



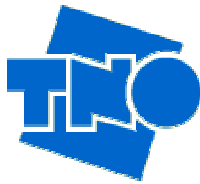
**TEST REPORT CONCERNING THE COMPLIANCE OF  
A VOTING MACHINE, BRAND NEDAP, TYPE ESI 2  
WITH PARTS OF THE STANDARDS IEC 60839-1-2, IEC  
60068-2.**

FCC listed : 90828  
Industry Canada : IC3501

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Test specification(s): IEC 60839-1-3, IEC 60068-2  
Description of EUT: Voting Machine  
Manufacturer: N.V. Nederlandsche Apparatenfabriek "NEDAP"  
Brand mark: Nedap  
Types: ESI 2

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### Description of test item

Test item : Voting Machine  
Manufacturer : N.V. Nederlandsche Apparatenfabriek "NEDAP"  
Brand : Nedap  
Types : ESI 2  
Serial number : R3D011023  
Revision : n.a.  
Receipt number : 1  
Receipt date : April 11, 2003

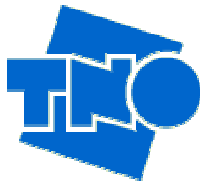
### Applicant information

Applicant's representative : Mr. Peter Greene  
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Order number : n.a.

### Test(s) performed

Location : Dordrecht  
Test(s) started : April 11, 2003  
Test(s) completed : April 18, 2003  
Purpose of test(s) : Compliance with parts of standards  
Test specification(s) : IEC 60839-1-3, IEC 60068-2

Test engineer : J. v. d. Berg (NMI, see attached letter)  
Project leader : T.E.T. Koning.  
Report written by : T.E.T. Koning  
Report date : June 30, 2003



**Test specification(s):** IEC 60839-1-3, IEC 60068-2  
**Description of EUT:** Voting Machine  
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**Types:** ESI 2

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## 1 General.

### 1.1 Applied standards.

At request of N.V. Nedap, the following tests have been outsourced at NMI (Nederlands Meetinstituut) to carry out relevant environmental tests on a Voting Computer.

Environmental temperature (functional)

Execute test at + 5 °C ... +40 °C

Applied standards and duration of tests: IEC 60839-1-3 and IEC 60068-2

Functional test \*): Before, during and after the test

Environmental temperature (storage)

Execute test at - 25 °C ... +70 °C

Applied standards and duration of tests: IEC 60068-2

Functional test \*): Before and after the test

Relative Humidity (functional)

Execute test at 85% at +40 °C

Applied standards and duration of tests: IEC 60068-2

Functional test \*): Before, during and after the test

Relative Humidity non condensing (storage)

Execute test at 95% at +40 °C

Applied standards and duration of tests: IEC 60068-2

Functional test \*): Before and after the test

Temperature change (storage)

Execute test at + 25 °C - 30 °C

Applied standards and duration of tests: IEC 60068-2

Functional test \*): Before and after the test

See § 1.2. for function test during this test-period

### 1.2 Description of functional test.

Open the voting machine (unfold it) and connect mains to 230 V AC. The light will be on directly.

Go to the rear of the voting machine and lift up the black cover and click this to the magnets above.

Take out the Ballot Commission keyboard

Take out the red key.

Put the key in the keyslot in the rear of the voting machine and turn until voting machine generates beeps

Take out the key and put this key in the keyboard keyslot (ballot commission keyboard). Press the F key together with turning the key.

At the front of the Voting machine you will see an A,B,C,D menu now.

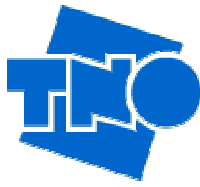
THIS IS THE normal state of the voting machine

To check if votes are still registered one can now:

Set the red key back to its original position (Ballot Commission Keyboard) and turn it on again WITHOUT pressing the "F" key.

Now the voting machine will simulate voting and add these to the memory bank.

Check if this process processes as described.



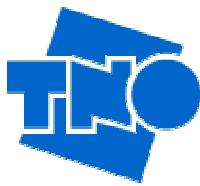
## 2 Results.

The results are given below. See also the NMi result letter, attached to this report.

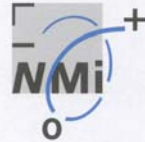
Below given sequences are actual test-sequences

Test number 1,	Functional at 20 °C and relative humidity of 50%	Pass, no deviations detected
Test number 2,	Functional at 5 °C and relative humidity of 75%	Pass, no deviations detected
Test number 3,	Functional at 40 °C and relative humidity of 50%	Pass, no deviations detected
Test number 4,	Functional at 20 °C and relative humidity of 50%	Pass, no deviations detected
Test number 5,	Functional at 20 °C and relative humidity of 50% After storage (switched-off) at -25 °C	Pass, no deviations detected
Test number 6,	Functional at 20 °C and relative humidity of 50% After storage (switched-off) at +70 °C	Pass, no deviations detected
Test number 7,	Functional at 40 °C and relative humidity of 85%	Pass, no deviations detected
Test number 8,	Functional at 20 °C and relative humidity of 50%	Pass, no deviations detected
Test number 9,	Functional, after switching-on at 40 °C and 95% relative humidity after voting computer has been switched-off for 8 hours and has been under these conditions for 8 hours.	Pass, no deviations detected
Test number 10,	Functional at 20 °C and relative humidity of 50%	Pass, no deviations detected
Test number 11,	Functional at 20 °C and 50 % relative humidity, after storing (switched-off) at stepwise increased temperature steps (temperature in steps of 20 °C to 25 °C to 30 °C to 20 °C at 50% relative humidity	Pass, no deviations detected

According to test-results NMi project 303570.



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Nederlands Meetinstituut

the Art of

Datum  
22 april 2003

Uw kenmerk  
03031001/03K0241

Ons kenmerk  
CVN/303570/JB/01

Onderwerp  
Klimaat-onderzoek Nedap stemcomputer

TNO Electronic Products & Services B.V.  
t.a.v. Dhr. Ties Koning  
Postbus 15  
9822 ZG Niekerk

Beste Ties,

Bijgaand ontvang je de resultaten van het klimaatonderzoek van de Nedap-stemcomputer.

Voor de verrichte werkzaamheden ontvang je tevens van ons een factuur.

Met vriendelijke groeten,  
NMI CertinB.V.

Jan van den Berg

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**Vestigingen:**  
Delft, Dordrecht, Utrecht, Bergum

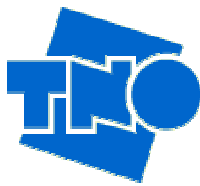
**Internet:**  
website [www.nmi.nl](http://www.nmi.nl)  
e-mail [nmi@nmi.nl](mailto:nmi@nmi.nl)

**NMI B.V.**  
(KvK Haaglanden nr. 27.228.701)

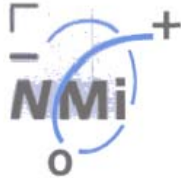
**Werkmaatschappijen:**  
NMI Van Swinden Laboratorium B.V. (27.228.703)  
NMI Certin B.V. (27.233.418)  
Verispect B.V. (27.228.700)

Form. 916/0102

TNO EPS	
In:	22 APR. 2003
Archief:	03k0405
TK	



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CVN/303570/JB/01  
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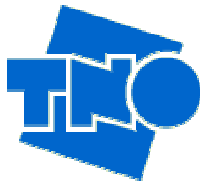
#### Resultaten klimaattesten NEDAP stemcomputer

De testen werden uitgevoerd in de periode van 11 april 2003 tot en met 18 april 2003, door J.C.M. van den Berg.

De testen werden uitgevoerd in de aangegeven volgorde.

De aangegeven percentages bij de testcondities betreffen de relatieve vochtigheid van de lucht.

Test nummer	Testcondities	Resultaat
1	Functioneel, bij 20 °C en 50%	Geen verstoringen gedetecteerd.
2	Functioneel, bij 5 °C en 75%	Geen verstoringen gedetecteerd.
3	Functioneel, bij 40 °C en 50%	Geen verstoringen gedetecteerd.
4	Functioneel, bij 20 °C en 50%	Geen verstoringen gedetecteerd.
5	Functioneel, bij 20 °C en 50%, na opslag (uitgeschakeld) bij -25 °C	Geen verstoringen gedetecteerd.
6	Functioneel, bij 20 °C en 50%, na opslag (uitgeschakeld) bij +70 °C	Geen verstoringen gedetecteerd.
7	Functioneel, bij 40 °C en 85%	Geen verstoringen gedetecteerd.
8	Functioneel, bij 20 °C en 50%,	Geen verstoringen gedetecteerd.
9	Functioneel, na inschakelen bij 40 °C en 95% nadat stemcomputer 8 uren uitgeschakeld gedurende 8 uren onder deze condities heeft gestaan.	Geen verstoringen gedetecteerd.
10	Functioneel, bij 20 °C en 50%,	Geen verstoringen gedetecteerd.
11	Functioneel, bij 20 °C en 50%, na opslag (uitgeschakeld) bij stapvormige temperatuurverhoging (temperatuur in stappen van 20 °C naar 25 °C naar 30 °C naar 20 °C bij 50 %)	Geen verstoringen gedetecteerd.



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### **3 Conclusion.**

The Voting Computer, brand Nedap, type ESI 2, complies with the relevant parts of standards IEC 60839-1-3, IEC 60068-2 in the configuration and operation mode(s) as stated in this test report.