TECHNICAL INFORMATION SHEET
NCP-180-P Catalytic Flammable Gas Sensor - SPECIAL PURPOSE

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General Description

The Nemoto NCP-180-P is a new low cost catalytic flammable gas sensor, for the detection of potentially exposive concentrations of all flammable gases in air. The sensor has been especially designed for use in Automated Cash Teller Machines (ATMs), to detect the ingress of Methane, Acetylene, LPG and other flammable gases for security (anti-theft) purposes, but may also be used in a wide range of other applications.

The sensor is a low-cost twin header design, with the compensator element sealed from the atmosphere. This results in a stable and strong response to Acetylene gas, with the compensator protected against interference by acetylene, whilst maintaining equally strong and stable responses to other flammable gases and vapours.

- **Monitors flammability directly**
- **Unaffected by humidity**
- **Very low long term drift**
- **Poison resistant**
- **Superb temperature stability**
- **Shock Resisitant**
- **Linear output to 50% LEL**

Specifications:

Detectable Gas	All Flammable Gases
Recommended Voltage:	2.5V +/- 0.25V
Current Drawn:	160-180mA +/- 10mA
Zero Offset:	0mV +/- 35mV
Minimum Sensitivity: (Measured at 20% LEL in air for each gas)	Methane: >65 mV Isobutane (LPG): >40 mV Acetylene: >45 mV Hydrogen: >65 mV Propane: >45 mV
Range:	0-60% LEL
Repeatability:	+/- 2% LEL
Maximum **Long Term Drift:**	
Span:	< +/- 2% Signal / Month
Zero:	<+/- 2 mV / Year
Response Time:	T_{90}: <20 s_{ec}
Temperature Range:	-20°C to +60°C
Humidity:	0-95%RH, non-condensing
Linearity:	Effectively Linear to 60%LEL
Expected Lifetime	>5 years

Further data relating to the performance of the NCP-180-P gas sensor are available in the full manual for the sensor.

Nemoto has a policy of continuous development and improvement of its products. As such the specification for the device outlined in the data sheet may be changed without notice

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Contact Information:

	Website	email	Telephone
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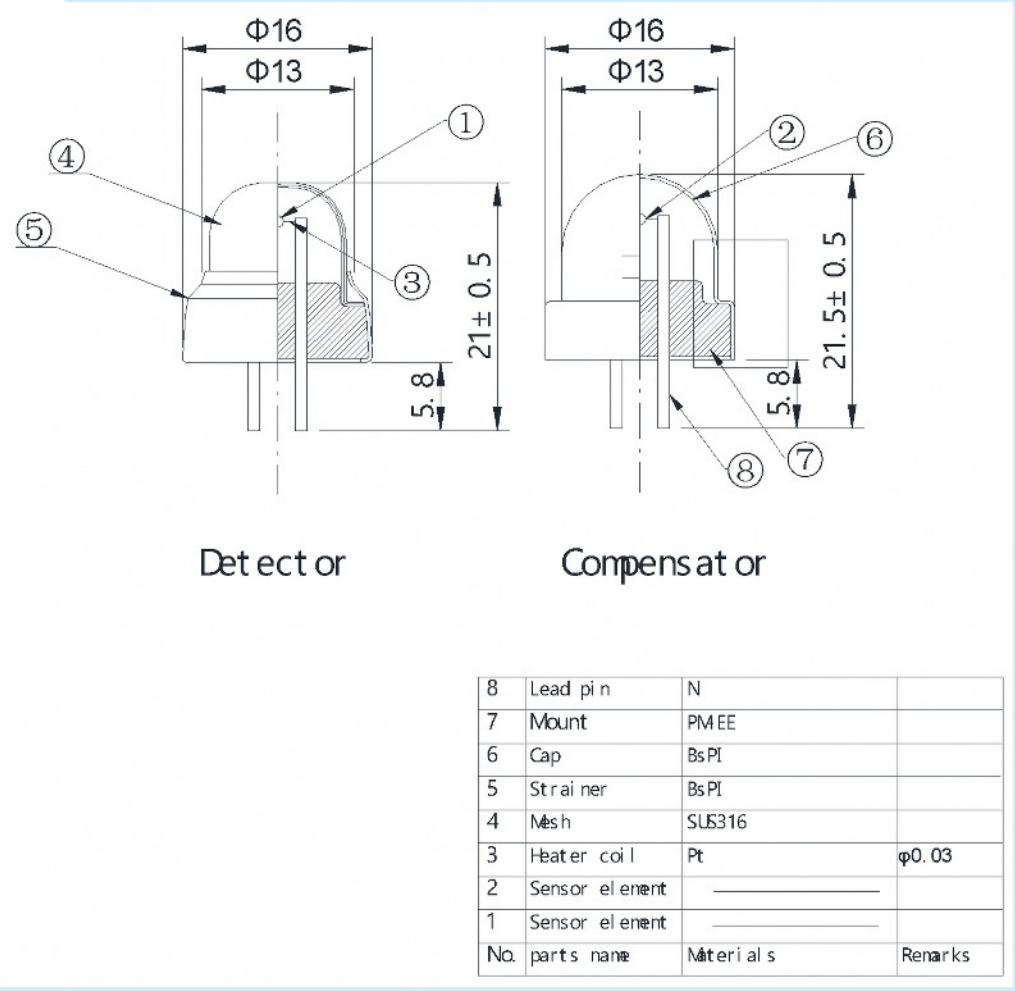
Dimensions and Materials of Construction



8	Lead pin	N	
7	Mount	PMEE	
6	Cap	BsPI	
5	Strainer	BsPI	
4	Mesh	SUS316	
3	Heater coil	Pt	φ0.03
2	Sensor element		
1	Sensor element		
No.	parts name	Materials	Remarks

Other Flammable Gases Detected:

The NCP-180P Gas Sensor has ben specifically characterised for the detection of LPG, Acetylene and Methane gases - the most likely gases used by criminals in the event of an ATM gas attack. However, the sensor will also detect all other flammable gases at flammable levels, including:

Methane	Propane	Butane	Pentane	Hexane
Heptane	Octane	Methanol	Ethanol	Iso-Propanol
Acetone	Toluene	Ethyl acetate	Hydrogen	Ammonia
Ethylene	Unleaded petrol (Gasoline)		Methylethylketone (MEK)	

Test data on drift, poisoning, temperature performance, linearity are available on the Characterisation Document.

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