

We claim:

1.A microprocessor based multi-channel monitoring system useful for automatic and reliable measurement of vibrating wire sensors, comprising: microprocessor based electronic circuitry consisting of a microprocessor (20), Erasable programmable read only memory (EPROM) (21), non-volatile static random access memory (NVS RAM) (22), serial communication interface (RS232) (23), display device such as a LCD (25), and programmable peripheral interfaces (PPI) (26) and (24); Period measuring circuit (PMC) (27), Excitation circuit (EC) (28); Electronic indicative device (EID) (32); Amplifier-comparator (29);

wherein the said PPI (26) being connected to the period measuring circuit (PMC) (27), excitation circuit (EC) (28) and the electronic indicative device (EID) (32) which is further connected to an amplifier-comparator (29) and the other PPI (24) being connected to a multiplexer (MUX) (30) and excitation circuit (EC) (28), the said (EC) (28) being further connected in parallel with the said amplifier-comparator (29) to vibrating wire sensors (31) through multiplexer (MUX) (30);

the multiplexer configured to interface more number of vibrating wire sensor,

The microprocessor being configured to generate a single pulse excitation signal.,

the Excitation circuit (EC) consisting of logic circuit in combination NAND gates, resistors and capacitors, the said EC being configured for setting the amplitude of the single pulse excitation signal to an intrinsically safe higher voltage level,

2.The microprocessor based multi-channel monitoring system useful for automatic and reliable measurement of vibrating wire sensors as claimed in claim 1, wherein the amplifier-comparator (29) is such as an analog amplifier-comparator having a filter capable of providing the desired frequencies to be amplified by the amplifier and post amplification being fed to the coupled comparator capable of detecting the amplifier output signal of sufficient amplitude and providing a square wave input to the said PMC (27).

3. The microprocessor based multi-channel monitoring system useful for automatic and reliable measurement of vibrating wire sensors as claimed in claim 1, wherein the MUX (30) in association with said microprocessor (20) is comprising in combination a set of switches that form channels, driver circuitry and decoder circuitry capable of interfacing more number of vibrating wire sensors for their automatic measurement.

Dated: 5th Day of March 2007,



**Scientist
(IPU, CSIR , New Delhi)**

श्रीरामचन्द्र प्रसाद कृष्णमन
19/03/2007

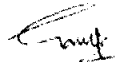
FORM 5
THE PATENTS ACT 1970
(39 of 1970)
&
The Patents Rules, 2003
Declaration as to Inventorship
[See section 10(6) and rule 13 (6)]

We, **Council of Scientific and Industrial Research**, Anusandhan Bhawan, 2 Rafi Marg, New Delhi - 110001, India, an Indian Registration body incorporated under the Registration of Societies Act (Act XXI of 1860)

hereby declare that the true and first inventor(s) of the invention disclosed in the complete specification filed in pursuance of my/our application no. 0897DEL2006 dated 30-Mar-2006 are:

Name	Nationality	Address
1 MAITY RANJIT	Indian	Central Institute of Mining and Fuel Research, Barwa Road, Dhanbad, Jharkhand, 826001, India

Dated this 21st day of January, 2019.


 0004NF2006 - 0897DEL2006
 Scientist / TO, Senior Scientist
 (IPU) (CSIR)
 100, IIT Road, New Delhi-110002

Scientist / TO, IPU, CSIR

3. Declaration to be given when the application in India is filed by the applicant (s) in the convention country:-

We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way of assignment from the true and first inventor(s).

Signature
 Name of the signatory:-

4. Statement (to be signed by the additional inventor(s) not mentioned in the application form) I/We assent to the invention referred to in the above declaration, being included in the complete specification filed in pursuance of the stated application.

Signature of the additional inventor(s):-
 Name:-

To
 The Controller of Patents,
 The Patent Office,
 New Delhi-75

INNOVATION PROTECTION UNIT
COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH

NISCAIR Building, 14, Satsang Vihar Marg, 3rd Floor,
New Delhi-110067 (Ph 26962560 Fax 26968819 e-mail gaurav.ipu@niscair.res.in)

Date: 18/01/2019

To,

The Controller of Patents,

The Patent Office,

Mumbai

Kind Attn: Mr. Pinkesh Jain, Asstt Controller of patents and design, Mumbai Patent office

Sub: Patent Application No : 897/DEL/2006

Dear Sir,

This is furtherer to our Telephonically discussion today (i.e on 18/01/2019) regarding Hearing response submitted earlier for Patent application No.897/del/2006, i am attaching herewith the Petition U/s 137 alongwith the requisite fee of Rs.8800/ in the form of DD having No 798720 dated 17/01/2019, the extra pages fee has been paid however the pet ion has not been not field, however the same has been attracted by controller , which is a irregularity , we pray to the controller to kindly take the same on you record and condole the objection to grant the application.

Yours Sincerley



(Gaurav Krishnam)

Sr. Scientist

14, Satsang Vihar Marg
IPU, CSIR

Encl:

- 1) DD No 798720 dated 17/01/2019
Amounting 8800/- (CBR No.2237 Docket No 6620)
- 2) Petition U/s 137

In the matter of the Patents [Amendments] Act, 2005
and
In the matter of the Patents [Amendments] Rules, 2006
and
In the matter of Indian Patent
Application No. 0897DEL2006
Petition under Rule 137

We, the Council of Scientific and Industrial Research, an Indian registered body incorporated under the Registration of Societies Act (XXI of 1860), of Anusandhan Bhavan, 2 Rafi Marg, New Delhi - 110 001, India, the applicants in the above mentioned application and the petitioners herein beg to submit as follows:

1. that the application No. 0897DEL2006 was filed on 30-Mar-2006 by us at the Delhi Patent Office;
2. that under section 8 of the Indian Patents [Amendments] Act, 2005 it is required to file a statement and undertaking in respect of the foreign patent applications filed and prosecuted in countries outside India corresponding to the aforesaid application for patent filed in India;
3. that simultaneous to the filing of the said Indian patent application we instructed our attorneys to file the corresponding foreign patent application[s];
4. that at the time of filing the above said application we could not furnish the details of the corresponding applications filed abroad as the filing details were not available with us;
5. that in such case, the Form 3 which was filed with this application did not contain the details of the corresponding foreign patent applications;
6. that such act constituted an irregularity in procedure as outlined in section 8 of the Act;
7. that this kind of irregularity will not cause any damage to any person;
8. that such delay in filing the statement and undertaking is due to the circumstances beyond our control;
9. we pray that the statement and undertaking submitted herewith may be condoned under the powers vested with the Controller of Patents under rule 137 of the Patents [Amendments] Rules, 2006;
10. we further pray that the statement and undertaking filed may be taken on record;

In the circumstances narrated above, the Controller is respectfully requested that the said application may be proceeded with further leading to the grant of a patent.

Dated this 18th day of January, 2019.



Scientist / TO

IPU, CSIR

गोपनीय / CONFIDENTIAL
दिनांक

To
The Controller of Patents
The Patent Office
New Delhi

PATENT OFFICE
INTELLECTUAL PROPERTY OFFICE BUILDING
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 Website: www.ipindia.gov.in



Date/Time : 2019/01/22 15:01:00

Docket NO : 6620

To
 CSIR
 NEW DELHI

Agent Number:

Sr. No.	CBR Number	Reference Number / Application Type	Application Number	Title/Remarks	Amount Paid	Amount Computed
1	2237	E-46/650/2019-DEL	897/DEL/2006	---	8800	8800
2		E-101/6433/2019-DEL	897/DEL/2006	Correspondence	0	0
3		E-101/6434/2019-DEL	201711044953	OTHERS(NON CASH)(Correspondence)	0	0
4		E-101/6435/2019-DEL	201711044953	OTHERS(NON CASH)(OTHERS - PROOF OF RIGHT)	0	0
5		E-91/1122/2019-DEL	3241/DEL/2013	FER/SER REPLY	0	0
6		E-91/1123/2019-DEL	3241/DEL/2013	F.E.R./S.E.R. Reply(OTHERS - COPY OF FER)	0	0
Total Amount					8800	8800

Received a sum of Rs. 8800 (Rupees Eight Thousand Eight Hundred only) as under

Payment Mode	Bank Name	Cheque/Draft Number	Cheque/Draft Date	Amount in Rs
Draft	Canara Bank	798720	17/01/2019	8800

Note: This is electronically generated receipt hence no signature required.