



Translation

(1) **EU-Type Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** TÜV 12 ATEX 085253 X **Issue:** 03

(4) for the product: Electropneumatic positioner ARCAPRO type 827A

(5) of the manufacturer: **ARCA-REGLER GmbH**

(6) Address: Kempener Str. 18
47918 Tönisvorst
Germany

Order number: 8003048873

Date of issue: See signature

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 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.

The examination and test results are recorded in the confidential ATEX Assessment Report No. 22 203 329591.

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

EN IEC 60079-0:2018/AC:2020-02


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 for 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 equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:

 II 2 G Ex ia IIC T6...T4 Gb
II 3 G Ex ic IIC T6...T4 Gc

TÜV NORD CERT GmbH, Am TÜV 1, 45307 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The deputy head of the notified body

(13) **SCHEDULE**

(14) **EU-Type Examination Certificate TÜV 12 ATEX 085253 X Issue 03**

(15) **Description of product**

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

The electropneumatic positioners ARCAPRO type 827A.ab-cde-fgh-i-j 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

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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	
E	without
X	Ex i (IS)

3. Basic device connection	
2	2-wire
4	2/3/4-wire

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

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9. Position detection	
0	Standard (mechanical actuator)
1	internal NCS module
2	without (EMC module)

10. Connecting thread electrical/pneumatic	
G	M20x1.5 / G 1/4
N	1/2" NPT / 1/4" NPT
M	M20x1.5 / 1/4" NPT
P	1/2" NPT / G 1/4
R	M12 plug for input signal / G 1/4
S	M12 plug for input signal / 1/4"-18 NPT

11. Options Z	
FIP	Fail In Place
LT	- 40 °C
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
NG	operation with natural gas

Maximum permissible electrical ratings:

Basic electronics, 827A.X2...					
2-wire, 4...20 mA, without HART communication					
Marking on the PCBA: C73451-A430-L250 or A5E49830025					
Auxiliary power supply / control current 4...20 mA <ul style="list-style-type: none"> Terminals 6(+) and 7/8(-) if PCBA C73451-A430-L250 Terminals 6(+) and 7(-) if PCBA A5E49830025 	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 µH
	Type of protection: Ex ic only for the connection to intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	30 V	100 mA		11 nF	209 µH
Digital input <ul style="list-style-type: none"> Terminals 9(+) and 10(-) Jumpered or connected to switch contact Galvanically connected to auxiliary power supply / control current 					

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Basic electronic 827A.X2-**H... 2-wire, 4...20 mA, HART communication Marking on PCBA: A5E50576243					
Auxiliary power supply / control current 4...20 mA <ul style="list-style-type: none"> Terminals 6(+) and 7 	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 intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	30 V	100 mA		11 nF	209 μ H
	Digital input <ul style="list-style-type: none"> Terminals 9(+) and 10(-) Jumpered or connected to switch contact Galvanically connected to auxiliary power supply / control current 				

Basic electronic 827A.X4-**H... 2- / 3- / 4- wire, 4...20 mA, HART communication Marking on PCBA No. C73451-A430-L200					
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(-) 	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 intrinsically safe circuits maximum values				
3/4-wire basic device with HART <ul style="list-style-type: none"> Auxiliary power supply 18...30 V Terminals 2(+) and 4/5(-) 	U_i	I_i		C_i	L_i
	30 V	100 mA		11 nF	312 μ H
	Control current 4...20 mA <ul style="list-style-type: none"> Terminals 6(+) and 7/8(-) 4-wire: auxiliary power supply and control current electrical isolated 3-wire: common base point terminals 4/5 and 7/8 				
Digital input <ul style="list-style-type: none"> Terminals 9(+) and 10(-) Jumpered or connected to switch contact Galvanically connected to auxiliary power supply / control current 					

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Basic electronics Profibus (PA) communication, 827A.**-**P... Marking on PCBA No. A5E00095037 Foundation Fieldbus (FF) communication, 827A.**-**F... Marking on PCBA No. A5E00164801				
PA/FF bus circuit <ul style="list-style-type: none"> 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 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 barrier maximum values			
U_i			C_i	
32 V			(*1)	
Safe input <ul style="list-style-type: none"> Terminals 81(+) and 82(-) Galvanically safe 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 intrinsically safe circuits maximum values			
	U_i	I_i		C_i
30 V	100 mA		(*1)	
Digital input <ul style="list-style-type: none"> Terminals 9(+) and 10(-) Jumpered or connected to switch contact Galvanically connected to auxiliary power supply / control current 				

(*1 : values negligibly small)

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Binary Module Type 6DR4004-6A, build in ARCAPRO 827A.**-*B...					
Digital output circuits <ul style="list-style-type: none"> Terminals <ul style="list-style-type: none"> 31(+) and 32(-) 41(+) and 42(-) 51(+) and 52(-) Galvanically safe isolated from all other circuits 	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 <ul style="list-style-type: none"> Terminals 11(+) and 12(-) Galvanically safe isolated from all other circuits Terminals 21(+) and 22(-) Jumpered, galvanically not isolated from basic device 	Type of protection : Ex ia only for the connection to certified intrinsically safe circuits maximum values or Type of protection: Ex ic only for the connection to intrinsically safe circuits maximum values				
	U_i			C_i	L_i
	25.2 V			(*1	(*1

(*1 : values negligibly small

Slot-type Initiator Module Type 6DR4004-6G, build in ARCAPRO 827A.**-*S...					
Digital output (fault signal) <ul style="list-style-type: none"> 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) <ul style="list-style-type: none"> Terminals <ul style="list-style-type: none"> 41(+) and 42(-) 51(+) and 52(-) 	Type of protection : Ex ia only for the connection to certified intrinsically safe circuits maximum values or Type of protection: Ex ic only for the connection to 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

(*1 : values negligibly small

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Contact Module Type 6DR4004-6K, build in ARCAPRO 827A.**-K...					
Digital output (fault signal) <ul style="list-style-type: none"> 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 intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	15 V	25 mA		5.2 nF	(*1)
Digital outputs <ul style="list-style-type: none"> 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 intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	30 V	100 mA		(*1)	(*1)

(*1 : values negligibly small

Analog Module Type 6DR4004-6J, build in ARCAPRO 827A.**-A...					
Current output <ul style="list-style-type: none"> Terminals 61(+) and 62(-) Galvanically safe isolated from other circuits 	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 intrinsically safe circuits maximum values				
	U_i	I_i		C_i	L_i
	30 V	100 mA		11 nF	(*1)

(*1 : values negligibly small

EMC Module Type 6DR4004-6F, build in ARCAPRO 827A.**-***-**2...					
Connection module with filter elements intent to use for connection of: Position Transmitter: 6DR4004-1ES or 6DR4004-2ES or 6DR4004-3ES or 6DR4004-4ES or Non-Contacting Sensor (NCS) 6DR4004-6N	Type of protection: Ex ia or Ex ic Supplied via basic device with Profibus PA (6DR55) and Foundation Fieldbus FF (6DR56)				
	U_o	I_o	P_o	C_o	L_o
	5 V	static: 75 mA short-time: 160 mA	120 mW	1 μ F	1 mH
	Type of protection: Ex ia or Ex ic for supply via the other basic devices (6DR50/1/2/3)				
	U_o	I_o	P_o	C_o	L_o
	5 V	100 mA	33 mW	1 μ F	1 mH

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Maximum permissible ambient temperature ranges :

Electropneumatic Positioner ARCAPRO type 827A.ab-cde-fgh-i-j with types of protection Ex ia/ic		
	Temperature class T4	Temperature class T6
with the data (c ≠ 0)	-30 °C ≤ T _a ≤ +80 °C	-30 °C ≤ T _a ≤ +50 °C
with the data (c ≠ 0) and (j = LT)	-40 °C ≤ T _a ≤ +80 °C	-40 °C ≤ T _a ≤ +50 °C
with the data (c = 0) and (h = 2) and T6: (h ≠ 1)	-30 °C ≤ T _a ≤ +80 °C	-30 °C ≤ T _a ≤ +60 °C
with the data (e ≠ P, F) and (c = 0) and (h = 2) and (j = LT) and T6: (h ≠ 1)	-40 °C ≤ T _a ≤ +80 °C	-40 °C ≤ T _a ≤ +60 °C

(16) Drawings and documents are listed in the ATEX Assessment Report No. 22 203 329591

(17) Specific Conditions for Use

1. The connecting and disconnecting of not energy limited circuits to the terminals and the plugging respectively unplugging of the M12 connector and of the internal plug- and socket connectors under voltage is permitted only if the presence of hazardous atmosphere can be excluded.

2. The capacitance of the labels exceeds the allowed value of 3 pF.
Operating instructions must be observed.

3. The electro-pneumatic positioner ARCAPRO 827A with type code (827A. X*-***-***-*) 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.

(18) Essential Health and Safety Requirements

no additional ones

- End of EU-Type Examination Certificate -