are energised and do not meet the requirements of at least IP20. Therefore, it is a requirement of certification that before either the MC620-IS Dual Transducer Carrier or the PV62X-IS Series Pressure Station is connected to the DPI620G-IS Advanced Modular Calibrator, a PM620-IS Transducer or a metallic Dummy Pressure Transducer is screwed into any vacant positions and remains in position until the assembly is removed from the DPI620G-IS Advanced Modular Calibrator.

## 18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

## 19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
X-A3-0364	1	B	16-NOV-22	MC620-IS General Assembly
113M0993*	1 to 3	B	16-NOV-22	DPI620G-IS Battery Pack General Assembly – Baseefa
113M7579	1 to 4	A	02 SEP 2022	DPI620G-IS LCD FlexiPCB Gerbers (Baseefa)
113M4021	1 & 2	A	30-NOV-22	DPI620G-IS Enclosure Drawing - Baseefa
113M7972	1 of 2	B	16-NOV-22	DPI620G-IS Glass Display General Assembly - Baseefa

\*This drawing is also associated with BAS21UKEX0412X Issue 1.

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
<b>Battery Pack</b>				
112M3828	1 & 2	-	16 May 16	DPI620G-IS Battery Pack Certification Sch (Baseefa)
112M5261	1 to 4	A	17-Jun-16	DPI620G-IS Battery Pack Gerbers (Baseefa)
112M3895	1 to 5	A	17-Jun-21	DPI620G-IS Bill of Materials 620G-IS-Battery Pack (Baseefa)
<b>PSU Card</b>				
112M2820	1 to 8	-	19 May 16	DPI620G-IS Power Supply Schematic (Baseefa)
112M3246	1 to 8	-	19 May 16	DPI620G-IS Power Supply Board Bill of Materials (Baseefa)
112M5259	1 to 11	A	17-Jun-16	DPI620G-IS PSU Gerbers (Baseefa)
113M1284	1 to 2	-	23-May-16	DPI620G-IS PSU Board General Assembly - Baseefa
<b>Analogue Card</b>				
112M5552	1 to 15	A	17-Jun-16	DPI620G-IS Ana Card Gerbers (Baseefa)
112M5553	1 to 30	A	14-Jun-16	DPI620G-IS Analogue Card Sch (Baseefa)
112M5555	1 to 11	C	18 Feb 20	DPI620G-IS Analogue Card Bill of Materials (Baseefa)
113M3700	1 of 1	A	17-Jun-16	DPI620G-IS Analogue Board General Assembly – Baseefa
116M0690	1 of 1	-	17-Jun-16	DPI620G-IS Communicator Analogue Bd GA – Baseefa
<b>Processor Card</b>				
113M0502	1 to 19	A	17-Jun-16	DPI620G-IS Proc Card Gerbers (Baseefa)
113M0503	1 to 13	C	18 Feb 20	DPI620G-IS Processor Board Bill of Materials (Baseefa)
113M0504	1 to 25	-	25 Feb 16	DPI620G-IS Processor Card Sch (Baseefa)

Number	Sheet	Issue	Date	Description
113M1305	1 of 1	-	23-May-16	DPI620G-IS Processor Board General Assembly – Baseefa
<b>Enclosure</b>				
111M7566	1 & 2	B	28-May-20	DPI620G-IS General Assembly – Baseefa
113M3474	1 of 1	B	21-Jun-16	DPI620G-IS Analogue Board Insulating Sheet - Baseefa
113M3475	1 of 1	-	24-May-16	DPI620G-IS PSU Board Insulating Sheet - Baseefa
113M7578	1 to 3	A	10 Jun 16	DPI620G-IS Unit Flexi-PCBs Gerbers (Baseefa)
113M9531	1 of 1	-	24-May-16	DPI620G-IS PSU Board Insulation Pad - Baseefa
114M0787	1 of 1	-	24-May-16	DPI620G-IS RTD General Assembly – Baseefa
114M4992	1 of 1	-	07 Apr 16	DPI620G-IS Flexi-PCB Interconnect (Baseefa)
114M5433	1 & 2	A	16-Jun-16	DPI620G-IS Unit and Battery Label
116M0454	1 & 2	-	16-Jun-16	DPI620G-IS Communicator Glass Display GA - Baseefa
<b>MC620-IS Assembly</b>				
X-A3-0390	1	1	08/07/10	MC620-IS Transducer Loom
X-A3-0393	1	1	08/07/10	MC620-IS Enclosure Drawing
X-A4-0384	1	1	08/07/10	MC620-IS DPI Connector Circuit Diagram
X-A4-0385	1	1	08/07/10	MC620-IS DPI Connector PCA Components
X-A4-0386	1	1	08/07/10	MC620-IS DPI Connector PCB Tracks
X-A4-0387	1	1	08/07/10	MC620-IS PM Connector Circuit Diagram
X-A4-0388	1	1	08/07/10	MC620-IS PM Connector PCA Components
X-A4-0389	1	1	08/07/10	MC620-IS PM Connector PCB Tracks

All drawings are associated and held with IECEx BAS 16.0010X Issue 4.

## 20 Certificate History

Certificate No.	Date	Comments
Baseefa16ATEX0002X	29 June 2016	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0: 2012 + A11: 2013 and EN 60079-11: 2012 is documented in Certification Report No. GB/BAS/ExTR16.0018/00 (held with IECEx Certificate No. IECEx BAS 16.0010X), Project File No. 14/0714.
Baseefa16ATEX0002X Issue 1	5 April 2018	To permit the fitting of alternative Real Time Clock (RTC) backup batteries on the processor board. This change does not affect the original assessment of the equipment. The associated test and assessment is documented in Certificate Report No. GB/BAS/ExTR18.0065/00 (held with IECEx Certificate No. IECEx BAS 16.0010X Iss. 1), Project File No. 17/0839.
Baseefa16ATEX0002X Issue 2	25 August 2020	To correct typographical errors on the BOM and permit alternative components to be fitted to the equipment due to obsolescence. The variation also included a standard update of the equipment to the current edition of EN IEC 60079-0: 2018 and transfer of the MC620-IS accessory certification to be included under this product. The associated test and assessment is documented in Certificate Report No. GB/BAS/ExTR20.0089/00 (held with IECEx Certificate No. IECEx BAS 16.0010X Iss. 1), Project File No. 18/0547.
Baseefa16ATEX0002X Issue 3	14 July 2022	To permit the use of an alternative cell type in the Battery Pack. Test Report No. GB/BAS/ExTR22.0121/00. Project File No. 21/0117.

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<b>Certificate No.</b>	<b>Date</b>	<b>Comments</b>
Baseefa16ATEX0002X Issue 4	13 February 2023	To permit the use of alternative materials and an alternative display assembly. Test Report No. GB/BAS/ExTR22.0196/00. Project File No. 22/0498.
For drawings applicable to each issue, see original of that issue.		