

# Prisma DI

DI-5C

# MANUAL SOFTWARE



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## SUPPORT

Please visit our homepage for latest document downloads or requests of software download-link.

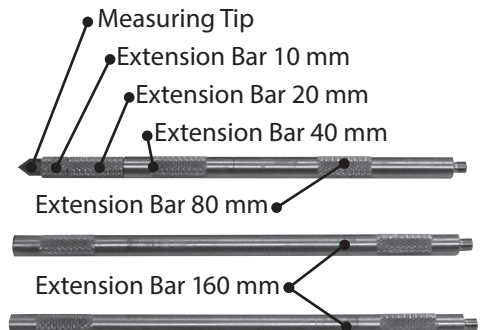
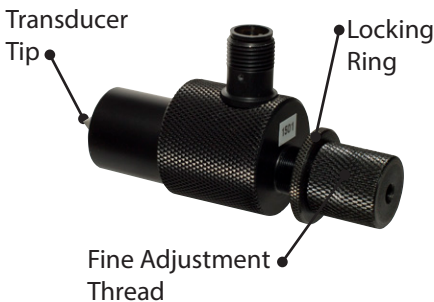
All information is given with reservation for alterations that may occur after this manual were updated. We also reserve the right for possible written errors.

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**Thanks for using Prisma DI-5C** • We know this instrument will provide many years of precision measurement in your service Your feedback are most welcome.

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## 1. INSTRUMENT OVERVIEW



# 1. GENERAL INFORMATION

This manual provides the basic information required to operate the PC program together with the **Crankshaft Deflection Indicator Prisma DI-5C**.

The program can be used in

- Windows 98
- Windows 2000
- Windows NT
- Windows 7
- Windows Millenium
- Windows XP
- Windows Vista
- Windows 8
- Windows 10

Peripheral information such as Ship/Plant names and comments may be added at the PC. Should a measurement contain faults, it is possible to manually correct it in the program. Even the standard Prisma DI-5 model can use this program since all measurement input can be done manually, box by box, cylinder by cylinder. Then all the program functions may be used, just as if the data was transferred from a Prisma Prisma DI-5C.

## 2. INSTALLING THE PC PROGRAM

The Prisma DI-5C is supplied with USB flash drive containing the program.

Follow these steps for installation:

1. Insert the USB flash drive into your PC.
2. Install the software by opening the Start/ Run menu and enter  
D:\DI5C-application\SETUP.EXE  
Click OK and follow the wizard for installation.

### 3. THE MENU BAR

File	Communication	Preferences	Windows	About
<b>NEW DOCUMENT</b> Is used if you want to input data manually from scratch.	is used to transfer a document from the Prisma DI-5C to PC, refer to chapter 4: TRANSFER DOCUMENT TO PC.	Options, allows change of measuring point angles, graph zero line position and colours. Number of Digits, select 3 or 4 digit display. Language, select English, French or German.	Windows contains the six different pages of the program, they are also accessed using the indicator bar below the menu.	shows installed version number.
<b>LOAD DOCUMENT</b> Searches for a Prisma DI-5C document already saved in PC.				
<b>SAVE DOCUMENT</b> Save your readings in folder of choice.				
<b>CREATE NEW SHIP FOLDER</b> used to create a file structure for each engine (main, gen, aux), with crankshaft and ovality measurement folders for each one. When you save the ship folder, sub-menus are automatically created.				
<b>PRINT DOCUMENT</b>				
<b>EXPORT AS EXCEL</b> All the data on the Main Page, Single Page, Compare Page can be exported to Excel for further process.				
<b>REGISTER YOUR INSTRUMENT</b> In order to get better support from our team and also to extend warranty by extra 6 months, the Prisma DI-5C can be registered by visiting PrismaTibro's home page <a href="http://www.prismatibro.se">www.prismatibro.se</a> to register the serial number of the Prisma DI-5C at PrismaTibro's data base.				
<b>EXIT</b>				

## 4. TRANSFER DOCUMENT FROM PRISMA DI-5C TO PC

Normally, all documents stored in the Prisma DI-5C are transferred and saved in a PC. The document number consists of 8 figures, the first two represent the document consecutive numbering followed by the 6 figures date, i.e. year, month, day (yy-mm-dd). This document number is used to locate a document in the Prisma DI-5C.

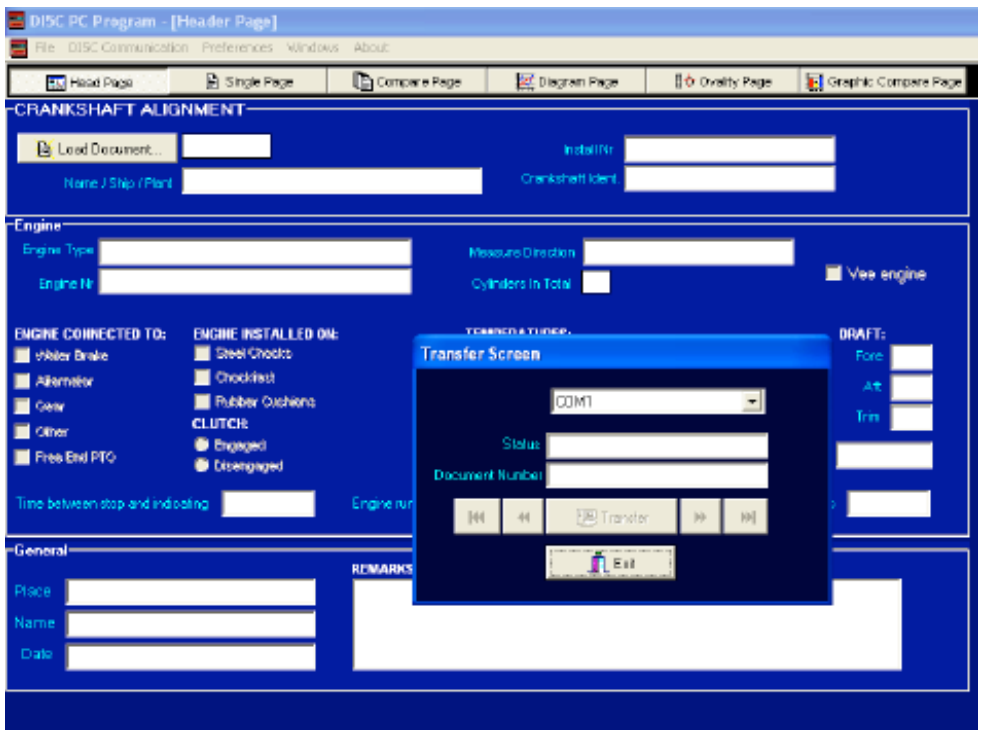
An USB cable between Prisma DI-5C and PC is supplied with the instrument

1. Ensure that both ends are firmly connected between the USB ports on PC and Prisma DI-5C.
2. Start the Prisma DI-5C instrument (OK button) and leave it in Date/Time mode.
3. Start the Prisma DI-5C program on your PC.

Select from the Menu Bar:

DI-5C Communication and...

Choose document from Prisma DI-5C (Transfer Screen appears)



Select the COM-Port on which the instrument is connected in the Transfer screen. Find your document in the Prisma DI-5C by clicking the arrow buttons < >. When you find the correct document, click 'Transfer' and it will be transferred to the PC.

**NOTE!** The documents will NOT be automatically saved in the PC. Use FILE from the menu bar and SAVE, rename or number the document to your own preference, and put it in your selected ship folder with its sub-folders.

## 5. MAIN PAGE

The screenshot shows the 'DISC PC Program - [Header Page]' window. The title bar includes 'File', 'DISC Calibration', 'Preferences', 'Windows', and 'About'. The menu bar contains 'Head Page', 'Single Page', 'Compare Page', 'Diagram Page', 'Quality Page', and 'Graphic Compare Page'. The main content area is titled 'CRANKSHAFT ALIGNMENT' and is divided into several sections:

- Document Info:** 'Load Document...' with value '27000928', 'Instal Nr.' with value 'A. 1368-9', 'Name / Ship / Plant' with value 'MS Godspeed', and 'Crankshaft Ident' with value 'W-46 E12'.
- Engine Section:**
  - Engine Type: 'Main Engine', Engine Nr.: '1', Measure Direction: 'Anti-Clockwise', Cylinders In Total: '4',  'Vee engine'.
  - ENGINE CONNECTED TO:**  Water Brake,  Alternator,  Gear,  Other,  Free End PTD.
  - ENGINE INSTALLED ON:**  Steel Chocks,  Chockfast,  Rubber Cushions.
  - CLUTCH:**  Engaged,  Disengaged.
  - TEMPERATURES:** Engine Condition: 'Warm', Ambient: '00', Lubricating Oil: '70', HT Cooling Water: '00'.
  - DRAFT:** Fore: [ ], Aft: [ ], Trim: [ ], Bore/Stroke: [ ].
  - Time between stop and indicating: '10 min', Engine running continuously before indicating: [ ], Running hours: '25316'.
- General Section:** Place: 'Singapore', Name: 'Eng. Peter Campbell', Date: '030928'. A 'REMARKS:' box contains the text: 'The DI-4C made the work much faster and easier, with very accurate readings!'.

The Windows taskbar at the bottom shows the Start button, system tray icons, and the time '14:04'.

The MAIN page (F1) allows you to register Ship/Plant name, and other basic information such as engine type and number.

You may write down additional information in the “Remarks” box at the bottom of the screen.

To printout the page, go to “File – Print Document”, check the requested page(s) and press OK.

## 6. SINGLE PAGE

The screenshot shows the 'DISC PC Program - [Header Page]' window. The 'Single Page' tab is selected. The document information panel displays:

- Document Number: 27000928
- Name / Ship / Plant: MS Godspeed
- Engine No: 1
- Engine Type: Main Engine
- Cylinders In Total: 4

The 'Deflection' section shows a diagram with 'Negative' and 'Positive' deflection curves. The 'Limit Value' is set to 0,020. A 'Dial Indicator Positions' diagram shows a circle with points A, B, C, and D. The table below shows deflection readings for four cylinders (Cyl 1 to Cyl 4) at five positions (Pos A to Pos E). The 'Max Deflection' row shows the maximum deflection for each cylinder: Cyl 1 (0,012), Cyl 2 (0,024), Cyl 3 (0,019), and Cyl 4 (0,020).

	Cyl 1	Cyl 2	Cyl 3	Cyl 4
Pos A	+0,010	0,000	0,000	0,000
Pos B	+0,005	+0,015	+0,017	+0,018
Pos C	+0,012	+0,014	+0,015	+0,016
Pos D	+0,005	-0,009	+0,001	-0,001
Pos E	+0,017	-0,005	-0,002	+0,019
Max Deflection	0,012	0,024	0,019	0,020

The SINGLE page (F2) shows the Prisma DI-5C readings in sequential cylinder order. For Crankshaft deflection measurement the Header is Cyl 1, Cyl 2, Cyl 3 etc. (cylinder).

If the document is a cylinder liner Ovality measurement the Header will state Lev 1, Lev 2 etc. (level). The top left picture illustrates the meaning of positive and negative deflection.

Max Deflection is displayed for each cylinder at the bottom of the column. The deflection Limit Value can be changed to match the specified tolerances. The limit is saved together with the document. If the deflection remains within the pre-set limit the field will be Green. If the limit is exceeded, the field will indicate Red, as seen in screenshot above.

Use the red arrows to scroll through cylinders/levels. For crankshaft measurement the maximum number of cylinders is 24. To check a different document, click the 'Load' button and to remove all data, click 'Clear'.

**NOTE!** If a new document is loaded, the previous document will be cleared.

To printout the page, go to "File – Print Document", check the requested page(s) and press OK.

## 7. COMPARE PAGE

The screenshot shows the DISC PC Program interface. The title bar reads "DISC PC Program - [Header Page]". The menu bar includes "File", "DISC Communication", "Preferences", "Windows", and "About". The main window has several tabs: "Head Page", "Single Page", "Compare Page" (which is active), "Diagram Page", "Quality Page", and "Graphic Compare Page".

On the left, there is a "Deflection" section with "Negative" and "Positive" diagrams and a "Limit Value" input field set to "0,020".

The main area is divided into two columns for "Document 1" and "Document 2".

**Document 1 Data:**

Document Number	27000938
Name / Ship / Plant	MS Goodspeed
Engine Nr	1
Engine Type	Main Engine
Cylinders In Total	4

**Document 2 Data:**

Document Number	24001091
Name / Ship / Plant	Sea City
Engine Nr	1
Engine Type	Main Engine
Cylinders In Total	4

Below the document data are "Load..." and "Clear" buttons for each document.

The comparison table below shows deflection values for various positions:

	Cyl 1	Cyl 1
Pos A	+0,010	+0,024
Pos B	+0,005	-0,041
Pos C	+0,012	+0,012
Pos D	+0,005	+0,106
Pos E	+0,017	-0,056
Max Deflection	0,012	0,162

At the bottom of the comparison area, there are two navigation buttons with left and right arrows.

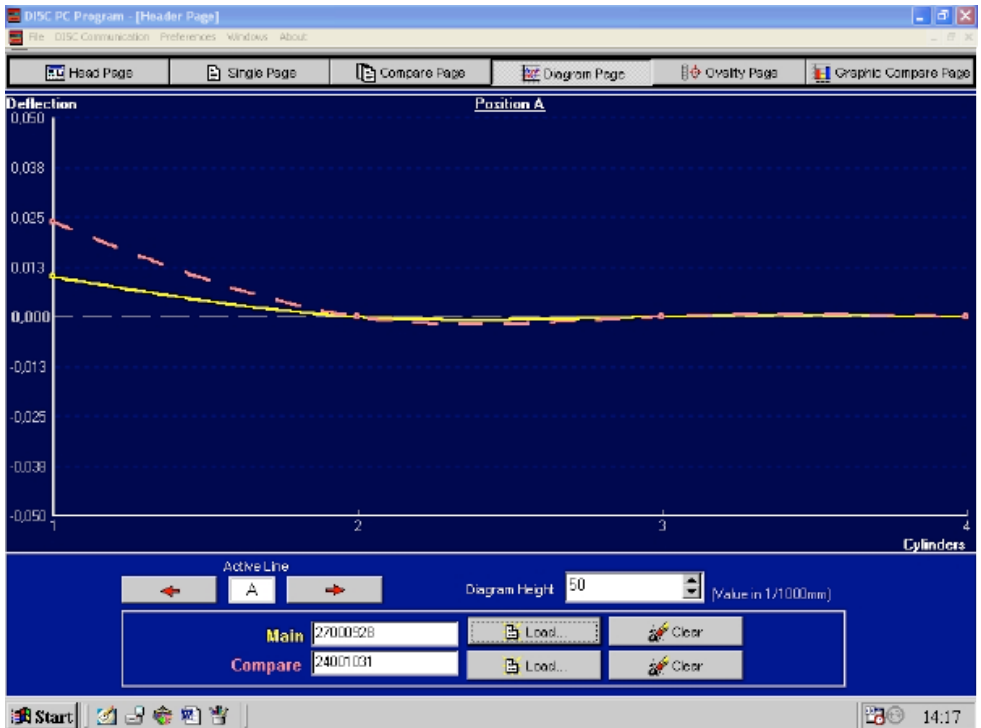
The Windows taskbar at the bottom shows the Start button, several icons, and the system clock displaying "14:14".

On the COMPARE page (F3), the left hand column contains the new (latest) document data loaded and the right side shows a previous reading from an older document, for comparison.

Print, Load and Clear documents at will, as previously described.



## 8. DIAGRAM PAGE



The DIAGRAM page (F4) produces a +/- deflection curve for each position of the crank/cylinders, e. g. all position "A" crank readings for each cylinder, maximum 24 cylinders per document in a crankshaft measurement.

If it is an Ovality measurement, 1 document per cylinder is used and the A-E positions describe the readings obtained when rotating the instrument to the desired position. The X-axle show the levels.

The maximum deflection is graphically illustrated, showing the variances between the highest and lowest readings of each cylinder.

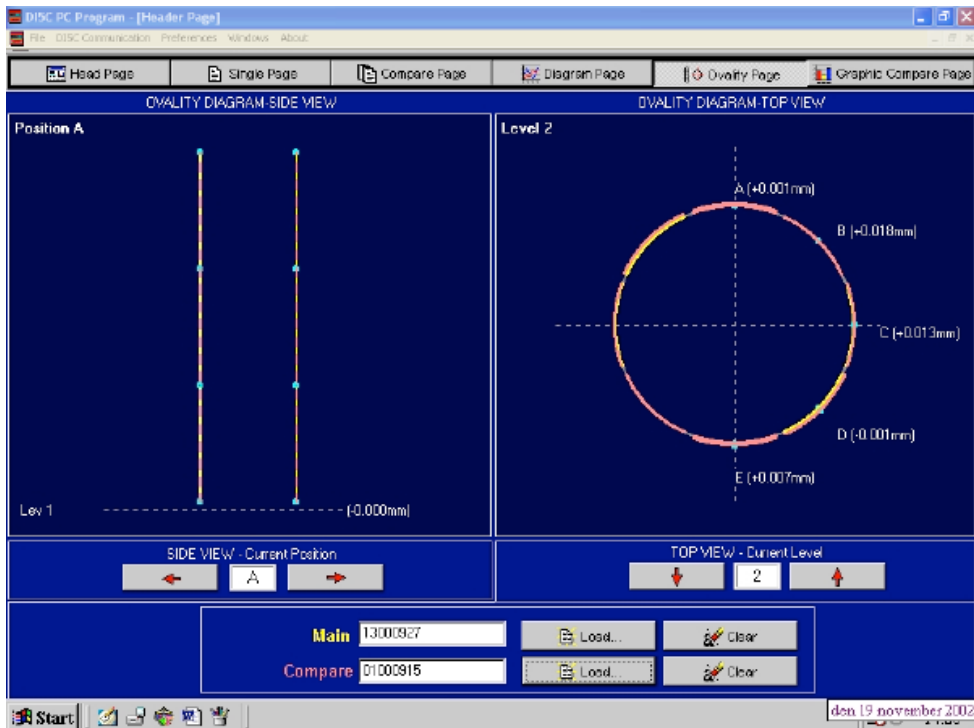
This graph is also an extension of the previous Comparison Page where an older document reading can be displayed together with the new document data.

The diagram height (scale) can be adjusted by clicking the adjustment arrows.

The height adjustment affects both "+" and "-" simultaneously.

Print, Load and Clear documents at will, as previously described.

## 9. OVALITY PAGE



The OVALITY page is intended for cylinder liner ovality measurements only. Page F5 will display "OVALITY DIAGRAM". This is automatically changed by the Prisma DI-5C when selecting 'Crankshaft measurement' or 'Ovality measurement' during set-up of the Prisma DI-5C.

Each level is displayed for each position on the screen left side.

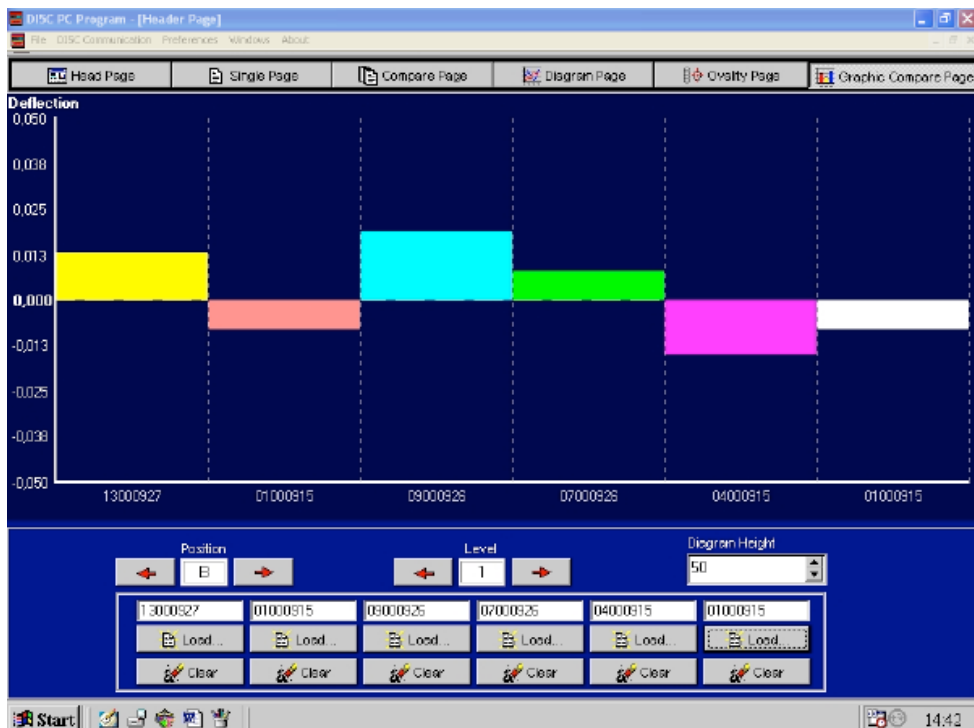
The profile displayed on the right side shows the ovality for each level.

Ensure that measurements are recorded with Level 1 at the bottom of the cylinder liner, otherwise the readings will be reversed (upside down).

Should you wish to alter measurement angles, go to 'Preferences' window in the menu and select 'Options'.

Print, Load and Clear documents at will, as previously described.

## 10. GRAPHIC COMPARE PAGE



Pressing the F6 key brings up the GRAPHIC page, where up to six different document readings may be displayed and compared on-screen, to show trends and to ease decision of necessary actions. It can also be found under the 'Windows' menu.

Print, Load and Clear documents at will, as previously described.

# 11. EXPORT TO EXCEL

## How to export the measured data to Excel

- **Install Prisma DI-5C** latest software on your PC.  
Request a link, from our website [prismatibro.se](http://prismatibro.se), to the latest software version
- **Connect Prisma DI-5C instrument** to your PC via USB cable.
- **Turn on the Prisma DI-5C instrument** by clicking on OK button.
- **Open Prisma DI-5C software** which is installed on your PC.
- **From the menu** click on DI-5C Communication:  
Select Choose Document from DI-5C.  
Once you select any of the documents which are already saved in Prisma DI-5C instrument, you will be able to view the measured data by clicking on the Single page.
- **Click on the Compare page** to view the data from the Single page which are stated on Document 1 in order to compare it with Document 2.  
To view the data on Document 2, click on Load button, to upload any document which you may have saved on your PC before.
- **Click on File from the menu**, then select Export as Excel to save the Excel file on your PC.









## Prisma DI-5C

- Made In Sweden
- Easy To Use
- Accuracy: 1/1000 mm
- Trickle Charge
- Option: Ovality Kit
- **Transfer to Windows-PC**

## Prisma DI Ovality Kit

ITEM NO 488-8100

Cylinder liner maintenance.

The Ovality Kit is an accessory to the Prisma DI-5C and Prisma DI-5. The method is simply giving 5 measuring points at each level of the liner. To compare the levels you will also see how much the wear of the liner is in the cylinder top.

Using the Prisma DI Ovality Kit together with Prisma DI-5C and kit you do have an outstanding funktion to load all your measurements into the PC software and print out graphs to see the wear and how it develops over time.



## Prisma DI-5

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- Trickle Charge
- Option: Ovality Kit

## MORE INFO

Manual for INSTRUMENT can be downloaded at [prismatibro.se](http://prismatibro.se)



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 WEB [prismatibro.se](http://prismatibro.se)  
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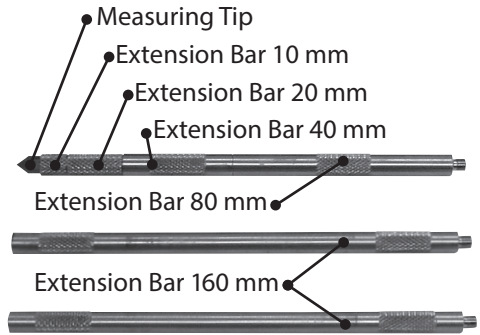
# Prisma DI

## DI-5

# MANUAL INSTRUMENT



# INSTRUMENT OVERVIEW



# HOW TO USE THE INSTRUMENT

PRISMA DI

1. Ensure that the cable is properly connected.
2. Select the applicable extension bar(s).  
Don't fit the transducer yet.
3. **Push POWER button and hold shortly.**  
Check the battery level when battery symbol show up.  
If battery level is low charge the battery with the enclosed charger.  
Follow the Charger manual.  
**Note!**  
Use only the charger delivered with instrument.
4. **Push LIGHT button if needed.**  
The backlight LEDs will light for 15 sec after every button push.
5. **Push RESET button**
6. **Fit the transducer between the crank webs in the punch marks** and make sure to use the cable magnet which helps keeping the cable stable during the measurement.  
Use the adjusting thread until the instrument indicates between +/- 0.500 mm and preferably close to zero, then tighten it with the locking ring to maintain fixed length.
7. **Push ZERO button.**
8. **Rotate crankshaft and check deflection by normal procedure.**
9. **Note the results**, and keep them to compare with the next measurements.
10. **Remove the transducer by pressing it to one side.**  
**Note!**  
It is normally unnecessary to unlock the adjuster.
11. **Fit the transducer into the next crank web position.**
12. **Repeat the procedure from step 6.**

## NOTE 1

If the DI-5 is not used for a long time, then it's necessary to charge the battery at least once a year.

## NOTE 2

Don't use the charger as a power supply. It's only for charging the Li-Ion battery.



# FACTS ABOUT PRISMA DI-5

## TOLERANCE

Prisma DI-5 has a tolerance of max. 0.001 mm in the range of +/- 0.10 mm,  
Max 1% in the range of +/- 1.000 mm and max 2% in the range of +/- 1.000-2.000 mm.

## HOW TO ACHIEVE OPTIMUM RESULTS

An accurate measurement result can be achieved if both transducer and the measured object (Crankshaft) are having the same temperature so that the transducer temperature is not changed during the measurement.

If the transducer's temperature differs from the measured object (Crankshaft) temperature, an error value of approximately 0.002mm/°C can be experienced. That's why the transducer should as far as possible, be temperature-acclimatized to the measured object (Crankshaft) temperature before starting with the measurement.

## MAGNET

It's very necessary to use the magnet which is attached to the cable. It helps keeping the cable stable during the measurement and accordingly an accurate measurement results can be achieved.

## SAFETY INSTRUCTIONS

- Be careful with tools that may cause short circuit at the battery charge port.
- Make sure to use only the original charger supplied with the Prisma DI-5.

## TROUBLESHOOTING

- If the display is lighting up without any readings then please press on the "POWER" button for 3 seconds to switch off the device and try to start it again.
- If the Prisma DI-5 is not used for a long time or not being charged for at least once a year then it may be difficult to start up the device and accordingly a battery reset can probably help to have the Prisma DI-5 up and running again.

### **To reset the battery please do as follow**

1. Remove the left cover of the display unit.  
The cover which includes the battery charge port.
2. Pull out the battery contact and put it back again, the display will start up and go down again.
3. Remount the left cover

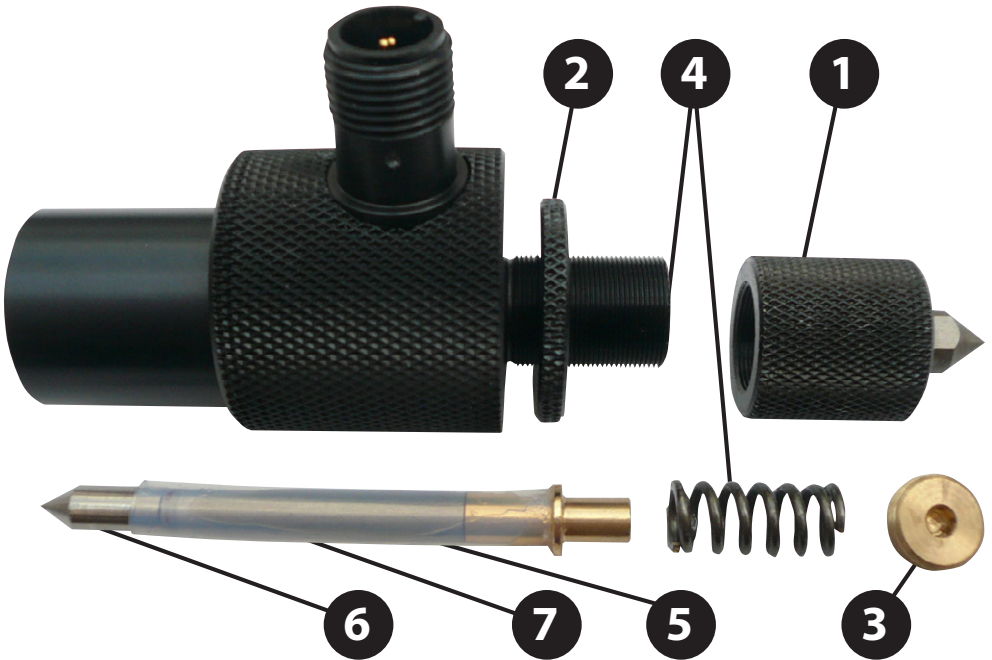
# MAINTENANCE

Prisma DI

- The calibration certificate supplied with the Prisma DI-5 is valid for 3 years. Please contact us if you would like to re-calibrate it.
- Make sure that the extension bars and measuring tips are in good condition and replace it if it's needed.

## CHANGE TRANSDUCER TIP

1. Remove adjusting sleeve **1** and locking ring **2**
2. Unscrew the brass nut **3**
3. Pull out the spring **4**
4. Pull out the complete tip unit
5. Remove the teflon cover **5** if mounted
6. Unscrew the tip **6** from the core **7** and mount the new transducer tip
7. Remount in opposite order



# SPARE PART LIST

## ITEM NO DESCRIPTION

- 412-2005 Transducer Standard, min 89 mm including measuring tip 10 mm
- 412-2214 Transducer Tip, Standard
- 412-2643 Adjusting sleeve, Standard, 12 mm
- 412-2794 Locking Ring, Standard, 12 mm
- 412-2893 Cable 7p/5p DIN, 3,6 meter
- 412-2897 Cable 7p/5p DIN, 7 meter
- 412-2899 Magnet to be Attached to cable
- 423-3005 Transducer Small, min 60 mm, including measuring tip 7 mm  
**Note!** *This item should not be ordered as a spare if the same type was not supplied with the original kit from the factory*
- 423-3637 Adjusting sleeve, small 10 mm
- 423-3641 Locking Ring, Small, 10 mm
- 423-3242 Transducer Tip small 7 mm
- 434-4758 Transducer Tip, 17 mm
- 458-5000 Extension Bar Set: 2x160 mm, 1x80, 40, 20, 10 mm, 10 mm measuring tip
- 458-5107 Extension Bar, 10 mm
- 458-5160 Extension Bar, 160 mm
- 458-5205 Extension Bar, 20 mm
- 458-5402 Extension Bar, 40 mm
- 458-5809 Extension Bar, 80 mm
- 458-6000 Spare Tips Set:
  - Transducer Tip Standard & 17 mm,
  - Measuring Tip Standard & 14 mm
- 458-6074 Measuring Tip, small, 7 mm
- 458-6106 Measuring Tip, Standard, 10 mm
- 458-6123 Measuring Tip, 14 mm
- 401-1901 Battery Li-Ion with 3 wires connector
- 501-1992 Charger for Li-Ion battery
- 12-2903-A Prisma DI Plastic Case, Black 300x265x140 mm





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