



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 IMQ 13.0012** Page 1 of 4 [Certificate history:](#)
Issue No: 1 [Issue 0 \(2013-12-19\)](#)

Status: **Current**

Date of Issue: 2022-03-29

Applicant: **AECO S.r.l.**
Via Giacomo Leopardi, 5
I-20065 Inzago (MI) - Italy
Italy

Equipment: **NAMUR Inductive proximity sensors - series SI***-N*****AGD***

Optional accessory:

Type of Protection: **Ex ia**

Marking: Ex ia IIA/IIB/IIC T6/T5 Ga
Ex ia IIA/IIB/IIC T6/T5 Gb
Ex ia IIIC T85°C/T100°C Da IP66/IP67/IP68

Approved for issue on behalf of the IECEx
Certification Body:

Mr. Mauro CASARI

Position:

IMQ ExCB Manager

Signature:
(for printed version)

Date:
(for printed version)

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Certificate issued by:

Istituto Italiano del Marchio di Qualità S.p.A
Via Quintiliano 43
20138 Milano
Italy





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Date of issue: 2022-03-29

Issue No: 1

Manufacturer: **AECO S.r.l.**
Via Giacomo Leopardi, 5
I-20065 Inzago (MI) - Italy
Italy

Manufacturing
locations: **AECO S.r.l.**
Via Giacomo Leopardi, 5
I-20065 Inzago (MI) - Italy
Italy

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:

[IT/IMQ/ExTR13.0012/01](#)

Quality Assessment Report:

[IT/CES/QAR13.0005/08](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

NAMUR Inductive proximity sensors suitable for installation in hazardous areas. They are mounted on machine tools, textile machines, transfer lines, transport systems, packaging equipment, in the automobile industry and in all applications where solutions for automation are required.

SPECIFIC CONDITIONS OF USE: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

Standard update.

Specified test conditions for grade of IP68 protection (30 min, 1 bar).

Updated resin compound specifications.

Annex:

[IECEX IMQ 13.0012 issue No. 1 Annex.pdf](#)

Annex to: IECEx IMQ 13.0012 issue No. 1 Annex
Applicant: AECO S.r.l.
Apparatus: Inductive Proximity Sensors
Series: SI***-N*****AGD*



General description

Inductive NAMUR proximity sensors suitable for installation in hazardous areas. They are mounted on machine tools, textile machines, transfer lines, transport systems, packaging equipment, in the automobile industry and in all applications where solutions for automation are required.

Installation conditions

- Inductive NAMUR proximity sensors shall be supplied by associated apparatus certified according to IEC 60079-0 and IEC 60079-11, with suitable electrical characteristics.
- Connectors used shall maintain minimum declared degree of protection (IP66, IP67 or IP68 according to the marking).
- Metallic body of models with metallic enclosure shall be earthed.

Key code

[a1]	[a2]	[a3]	[a4]	-	[b]	[c]	[d]	[e]	[f]	[g]	[h]
■ ■	■	■	■		■	■	■	■	■	■ ■ ■	■

Number of digits (■)

[a1]	Equipment Type:		SI	: Inductive Sensor	
[a2]	Enclosure shape:		None	: Cylindrical	
			A	: Ring	
			P	: Parallelepiped with shape rectangular	
			Q	: Parallelepiped with shape a square base	
[a3]	Enclosure Size	Cylindrical shape	6.5	: Smooth Diameter D=6.5mm	
			8	: Threaded M8X1	
			12	: Threaded M12X1	
			14	: Threaded M14X1	
			18	: Threaded M18X1	
			30	: Threaded M30X1.5	
			Ring shape	5	: Inner diameter D=5mm
				12	: Inner diameter D=12mm
		15		: Inner diameter D=15mm	
		22		: Inner diameter D=22mm	
		30		: Inner diameter D=30mm	
		44		: Inner diameter D=40mm	
		Parallelepiped with rectangular base	63	: Inner diameter D=63mm	
			10	: L=28mm x W=16mm x H=10.5mm	
			12	: L=40mm x W=26mm x H=12mm	
			40	: L=113mm x W=40mm x H=40mm	
		Parallelepiped with a square base	A8	: L=40mm x W=8mm x H=8mm with side	
			C8	: L=40mm x W=8mm x H=8mm with front	
			80	: L=80mm x W=80mm x H=80mm	
			[a4]	Tipo di rilevamento secondo EN60947-5-6:	None
[b]	:	L	: Continuous switching curve		
[c]	Version	N			
[d]	SWITCHING DISTANCE Sn		None	: Embeddable	
			E	: Not embeddable	
[e]	Connection type:		None	: Connector with cable	
			H1	: Male connector M8x1	
			H	: Male connector M12x1	
			K	: Male connector type "K"	
[f]	Cable type		None	: PVC/PVC or with connector integrated	
			PU	: PUR/TPE-E	
[g]	Cable length:		None	: 3m or with connector integrated	
			LCn	: length equal to "n"; mt if the length is > 3mt	
[h]	Equipment category		1	: Category 1	
			2	: Category 2	

INTRINSIC SAFETY PARAMETERS

Description	Max Voltage Ui(V)	Max Current Ii(mA)	Max Power Pi(mW)	Maximum capacity Ci(nF)			Maximum Inductance Li(μH)		
				Cable	Sensor	Total	Cable	Sensor	Total
				Cc(nF)	Cs(nF)		Lc(μH)	Ls(μH)	
SI6.5-N1 H1 AGD	17	17	73	-	222	222	-	15	15
SI6.5-N1 AGD				1,54	222	224	13,4	15	29
SI6.5-N1 LCn AGD				-	222	222	-	15	15
SI8-N1 H1 AGD				1,54	222	224	13,4	15	29
SI8-N1 AGD				-	222	222	-	15	15
SI8-N1 LCn AGD				1,54	222	224	13,4	15	29
SI6.5-NE2 H1 AGD				-	222	222	-	15	15
SI6.5-NE2 AGD				1,54	222	224	13,4	15	29
SI6.5-NE2 LCn AGD				-	222	222	-	15	15
SI8-NE2 H1 AGD				1,54	222	224	13,4	15	29
SI8-NE2 AGD				-	222	222	-	15	15
SI8-NE2 LCn AGD				1,54	222	224	13,4	15	29
SI12-N2 H AGD	17	17	73	-	222	222	-	11	11
SI12-N2 AGD				1,54	222	224	13,4	11	25
SI12-N2 LCn AGD				-	223	223	-	11	11
SI12-NE4 H AGD	17	17	73	1,54	223	225	13,4	11	25
SI12-NE4 AGD				-	223	223	-	11	11
SI12-NE4 LCn AGD				1,54	223	225	13,4	11	25
SI14-N3 AGD	17	17	73	1,54	222	224	13,4	11	25
SI14-N3 LCn AGD				-	222	222	-	11	11
SI14-NE5 AGD	17	17	73	1,54	222	224	13,4	11	25
SI14-NE5 LCn AGD				-	224	224	-	23	23
SI18-N5 H AGD	17	17	73	1,54	224	226	13,4	23	37
SI18-N5 AGD				-	228	228	-	23	23
SI18-N5 LCn AGD				1,54	228	230	13,4	23	37
SI18-NE8 H AGD	17	17	73	-	228	228	-	23	23
SI18-NE8 AGD				1,54	228	230	13,4	23	37
SI18-NE8 LCn AGD				-	225	225	-	161	161
SI30-N10 H AGD	17	17	73	1,54	225	227	13,4	161	175
SI30-N10 AGD				-	231	231	-	161	161
SI30-N10 LCn AGD				1,54	231	233	13,4	161	175
SI30-NE15 H AGD	17	17	73	-	223	223	-	15	15
SI30-NE15 AGD				1,54	223	223	-	15	15
SI30-NE15 LCn AGD				-	223	223	-	15	15
SIPA8-N1.5 H1 AGD	17	17	73	-	223	223	-	15	15



SIPAB-N1.5 AGD									
SIPAB-N1.5 LCn AGD				1,54	223	225	13,4	15	29
SIPC8-N1.5 H1 AGD				-	223	223	-	15	15
SIPC8-N1.5 AGD									
SIPC8-N1.5 LCn AGD				1,54	223	225	13,4	15	29
SIP10-N2 H1 AGD				-	222	222	-	15	15
SIP10-N2 AGD	17	17	73						
SIP10-N2 LCn AGD				1,54	222	224	13,4	15	29
SIP12-N2 H1 AGD				-	222	222	-	11	11
SIP12-N2 AGD	17	17	73						
SIP12-N2 LCn AGD				1,54	222	224	13,4	11	25
SIP12-NE4 H1 AGD				-	224	224	-	11	11
SIP12-NE4 AGD	17	17	73						
SIP12-NE4 LCn AGD				1,54	224	226	13,4	11	25
SIP17-NE5 H1 AGD				-	224	224	-	15	11
SIP17-NE5 AGD	17	17	73						
SIP17-NE5 LCn AGD				1,54	224	226	13,4	23	37
SIP40-N15 AGD				-	579	579	-	142	142
SIP40-N15 K AGD	15	15	73						
SIP40-N15 LC2 AGD				1,54	579	581	13,4	142	156
SIP40-N15 LCn AGD									
SIP40-NE20 AGD				-	231	231	-	142	142
SIP40-NE20 K AGD	17	17	73						
SIP40-NE20 LC2 AGD				1,54	231	233	13,4	142	156
SIP40-NE20 LCn AGD									
SIQ80-NE50 K AGD				-	242	242	-	98	98
SIQ80-NE50 AGD	17	17	73						
SIQ80-NE50 LCn AGD				1,54	242	244	13,4	98	112
SIA05-NE H1 AGD				-	225	225	-	13,2	14
SIA05-NE AGD	17	17	73						
SIA05-NE LCn AGD				1,54	225	227	13,4	13,2	27
SIA12-NE H1 AGD				-	225	225	-	28	28
SIA12-NE AGD	17	17	73						
SIA12-NE LCn AGD				1,54	225	227	13,4	42	42
SIA15-NE H1 AGD				-	226	226	-	40,8	41
SIA15-NE AGD	17	17	73						
SIA15-NE LCn AGD				1,54	226	228	13,4	40,8	54
SIA22-NE H AGD				-	227	227	-	58,7	59
SIA22-NE AGD	17	17	73						
SIA22-NE LCn AGD				1,54	227	229	13,4	58,7	72
SIA30-NE H AGD				-	229	229	-	81,60	82
SIA30-NE AGD	17	17	73						
				1,54	229	231	13,4	81,60	95

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Applicant: AECO S.r.l.

Apparatus: Inductive Proximity Sensors

Series: SI***-N*****AGD*



SIA30-NE■ LCn AGD■										
SIA44-NE H AGD■	17	17	73	-	231	231	-	102,5	103	
SIA44-NE■ AGD■				1,54	231	233	13,4	102,5	116	
SIA44-NE■ LCn AGD■										
SIA63-NE H AGD■	17	17	73	-	225	225	-	102,5	103	
SIA63-NE■ AGD■				1,54	225	227	13,4	102,5	116	
SIA63-NE■ LCn AGD■										

MARKING

Description		Group device	Category device	Category device	Symbol of protection against explosions	Protection type	Group of substance	Temperature Class	Maximum Surface Temperature	EPL	IP rating	Ambient Temperature Range (°C)
S16.5-N1 H1 AGD■ (1)	Gas	II	1	G	Ex	ia	IIC	T6	-	Ga	-	-25 ÷ 60
S16.5-N1■ AGD■												
S16.5-N1■ LCn AGD■												
S18-N1 H1 AGD■ (1)												
S18-N1■ AGD■												
S18-N1■ LCn AGD■												
S16.5-NE2 H1 AGD■ (1)	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
S16.5-NE2■ AGD■												
S16.5-NE2■ LCn AGD■												
S18-NE2 H1 AGD■ (1)												
S18-NE2■ AGD■												
S18-NE2■ LCn AGD■												
S112-N2 H AGD■ (1)	Gas	II	1	G	Ex	ia	IIC	T6	-	Ga	-	-25 ÷ 60
S112-N2■ AGD■												
S112-N2■ LCn AGD■												
	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
S112-NE4 H AGD■ (1)	Gas	II	1	G	Ex	ia	IIC	T6	-	Ga	-	-25 ÷ 60
S112-NE4■ AGD■												
S112-NE4■ LCn AGD■												
	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
S114-N3■ AGD■	Gas	II	1	G	Ex	ia	IIC	T6	-	Ga	-	-25 ÷ 60
S114-N3■ LCn AGD■	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	



SI14-NE5 AGD	Gas	II	1	G	Ex	ia	IIC	T6	-	Ga	-	-25 ÷ 60
SI14-NE5 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SI18-N5 H AGD (1)	Gas	II	1	G	Ex	ia	IIC	T6	-	Ga	-	-25 ÷ 60
SI18-N5 AGD												
SI18-N5 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SI18-NE8 H AGD (1)	Gas	II	1	G	Ex	ia	IIC	T6	-	Ga	-	-25 ÷ 60
SI18-NE8 AGD												
SI18-NE8 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SI30-N10 H AGD (1)	Gas	II	1	G	Ex	ia	IIB	T6	-	Ga	-	-25 ÷ 60
SI30-N10 AGD												
SI30-N10 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SI30-NE15 H AGD (1)	Gas	II	1	G	Ex	ia	IIB	T6	-	Ga	-	-25 ÷ 60
SI30-NE15 AGD												
SI30-NE15 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SIPA8-N1.5 H1 AGD (1)	Gas	II	1	G	Ex	ia	IIC	T5	-	Ga	-	-25 ÷ 60
SIPA8-N1.5 AGD												
SIPA8-N1.5 LCn AGD												
SIPC8-N1.5 H1 AGD (1)	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	
SIPC8-N1.5 AGD												
SIPC8-N1.5 LCn AGD												
SIP10-N2 H1 AGD (1)	Gas	II	1	G	Ex	ia	IIB	T6	-	Ga	-	-25 ÷ 60
SIP10-N2 AGD												
SIP10-N2 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SIP12-N2 H1 AGD (1)	Gas	II	1	G	Ex	ia	IIB	T6	-	Ga	-	-25 ÷ 60
SIP12-N2 AGD												
SIP12-N2 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SIP12-NE4 H1 AGD (1)	Gas	II	1	G	Ex	ia	IIB	T6	-	Ga	-	-25 ÷ 60
SIP12-NE4 AGD												

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SIP12-NE4 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SIP17-NE5 H1 AGD (1)	Gas	II	1	G	Ex	ia	IIB	T6	-	Ga	-	-25 ÷ 60
SIP17-NE5 AGD												
SIP17-NE5 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T85°C	Da	IP6X	
SIP40-N15 K AGD (1)	Gas	II	2	G	Ex	ia	IIB	T5	-	Gb	-	-25 ÷ 60
	Dust	II	2	D	Ex	ia	IIIC	-	T100°C	Db	IP6X	
SIP40-N15 LC3 AGD	Gas	II	1	G	Ex	ia	IIA	T5	-	Ga	-	-25 ÷ 60
SIP40-N15 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	
SIP40-NE20 K AGD (1)	Gas	II	2	G	Ex	ia	IIB	T5	-	Gb	-	-25 ÷ 60
	Dust	II	2	D	Ex	ia	IIIC	-	T100°C	Db	IP6X	
SIP40-NE20 LC3 AGD	Gas	II	1	G	Ex	ia	IIA	T5	-	Ga	-	-25 ÷ 60
SIP40-NE20 LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	
SIQ80-NE50 K AGD (1)	Gas	II	2	G	Ex	ia	IIB	T5	-	Gb	-	-25 ÷ 60
SIQ80-NE50 AGD												
SIQ80-NE50 LCn AGD	Dust	II	2	D	Ex	ia	IIIC	-	T100°C	Db	IP6X	
SIA05-NE H1 AGD (1)	Gas	II	1	G	Ex	ia	IIA	T5	-	Ga	-	-25 ÷ 60
SIA05-NE AGD												
SIA05-NE LCn AGD	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	

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<i>SIA12-NE H1 AGD</i> (1)	Gas	II	1	G	Ex	ia	IIB	T5	-	Ga	-	-25 ÷ 60
<i>SIA12-NE</i> AGD												
<i>SIA12-NE LCn AGD</i>												
	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	
<i>SIA15-NE H1 AGD</i> (1)	Gas	II	1	G	Ex	ia	IIB	T5	-	Ga	-	-25 ÷ 60
<i>SIA15-NE</i> AGD												
<i>SIA15-NE LCn AGD</i>												
	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	
<i>SIA22-NE H AGD</i> (1)	Gas	II	1	G	Ex	ia	IIB	T5	-	Ga	-	-25 ÷ 60
<i>SIA22-NE</i> AGD												
<i>SIA22-NE LCn AGD</i>												
	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	
<i>SIA30-NE H AGD</i> (1)	Gas	II	1	G	Ex	ia	IIB	T5	-	Ga	-	-25 ÷ 60
<i>SIA30-NE</i> AGD												
<i>SIA30-NE LCn AGD</i>												
	Dust	II	1	D	Ex	ia	IIIC	-	T100°C	Da	IP6X	
<i>SIA44-NE H AGD</i> (1)	Gas	II	2	G	Ex	ia	IIB	T5	-	Gb	-	-25 ÷ 60
<i>SIA44-NE</i> AGD												
<i>SIA44-NE LCn AGD</i>												
	Dust	II	2	D	Ex	ia	IIIC	-	T100°C	Db	IP6X	
<i>SIA63-NE H AGD</i> (1)	Gas	II	2	G	Ex	ia	IIB	T5	-	Gb	-	-25 ÷ 60
<i>SIA63-NE</i> AGD												
<i>SIA63-NE LCn AGD</i>												
	Dust	II	2	D	Ex	ia	IIIC	-	T100°C	Db	IP6X	

Note:

"X" = 8 for model with integrated cable or

"X" = 6 or 7 depending on the connector type connected to the sensor (models one only with (1))