

[1] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use  
in potentially explosive atmospheres  
Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:  
**CESI 19 ATEX 010 X/02**

[4] Product: **Three-phase asynchronous motors  
types 5AZS 63-160, 7AZS 90-160, 5AZST 63-160, 7AZST 90-315**

[5] Manufacturer: **KONCAR - MES d.o.o.**

[6] Address: **Fallerovo setaliste 22, HR-10000 Zagreb, Croatia**

[7] This supplementary certificate extends EU-Type Examination Certificate **CESI 19 ATEX 010 X**, 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] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and 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 equipment or protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX- C2009858.

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

**EN IEC 60079-0:2018    EN IEC 60079-7 :2015+A1:2018    EN 60079-31:2014**

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 special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified Product in accordance to the Directive 2014/34/EU. 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 eb IIC T4...T3 Gb or**



**II 2G Ex db eb IIC T4...T3 Gb (\*motors with encoder mounted)**

**II 2D Ex tb IIC T90°C...T160°C Db**

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Date 23.12.2022 - Translation issued the 23.12.2022

**Prepared**  
Mirko Balaz

**Verified**  
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**Approved**  
Roberto Piccin

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## Schedule

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**SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02**

[15] **Description of the variation to the Product**

Variation 2.1: Reassessment of all motors 5AZS 63-160 and 7AZS 90-160 on basis of the new standards EN IEC 60079-0: 2018 and EN IEC 60079-7:2015+A1:2018.

Variation 2.2: Reassessment of all motors 5AZST 63-160 and 7AZST 90-315 on basis of the new standard EN IEC 60079-0: 2018.

Variation 2.3: Addition of new winding data and changes of some existing for motor series 5AZS 63-160 and 7AZS 90-160. New technical data of electric motor design 5AZS 63-160 and 7AZS 90-160.

Variation 2.4: Addition of new surface temperature T160°C for “tb” type of protection (motor series 5AZST 63-160 and 7AZST 90-315).

Variation 2.5: The corrosion protection system that utilizes conductive top layer can be used for motors in gas group IIC.

Variation 2.6: The minor and editorial changes.

### Description of product

Three-phase asynchronous motors series **5AZS 63-160, 7AZS 90-160, 5AZST 63-160, 7AZST 90-315** are manufactured by different constructive typologies. They can be supplied by mains or by inverter, with simple or double polarity, they are self-ventilated, they can have terminal box for supply and auxiliary circuit connection or can be provided with permanently connected cable.

Enclosure of this motors series is certified as a component, certificate CESI 19 ATEX 009 U, explosion protection II 2G Ex eb IIC Gb and II 2D Ex tb IIIC Db. Motors with encoder mounted has explosion proof designation II 2G Ex db eb IIC T4...T3 Gb or/and II 2D Ex tb IIIC T90°C ...T160°C Db.

The motors can be equipped with auxiliary devices such as anticondensation heaters, thermal detectors, or encoder.

The three-phase asynchronous motors series **5AZS 63-160, 7AZS 90-160, 5AZST 63-160, 7AZST 90-315** can be manufactured with efficiency class IE1, IE2 and IE3 according to IEC 60034-30 standard.

The standard motors are produced with insulation system in class F and are designed with temperature limit of the insulation class B ( $\Delta t=80K$ ). The motors for temperature class T3 can be designed with temperature limit of the insulation class F ( $\Delta t=105K$ ) with insulation system in class F or H.

The motors series 5AZS 63-160 and 7AZS 90-160, for gas group IIC, can be protected from corrosion with a top layer of conductive paint or alternatively with a layer of non-conductive dry film having thickness > 0.2 mm, in this last case, the following label shall be applied: “Warning – potential electrostatic charging hazard. Clean with damp cloth”.

### Model identification:

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>
<b>A</b>	=	Efficiency designation:								
		<b>Blank</b> – IE1								
		<b>E</b> – IE2								
		<b>H</b> – IE3								
<b>B</b>	=	Motor series:								
		<b>5</b> – motors with aluminium die cast frame								
		<b>7</b> – motors with welded construction or cast-iron frame								
<b>C</b>	=	Type of motor:								
		<b>AZS</b> – basic, single-speed motor - protection increased safety (only for G - gases)								
		<b>ABZS</b> – basic marine, single-speed motor								
		<b>AZST</b> – basic design of motors protection by enclosure (only for D - dust)								
<b>D</b>	=	Additional code (single letter or combination of letters):								
		<b>A</b> – special mounting dimensions and/or special free shaft end dimensions								
		<b>E</b> – special electric design (special power P2 or voltage)								
		<b>U</b> – inside position (in equipment) of assembly								
<b>E</b>	=	IEC frame size mark:								
		<b>63, 71, 80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315</b>								

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- F** = Frame length:  
**S** – short  
**M** – medium  
**L** – long  
**X** – longer frame (SX, MX, LX)
- G** = Power designation:  
**A, B, C** – power according to stator and rotor length  
**R** – reduced power in bigger frame (RA, RB, ...)
- H** = Number of poles:  
**2 ... 8**
- I** = Type of explosion protection mark (additional mark for AZS motors for G – gas and D-dust):  
**P** – motor in type of protection: Ex eb IIC and Ex tb IIIC
- J** = Additionally mounted or built-in equipment mark (single letter or combination of letters):  
**K** – motor equipped with cable (without terminal box)  
**T** – thermal protection  
**A** – space heaters  
**G** – encoder
- K** = Temperature class mark or maximum temperature (single or combination):  
for gases – **T3** or **T4**  
for dusts – **T90°C ... T160°C**  
for gases and dusts – **T4 – T90°C ... T135°C**

### Warning label

- “Warning: Do not open when energized”.
- For motor supply by inverter: "Winding protected with PTC thermistors".
- In case of use of anticondensation heaters: "Warning – energized resistors"
- For motors painted with non-conductive dry film having thickness > 0.2 mm, the following label shall be applied: “Warning – potential electrostatic charging hazard. Clean with damp cloth”
- For motors without terminal box and motors with ambient temperature 50°C and 60°C: "Supply cables of motors shall be suitable at least for operating temperature 92°C".

### Installation conditions

The accessories used for cable entries and for closing unused openings shall be certified according to the following standards: EN IEC 60079-0 and EN IEC 60079-7

Protection of motor intended for line starting and protection by current-dependent safety device shall be in line with temperature class and time tE.

In case of use of motors with built-in anticondensation heaters, resistance heating units shall be protected by a safety device in accordance with EN IEC 60079-7, clause 5.8.6.

### Electrical characteristics

#### Supply by mains:

Main electrical characteristics of motors series **5AZS 63-160, 7AZS 90-160, 5AZST 63-160, 7AZST 90-315**, type of protection "Ex eb" and "Ex tb", supplied by mains:

Maximum voltage	750 V
Maximum current	335 A
Frequency	50 / 60 Hz
Speed	750 ÷ 3600 rpm
Duty	S1
Maximum power P2	225 kW
Number of poles	2 ÷ 8

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02**

Thermal class	F (with $\Delta t B$ and $\Delta t F$ ) H (with $\Delta t F$ )
Degree of mechanical protection	IP55, IP56, IP65, IP66 – for gases IP65, IP66 – for dusts
Ambient temperature	-20 ÷ +40°C (standard motors) -30 ÷ +60°C (on demand), narrow range can be declared

Motors supplied with 440V/60Hz (13% higher output) exhibit lower temperature rise compared to motor supplied with 400V/50Hz.

Motors can be designed up to 750V provided the flux and current density are maintained the same by changing the number of turns proportional to the voltage and conductor area inversely proportional to the voltage.

The anticondensation heaters installed inside the motor can have a maximum power of 130 W.

### Supply by frequency inverter:

Main electrical characteristics of motors series **5AZS 63-160, 7AZS 90-160, 5AZST 63-160, 7AZST 90-315**, explosion protection Ex eb and Ex tb, supplied by frequency inverter:

Maximum voltage	750 V
Peak voltage maximum	1060 V
Power P2	0,1 ÷ 225 kW
Moment	0,4 ÷ 1286 Nm
Speed	300 ÷ 5220 rpm
Maximum current	335 A
Frequency range	10 ÷ 87 Hz (motors 2p=2) 10 ÷ 100 Hz (motors 2p=4, 6, 8)
Duty	S9
Cooling method	IC 411

Motors may only be operated with converters that meet the following conditions:

### Frequency inverter settings:

Minimum clock frequency	5 kHz
Motor current (short-term)	1,5 * I <sub>N</sub>
Maximum overload period	60 s
Minimum frequency f <sub>min</sub>	10 Hz
Maximum frequency f <sub>max</sub>	100 Hz
Permissible period of operation below f <sub>min</sub>	60 s

Stated settings must be maintained during operation.

The maximum overload period and permissible period of operation below f<sub>min</sub> are based on a 10-minute time interval.

The three-phase asynchronous motors supplied by inverter are provided with a suitable label reporting electrical operating characteristic. The motors shall be provided, inside the stator winding, with thermal detectors (PTC or TP).

Thermal detectors shall be connected to suitable protection devices of the supply system.

The operation of the thermal detector shall guarantee the disconnection of the supply at:

- 150 °C maximum for motors with temperature class T3.
- 110 °C maximum for motors with temperature class T4.

The resetting of the supply shall not be automatic.

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Motor type		5AZS 63A-2/T3-T4	
Winding data		1758144	
Construction data		20.09535	
Duty Type		S1	
Power	[kW]	0,18	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2790	
Current	[A]	1	0,58
Ratio $I_A/I_N$		4	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	13	-	-

(*) Motor type		5AZS 63B-2/T3-T4	
Winding data		1896725	
Construction data		20.09536 (63-2F-60)	
Duty Type		S1	
Power	[kW]	0,25	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2840	
Current	[A]	1,3	0,75
Ratio $I_A/I_N$		5	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	30	29	25
t <sub>E</sub> [s]T4	8	-	-

Motor type		5AZS 71A-2/T3	
Winding data		A617071	
Construction data		20.09097	
Duty Type		S1	
Power	[kW]	0,37	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2750	
Current	[A]	1,7	1
Ratio $I_A/I_N$		3,6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	35	32	27
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 71A-2/T3-T4	
Winding data		1764110	
Construction data		20.09098	
Duty Type		S1	
Power	[kW]	0,37	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2850	
Current	[A]	1,7	1
Ratio $I_A/I_N$		6,1	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	8	6	-

Motor type		5AZS 71B-2/T3	
Winding data		2082683	
Construction data		20.09098	
Duty Type		S1	
Power	[kW]	0,55	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2790	
Current	[A]	2,33	1,34
Ratio $I_A/I_N$		4,2	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	13	11
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 71B-2/T3-T4	
Winding data		1699458	
Construction data		20.09651	
Duty Type		S1	
Power	[kW]	0,55	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2865	
Current	[A]	2,3	1,3
Ratio $I_A/I_N$		7,3	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	14
t <sub>E</sub> [s]T4	7	5	-

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[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02

Motor type		5AZS 80A-2/T3-T4	
Winding data		1748297	
Construction data		80-2F-55	
Duty Type		S1	
Power	[kW]	0,75	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2845	
Current	[A]	2,9	1,65
Ratio $I_A/I_N$		6,3	
Tamb [°C]	40	50	60
$t_E$ [s]T3	15	15	14
$t_E$ [s]T4	6	-	-

Motor type		5AZS 80A-2/T3	
Winding data		A637315	
Construction data		20.09101	
Duty Type		S1	
Power	[kW]	0,75	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2840	
Current	[A]	3,1	1,8
Ratio $I_A/I_N$		5,1	
Tamb [°C]	40	50	60
$t_E$ [s]T3	18	16	14
$t_E$ [s]T4	-	-	-

Motor type		5AZS 80B-2/T3-T4	
Winding data		1747630	
Construction data		20.09102	
Duty Type		S1	
Power	[kW]	1	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	2855	2855	
Current	3,8	3,8	2,2
Ratio $I_A/I_N$		6,7	
Tamb [°C]	40	50	60
$t_E$ [s]T3	14	13	12
$t_E$ [s]T4	7	-	-

Motor type		5AZS 80B-2/T3	
Winding data		A617187	
Construction data		20.09102	
Duty Type		S1	
Power	[kW]	1,1	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2810	
Current	[A]	4,5	2,6
Ratio $I_A/I_N$		4,7	
Tamb [°C]	40	50	50
$t_E$ [s]T3	12	9	-
$t_E$ [s]T4	-	-	-

(*) Motor type		5AZS 80B-2/T3	
Winding data		1928813	
Construction data		80-2F-70	
Duty Type		S1	
Power	1,1	1,1	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2840	
Current	[A]	4,2	2,4
Ratio $I_A/I_N$		5,6	
Tamb [°C]	40	50	60
$t_E$ [s]T3	10	9	8
$t_E$ [s]T4	-	-	-

Motor type		5AZS 90S-2/T3 7AZS 90S-2/T3	
Winding data		A617225	
Construction data		20.09005	
Duty Type		S1	
Power	[kW]	1,3	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2850	
Current	[A]	5	2,9
Ratio $I_A/I_N$		5,5	
Tamb [°C]	40	50	60
$t_E$ [s]T3	19	16	14
$t_E$ [s]T4	-	-	-

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[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02

Motor type		5AZS 90LR-2/T3-T4 7AZS 90LR-2/T3-T4	
Winding data		1736930	
Construction data		20.09006	
Duty Type		S1	
Power	[kW]	1,35	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2875	
Current	[A]	4,7	2,7
Ratio $I_A/I_N$		7,5	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	14	12	10
t <sub>E</sub> [s]T4	6	-	-

(*) Motor type		5AZS 90S-2/T3 7AZS 90S-2/T3	
Winding data		1928805	
Construction data		90-2F-75	
Duty Type		S1	
Power	[kW]	1,5	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2850	
Current	[A]	5,5	3,2
Ratio $I_A/I_N$		6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	10	9	8
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 90L-2/T3 7AZS 90L-2/T3	
Winding data		A617233	
Construction data		20.09006	
Duty Type		S1	
Power	[kW]	1,85	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2860	
Current	[A]	6,9	4
Ratio $I_A/I_N$		6,6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	12	10	-
t <sub>E</sub> [s]T4	-	-	-

(*) Motor type		5AZS 90L-2/T3 7AZS 90L-2/T3	
Winding data		1928821	
Construction data		90-2F-110	
Duty Type		S1	
Power	[kW]	2,2	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2875	
Current	[A]	8	4,6
Ratio $I_A/I_N$		7	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	6	5	-
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 100L-2/T4 7AZS 100L-2/T4	
Winding data		1748300	
Construction data		100-2J-125	
Duty Type		S1	
Power	[kW]	2,1	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2905	
Current	[A]	6,75	3,9
Ratio $I_A/I_N$		8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	-	-	-
t <sub>E</sub> [s]T4	6	5	-

Motor type		5AZS 100L-2/T3-T4 7AZS 100L-2/T3-T4	
Winding data		1748300	
Construction data		100-2J-125	
Duty Type		S1	
Power	[kW]	2,2	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	2905	
Current	[A]	7,1	4,1
Ratio $I_A/I_N$		7,5	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	12	12	11
t <sub>E</sub> [s]T4	5	-	-

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Motor type		5AZS 100L-2/T3 7AZS 100L-2/T3	
Winding data		A617020	
Construction data		20.09011	
Duty Type		S1	
Power	[kW]	2,5	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2890	
Current	[A]	5,4	3,1
Ratio $I_A/I_N$		7,6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	8	6	-
t <sub>E</sub> [s]T4	-	-	-

(*) Motor type		5AZS 100L-2/T3 7AZS 100L-2/T3	
Winding data		1928830	
Construction data		100-2J-125	
Duty Type		S1	
Power	[kW]	3	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2910	
Current	[A]	6,1	3,5
Ratio $I_A/I_N$		7,9	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	7	6	5
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 112M-2/T3 7AZS 112M-2/T3	
Winding data		A600578	
Construction data		20.09001	
Duty Type		S1	
Power	1,1	3,3	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2915	
Current	[A]	6,6	3,8
Ratio $I_A/I_N$		8,7	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	14	13	11
t <sub>E</sub> [s]T4	-	-	-

(*) Motor type		5AZS 112M-2/T3 7AZS 112M-2/T3	
Winding data		1928848	
Construction data		112-2H-125	
Duty Type		S1	
Power	[kW]	4	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2925	
Current	[A]	8,25	4,7
Ratio $I_A/I_N$		8,8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	7	6	5
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 132SA-2/T3 7AZS 132SA-2/T3	
Winding data		1747622	
Construction data		20.09732	
Duty Type		S1	
Power	[kW]	5	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2925	
Current	[A]	11,2	6,5
Ratio $I_A/I_N$		7,9	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	6	-	-
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 132SB-2/T3 7AZS 132SB-2/T3	
Winding data		1699393	
Construction data		20.09691	
Duty Type		S1	
Power	[kW]	6,5	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2920	
Current	[A]	13,3	7,7
Ratio $I_A/I_N$		8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	6	5	5
t <sub>E</sub> [s]T4	-	-	-

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## Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02**

Motor type		5AZS 160MA-2/T3 7AZS 160MA-2/T3	
Winding data		1699415	
Construction data		20.09068	
Duty Type		S1	
Power	[kW]	8	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2935	
Current	[A]	14,5	8,5
Ratio $I_A/I_N$		7,6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	7	6	-
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 160MB-2/T3 7AZS 160MB-2/T3	
Winding data		1699423	
Construction data		20.09069	
Duty Type		S1	
Power	[kW]	11	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2935	
Current	[A]	18,7	10,8
Ratio $I_A/I_N$		8,1	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	9	7	6
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 160L-2/T3 7AZS 160L-2/T3	
Winding data		1699431	
Construction data		20.09070	
Duty Type		S1	
Power	[kW]	13	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	2930	
Current	[A]	22	12,5
Ratio $I_A/I_N$		7,1	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	7	5	-
t <sub>E</sub> [s]T4	-	-	-

(*) Motor type		5AZSE 90LR-2/T3-T4 7AZSE 90LR-2/T3-T4	
Winding data		1916670	
Construction data		20.09006 (100-2F-100)	
Duty Type		S1	
Power	[kW]	1,5	
Connection		D	Y
Voltage	[V]	277	480
Frequency	[Hz]	60	
Speed	[rpm]	3440	
Current	[A]	4,3	2,5
Ratio $I_A/I_N$		7,7	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	10	10	10
t <sub>E</sub> [s]T4	6	-	-

*Note: an (\*) Motor type is included in the title of tables for new winding data or changes of some existing.*

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## Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02

(*) Motor type		5AZS 63A-4/T3-T4	
Winding data		1894897	
Construction data		63-4F-6075	
Duty Type		S1	
Power	[kW]	0,12	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1390	
Current	[A]	0,7	0,4
Ratio I <sub>A</sub> /I <sub>N</sub>		4	
T <sub>amb</sub> °C]	40	50	60
t <sub>E</sub> [s] T3	30	30	30
t <sub>E</sub> [s] T4	30	30	30

(*) Motor type		5AZS 63B-4/T3-T4	
Winding data		1894900	
Construction data		63-4F-60	
Duty Type		S1	
Power	[kW]	0,18	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1395	
Current	[A]	1	0,6
Ratio I <sub>A</sub> /I <sub>N</sub>		3,8	
T <sub>amb</sub> °C]	40	50	60
t <sub>E</sub> [s] T3	30	30	30
t <sub>E</sub> [s] T4	30	26	18

Motor type		5AZS 63B-4/T3-T4	
Winding data		1748513	
Construction data		63-4F-75	
Duty Type		S1	
Power	[kW]	0,18	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1340	
Current	[A]	0,97	0,56
Ratio I <sub>A</sub> /I <sub>N</sub>		3,5	
T <sub>amb</sub> °C]	40	50	60
t <sub>E</sub> [s] T3	30	30	30
t <sub>E</sub> [s] T4	30	27	19

Motor type		5AZS 63B-4/T3	
Winding data		A328959	
Construction data		20.09538	
Duty Type		S1	
Power	[kW]	0,18	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1370	
Current	[A]	1,1	0,65
Ratio I <sub>A</sub> /I <sub>N</sub>		2,9	
T <sub>amb</sub> °C]	40	50	60
t <sub>E</sub> [s] T3	48	43	39
t <sub>E</sub> [s] T4	-	-	-

(*) Motor type		5AZSE 63B-4/T3-T4	
Winding data		1748513	
Construction data		63-4F-75	
Duty Type		S1	
Power	[kW]	0,2	
Connection		D	Y
Voltage	[V]	265	460
Frequency	[Hz]	60	
Speed	[rpm]	1655	
Current	[A]	0,9	0,52
Ratio I <sub>A</sub> /I <sub>N</sub>		3,8	
T <sub>amb</sub> °C]	40	50	60
t <sub>E</sub> [s] T3	30	30	30
t <sub>E</sub> [s] T4	30	30	26

Motor type		5AZS 71A-4/T3-T4	
Winding data		1765000	
Construction data		20.09100	
Duty Type		S1	
Power	[kW]	0,25	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1385	
Current	[A]	1,2	0,71
Ratio I <sub>A</sub> /I <sub>N</sub>		4,1	
T <sub>amb</sub> [°C]	40	50	60
t <sub>E</sub> [s] T3	20	20	20
t <sub>E</sub> [s] T4	20	20	20

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## Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02**

Motor type		5AZS 71A-4/T3	
Winding data		A617101	
Construction data		20.09099	
Duty Type		S1	
Power	[kW]	0,25	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1380	
Current	[A]	1,55	0,9
Ratio $I_A/I_N$		3	
Tamb [°C]	40	50	60
tE [s] T3	41	36	32
tE [s] T4	-	-	-

Motor type		5AZS 71B-4/T3-T4	
Winding data		1748319	
Construction data		20.09400	
Duty Type		S1	
Power	[kW]	0,37	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1395	
Current	[A]	1,8	1,03
Ratio $I_A/I_N$		4,5	
Tamb [°C]	40	50	60
tE [s] T3	25	25	25
tE [s] T4	24	18	12

Motor type		5AZS 71B-4/T3	
Winding data		A617110	
Construction data		20.09100	
Duty Type		S1	
Power	[kW]	0,37	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1370	
Current	[A]	2	1,15
Ratio $I_A/I_N$		3,3	
Tamb [°C]	40	50	60
tE [s] T3	34	30	27
tE [s] T4	-	-	-

Motor type		5AZS 80A-4/T3-T4	
Winding data		1764446	
Construction data		20.09104	
Duty Type		S1	
Power	[kW]	0,55	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1400	
Current	[A]	2,2	1,3
Ratio $I_A/I_N$		4,8	
Tamb [°C]	40	50	60
tE [s] T3	30	30	30
tE [s] T4	21	17	13

Motor type		5AZS 80A-4/T3	
Winding data		A518987	
Construction data		20.09103	
Duty Type		S1	
Power	[kW]	0,55	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1395	
Current	[A]	2,6	1,5
Ratio $I_A/I_N$		4	
Tamb [°C]	40	50	60
tE [s] T3	27	24	21
tE [s] T4	-	-	-

Motor type		5AZS 80B-4/T3-T4	
Winding data		2768194	
Construction data		20.09104	
Duty Type		S1	
Power	[kW]	0,7	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1410	
Current	[A]	3,1	1,8
Ratio $I_A/I_N$		4,7	
Tamb [°C]	40	50	60
tE [s] T3	21	21	21
tE [s] T4	13	9	-

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## Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02

(*) Motor type		5AZS 80B-4/T3-T4	
Winding data		1894919	
Construction data		80-4F-85	
Duty Type		S1	
Power	[kW]	0,75	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1400	
Current	[A]	3	1,75
Ratio $I_A/I_N$		5	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	20	20	20
t <sub>E</sub> [s]T4	12	8	-

Motor type		5AZS 80B-4/T3-T4	
Winding data		2768194	
Construction data		20.09104	
Duty Type		S1	
Power	[kW]	0,75	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1400	
Current	[A]	3,3	1,9
Ratio $I_A/I_N$		4,47	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	31	28	25
t <sub>E</sub> [s]T4	10	-	-

Motor type		5AZS 90S-4/T3 7AZS 90S-4/T3	
Winding data		A617250	
Construction data		20.09007	
Duty Type		S1	
Power	[kW]	1	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1390	
Current	[A]	4,3	2,5
Ratio $I_A/I_N$		4,4	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	35	31	25
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 90LR-4/T3-T4 7AZS 90LR-4/T3-T4	
Winding data		1751000	
Construction data		90-4F-115	
Duty Type		S1	
Power	[kW]	1,1	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1435	
Current	[A]	4,7	2,7
Ratio $I_A/I_N$		6,7	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	11	8	6

Motor type		5AZS 90L-4/T3 7AZS 90L-4/T3	
Winding data		A600314	
Construction data		20.09008	
Duty Type		S1	
Power	[kW]	1,35	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1400	
Current	[A]	5,5	3,2
Ratio $I_A/I_N$		4,8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	27	24	21
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZSAE 90L-4/T3-T4 7AZSAE 90L-4/T3-T4	
Winding data		1758160	
Construction data		20.09008	
Duty Type		S1	
Power	[kW]	1,35	
Connection		D	Y
Voltage	[V]	220	380
Frequency	[Hz]	60	
Speed	[rpm]	1720	
Current	[A]	5,7	3,3
Ratio $I_A/I_N$		5,9	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	6	-	-

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## Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02**

Motor type		5AZS 90L-4/T3 7AZS 90L-4/T3	
Winding data		A600314	
Construction data		20.09008	
Duty Type		S1	
Power	[kW]	1,5	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1375	
Current	[A]	6,1	3,5
Ratio $I_N/I_N$		4,4	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	17	15	13
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 90L-4/T3-T4 7AZS 90L-4/T3-T4	
Winding data		1748254	
Construction data		90-4J-130	
Duty Type		S1	
Power	[kW]	1,5	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1430	
Current	[A]	6,2	3,6
Ratio $I_N/I_N$		6,2	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	10	7	-

Motor type		5AZS 100LA-4/T3 7AZS 100LA-4/T3	
Winding data		A617039	
Construction data		20.09012	
Duty Type		S1	
Power	[kW]	2	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1420	
Current	[A]	7,3	4,2
Ratio $I_N/I_N$		5,5	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	22	20	18
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 100LA-4/T3-T4 7AZS 100LA-4/T3-T4	
Winding data		1699440	
Construction data		20.09711	
Duty Type		S1	
Power	[kW]	2	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1440	
Current	[A]	7,8	4,5
Ratio $I_N/I_N$		7,3	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	11	11	11
t <sub>E</sub> [s]T4	11	8	5

Motor type		5AZS 100LB-4/T4 7AZS 100LB-4/T4	
Winding data		1699440	
Construction data		20.09711	
Duty Type		S1	
Power	[kW]	2,2	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1430	
Current	[A]	8,3	4,8
Ratio $I_N/I_N$		6,8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	-	-	-
t <sub>E</sub> [s]T4	8	-	-

(*) Motor type		5AZS 100LA-4/T3-T4 7AZS 100LA-4/T3-T4	
Winding data		1894927	
Construction data		100-4H-160	
Duty Type		S1	
Power	[kW]	2,2	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1445	
Current	[A]	8,3	4,8
Ratio $I_N/I_N$		7,4	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	8	5	-

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## Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02

Motor type		5AZS 100LB-4/T3 7AZS 100LB-4/T3	
Winding data		A600306	
Construction data		20.09013	
Duty Type		S1	
Power	[kW]	2,5	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1440	
Current	[A]	5,5	3,2
Ratio I <sub>A</sub> /I <sub>N</sub>		6,4	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	17	16	14
t <sub>E</sub> [s]T4	-	-	-

(*) Motor type		5AZSE 100LB-4/T3-T4 7AZSE 100LB-4/T3-T4	
Winding data		1699440	
Construction data		20.09711 (100-4H-160)	
Duty Type		S1	
Power	[kW]	2,5	
Connection		D	Y
Voltage	[V]	277	480
Frequency	[Hz]	60	
Speed	[rpm]	1745	
Current	[A]	7,8	4,5
Ratio I <sub>A</sub> /I <sub>N</sub>		8,8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	10	10	10
t <sub>E</sub> [s]T4	6	5	-

(*) Motor type		5AZS 100LB-4/T3-T4 7AZS 100LB-4/T3-T4	
Winding data		1895869	
Construction data		100-4H-160Cu	
Duty Type		S1	
Power	[kW]	3	
Connection		D	Y
Voltage	[V]	230	400
Frequency	[Hz]	50	
Speed	[rpm]	1455	
Current	[A]	10,7	6,2
Ratio I <sub>A</sub> /I <sub>N</sub>		7,4	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	7	-	-

(*) Motor type		5AZS 112MX-4/T3-T4 7AZS 112MX-4/T3-T4	
Winding data		1747681	
Construction data		112-4J-180	
Duty Type		S1	
Power	[kW]	3	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1440	
Current	[A]	5,8	3,3
Ratio I <sub>A</sub> /I <sub>N</sub>		7,6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	10	10	10
t <sub>E</sub> [s]T4	9	8	5

Motor type		5AZS 112M-4/T3 7AZS 112M-4/T3	
Winding data		A616946	
Construction data		20.09002	
Duty Type		S1	
Power	[kW]	3,6	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1440	
Current	[A]	7,9	4,6
Ratio I <sub>A</sub> /I <sub>N</sub>		7,6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s] T3	9	7	6
t <sub>E</sub> [s] T4	-	-	-

(*) Motor type		5AZS 112MX-4/T3-T4 7AZS 112MX-4/T3-T4	
Winding data		1895877	
Construction data		112-4J-180	
Duty Type		S1	
Power	[kW]	4	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1455	
Current	[A]	8,3	4,8
Ratio I <sub>A</sub> /I <sub>N</sub>		7,8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	15	15	15
t <sub>E</sub> [s]T4	7	-	-

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## Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02**

Motor type		5AZS 132S-4/T3 7AZS 132S-4/T3	
Winding data		1748270	
Construction data		20.09489	
Duty Type		S1	
Power	[kW]	5,5	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1435	
Current	[A]	10,9	6,3
Ratio $I_M/I_N$		5,7	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	11	9	7
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 132M-4/T3 7AZS 132M-4/T3	
Winding data		1748262	
Construction data		20.09684	
Duty Type		S1	
Power	[kW]	7,5	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1450	
Current	[A]	16	9,3
Ratio $I_M/I_N$		6,8	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	8	7	6
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 160M-4/T3 7AZS 160M-4/T3	
Winding data		1699466	
Construction data		20.09699	
Duty Type		S1	
Power	[kW]	11	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1465	
Current	[A]	22,5	13
Ratio $I_M/I_N$		7,1	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	8	7	5
t <sub>E</sub> [s]T4	-	-	-

Motor type		5AZS 160L-4/T3 7AZS 160L-4/T3	
Winding data		1747690	
Construction data		20.09055	
Duty Type		S1	
Power	[kW]	13	
Connection		D	Y
Voltage	[V]	400	690
Frequency	[Hz]	50	
Speed	[rpm]	1465	
Current	[A]	25	14,5
Ratio $I_M/I_N$		7,6	
Tamb [°C]	40	50	60
t <sub>E</sub> [s]T3	7	5	-
t <sub>E</sub> [s]T4	-	-	-

*Note: an (\*) **Motor type** is included in the title of tables for new winding data or changes of some existing.*

[16] **Report n. EX- C2009858**

### Routine tests

The manufacturer shall carry out:

- dielectric strength test according to standard EN IEC 60079-7 cl. 7.1 with test voltage applied (2U<sub>n</sub>+1000) V for a period at least 60 s, or with 1,2 x (2U<sub>n</sub>+1000) V for a period at least 100 ms on motors in type of protection "eb".

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 19 ATEX 010 X/02**

[17] **Special conditions for safe use (X)**

- For motors without terminal box and motors with ambient temperature 50 °C and 60 °C:  
"Supply cables of motors shall be suitable at least for operating temperature  $\geq 92$  °C".
- The motor provided with the cables permanently connected, shall have these cables protected against the risk of damage due to mechanical stresses. The free end connections shall be made according to one of the types of protection indicated in the EN IEC 60079-0 standard according to the installation rules in force in the site of installation.
- For motors equipped with anti-condensation heaters, use of supplied thermal protection is mandatory.

[18] **Essential Health and Safety Requirements**

Covered by the standards listed at item [9].

[19] **Descriptive documents** Prot. EX- C2009865

- |  |         |       |             |
|--|---------|-------|-------------|
| - *Technical Description N° A07824 Annex 4 (22 pg.)              | Ed. 2   | dated | 22.07.2022. |
| - *Drawing n. A07824/L   | Rev.A   | dated | 12.05.2021. |
| - *Drawing n. A07824/K   | Rev.B   | dated | 20.07.2022. |
| - *Variation list to A07824 ANNEX 3                              |         | dated | 21.07.2022  |
| - *Appendix 1: Technical data of AZS motors (2 pg.)              |         | dated | 22.07.2022. |
| - *Appendix 2: Technical data of rotor and stator                |         | dated | 20.07.2022. |
| - *Technical data of electric motor design 5/7AZS 63-160 (2 pg.) | Issue 3 | dated | 21.07.2022. |
| - *Fac-simile EU Declaration. of Conformity Ex OB 7.3.7.26/5     |         | dated | 02/12/2021. |

*Note: an \* is included before the title of documents that are new or revised annexed to this supplement.*

One copy of all documents is kept in CESI files.

**Certificate history**

Issue N°	Issue Date	Summary description of variation
02	Current	Reassessment of all motors on basis of the new standards EN IEC 60079-0: 2018 and EN IEC 60079-7:2015+A1:2018. Addition of new winding data and changes of some existing for motor series 5AZS 90-160 and 7AZS 90-160. New technical data of motor. Addition of new surface temperature T160°C for “tb” type of protection (motor 5AZST 63-160 and 7AZST 90-315). Corrosion protection system with conductive top layer for gas group IIC. Minor and editorial changes.
01	29.08.2019	Addition of new power ratings and winding data Type designation update New temperature class T3 for previous T4 motors Minor and editorial changes
00	25.03.2019	First Issue of the Certificate

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