



# TECHNICAL INFORMATION SHEET NCP-180S-7S Pellistor Gas Sensor

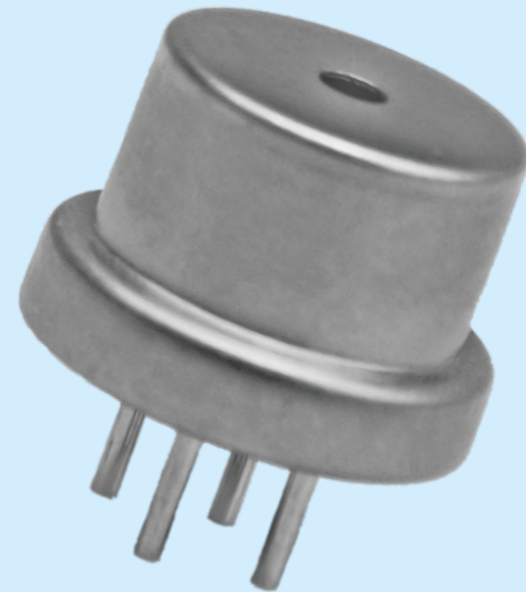
**Nemoto Sensor  
Engineering Co., Ltd.**  
4-10-9, Takaido-higashi,  
Suginami-ku, Tokyo,  
JAPAN

## General Description

The Nemoto NCP-180S-7S is a catalytic (pellistor) type flammable gas sensor supplied as a matched pair of pellistor elements mounted on a single header and protected by a metal enclosure and can.

The sensor detects and measures the presence of flammable gases and vapours in air, in the range 0-100%\* of the Lower Explosive Limit (LEL) of the gas or vapour being measured. Designed for use in Fixed Gas Detection Systems, we believe the NCP-180S-7S offers an unparalleled combination of high performance and low-cost.

The NCP-180S-7S is closely related to the established NCP-180S-6S sensor, but is modified to exhibit a slightly lower signal output sensitivity, resulting in excellent long term zero and sensitivity stability, improved linearity over the entire range 0-100% LEL, and a higher level of resistance to catalytic poisons.



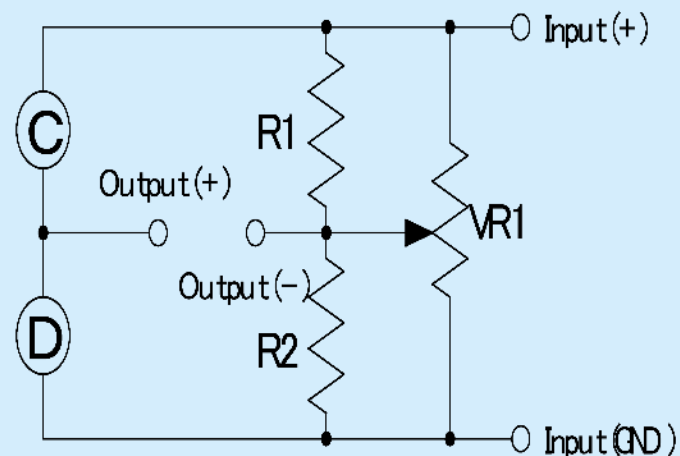
## Specifications:

Recommended Voltage:	2.5V +/- 0.1V
Current Drawn:	170 +/- 20mA
Zero Offset:	0mV +/- 30mV
Minimum Signal Sensitivity:	15mV/% CH4/Air
Range:	0-100% LEL*
Accuracy:	+/- 1%LEL(CH4)
<b>Maximum Long Term Drift:</b>	
Span:	< +/- 1% FSD / month
Zero:	< +/- 0.75 mV/month
Response Time:	T50: <5 sec    T90: <10 sec
Temperature Range:	-20°C to +60°C
Temperature Drift:	(-20°C to +60°C): < +/- 2%LEL
Humidity:	0-95%RH, non-condensing
Humidity Response:	+/- 2%LEL
Linearity:	Effectively Linear to 100% LEL *

\* A slight deviation from full linearity occurs between 50% LEL and 100% LEL. Full details are available in the full manual for the device.

## Recommended Circuit:

Note: The value R1 / R2 is arbitrary, since the function of these resistors is simply to balance the bridge. 200 Ω is suggested. Suggested value for VR1 is 3000 Ω.



Test data on drift, poisoning, temperature performance, linearity are available in the full manual for NCP-180S-7S

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

ncp-180s-7s.ppp, issue 2, Aug 2018

## Contact Information:

Europe & Africa Area

Asia Area

Americas Area

## Website

[www.nemoto.eu](http://www.nemoto.eu)

[www.nemoto.co.jp](http://www.nemoto.co.jp)

[www.nemoto.eu](http://www.nemoto.eu)

## email

[eusensor@nemoto.co.jp](mailto:eusensor@nemoto.co.jp)

[sensor2@nemoto.co.jp](mailto:sensor2@nemoto.co.jp)

[nasensor@nemoto.co.jp](mailto:nasensor@nemoto.co.jp)

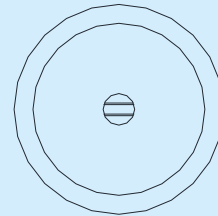
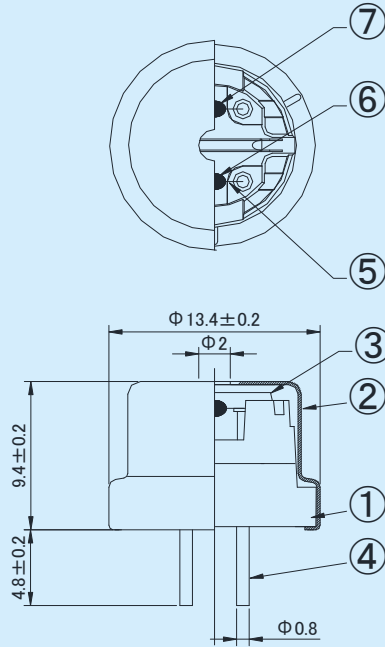
## Telephone

+44 (0)1799 543968

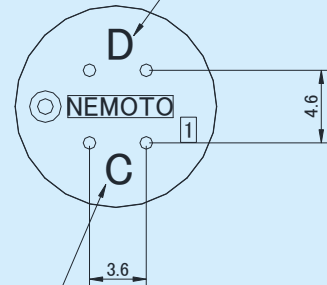
+81 3 3333 2760

+1 604 761 7363

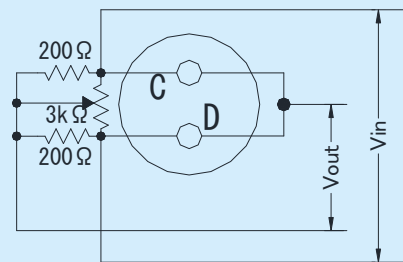
## Dimensions and Materials of Construction



Top view  
Detector mark



Compensator mark  
Bottom view



Measuring Circuit

7	Detector	-	Nemoto & Co.Ltd
6	Compensator	-	Nemoto & Co.Ltd
5	Coil	PPT	φ 30um
4	Pin	Pure Ni	φ 0.8
3	Separator	SUS304CSP	t0.1
2	Cap	SUS304	t0.2
1	Mount	Phenolic resin	UL94-V0
No.	Parts names	Material	Remarks

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

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

ncp-180s-7s.ppp, issue 2, Aug 2018

### Contact Information:

Europe & Africa Area

Asia Area

Americas Area

### Website

[www.nemoto.eu](http://www.nemoto.eu)

[www.nemoto.co.jp](http://www.nemoto.co.jp)

[www.nemoto.eu](http://www.nemoto.eu)

### email

[eusensor@nemoto.co.jp](mailto:eusensor@nemoto.co.jp)

[sensor2@nemoto.co.jp](mailto:sensor2@nemoto.co.jp)

[nasensor@nemoto.co.jp](mailto:nasensor@nemoto.co.jp)

### Telephone

+44 (0)1799 543968

+81 3 3333 2760

+1 604 761 7363