



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX TUN 21.0016X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-12-07
Applicant: **ARCA-REGLER GmbH**
Kempener Straße 18
47918 Tönisvorst
Germany
Equipment: **Electropneumatic positioner ARCAPRO 827A.ab-cde-fg0-h-i**
Optional accessory:
Type of Protection: **Intrinsic safety "i"**
Marking: Ex ia IIC T6/T4 Gb, Ex ic IIC T6/T4 Gc

Approved for issue on behalf of the IECEx
Certification Body:

Thomas Heinen

Position:

Deputy Head of the IECEx Certification Body

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany





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Manufacturer: **ARCA-REGLER GmbH**
Kempener Straße 18
47918 Tönisvorst
Germany

Additional
manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/TUN/ExTR21.0018/00](#)

Quality Assessment Report:

[DE/TUN/QAR21.0001/00](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Electropneumatic positioner ARCAPRO 827A.ab-cde-fg0-h-i with options (for details see attachment)

SPECIFIC CONDITIONS OF USE: YES as shown below:

1.	The capacitance of the labels exceeds the allowed value of 3 pF. Operating instructions must be observed.
2.	The electro-pneumatic positioner ARCAPRO 827A with type code (b = X) and (f = M, E) can also be operated with clean, dry, natural gas in locations where pressurized air is not readily available. As a requirement for operation with natural gas all inserted electronics of the ARCAPRO 827A, including optional modules, must comply with the available safety requirements protection type "Ex ia" and an electric connection with protection level "ia". Sufficient ventilation for this operating condition must be ensured to avoid a Zone 0 atmosphere around the device. Operating instructions must be adhered to.

Annex:

[Attachment to IECEX TUN 21.0016X Issue No. 00.pdf](#)

General product information:

The electropneumatic positioners ARCAPRO type 827A.ab-cde-fg0-h-i are used to control valves resp. flap positions of pneumatic actuators in hazardous locations.

The electropneumatic positioners ARCAPRO type 827A.ab-cde-fg0-h-i can be equipped with the following options:

Binary Module	6DR4004-6A
Slot-type Initiator Module	6DR4004-6G
Contact Module	6DR4004-6K
Analog Module	6DR4004-6J
EMC Module	6DR4004-6F
Internal NCS Module	6DR4004-5LE
OPOS Interface	6DR4004-5PB

827A	E	2	-	A	0	H	-	M	1	0	-	G	-	LT
[1]	[2]	[3]	-	[4]	[5]	[6]	-	[7]	[8]	[9]	-	[10]	-	[11]

1. Series	
827A.	
2. Explosion protection ¹⁾	
E	not explosion protected
X	explosion protected "ia" ^{1) 2)}
3. Basic device connection	
2	2-wire
4	2/3/4-wire ³⁾
4. Analogue output	
0	without analogue output
A	analog module
5. Binary output	
0	without binary output
B	Binary module
S	Slot-type initiator module
K	Contact module
6. Communication	
0	without communication
H	HART
P	PROFIBUS PA
F	Foundation Fieldbus
7. Housing material	
M	Aluminium (single-acting only)
E	Stainless steel
8. Pneumatics	
1	single-acting
2	double-acting (except aluminium housing)
9. Mechanical actuator	
0	Standard
2	without (EMC module)
10. Connecting thread electrical/pneumatic	
G	M20x1.5 / G 1/4
N	½" NPT / ¼" NPT
M	M20x1.5 / ¼" NPT
P	½" NPT / G ¼
Q	M25x1.5 / ¼" NPT (Ex d only)
R	M12 plug for input signal / G 1/4

S	M12 plug for input signal / 1/4" NPT
11. Options	
FIP	Fail In Place ⁴⁾
LT	- 40 °C ⁴⁾
SA	M12 plug for analogue module
SB	M12 plug for binary module
SS	M12 plug for slot-type initiator module
SW	M12 plug for external displacement sensor

¹⁾ ATEX approval, other approvals on enquiry

²⁾ with HART communication, 2/3/4-wire only

³⁾ except PROFIBUS PA and Foundation fieldbus

⁴⁾ on enquiry

Maximum permissible electrical ratings:

Basic electronics, 2-wire, without HART type ARCAPRO 827A. a2-cd0-fg0-h-i					
Auxiliary power supply / control current 4...20 mA Terminals 6(+) and 7/8(-)	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	30 V	100 mA	1 W	11 nF	209 μ H
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
30 V	100 mA		11 nF	209 μ H	
Digital input Terminals 9(+) and 10(-) Galvanically connected to auxiliary power supply / control current	Jumpered or connected to switch contact				

Basic electronics, 2/3/4-wire, with HART type ARCAPRO 827A. a4-cdH-fg0-h-i					
Auxiliary power supply / control current 4...20 mA <ul style="list-style-type: none"> • Jumper between terminal 6 and 4/5 • Control current connection Terminals 3(+) and 7/8(-) 3/4-wire basic device with HART Auxiliary power supply 18...30 V Terminals 2(+) and 4/5(-)	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	30 V	100 mA	1 W	11 nF	312 μ H
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
30 V	100 mA		11 nF	312 μ H	
Digital input Terminals 9(+) and 10(-) Galvanically connected to auxiliary power supply / control current	Jumpered or connected to switch contact				

Basic electronics Profibus (PA) communication, type ARCAPRO 827A. ab-cdP-fg0-h-i or Foundation Fieldbus (FF) communication, type ARCAPRO 827A. ab-cdF-fg0-h-i				
PA/FF bus circuit Terminals 6(+) and 7(-)	Type of protection: Ex ia only for supply with a certified FISCO power supply maximum values			
	U_i	I_i	P_i	C_i
	17.5 V	380 mA	5.32 W	(*1)
	Type of protection: Ex ia only for supply with a certified barrier maximum values			
	U_i	I_i	P_i	C_i
	24 V	250 mA	1.2 W	(*1)
	Type of protection: Ex ic only for supply with a certified FISCO power supply maximum values			
	U_i	I_i		C_i
	17.5 V	570 mA		(*1)
	Type of protection: Ex ic only for supply with a certified barrier maximum values			
U_i			C_i	
32 V			(*1)	
Safe input Terminals 81(+) and 82(-) Galvanically isolated from PA/FF bus circuit and digital input	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values			
	U_i	I_i	P_i	C_i
	30 V	100 mA	1 W	(*1)
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values			
	U_i	I_i		C_i
30 V	100 mA		(*1)	
Digital input Terminals 9(+) and 10(-) Galvanically connected to auxiliary power supply / control current	Jumpered or connected to switch contact			

Explanation:

(*1 : values negligibly small

Binary Module - 6DR4004-6A					
Digital output circuits Terminals 31(+) and 32(-) 41(+) and 42(-) 51(+) and 52(-) Galvanically safe isolated from each other	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	15 V	25 mA	64 mW	5.2 nF	(*1)
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	15 V	25 mA	5.2 nF	(*1)	
Digital input circuits Terminals 11(+) and 12(-) Galvanically safe isolated from digital outputs and basic device Terminals 21(+) and 22(-) Jumpered, galvanically not isolated from basic device	Type of protection : Ex ia or Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i			C_i	L_i
	25.2 V			(*1)	(*1)

Explanation:

(*1 : values negligibly small

Slot-type Initiator Module - 6DR4004-6G					
Digital output (fault signal) Terminals 31(+) and 32(-)	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	15 V	25 mA	64 mW	5.2 nF	(*1)
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	15 V	25 mA	5.2 nF	(*1)	
Digital outputs (slot initiators) Terminals 41(+) and 42(-) 51(+) and 52(-)	Type of protection : Ex ia or Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	15 V	25 mA	64 mW	161 nF	120 μ H

Explanation:

(*1 : values negligibly small

Contact Module - 6DR4004-6K					
Digital output (fault signal) Terminals 31(+) and 32(-)	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	15 V	25 mA	64 mW	5.2 nF	(*1)
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	15 V	25 mA		5.2 nF	(*1)
Digital outputs Terminals 41(+) and 42(-) 51(+) and 52(-)	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	30 V	100 mA	750 mW	(*1)	(*1)
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	30 V	100 mA		(*1)	(*1)

Analog Module - 6DR4004-6J					
Current output Terminals 61(+) and 62(-) Galvanically isolated from alarm module and basic device	Type of protection: Ex ia only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i	P_i	C_i	L_i
	30 V	100 mA	1 W	11 nF	(*1)
	Type of protection: Ex ic only for the connection to certified intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	30 V	100 mA		11 nF	(*1)

Explanation:
(*1 : values negligibly small

EMC Module - 6DR4004-6F				
Connection module with filter elements	Type of protection: Ex ia or Ex ic supplied via basic device with Profibus PA or Foundation Fieldbus FF			
	U_o	I_o	P_o	C_o
	5 V	static: 75 mA short-time: 160 mA	120 mW	1 μ F
	Type of protection: Ex ia or Ex ic for supply via the other basic devices type ARCAPRO 827A. ab-cde-fg0-h-l (e=0 oder H)			
	U_o	I_o	P_o	C_o
5 V	100 mA	33 mW	1 μ F	

Maximum permissible ambient temperature ranges :

ARCAPRO type 827A.ab-cde-fg0-h-i with types of protection Ex ia/ic		
	Temperature class T4	Temperature class T6
with the data (c = 0, A)	$-30\text{ °C} \leq T_a \leq +80\text{ °C}$	$-30\text{ °C} \leq T_a \leq +50\text{ °C}$
with the data (f = M, E) and (c = 0, A) and (i = LT)	$-40\text{ °C} \leq T_a \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +50\text{ °C}$
with the data (b = 2, 4), (e = 0, H) and (c = 0) and for T6: (d =0, B, S, K)	$-30\text{ °C} \leq T_a \leq +80\text{ °C}$	$-30\text{ °C} \leq T_a \leq +60\text{ °C}$
with the data (f = M, E), (b = 2, 4), (e = 0, H), (c = 0) and (i = LT) and for T6: (d =0, B, S, K)	$-40\text{ °C} \leq T_a \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$

“Specific Conditions of Use” / “Schedule of Limitations”:

1. The capacitance of the labels exceeds the allowed value of 3 pF.
Operating instructions must be observed.
2. The electro-pneumatic positioner ARCAPRO 827A with type code (b = X) and (f = M, E) can also be operated with clean, dry, natural gas in locations where pressurized air is not readily available.

As a requirement for operation with natural gas all inserted electronics of the ARCAPRO 827A, including optional modules, must comply with the available safety requirements protection type “Ex ia” and an electric connection with protection level “ia”.

Sufficient ventilation for this operating condition must be ensured to avoid a Zone 0 atmosphere around the device.

Operating instructions must be adhered to.