

[1]

EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment and Protective System intended for use in potentially explosive atmospheres
Directive 2014/34/EU – Annex III**

[3] Certificate Number: **EPT 17 ATEX 2622 X** Issue 0

[4] Equipment: **Smart diagnostic control unit**

Series: **SDCU-20**

[5] Manufacturer: **DVG AUTOMATION S.p.A.**

[6] Address: **Via G. Rossetti, 2 – 29016 Cortemaggiore (PC) - Italia**

[7] This equipment and its accepted variations are specified in the annex to this Certificate.

[8] Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in the confidential Report N° EPT.17.REL.02/54814


[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the standards:

EN 60079-0:2012+A11:2013, EN 60079-1:2014

[10] If the sign "X" is placed after the Certificate number, it indicates that the equipment is subject to the special conditions for safe use specified in the annex to this Certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.

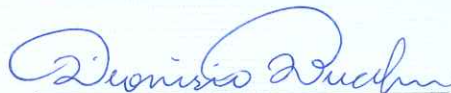
Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment. These requirements are not object of this Certificate.

[12] The equipment shall include the sign  and the following string:

II 2G Ex db IIC T5 Gb

-40°C ≤ Ta ≤ +85°C

Place and date of issue:
Torino, 2017-04-28



Dionisio Bucchieri
Directive Responsible



Paolo Trisoglio
Managing Director



SGQ N° 133A
PRD N° 119B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
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This Certificate has 6 pages and it is reproducible only in its entirety. Conditions of validity are reported below.



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[15] Equipment description

The smart diagnostic control unit is an electronic device designed to test and control process valves in oil and gas industry.

The enclosure can be made of aluminium or stainless steel.

The equipment has the type of protection Ex d (EPL Gb) and it is suitable for group IIC.

Although the internal components are already protected by a flameproof enclosure, up to six intrinsically safe limit switches can be additionally provided. In this case, each switch must be connected separately to an already ATEX certified intrinsically safe associated apparatus with suitable safety related parameters.

The equipment can be equipped with up to six separated limit switches.

The accessories used for cable entries and for unused holes must be subjected to a separate certification according to the applicable standards.

Degree of protection: IP66 / IP 68 (2h submersed at a depth of 1m).

The SDCU-20 code is 18 characters long, each character from 0 to 9 and from A to Z.

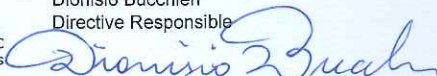
The table below shows the options of each character:

CODE	ADC	4	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDCU-20 DEVICE: XDC																	
SDCU-20-LS (LIMIT SWITCH KIT) :																	
WITHOUT SW KIT		0															
WITH MECHANICAL SW, 1+1 SPDT, ITW 19N SERIES		1															
WITH MECHANICAL SW, 2+2 SPDT, ITW 19N SERIES		2															
WITH MECHANICAL SWITCH 22-304		3															
WITH MAGNETIC REED SWITCH BMSD-22-30		4															
WITH NAMUR INDUCTIVE SWITCH IB-1000		5															
WITH MAGNETIC REED SWITCH BMSD-21-30		6															
WITH NAMUR INDUCTIVE SWITCH NJ2-12GK-SN		7															
WITH MAGNETIC SWITCH GO 11		8															
WITH MAGNETIC SWITCH GO 81		9															
WITH MAGNETIC SWITCH GO 21		A															
WITH MAGNETIC SWITCH GO 31		B															
WITH MAGNETIC SWITCH NOVA V3 N1		C															
WITH MAGNETIC SWITCH NOVA V3, N3		D															
SPARE		-															
ENCLOSURE:																	
DIE-CAST ALUMINIUM – NBR ELASTOMERS			A														
DIE-CAST ALUMINIUM – FLUOROSILICONE ELASTOMERS			C														
STAINLESS STEEL – NBR ELASTOMERS			X														
STAINLESS STEEL – FLUOROSILICONE ELASTOMERS			Y														



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Issue 0

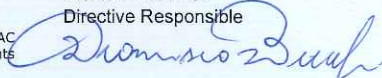


CODE	ADC	4	A	2	1	4	0	0	-	-	-	-	-	-	-
SDCU-20 DEVICE: XDC															
CABLE ENTRIES:															
No. 2 ISO M20x1.5				2											
No. 3 ISO M20x1.5				3											
No. 4 ISO M20x1.5				4											
No. 5 ISO M20x1.5				5											
No. 6 ISO M20x1.5				6											
No. 2 1/2" NPT				A											
No. 3 1/2" NPT				B											
No. 4 1/2" NPT				C											
No. 5 1/2" NPT				D											
No. 6 1/2" NPT				E											
No. 2 3/4" NPT				V											
No. 3 3/4" NPT				W											
No. 4 3/4" NPT				X											
No. 5 3/4" NPT				Y											
No. 6 3/4" NPT				Z											
4-20 mA I/O + HART COMM. CHANNEL:															
NOT USED				0											
24VDC / 4-20MA POSITION FEEDBACK				1											
24VDC / 4-20MA POSITION FEEDBACK + HART COMM.				2											
4-20MA INPUT				3											
4-20MA INPUT + HART COMM.				4											
DIGITAL INPUT DI1:															
NOT USED				0											
OPEN CMD				1											
CLOSE CMD				2											
PST CMD				3											
LOCAL PST PUSHBUTTON				4											
GENERAL I/O:															
NOT USED							0								
IF CONFIGURED AS 4-20MA OUT:							1								
PRESSURE RETRANSMISSION							2								
POSITION RETRANSMISSION							3								
IF CONFIGURED AS DIGITAL INPUT DI2:							4								
OPEN CMD							5								
CLOSE CMD															
PST CMD															
OUTPUT RELAY AND PRESSURE TRANSMITTER:															
OUT RELAY = NOT USED,							0								
PRESSURE TRANSM. = NOT PRESENT							1								
OUT RELAY = NOT USED,							3								
PRESSURE TRANSM. = PRESENT							4								
OUT RELAY = ALARM CONTACT,							5								
PRESSURE TRANSM. = NOT PRESENT							6								
OUT RELAY = ALARM CONTACT,															
PRESSURE TRANSM. = PRESENT															
OUT RELAY = REDUNDANT SIS,															
PRESSURE TRANSM. = NOT PRESENT															
OUT RELAY = REDUNDANT SIS,															
PRESSURE TRANSM. = NOT PRESENT															


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Issue 0



CODE	ADC	4	A	2	1	4	0	0	0	1	0	0	X	X	X
OUTPUTS TO DRIVE SOV'S A AND B AND MOTOR OF PUMP: WITHOUT SOV A AND SOV B AND PUMP WITH ONLY SOV A, OPEN / CLOSE CMD WITH ONLY SOV B, OPEN / CLOSE CMD WITH SOV A AND SOV B, SOV A OPENS AND SOV B CLOSES WITH SOV A AND SOV B, SOV A CLOSES AND SOV B OPENS WITH PUMP COMMAND (OUT SOV A) WITH PUMP COMMAND (OUT SOV B)										0 1 2 3 4 5 6					
PST CMD: PST CMD DISABLED PST CMD OPERATES ESD SOV PST CMD OPERATES SOV A PST CMD OPERATES SOV B PST CMD OPERATES SOV A AND SOV B										0 1 2 3 4					
24VDC POWER: WITHOUT 24VDC POWER WITH 24VDC POWER WITH 24VDC POWER, SAME OF 24VDC HART WITH 24VDC POWER, SAME OF 24VDC SIS WITH 24VDC POWER, SAME OF 24VDC HART AND 24VDC SIS										0 1 2 3 4					
OPTIONS: WITHOUT ANY OPTION WITH SDCU-20-LOI WITH NCF ADAPTER WITH SDCU-20-LOI + NCF ADAPTER COMPACT ELECTRO-HYDRAULIC ACTUATOR WITH LCP A WITH LCP B WITH LCP A + NCF ADAPTER WITH LCP B + NCF ADAPTER SPARE											0 1 2 3 4 5 6 7 8 9				
WIRING DIAGRAM:													X	X	X

Electrical characteristics

Maximum voltage: 250 Vac/Vdc

Maximum Limit Switch current: 16 A

Maximum power dissipation: 5 W

For intrinsically safe limit switches, the safe input parameters are:

 $U_i=30V$; $I_i=120\text{ mA}$; $P_i=0.9W$; $L_i=0\text{ }\mu\text{H}$; $C_i=0\text{ }\mu\text{F}$;

Cable entries

The equipment can be provided with maximum 6 entries type 3/4" NPT or 1/2" NPT or M20x1.5.

The cable entry devices used on the enclosures have to be suitably IEC Ex certified. They have to be chosen according to the type of protection, the type of thread and the degree of protection of the equipment.

The accessories used for cable entries and for unused holes have to be subjected to a separate certification according to IEC 60079-1.

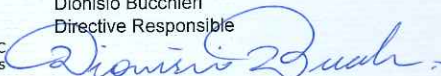
Screws

The used screws comply with quality A4-70.


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EU-TYPE EXAMINATION CERTIFICATE N. EPT 17 ATEX 2622 X Issue 0
Warning label

WARNING – Do not open in presence of explosive atmosphere.

WARNING – Do not open while energized

WARNING – Potential electrostatic charging hazard - clean with dump cloth or antistatic products

WARNING – Flameproof joints cannot be repaired

WARNING - Use n°6 screws quality A4-70

Routine tests

N/A

[16] Assessment Report n° EPT.17.REL.02/54814

This EU-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards listed in this Certificate; performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

[17] Special condition for a safe use

Use screws quality A4-70

[18] Essential Health and Safety Requirements

Assured by compliance with harmonized standards.

[19] Descriptive documents

The equipment objects of this Certificate is described by the following documents.

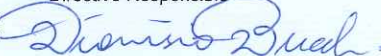
Scheduled documents are indicated with the symbol "✓". They cannot be modified without the explicit authorization of the Notified Body.

Document	Name	Rev.	Date	Scheduled
CORPO LSB LAVORATO	DSBE0A01030	3	2017-04-28	✓
COPERCHIO LAVORATO LSB	DSBE0A02010	3	2014-05-28	✓
Boccola stelo	DSBE0B00010	0	2013-03-06	✓
Stelo cassetta micro SDCU-20	DSBE0X03014	0	2016-09-28	✓
VTC UNI5931(ISO 4762)-M8X30 A4-70 0	DVTC008030A0S0	0	2013-09-03	✓
Drawing of pcb	LSB2	0	2015-11-01	✓
Drawing of pcb	LSB4	0	2015-11-01	✓
Drawing of pcb	LSB5	0	2015-11-01	✓
Drawing of pcb	LSB6	0	2015-11-01	✓
Drawing of pcb	ITW22PCB	0	2015-11-01	✓
Marking label "db"	DTRG00000781	0	2017-03-10	✓
Warning label	DTRG00000506	1	2017-03-14	✓
Installation set-up operating & service manual	IOM-SDCU-20-01	01	2017-04-28	✓


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Document	Name	Rev.	Date	Scheduled
Assembly drawing	SDCU-20	0	2016-12-07	-
Coperchio indicatore	DSBE0P05210	0	2013-03-25	-
Indicatore di posizione open verde	DSBE0P05111	2	2016-02-24	-
Indicatore di posizione close rosso	DSBE0P05112	2	2016-02-24	-
Oscuratore	DSBE0P05310	0	2013-03-19	-
Anello di spinta coperchio	DSBE0X07010	0	2016-04-20	-
Forcella di sostegno	DSBEFOR0001	0	2016-09-09	-
OR 2325 W=1.78 Di=82.27-FLR 70 Shore	COR0A02325C0	0	2016-12-07	-
OR 2562 W=1.78 Di=142.11-FLR 70 Shore	COR0A02562C0	0	2016-12-06	-
OR incollato W=1.78 Di=150 FLR 70 Shore	COR0ADIS09C0	0	2016-12-06	-
SDCU-20 I/O interface card	DLSBPC000001	0	2017-02-06	-
SDCU-20 Main card	MSBI0R0PC0001	0	2017-02-06	-
Limit sw. card with 2+2 spdt magnetic reed switches and terminals	MSBE0R0PC1061	0	2016-12-07	-
Assieme sensore di posizione	MSBE0P06000	0	2017-02-07	-
Assieme stelo SDCU-20	MSBE0P04091	0	2017-02-07	-
Assieme camma micro PST 2 DPDT JET reed DVG AUTOMATION	MSBE0P04020	0	2017-02-07	-

[20] Terms and conditions

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

The following conditions may render this certificate invalid:

- changes in the design or construction of the product;
- changes or amendments to the 2014/34/EU Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.

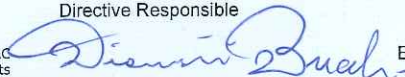
[21] Certificate History

This Certificate is at its first issue.


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End of Certificate

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