

# **Product Technology Service**

**OPERATE ACCORDING TO ISO/IEC 17025**

# **TEST REPORT**

**RoHS 2011/65/EU and Amending Directive**

**(EU)2015/863**

**Test Report Number:**

**NB2021070402S1**

Product Technology Service (Ningbo) Co., Ltd.  
5-7F, 59#, Huayu Road, Yinzhou District, Ningbo, P.R. China



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Test Report

Testing institute : Product Technology Service (Ningbo) Co., Ltd.  
5-7F, 59#, Huayu Road, Yinzhou District, Ningbo, Zhejiang

Applicant : SHENZHEN MAXONIC AUTOMATION CONTROL CO., Ltd. SENEX  
INSTRUMENT LTD.  
ROOM102, No. 600 II,Guangshan Second Road, Tianhe District, Guangzhou City

Manufacturers : SHENZHEN MAXONIC AUTOMATION CONTROL CO., Ltd. SENEX  
INSTRUMENT LTD.

Product name : 1.Pressure sensors  
2.Pressure sensors

Main Model/Type : 1.DG  
2.DG

Series Model : 1.DG2  
2.DG2

Sample Description : 1.Metal itself  
2.Metal itself

Material : 1. Stainless steel  
2. Stainless steel

Test period : Jul.02,2021-Jul.23,2021

Test specification : EC Directive 2011/65/EU and Amending Directive (EU)2015/863 –The  
Restriction of the Use of Certain Hazardous Substances in Electrical and  
Electronic Equipment— (RoHS)

Final Result : Pass  
Based on the randomly sampled examinations performed, the test specimens  
correspond to above requirements. With regard to the parameters tested, the  
requirements of the EC Regulations on Restriction of Hazardous Substances  
Directive (RoHS), 2011/65/EU and Amending Directive (EU)2015/863, are met.

Signed for and on behalf of  
Product Technology Service (Ningbo) Co., Ltd.

*Davy Wei*  
Authorizer: Davy Wei



The test results exclusively refer to the samples examined. This report shall not be reproduced except in full without written approval and does not authorize the use of Product Technology Service (Ningbo) Co., Ltd. label. The report is invalid without signature and seal of Product Technology Service (Ningbo) Co., Ltd.

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Terms and Conditions:

- The laboratory assessed the product against the BOM and exploded diagram to check that all Components declared on the BOM were present in the submitted sample(s).
- Review the test reports to establish their validity.
- Engineers used their experience to assess the risk of banned substances being present in the Components within your product.
- Identify high risk issues and require screen test and/or full chemical testing of certain component(s).
- Identify unacceptable levels of risk and request alternative component(s).
- The test methods are recommended according to IEC 62321-1: 2013, IEC 62321-2: 2013, IEC 62321-3-1: 2013, IEC 62321-4: 2013+AMD1:2017, and IEC 62321-5: 2013, IEC 62321-6: 2015, IEC 62321-7-1: 2015, IEC 62321-7-2: 2017, IEC 62321-8: 2017.  
Procedures for the determination of levels of regulated substances in electrotechnical products.
- Requirement The European parliament and council directive in the European Union: 2011/65/EU and Amending Directive (EU)2015/863

Important: The limit values apply to each individual homogenous material.

- Main test instruments used for this method:

Parameter	Instrument	Manufactory	Model / Type
Pb, Cd, Hg, Cr & Br	EDX	Skyray Instrument	3000B
Pb & Cd & Hg	ICP-OES	PerkinElmer	Optima 5300 DV
Cr VI	UV-Vis	LabTech	BlueStar plus
PBBs &PBDEs	GC-MS	Agilent Technologies	GC (6890)-MS (5975)
DEHP&DBP &BBP& DIBP	GC-MS	Agilent Technologies	GC (7890)-MS (5975)



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Result Summary and Bill of Materials (BOM)

Product name: 1.Pressure sensors  
2.Pressure sensors

1. Screening Test by XRF Spectroscopy

Test Method: Lead, Cadmium, Mercury, Chromium, Bromine- With reference to IEC 62321-3-1: 2013

- (1) BL “below limit”—the result less than the limit of table 1
- (2) OL “over limit”— the result greater than the limit of table 1
- (3) X— the region where further investigation is necessary.
- (4)  $3\sigma$ — Repeability of the analyser at the action level

Table 1 XRF screening limits in mg/kg for regulated elements in various matrices

Element	Polymer Materials	Metallic Materials	Composite material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$		$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$



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Test result

Main test model:DG

No.	Parts Name	Material	Result (mg/kg)				
			Pb	Cd	Cr	Hg	Br
			Limit(mg/kg)				
			1000	100	--	1000	--
1	Black plastic	Plastic	BL	BL	BL	BL	BL
2	Black plastic	Plastic	BL	BL	BL	BL	BL
3	Black plastic	Plastic	BL	BL	BL	BL	BL
4	Black plastic	Plastic	BL	BL	BL	BL	538
5	Black plastic	Plastic	BL	BL	BL	BL	BL
6	Copper sheet	Copper alloy	BL	BL	BL	BL	--
7	Soler	Tin	BL	BL	BL	BL	--
8	Iron block	Steel alloy	BL	BL	BL	BL	--
9	Black rubber	Rubber	BL	BL	BL	BL	BL
10	Rubber	Rubber	BL	BL	BL	BL	BL
11	Sealing ring	Rubber	BL	BL	BL	BL	BL
12	Resin plate	--	BL	BL	BL	BL	8392
13	Blue wire jacket	Plastic	BL	BL	BL	BL	BL
14	Red wire jacket	Plastic	BL	BL	BL	BL	BL
15	White wire jacket	Plastic	BL	BL	BL	BL	BL
16	Black wire jacket	Plastic	BL	BL	BL	BL	BL
17	White glues	Rubber	BL	BL	BL	BL	BL
18	PCB	--	BL	BL	BL	BL	7653
19	SMT components	Ceramic	BL	BL	BL	BL	BL
20	Solder	Tin	BL	BL	BL	BL	--
21	PCB	--	BL	BL	BL	BL	37269
22	Black plastic	Plastic	BL	BL	BL	BL	491
23	PCB	--	BL	BL	BL	BL	16924
24	SMT components	Ceramic	BL	BL	BL	BL	BL
25	Solder	Tin	BL	BL	BL	BL	--
26	Iron block	Steel alloy	BL	BL	BL	BL	--
27	Copper block	Copper alloy	BL	BL	BL	BL	--
28	Screw	Steel alloy	BL	BL	BL	BL	--
29	Screw	Steel alloy	BL	BL	BL	BL	--
30	Iron ring	Steel alloy	BL	BL	BL	BL	--
31	Pin	Copper alloy	BL	BL	BL	BL	--
32	Black plastic	Plastic	BL	BL	BL	BL	BL

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Different components

No.	Parts Name	Material	Model	Result (mg/kg)				
				Pb	Cd	Cr	Hg	Br
				Limit(mg/kg)				
				1000	100	--	1000	--
1	Black plastic	Plastic	DG	BL	BL	BL	BL	26496
2	Yellow plastic	Plastic	DG	BL	BL	BL	BL	35612
3	Iron block	Steel alloy	DG	BL	BL	BL	BL	--
4	Yellow iron	Steel alloy	DG	BL	BL	BL	BL	--
5	Copper sheet	Copper alloy	DG	BL	BL	BL	BL	--
6	Black rubber	Rubber	DG	BL	BL	BL	BL	BL
7	Copper wire	Copper alloy	DG	BL	BL	BL	BL	--
8	Sheath	Plastic	DG	BL	BL	BL	BL	1957
9	Power cord skin	Plastic	DG	BL	BL	BL	BL	BL
10	Silver plastic	Plastic	DG	BL	BL	BL	BL	BL
11	Red wire jacket	Plastic	DG	BL	BL	BL	BL	BL
12	White wire jacket	Plastic	DG	BL	BL	BL	BL	BL
13	Green wire jacket	Plastic	DG	BL	BL	BL	BL	BL
14	Black wire jacket	Plastic	DG	BL	BL	BL	BL	BL
15	Sealing ring	Rubber	DG	BL	BL	BL	BL	BL
16	Copper block	Copper alloy	DG	BL	BL	BL	BL	--
17	Resin board	--	DG	BL	BL	BL	BL	36704
18	PCB	--	DG	BL	BL	BL	BL	24481
19	Solder	Tin	DG	BL	BL	BL	BL	--
20	SMT components	Ceramic	DG	BL	BL	BL	BL	BL
21	Solder	Tin	DG	BL	BL	BL	BL	--
22	PCB	--	DG	BL	BL	BL	BL	39741
23	PCB	--	DG	BL	BL	BL	BL	11001
24	SMT components	Ceramic	DG	BL	BL	BL	BL	3319
25	Solder	Tin	DG	BL	BL	BL	BL	--
26	Black wire jacket	Rubber	DG	BL	BL	BL	BL	BL
27	Solder	Tin	DG	BL	BL	BL	BL	--
28	Red wire jacket	Rubber	DG	BL	BL	BL	BL	BL
29	White wire jacket	Rubber	DG	BL	BL	BL	BL	BL
30	Black plastic	Plastic	DG	BL	BL	BL	BL	50547

At the customer's request, only parts that are different from the main test model were tested.

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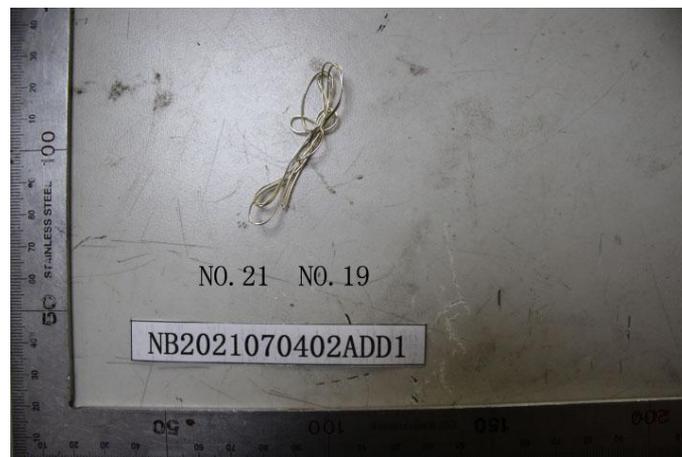


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Different component photo(s)



NO.19SOLDER&NO.21SOLDER

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## 2. Confirmation Test by Wet Chemistry

Test Method: Total Lead, Cadmium, Mercury, Chromium – Ref. to IEC 62321-4: 2013+AMD1:2017 &

IEC 62321-5: 2013

Chromium VI – Ref. to IEC 62321-7-1: 2015, IEC 62321-7-2: 2017

PBBs, PBDEs – Ref. to IEC 62321-6: 2015

DEHP,DBP,BBP,DIBP – Ref. to IEC 62321-8: 2017

Main test model:DG

2.1

No.	Parts Name	--	Test Item						Conclusion	
			Pb	Cd	CrVI	Hg	PBBs	PBDEs		
			Detection Limit	10	10	10	10	10		10
			Limit	1000	100	1000	1000	1000		1000
Material		Result (mg/kg)								
4	Black plastic	Plastic	NA	NA	NA	NA	ND	ND	Pass	
12	Resin plate	--	NA	NA	NA	NA	ND	ND	Pass	
18	PCB	--	NA	NA	NA	NA	ND	ND	Pass	
21	PCB	--	NA	NA	NA	NA	ND	ND	Pass	
22	Black plastic	Plastic	NA	NA	NA	NA	ND	ND	Pass	
23	PCB	--	NA	NA	NA	NA	ND	ND	Pass	

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2.2

No.	Parts Name	--	Test Item				Conclusion	
			DEHP	DBP	BBP	DIBP		
			Detection Limit	0.005	0.005	0.005		0.005
			Limit	0.1	0.1	0.1		0.1
Material	Result (%)							
1	Black plastic	Plastic	ND	ND	ND	ND	Pass	
2	Black plastic	Plastic	ND	ND	ND	ND	Pass	
3	Black plastic	Plastic	ND	ND	ND	ND	Pass	
4	Black plastic	Plastic	ND	ND	ND	ND	Pass	
5	Black plastic	Plastic	ND	ND	ND	ND	Pass	
9	Black rubber	Rubber	ND	ND	ND	ND	Pass	
10	Rubber	Rubber	ND	ND	ND	ND	Pass	
11	Sealing ring	Rubber	ND	ND	ND	ND	Pass	
12	Resin plate	--	ND	ND	ND	ND	Pass	
13	Blue wire jacket	Plastic	ND	0.018	ND	ND	Pass	
14	Red wire jacket	Plastic	ND	0.011	ND	ND	Pass	
15	White wire jacket	Plastic	ND	0.022	ND	ND	Pass	
16	Black wire jacket	Plastic	ND	ND	ND	ND	Pass	
17	White glues	Rubber	ND	ND	ND	ND	Pass	
18	PCB	--	ND	ND	ND	ND	Pass	
19	SMT components	Ceramic	ND	ND	ND	ND	Pass	
21	PCB	--	ND	ND	ND	ND	Pass	
22	Black plastic	Plastic	ND	ND	ND	ND	Pass	
23	PCB	--	ND	ND	ND	ND	Pass	
24	SMT components	Ceramic	ND	ND	ND	ND	Pass	
32	Black plastic	Plastic	ND	ND	ND	ND	Pass	



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Different components

No.	Parts Name	--	Test Item						Conclusion	
			Pb	Cd	CrVI	Hg	PBBs	PBDEs		
			Detection Limit	10	10	10	10	10		10
			Limit	1000	100	1000	1000	1000		1000
Material		Result (mg/kg)								
1	Black plastic	Plastic	NA	NA	NA	NA	ND	ND	Pass	
2	Yellow plastic	Plastic	NA	NA	NA	NA	ND	ND	Pass	
8	Sheath	Plastic	NA	NA	NA	NA	ND	ND	Pass	
17	Resin board	--	NA	NA	NA	NA	ND	ND	Pass	
18	PCB	--	NA	NA	NA	NA	ND	ND	Pass	
22	PCB	--	NA	NA	NA	NA	ND	ND	Pass	
23	PCB	--	NA	NA	NA	NA	ND	ND	Pass	
24	SMT components	Ceramic	NA	NA	NA	NA	ND	ND	Pass	
30	Black plastic	Plastic	NA	NA	NA	NA	ND	ND	Pass	

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No.	Parts Name	--	Test Item				Conclusion	
			DEHP	DBP	BBP	DIBP		
			Detection Limit	0.005	0.005	0.005		0.005
			Limit	0.1	0.1	0.1		0.1
Material		Result (%)						
1	Black plastic	Plastic	ND	ND	ND	ND	Pass	
2	Yellow plastic	Plastic	ND	ND	ND	ND	Pass	
6	Black rubber	Rubber	ND	ND	ND	ND	Pass	
8	Sheath	Plastic	ND	ND	ND	ND	Pass	
9	Power cord skin	Plastic	ND	ND	ND	ND	Pass	
10	Silver plastic	Plastic	ND	ND	ND	ND	Pass	
11	Red wire jacket	Plastic	ND	ND	ND	ND	Pass	
12	White wire jacket	Plastic	ND	ND	ND	ND	Pass	
13	Green wire jacket	Plastic	ND	ND	ND	ND	Pass	
14	Black wire jacket	Plastic	ND	ND	ND	ND	Pass	
15	Sealing ring	Rubber	ND	ND	ND	ND	Pass	
17	Resin board	--	ND	ND	ND	ND	Pass	
18	PCB	--	ND	ND	ND	ND	Pass	
20	SMT components	Ceramic	ND	ND	ND	ND	Pass	
22	PCB	--	ND	ND	ND	ND	Pass	
23	PCB	--	ND	ND	ND	ND	Pass	
24	SMT components	Ceramic	ND	ND	ND	ND	Pass	
26	Black wire jacket	Rubber	ND	ND	ND	ND	Pass	
28	Red wire jacket	Rubber	ND	ND	ND	ND	Pass	
29	White wire jacket	Rubber	ND	ND	ND	ND	Pass	
30	Black plastic	Plastic	ND	ND	ND	ND	Pass	

Remark:

ND = Not detected, less than detection limit

NA = Not Applicable

Ne = Negative, Chromium VI concentration less than 0.10µg / cm<sup>2</sup>

Po = Positive, Chromium VI concentration more than 0.13µg/cm<sup>2</sup>

In = inconclusive, Chromium VI concentration between 0.10µg/cm<sup>2</sup> and 0.13µg/cm<sup>2</sup>

\* = Exemption item, see annex 1

Sample photo(s), see annex 2



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## ANNEX 1

### Exemption items:

The below items are quoted according to Directive 2011/65/EU Annex III, 2014/76/EU, (EU)2017/1009, (EU)2017/1010, (EU)2017/1011, (EU)2017/1975, (EU)2018/736-(EU)2018/742, (EU)2019/169-(EU)2019/178, (EU) 2019/1845, (EU) 2019/1846, Notification G/TBT/N/EU/679/Add.1, (EU)2020/361and (EU)2020/365.

	Exemption	Scope and dates of applicability
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	
1(a)	For general lighting purposes < 30W: 5mg	Expires on 31 December 2011; 3.5mg may be used per burner after 31 December 2011 until 31 December 2012; 2.5 mg shall be used per burner after 31 December 2012
1(b)	For general lighting purposes $\geq$ 30W and < 50W: 5mg	Expires on 31 December 2011; 3.5mg may be used per burner after 31 December 2011
1(c)	For general lighting purposes $\geq$ 50W and < 150W: 5mg	
1(d)	For general lighting purposes $\geq$ 150W: 15mg	
1(e)	For general lighting purposes with circular or square structural shape and tube diameter < 17mm	No limitation of use until 31 December 2011; 7mg may be used per burner after 31 December 2011
1(f)	For special purposes: 5mg	
2(a)	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter > 9mm (e.g.T2): 5mg	Expires on 31 December 2011; 4mg may be used per lamp after 31 December 2011
2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter $\geq$ 9mm and $\leq$ 17mm (e.g.T5): 5mg	Expires on 31 December 2011; 3mg may be used per lamp after 31 December 2011
2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17mm and $\leq$ 28 mm (e.g.T8): 5mg	Expires on 31 December 2011; 3.5mg may be used per lamp after 31 December 2011
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28mm (e.g. T12): 5mg	Expires on 31 December 2012; 3.5mg may be used per lamp after 31 December 2012
2(a)(5)	Tri-band phosphor with long lifetime ( $\geq$ 25 000 h): 8mg	Expires on 31 December 2011; 5mg may be used per lamp after 31 December 2011
2(b)	Mercury in other fluorescent lamps not exceeding (per lamp):	
2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter >17mm (e.g. T9)	No limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011
2(b)(4)	Lamps for other general lighting and special purposes(e.g.induction lamps)	No limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	
3(a)	Short length ( $\geq$ 500mm)	No limitation of use until 31 December 2011; 3.5mg may be used per lamp after 31 December 2011
3(b)	Medium length (> 500mm and $\leq$ 1500mm)	No limitation of use until 31 December 2011; 5mg may be used per lamp after 31 December 2011
3(c)	Long length (> 1500mm)	No limitation of use until 31 December 2011; 13mg may be used per lamp after 31 December 2011
4(a)	Mercury in other low pressure discharge lamps (per lamp)	No limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011
4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60:	
4(b)-I	P $\leq$ 155W	No limitation of use until 31 December 2011; 30mg may be used per burner after 31 December 2011
4(b)-II	155W < P $\leq$ 405W	No limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011
4(b)-III	P > 405W	No limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011
4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	
4(c)-I	P $\leq$ 155W	No limitation of use until 31 December 2011; 25mg may be used per burner after 31 December 2011
4(c)-I	P $\leq$ 155W	No limitation of use until 31 December 2011; 25mg may be used per burner after 31 December 2011
4(c)-II	155W < P $\leq$ 405W	No limitation of use until 31 December 2011; 30mg may be used per burner after 31 December 2011
4(c)-III	P > 405W	No limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011
4(e)	Mercury in metal halide lamps (MH)	
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	
5(a)	Lead in glass of cathode ray tubes	
5(b)	Lead in glass of fluorescent tubes not exceeding 0.2% by weight.	
6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0.35 % lead by weight.	Expires on: -21 July 2021 for categories 8 and 9 other than in vitro

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		diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
6(a)-I	Lead as an alloying element in steel for machining purposes containing up to 0,35 % lead by weight and in batch hot dip galvanised steel components containing up to 0,2 % lead by weight.	Expires on 21 July 2021 for categories 1-7 and 10
6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight.	Expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
6(b)-I	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling.	Expires on 21 July 2021 for categories 1-7 and 10.
6(b)-II	Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight.	Expires on 18 May 2021 for categories 1-7 and 10.
6(c)	Copper alloy containing up to 4 % lead by weight.	Expires on: -21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	Applies to categories 1-7 and 10 (except applications covered by point 24 of this Annex) and expires on 21 July 2021. For categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments expires on 21 July 2021. For category 8 in vitro diagnostic medical devices expires on 21 July 2023. For category 9 industrial monitoring and control instruments, and for category 11 expires on 21 July 2024.
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications.	
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	Applies to categories 1-7 and 10 (except applications covered under point 34) and expires on 21 July 2021. For categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments expires on 21 July 2021. For category 8 in vitro diagnostic medical devices expires on 21 July 2023. For category 9 industrial monitoring and control instruments, and for category 11 expires on 21 July 2024.
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	Does not apply to applications covered by point 7(c)-I and 7(c)-IV of this Annex. Expires on: -21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors which are part of integrated circuits or discrete semiconductors	Expires on: -21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments;

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		-21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs	Expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the market before 1 January 2012
8(b)	Cadmium and its compounds in electrical contacts	Applies to categories 8, 9 and 11 and expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
8(b)-I	Cadmium and its compounds in electrical contacts used in: -circuit breakers, -thermal sensing controls, -thermal motor protectors (excluding hermetic thermal motor protectors), -AC switches rated at: -6 A and more at 250 V AC and more, or -12 A and more at 125 V AC and more, -DC switches rated at 20 A and more at 18 V DC and more, and -switches for use at voltage supply frequency $\geq$ 200 Hz.	Applies to categories 1 to 7 and 10 and expires on 21 July 2021
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	Applies to categories 8, 9 and 11 and expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
9(a)-I	Up to 0,75 % hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators (including minibars) designed to operate fully or partly with electrical heater, having an average utilised power input < 75 W at constant running conditions	Applies to categories 1-7 and 10 and expires on 5 March 2021.
9(a)-II	Up to 0,75 % hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators: -designed to operate fully or partly with electrical heater, having an average utilised power input $\geq$ 75 W at constant running conditions, -designed to fully operate with non-electrical heater.	Applies to categories 1-7 and 10 and expires on 21 July 2021.
9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	Applies to categories 8, 9 and 11; expires on: - 21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11, -21 July 2021 for other subcategories of categories 8 and 9.
11(a)	Lead used in C-press compliant pin connector systems	May be used in spare parts for EEE placed on the market before 24 September 2010
11(b)	Lead used in other than C-press compliant pin connector systems	Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013
12	Lead as a coating material for the thermal conduction module C-ring	May be used in spare parts for EEE placed on the market before 24 September 2010
13(a)	Lead in white glasses used for optical applications	Applies to all categories; expires on: - 21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; - 21 July 2021 for all other categories and subcategories
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	Applies to categories 8, 9 and 11; expires on: - 21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments and for category 11; -21 July 2021 for other subcategories of categories 8 and 9
13(b)-(I)	Lead in ion coloured optical filter glass types	Applies to categories 1 to 7 and 10; expires on 21 July 2021 for categories 1 to 7 and 10
13(b)-(II)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	

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13(b)-(III)	Cadmium and lead in glazes used for reflectance standards	
14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight	Expires on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	Applies to categories 8, 9 and 11 and expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 1
15(a)	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: -a semiconductor technology node of 90 nm or larger; -a single die of 300 mm <sup>2</sup> or larger in any semiconductor technology node; -stacked die packages with die of 300 mm <sup>2</sup> or larger, or silicon interposers of 300 mm <sup>2</sup> or larger.	Applies to categories 1 to 7 and 10 and expires on 21 July 2021.
18(b)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb)	Expires on: -21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
18(b)-I	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps containing phosphors such as BSP (BaSi2O5:Pb) when used in medical phototherapy equipment	Applies to categories 5 and 8, excluding applications covered by entry 34 of Annex IV, and expires on 21 July 2021.
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	Applies to categories 8, 9 and 11 and expires on: -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
21(a)	Cadmium when used in colour printed glass to provide filtering functions, used as a component in lighting applications installed in displays and control panels of EEE	Applies to categories 1 to 7 and 10 except applications covered by entry 21(b) or entry 39 and expires on 21 July 2021.
21(b)	Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	Applies to categories 1 to 7 and 10 except applications covered by entry 21(a) or 39 and expires on 21 July 2021.
21(c)	Lead in printing inks for the application of enamels on other than borosilicate glasses	Applies to categories 1 to 7 and 10 and expires on 21 July 2021.
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less	May be used in spare parts for EEE placed on the market before 24 September 2010
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	Expires on: -21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	Expires on: -21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more	
31	Lead in soldering materials in mercury free flat fluorescent lamps (which, e.g.	

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	are used for liquid crystal displays, design or industrial lighting)	
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	Expires on: -21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
33	Lead in solders for the soldering of thin copper wires of 100 μm diameter and less in power transformers	
34	Lead in cermet-based trimmer potentiometer elements	Applies to all categories; expires on: -21 July 2021 for categories 1-7 and 10, -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments, -21 July 2023 for category 8 in vitro diagnostic medical devices, -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	Expires on: -21 July 2021 for categories 1-7 and 10; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	
41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council (*1))	Applies to all categories and expires on: -31 March 2022 for categories 1 to 7, 10 and 11; -21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments; -21 July 2023 for category 8 in vitro diagnostic medical devices; -21 July 2024 for category 9 industrial monitoring and control instruments.
42	Lead in bearings and bushes of diesel or gaseous fuel powered internal combustion engines applied in non-road professional use equipment: -with engine total displacement ≥ 15 litres; or -with engine total displacement < 15 litres and the engine is designed to operate in applications where the time between signal to start and full load is required to be less than 10 seconds; or regular maintenance is typically performed in a harsh and dirty outdoor environment, such as mining, construction, and agriculture applications.	Applies to category 11, excluding applications covered by entry 6(c) of this Annex. Expires on 21 July 2024
43	Bis(2-ethylhexyl) phthalate in rubber components in engine systems, designed for use in equipment that is not intended solely for consumer use and provided that no plasticised material comes into contact with human mucous membranes or into prolonged contact with human skin and the concentration value of bis(2-ethylhexyl) phthalate does not exceed: (a) 30 % by weight of the rubber for (i) gasket coatings; (ii) solid-rubber gaskets; or (iii) rubber components included in assemblies of at least three components using electrical, mechanical or hydraulic energy to do work, and attached to the engine. (b) 10 % by weight of the rubber for rubber-containing components not referred to in point (a). For the purposes of this entry, “prolonged contact with human skin” means continuous contact of more than 10 minutes duration or intermittent contact over a period of 30 minutes, per day.	Applies to category 11 and expires on 21 July 2024.
44	Lead in solder of sensors, actuators, and engine control units of combustion engines within the scope of Regulation (EU) 2016/1628 of the European Parliament and of the Council (*1), installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users	Applies to category 11 and expires on 21 July 2024.
45	Cadmium and lead in rigid plastic profiles containing mixtures produced from polyvinyl chloride waste (hereinafter referred to as ‘recovered rigid PVC’ ),	Applies to category 11 and expires on [the last day of the 24th month after the publication of the Delegated

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	used for electrical and electronic windows and doors, where the concentration in the recovered rigid PVC material does not exceed 0,1 % cadmium by weight (expressed as Cd metal) and/or 2 % lead by weight (expressed as Pb metal), provided that the components concerned are visibly, legibly and indelibly marked with the statement 'Contains recovered PVC'	Directive in the Official Journal].
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---End---

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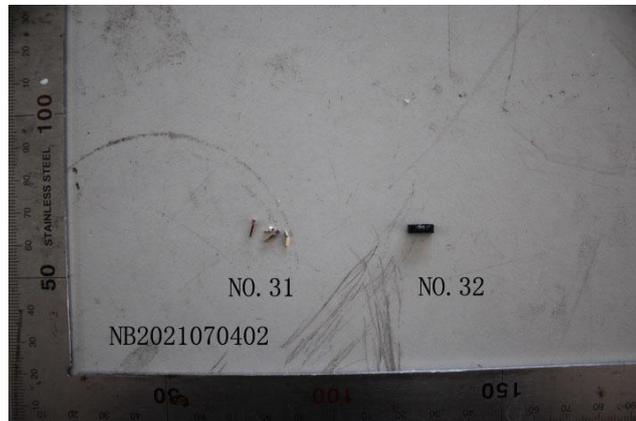
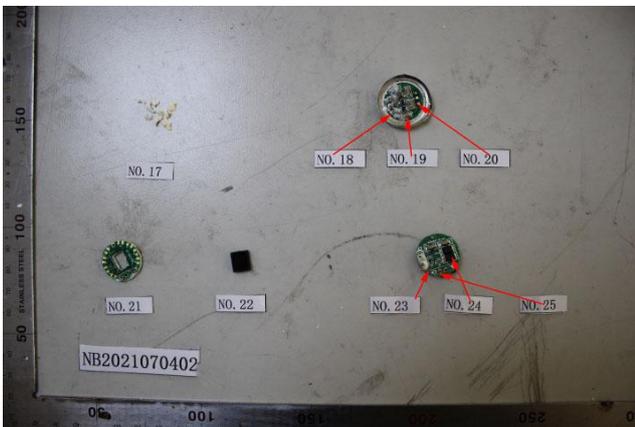
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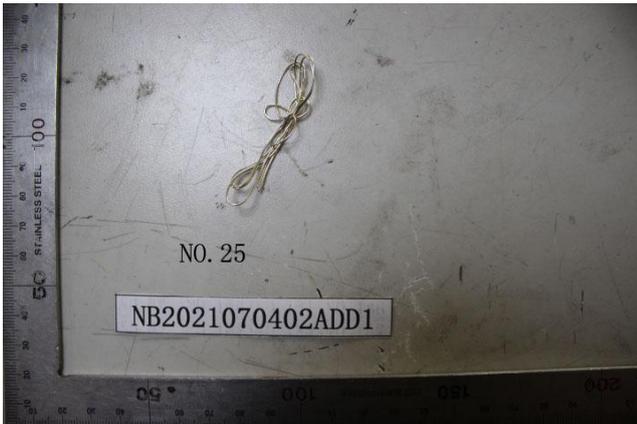
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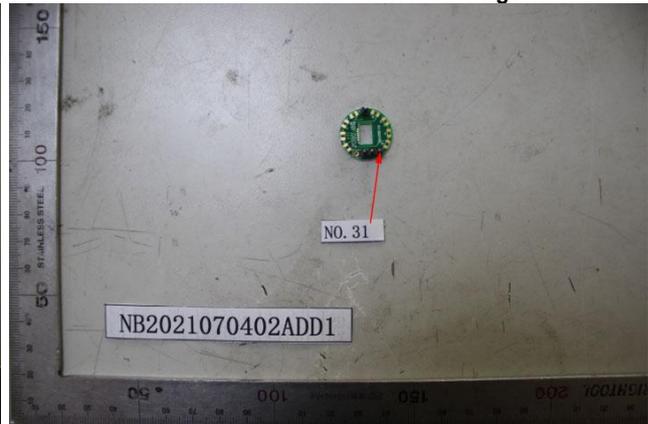
ANNEX 2  
Sample Photo(s), consists of 3 pages



Product name : Pressure sensors  
Tested Model: DG



NO.25 SOLDER



NO.31 PIN

**Remark:** According to client's requirement, following photos were supplied by client.  
**Sample 1**





Sample 2

