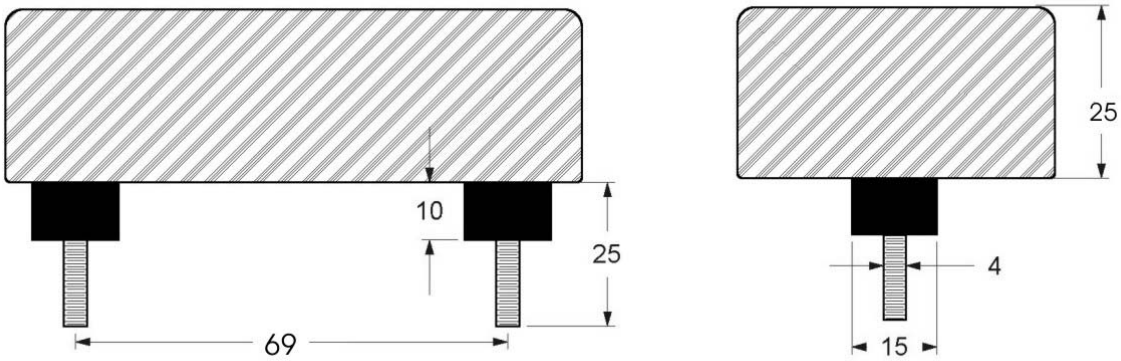
Using Instructions DET100 Cockpit

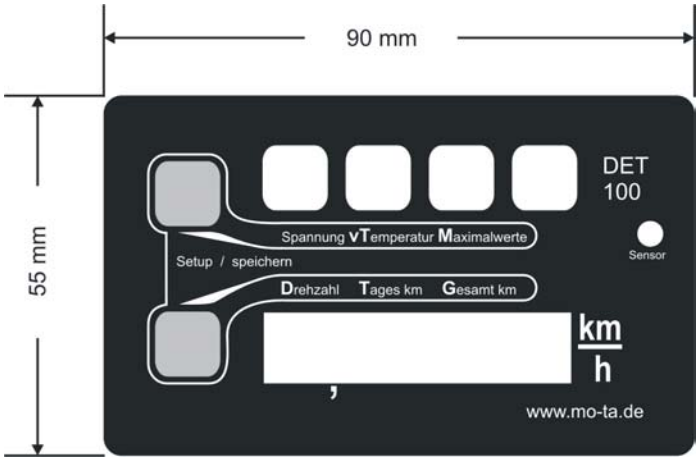
Technical Information :

Voltage supply:	10 to 16 V	Electrical capacity: about 100mA	
Functional by temperature between -	20 and +70 °C		
Maximal measurable speed	400km/h	Analysis:	1km/h
Exactness of the speed indicator	Deviation < = +1% (without considering possible error in wheel radius)		
Maximal measurable distance:	9999999km	Analysis	1 km
Exactness of the distance indicator	Deviation < +/- 1% (without considering possible error in tire radius)		
Maximal measurable number of rotations	15000U/min	Analysis	10U/min
Voltage indicator:	9 to 17V	Analysis	0,1V
Indicator of temperature (optional)	30 to 150° C	Analysis	1° C
Weight:	about 150		

All settings and indications are saved in a “Flash” Memory and don’t get lost even when without electrical connection.

Measurement:





Code name:
DET100

Delivered items:

- DET Cockpit
- Two connection cable with sockets
- wheel sensor with cable
- Impuls magnet
- Betriebsanleitung
- TÜV verdict

Check over inserted wheel radius.(rotations)

- Hold both buttons pressed
- Start the motor
- Press once the top button
- Press once the bottom button

LCD Display on Tachometer

Setup 04

This is displayed=>

R.Umfang

This is displayed=>

Umf.1812

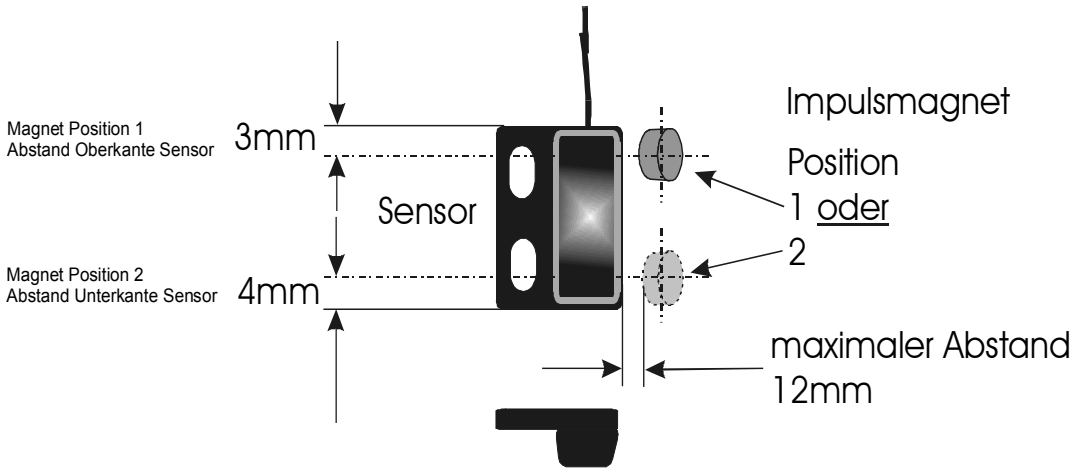
e.g. with a wheel radius setting of 1812mm the following value will be displayed

- The setting of the wheel radius is described under Point 5)d
- Turn off motor and by new start the basic functions will return

Setting Cockpit

Attach the Cockpit with the two M4 buffer cushions onto the motorbike. Watch out that there is no disturbance for the use of the motorbike, especially the steering functions. We do not hold any liability for damages caused by false placement or inaccurate usage.

1. **Placement of wheel sensor and magnet:**
   Adhere the magnet on an even, clean and fat free surface by the front and back wheel. You can use here the glue strand with two sticking sides on the magnet. For the attachment the part of the brake discs is best suited. Attach the wheel sensor so that the magnet turns around maximally 12mm away from the sensor.
   We do not hold any liability for damages caused by false placement or inaccurate usage.



2. Electrical Attachment

a. 6 pole (wires) plug for voltage supply

No.	Cable color	Attachment to	voltage
1	red	Voltage supply (clip 15)	+12V
2	brown	negative pole (clip31)	Minus pole
3	Yellow	Remote control button 1	Minus pole*
4	Orange	Remote control button 2	Minus pole*

* only attach (to an additional button) if a remote control is planned for the tachometer. Otherwise please leave isolation on the cable ends in order to avoid any error in function.

b. 5 pole (wires) plug for controlling lights

No.	Lettering for LED	LED color	Cable color	Attachment to:	Voltage when LED lights up
1 2	Lamp-signal	Orange Yellow	Orange Yellow	+electrical voltage lampsignal left and right	+12V
3	Oil	Red	Red	Oil pressure switch	minus pole
4	Distance light	Brown	Brown	+ electrical current, distance light	+12V
5	Neutral	Green	Green	Switch on gear	Minus pole

Notice: The controlling lights function only, if also the voltage supply currents are attached.

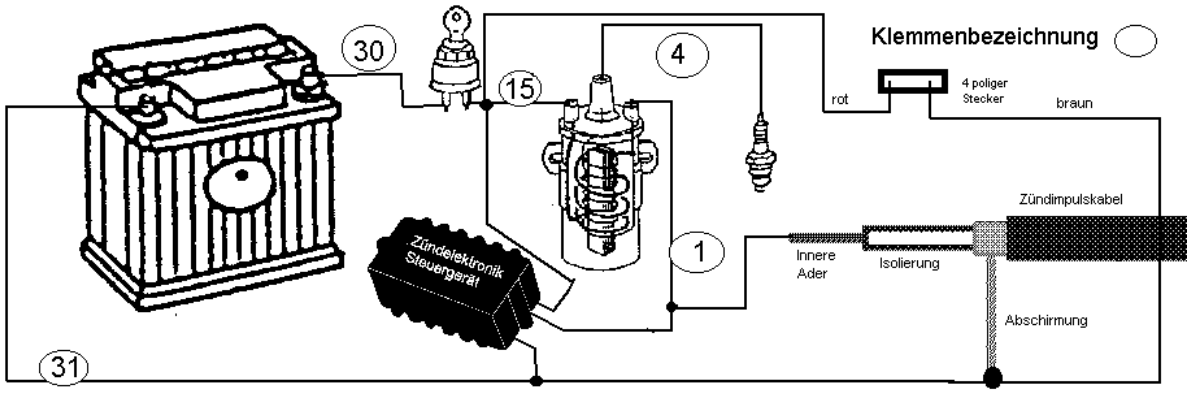
c. 2pole (wires) plug black for wheel sensor

d. 2pole (wires) plug red for switch blinking lights

e. 2pole (wires) plug blue for temperature sensor

f. black wire for number of rotations measurements take off at the end of the cable about 5cm of the outside isolation. Pull the copper covering to the side. Attach the inside copper wire to the attachment of the ignition plug (clip 1) Attach the covering of cable with a minus pole on the motor bike. (e.g. frame)

Attention: Do all work done with ignition parts only when motor is not running, because the primary electrical voltage can have currents up to 500V.



In this picture you see the Attachment for the supply voltage (red and brown cable on the 4pole plug) and the ignition cables.

Please notice, that only the inside artery is adjusted to the steered attachment of the ignition plug!

We do not hold any liability for damages caused by false placement or inaccurate usage.

3. **First functional test:**
   check over again if all cables are attached correctly Ignite motor.
   You see on the LCD display
   That means:
   r.p.m. = 0
   speed = 0
   after starting the motor you see the r.p.m bars (rotary measurements)
   it can be configured (set up) freely. (see 4 setup)
   in the standard setting one ▮ bar is 2000 r.p.m. (turns per minute)
   and a **>** 1000 r.p.m.
   Here for example 9000U/min. (U=turns, r.p.m.)
   If the number of rotations are above the maximal setting (Standard 1000 U/Min) then the rotary number will be shown as a number/10.

LCD display on tachometer

speed in km/h

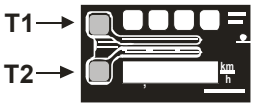
If the setting of the bars or maximal rotary numbers is changed in the set-up menu so that the bars-indications first begins above running idle, then the number of turns will also be shown as a number/10.

R.p.m. bars start = (max. turns -(bars x10))x10	r.p.m. bars end = max. turns x 10

If the bars don't appear (r.p.m. (turns) is always shown as a number) then the setting for the "bars" in the set-up menu must be adjusted to 0.
The r.p.m. bars will be actualised 3x per second.

4. Set-up menu

you get the set-up menu by holding both buttons pressed and igniting the motor.



Setup 04

Press 1x T1

check the fitting value in the list “Rolling radius(No.11)

R.Umfang

Press1x T2

Press both T1 + T2

Umf.1812

increase value

Press T1

Press T2

Decrease value

Press 1x T1

here you should not change anything at first. The standard setting (14) fits for 90% of all motor bikes. If the r.p.m.(turnings per minute)

Z-Signal

Press1x T2

Press both T1 + T2

10Ku 14

7 => half rotary measurements displayed

Press T1

Press T2

28 => double rotary measurements displayed

Press 1x T1

If the measured number is higher than the here entered rotary number , then the display light starts to blink and the rotary

Dreh.Max

Press1x T2

Press both T1 + T2

Dreh1000

increase value

Press T1

Press T2

Decrease value

Press 1x T1

Number of crankshaft turns/5 displayed by one bar segment. See No.3 (first functional test.)

Balken

Press1x T2

Press both T1 + T2

Segm100

increase value

Press T1

Press T2

Decrease value

Press 1x T1

If the temperature is higher than the here entered temperature then the red light in LED starts to blink.

TempMax

Press1x T2

Press both T1 + T2

Temp150

increase value

Press T1

Press T2

Decrease value

Press 1x T1

Beenden

Press1x T2

Save all values.

. Standard setting appears (speed and motor rotary number).

Press 1x T1

Back to Setup 04

5. **normal usage** (functions of the bottom button)
Now ignite the motor.
a) You see on the LCD display the standard value.

LCD Display on tachometer

This means:
Rev per min. = 0 speed = 0

Press the bottom button

b)You see on the LCD the following:
This means:
Kilometre no. of the day = 0 speed = 0
If the day-measurements for kilometre are not on 0, then press both buttons at the same time to set onto 0.
To change the daily kilometre number, for example, after tanking up:
Press bottom button (hold pressed) and start motor. Now the day kilometre number will be 0.

Press the bottom button.
c)On the LCD display you see:

This means:
Total km = 0
When the bike is in motion, the number will automatically be changed to the standard value after 3 seconds.

Notice!!!! Total km can not be set-up. Press the bottom button.
You see again the standard value.

6) **normal usage** (functions of left button)(upper or top)
a) You see on the LCD display the standard value. LCD Display on tachometer
This means:
Rev per min.(r.p.m.) = 0 speed = 0

Press the top button.

b) You see on the LCD display the standard value.
This means:
Panel voltage 12,5V
No temperature sensor is attached

When temperature sensor is attached, then the Temperature of the oil and water will be shown, as soonas they reach 30°C.

Here under 30°C.

Here 85°C.

If the bike is in motion, the standard value will be shown automatically after 3 seconds.

Press the top button.

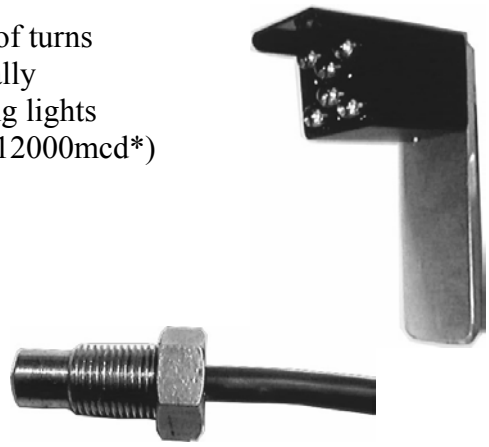
c) You see on the LCD the following:
This means:
The maximal value of the r.p.m. and speed are displayed. If the tachometer has not yet been used, then the value is 0.

OM 0

In order to delete saved maximal values => press both buttons at the same time.
If the vehicle is in motion the standard value will automatically change after 3 seconds.

7) Controlling lights
The light intensity is controlled through a light sensor(to the right, next to the button).
This means, when direct sunlight occurs the LED's will light up with maximal intensity. (about 1000mcd*) so that all signs are seen also by very bright light.
By darkness the strength of the LED's is reduced (about 20mcd*) in order to avoid blinding, for example through the distance lights.

8) switch blinking (additional)
If the wheel rotations are above the maximal adjusted number of turns the switch light starts to blink. The light intensity is automatically adjusted to the surroundings. Also if the sun shines, the blinking lights can be seen well, because it gets the maximal light intensity. (12000mcd*)
*mcd = milli Candela (strength of light)



9) Temperature sensor (additional)
The refined steel - sensor is available in two forms.

DET 101M Temperature sensor with M10 x 1 thread
DET 101G Temperature sensor with G1/8 thread

The sensor will be delivered with 80 cm long cable and can be used for water and oil temperatures.
Display area on the cockpit: 30° to 150°C

10) More information you find in the Internet by www.det-motorrad.de

DET motoparts	**DET** **Mostgasse 17 - 90402 Nürnberg** **Tel.: +49 911 6160477 - Fax: +49 911 6160488**

Miles per hour
Rolling radius * 0,62137 =>Setup 04 =>R.Umfang=>Umf.XXXX=>Beenden
Example
1848 * 0,62137 =>Setup 04=>R.Umfang=>Umf.1148=>Beenden

11)List of rolling radius

Size of tire	wheel-rim radius	rolling radius ↑
3.50 - 8 46 J	8	1177
4.00 - 8 55 J	8	1266
100/80 - 10 53 J TL	10	1312
100/80 - 10 53 L TL	10	1265
100/90 - 10 61 J reinf. TT/TL	10	1324
110/80 - 10 58 L TL	10	1263
120/70 - 10 54 L reinf. TL	10	1287
120/90 - 10 66 L TL	10	1433
130/90 - 10 61 L TL	10	1488
3.00 - 10 50 J reinf.	10	1260
3.50 - 10 59 J TT reinf.	10	1333
4.00 - 10 60 J	10	1422
90/90 - 10 50 J TL	10	1265
120/70 - 11 50 L TL	11	1364
110/100 - 12 67 L TL	12	1601
110/90 - 12 54 L TL	12	1534
130/70 - 12 56 L TL	12	1485
140/70 - 12 60 L TL	12	1528
120/70 - 13 M/C 53 L TL	13	1534
130/60 - 13 M/C 53 L TL	13	1497
140/60 - 13 M/C 57 L TL	13	1534
140/80 B 15 M/C 73 H reinf.	15	1864
140/90 B 15 M/C 70 H TL	15	1950
150/80 B 15 M/C 70 V TL	15	1913
150/90 B 15 M/C 74 H TL	15	2005
170/80 B 15 M/C 83H reinf.	15	2011
180/70 B 15 M/C 76 H TL	15	1950
200/70 B 15 M/C 82 H TL	15	2036
100/90 - 16 54 H TL	16	1805
120/80 V 16 V250 (60V)	16	1841
120/90 - 16 63 H TL	16	1916
130/70 ZR 16 (61W) TL	16	1812
130/90 - 16 67 H TL	16	1972
140/80 VB 16 (68V) TL	16	1941
150/80 - 16 M/C 71 H TL	16	1990
160/70 VB 16 (71V) TL	16	1941
160/80 B 16 81 H reinf. TL	16	2039
180/70 R 16 M/C 77 H TL	16	2027
180/70 VB 16 (71V) TL	16	1941
2.75 - 16 46 P reinf.	16	1732
3.25 - 16 55 P reinf.	16	1812
3.50 - 16 58 P reinf.	16	1842
4.60 - 16 59 S TT/TL	16	1860
110/70 17 54 H TL	17	1805
110/70 V 17 V 250(54V) TL	17	1805
110/70 V 17 V250 (54V) TL	17	1805
110/70 ZR 17 54 W TL	17	1805
110/80 - 17 57 H TL	17	1873
110/80 -17 57 H TL	17	1873
120/60 ZR 17 (55W) TL	17	1775
120/65 ZR 17 (56W) TL	17	1812
120/70 - 17 58 V TL	17	1848
120/70 17 58 V TL	17	1848
120/70 B 17 M/C 58 V TL	17	1848
120/70 ZR 17 (58W) TL	17	1848
120/80 - 17 61 H	17	1922
120/80 - 17 M/C 67H reinf.	17	1922
120/80 -17 M/C 67H reinf. TL	17	1922
120/90 - 17 64 S	17	1993
130/60 ZR 17 59W TL	17	1812
130/70 17 62 H TL	17	1891
130/70 ZR 17 62W TL	17	1891
130/80 - 17 65 H TL	17	1972
130/80 - 17 65 H TL	17	1972
130/80 - 17 65 S	17	1972
140/70 R 17 66 H TL	17	1935
140/80 - 17 69 H	17	2021
140/80 - B 17 M/C 69 H TL	17	2021
140/80 B 17 M/C 69H TL	17	2021
150/60 ZR 17 66W TL	17	1885
150/70 17 69 H TL	17	1978
150/70 17 69 V TL	17	1978
150/70 R 17 69 H TL	17	1978
150/70 ZR 17 (69W) TL	17	2033
160/60 VB 17 (69V) TL	17	1922
160/60 ZR 17 (69W) TL	17	1922
160/70 B 17 73 V TL	17	2021
160/70 ZR 17 73 W TL	17	2021
170/60 VB 17(72V) TL	17	1959
170/60 ZR 17 (72W) TL	17	1959
180/55 ZR 17 (73W) TL	17	1941
180/55 ZR 17 V300 (73W) TL	17	1941
190/50 ZR 17 (73W)TL	17	1916
2.50 - 17 43 P reinf.	17	1749
2.75 - 17 47 P	17	1812
200/50 ZR 17 (75W) TL	17	1957
3.00 - 17 50 P	17	1854
4.50 - 17 67 H	17	2051
4.50 - 17 67 V	17	2051
4.60 - 17 62 Q	17	1938
5.10 - 17 67 R	17	2005
100/90 - 18 56 H	18	1962
100/90 - 18 56 H TL	18	1962
100/90 - 18 61 H TL	18	2018
100/90 - M/C 61 H TL	18	1962
110/70 VB 18V260 (54V) TL	18	1882
110/80 - 18 58 H TL	18	1950
110/80 - 18 58 H TL	18	1950
110/80 - 18 M/C 58 S	18	1950
120/70 ZR 18 59W TL	18	1926
120/80 - 18 62 H TL	18	1999
120/80 - 18 62 S	18	1999

Size of tire	wheel-rim radius**	rolling radius* ↓
120/90 - 18 65 H TT/TL	18	2073
120/90 - 18 M/C 61 H TL	18	2073
130/70 18 63 H TL	18	1969
130/70 B 18 69 H reinf. TL	18	1969
140/70 18 67 H TL	18	2011
140/70 VB 18 (67V) TL	18	2011
140/80 - 18 70 R	18	2098
150/60 ZR 18 67W TL	18	1962
150/70 VB 18 TL	18	2054
160/60 VB 18 V280 (70V) TL	18	1999
160/60 ZR 18 (70W) TL	18	1999
170/60 VB 18 V280 (73V) TL	18	2036
170/60 ZR 18 (73W) TL	18	2036
180/55 - VB 18 (74V) TL	18	2018
2.75 - 18 42 S	18	1888
2.75 - 18 48 P reinf.	18	1888
3.00 - 18 47 S	18	1932
3.00 - 18 52 M reinf.	18	1932
3.00 - 18 52 P reinf.	18	1932
3.25 - 18 52 H	18	1969
3.25 - 18 52 S	18	1969
3.25 - 18 59 P reinf.	18	1969
3.25 - 18 59 P reinf.	18	1969
3.50 - 18 56 S	18	1999
3.50 - 18 62 P reinf.	18	1999
3.50 - 18 62 P reinf.	18	1999
3.60 - 18 51 H TL	18	1894
4.00 - 18 64 H TL	18	2067
4.00 - 18 64 P	18	2067
4.00 - 18 64 R	18	2067
4.00 - 18 64 S TT/TL	18	2067

Size of tire	wheel-rim radius**	rolling radius* ↓
4.00 - 18 64 V TL	18	2067
4.10 - 18 60 H TL	18	1969
4.10 - 18 60 P	18	1969
4.10 - 18 60 S TT/TL	18	1969
4.25 - 18 66 V TL	18	2104
4.25/85 - 18 54 V TL	18	2030
4.60 - 18 63 R	18	2015
90/90 - 18 51 H TL	18	1906
100/90 - 19 57 H TT/TL	19	2042
110/80 R 19 59 H TL	19	2030
110/90 - 19 62 H TL	19	2098
110/90 19 57 S TL	19	2042
3.00 - 19 49 S	19	2011
3.00 - 19 54 P reinf.	19	2011
3.25 - 19 54 H TT/TL	19	2048
3.25 - 19 54 P	19	2048
3.25 - 19 54 S TT/TL	19	2048
3.25 - 19 54 V TL	19	2048
3.50 - 19 57 H TT/TL	19	2079
3.50 - 19 57 P	19	2080
3.50 - 19 57 S TL	19	2079
3.50 - 19 57 V TT/TL	19	2079
3.60 - 19 52 S TT/TL	19	1975
90/90 - 19 M/C 52 S	19	1987
2.50 - 21 45 P	21	2060
2.75 - 21 45 P	21	2123
3.00 - 21 51 R TT	21	2165
80/90 - 21 48 H	21	2086
80/90 - 2154 H TL	21	2141
90/90 - 21 54 S	21	2141

***rolling radius in mm** ****wheel-rim radius in**

12) Guarantee

This product has been developed with the most modern methods and has been tested. The seller give guarantee for 24 months from the day of purchase for the unobjectionable material and faultless development. Within this guarantee time all damages due to inaccurate production or material will be replaced without cost. Reclamation should be made as soon as any failure is detected. Only if the use of the product can not be assured after replacing parts or the whole product within the 24 months from day of purchase, can the customer ask for any reductions in price or cancellation of the purchasing contract. The guarantee agreement is invalid when the customer or any other person makes any changes to the product. **The serial code must remain visible on the right underside of the cover.** Damage caused because of inaccurate handling or using, through erroneous adjustment or storage, through inaccurate placement or installation, as well as uncontrollable influences or outside forces, are not included in the guarantee agreement. We maintain the right to repair or change damaged parts of any reclamation, or replace the product completely. Any replaced items belong to us. Liability cases are invalid as long as there is no wanted cause of damage or intention on side of the producers. Other kinds of claims are not included in the guarantee. Any guarantee claim must be made with the receipt of the transaction. If the product shows any kinds of damage, please notify the seller in the department store. Please notice, that for the exchange of an defected product you definitely need the following writings: Receipt of purchase, description of the failure detected. By guarantee claims or damages please notify your seller or purchasing store.