

Technical Specifications

Display Unit

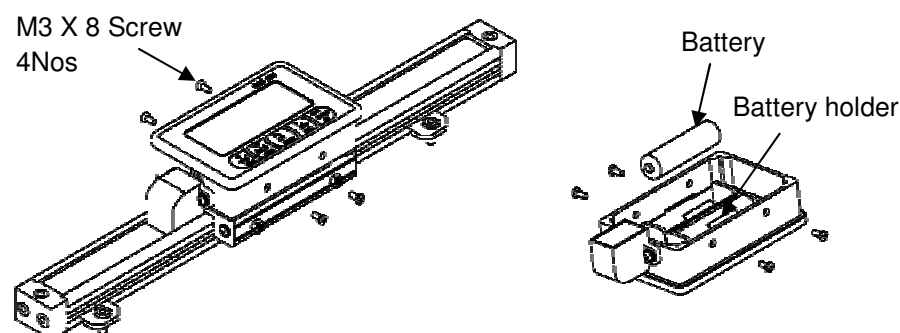
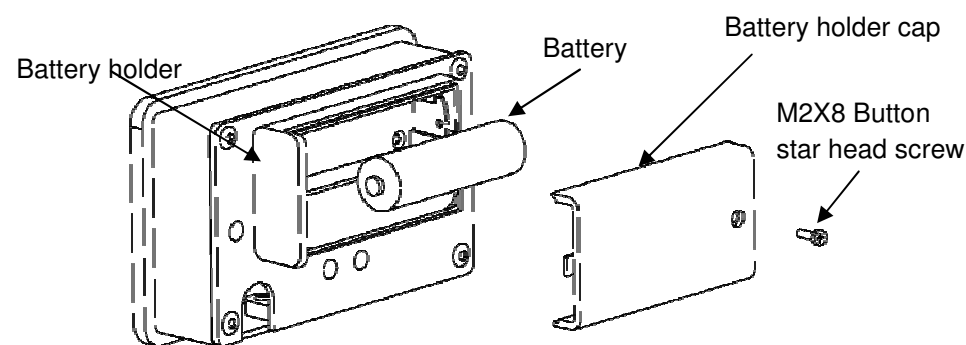
Measuring Units	mm, Inch DMS (Angular mode)
Resolution	10µm, 100µm
Measuring Length	± 9.99 meters
Battery Type	2 X 1.5V "AA" size
Battery Life	1 year (Typical)
Keypad	5 keys Membrane type
Display	8 digit LCD display
Operating Temperature	0° C to 55° C
Overall Size	102mm (W) X 65mm (H) X 48.5mm (D)
Panel Cut Out Dimensions	96.5mm (W) X 59.5mm (H)

Sensor Unit

Tape Pole Pitch	2.5mm
Sensor Dimensions	20mm (W) X 15mm (H) X 10mm (D)
Cable Length	2 meter Standard (Fixed)

Battery replacement:

To change the batteries refer to the following figures. While replacing the batteries please pay attention to correct polarity. The polarity is marked inside the battery holder. The batteries are size "AA", 1.5V.



1. Remove the screws from both sides.
2. Lift the DRO casing and replace the batteries which are under the LCD.



Keyboard



Selects RADIAL / DIAMETRIC mode. Also acts as a "Left" key.



Selects INCH / MM / Angular mode. Also acts as "DOWN" key.



"Zero" key to reset axis only in Incremental mode. Also used as "CANCEL" key to exit from Menu and "UP" key.



Selects ABSOLUTE / INCREMENTAL mode. Also acts as a "RIGHT" key.



"FUNCTION" key. Also acts as a "ENTER" key.

LCD Display



Indication for "Fn" key press.



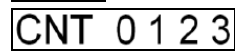
Low battery indication.



Angular Measurement mode.



Radial mode



Current incremental counter number.



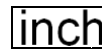
Diametric mode



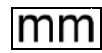
Absolute counting mode



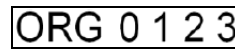
Incremental counting mode



Inch measurement mode



mm measurement mode



Current absolute counter mode

Diagnostic mode

The LCD DRO has intelligent Real Time diagnosis of certain parameters and indicates to the user when respective events occur.



Low Battery Indication (Battery icon) – When the battery voltage drops below usable range this indication is turned on the LCD display. The user has 2-3 days time to replace the batteries before the system turns OFF.

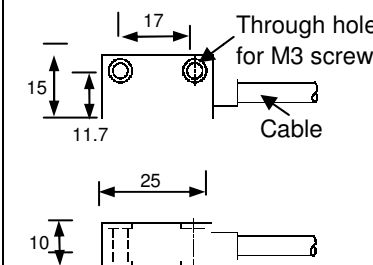
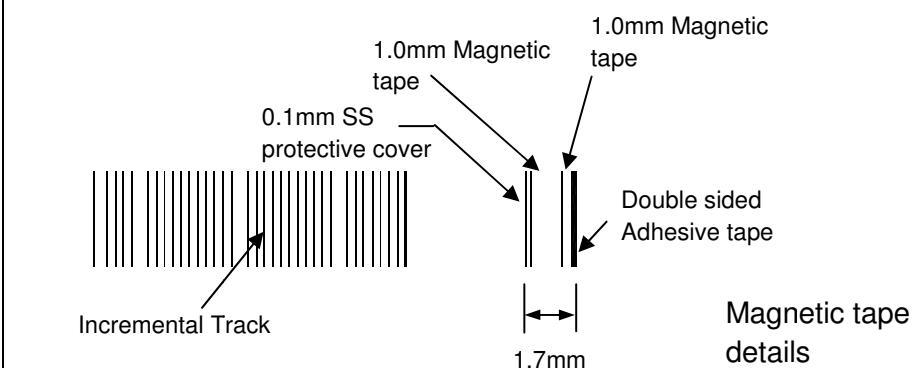


Sensor Error (Error 1) – Whenever the sensor gets disconnected from the DRO by accident, the DRO displays "Error 1" message on the LCD.

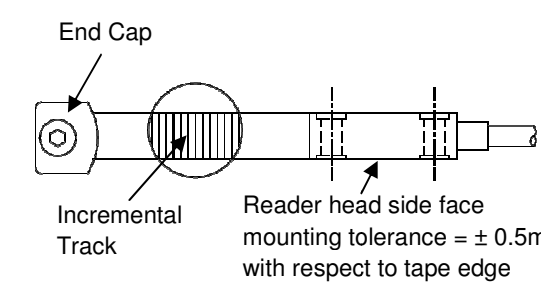


Tape Error (Error 2) – Whenever the gap between the magnetic tape and reader head increases above its mounting tolerance, then the DRO displays "Error 2" message on the LCD indicating the tape error.

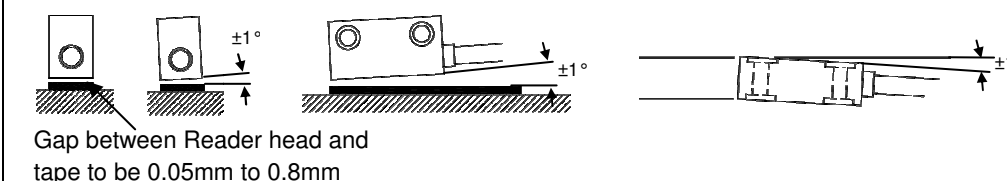
Installation Diagrams



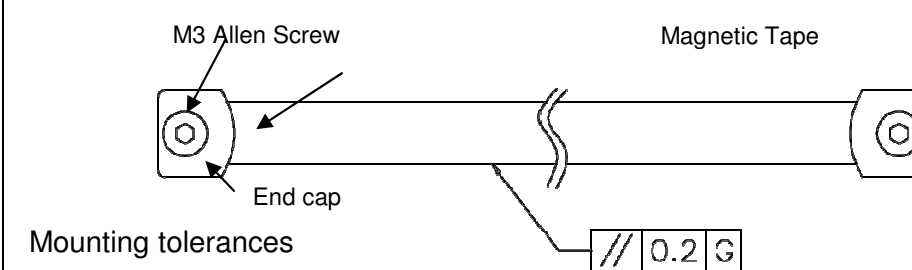
Reader head details



Assembly drawing Tape and Reader head

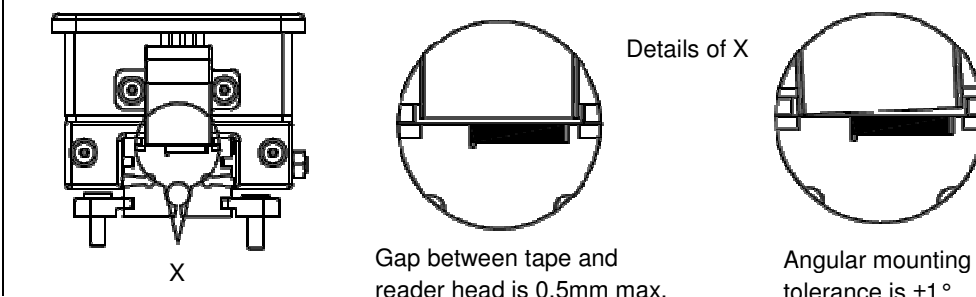
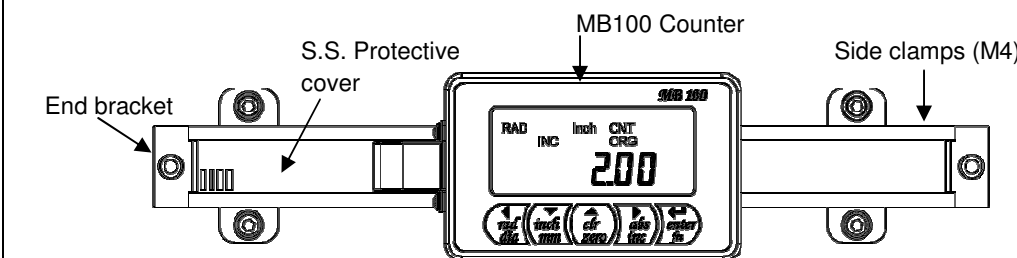


Gap between Reader head and tape to be 0.05mm to 0.8mm






Mounting tolerances


Installation diagram for Guided System (DDFZ-6A-XXXX)




Setup

 Press for 5 seconds to enter Setup
5 sec

  Toggle within the Setup parameters

 To enter into the selected parameter



 To go to the previous menu to exit from setup.



Setup parameters


Parameter	options	Description
d ir	LEFT, r iG ht	Sets the direction of counting
d .5 rES	10 u, 100 u	Sets the display resolution
SEt rEF	1.234 ¹	Sets new reference
SEt oFFS	1.234 ¹	Sets 4 tool offsets
LEC ²	1.234 ¹	Sets linear error compensation
AngULAr	--	Sets angular mode parameters
rAd iUS	123.456 ¹	Sets radius in angular mode
rES	1, 0.1	Sets angular resolution in degrees under angular mode
SYStEñ	--	Configures System parameters (password protected)
CAL ib	--	Enters into Sensor calibration mode (password protected)
vEr 1.2	--	Displays current Software version

Numeric Entry

Where-ever numeric entry is required the user should follow following sequence to enter a number.
The display will show "0000.00" with right most digits blinking when the DRO is expecting a numeric entry.

Use  and  key to select the digit position.

Use  and  key to select the value for the selected digit.

Use  to finish the numeric entry and set the desired value.

LEC (Linear Error Compensation)

This correction factor is in the range of 0.001 to 9.999. The value entered is multiplied to the measured value. This correction factor is entered using numeric entry.

Press  to save the entered LEC value.




The default LEC value is 1.000.





Example:

Current Value = 12.50mm
LEC = 1.010
New corrected value = 12.50 X 1.010 = 12.63mm

System Parameters

Select "555" as a password to enter the System parameters Menu. Following options are available
Keyboard Enable / Disable – Individual keys can be enabled / disabled using this parameter. The "1234 En" or "1234 d.5" message is displayed on the screen. The toggling number indicates specific keys as per list given below.

The numbers can be scrolled by  and .
The Enable / disable can be scrolled using .

Display	Description
1	 key
2	 key
3	 key
4	 key
d ir	Direction mode in setup
rES	Resolution mode in setup
rEF	Absolute reference mode in Setup
oFS	Offsets mode in Setup
LEC	Linear error compensation in Setup
Ang	Angular mode in Setup

Sensor calibration mode

This is a factory setting mode in which the reader head gets calibrated automatically.

DRO Functions

Absolute (ABS) mode

The ABS icon indicates that the DRO is running in this mode. This mode consists of one basic counter and 4 different offsets. The basic counter is related to the machine zero and its value is programmed in Setup mode as REFERENCE value.



Example

Current display = 10.48mm
Reference value = 100.00mm

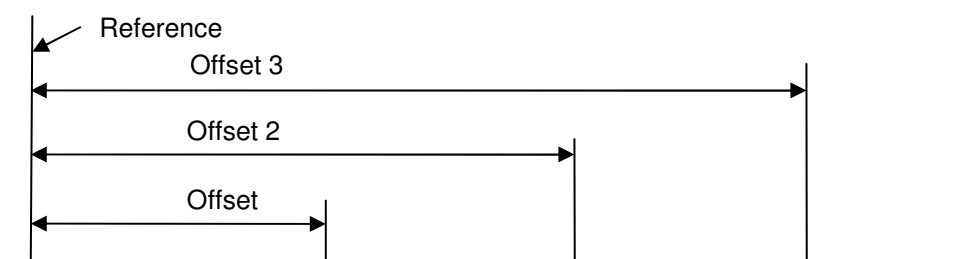
Keeping the  key pressed, press  key once to load the reference value.

The current display will show 100.00mm.

The programmed offsets can be applied as given below

Keeping the  key pressed, press  key to select the desired offset counter.

The offsets get applied as shown in the figure:




Note: The counters cannot be reset in this mode.

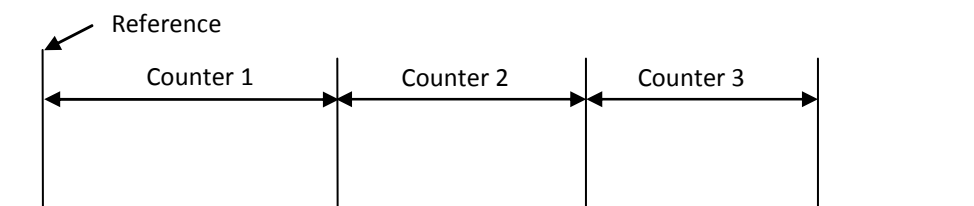
Incremental (INC) mode

The INC icon indicates that the DRO is running in this mode. This mode consists of 5 different incremental counters. The counter in use is indicated by **CNT 0 1 2 3** icon. The base incremental counter is indicated by **CNT** without any number.


Example

Keeping the  key pressed, press  key to select the desired counter.


These counters are independent and can be reset anywhere using the  key. After reset the counter shows the value relative to the point where it had been reset.



Radial / Diametric mode

This mode is used to convert radial mode display into diametric mode display and vice versa with the help of  key.

Inch / mm / Degree mode

Using  key, the measurement units can be toggled between Inch, mm and degrees (angular) mode. The degrees unit is only possible in case of a non-zero radius value in setup mode.