G90 series Hall Effect
Handheld Gaussmeter

Operating Manual

GOLIY®
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Useful information

This chapter contains basic information about measuring magnetic fields and about using the G90 series gaussmeter.

1.1 Measuring magnetic fields

1.2 About this instrument

1.3 About this operating manual
1.1 Measuring magnetic fields

A Gaussmeter is a measuring instrument used to measure the strength or direction of magnetic fields. The unit of measure for magnetic field strength is the tesla. As this is a very large unit for most practical uses, scientists commonly use the nanotesla (nT) as their working unit of measure. Engineers often measure magnetic fields in Gauss (1 Gauss = 100,000 nT, 1 T = 100,00 gauss).

1.2 About this instrument

The G90 series Handheld Hall Effect Gaussmeters are Coliy Tech's latest generation of Handheld Gaussmeters. The product line consists of three user friendly models: Model G91(2% accuracy), Model G92(1% accuracy), and the Model G93(3-axis,1% accuracy). G92 Gaussmeter can be configured for three channels with the use of an optional MULTIPLEXER to connect three probes. A revolutionary state of the art operating system provides the user Smartphone interface, with easy step by step operating instructions via the exclusive COLIY UI system.

The G90 series Handheld Hall Effect Gaussmeters are designed for academic, laboratory, industrial, manufacturing applications. Years of experience, Coliy has a proven track record for quality easy to use instrumentation controls from traditional keypad, computer and now smart phone programming. The G90 series boasts with a industrial class 3.2 inches touch panel display that enables customers instantaneous and simultaneous measurement results. (Min./Max./ Peak/Hold, Magnetic Flux Intensity, and a Trend Graph, etc). The G90 Hall Effect Gaussmeter can measure up to 30KG from DC to 30KHz. The models G92 and G93 are supplied with temperature compensation function, providing precision and stability from -20°C to 75°C(-4°F to 167°F). Temperature coefficient of single axis Hall probe is 300ppm/℃, temperature coefficient of 3-axis Hall probe is 600ppm/℃. We strongly recommend buying temperature compensated Hall probes, for the best precision and stability when the temperature changes.

Users can select from a complete selection Hall Probes : Axial
Probe, Transverse Probe, Three-Axis Probe, High Temp. Probe (up to 160°C), Ultra thin Probe (0.5mm thickness). Our Three-Axis Hall Sensor developed by MEMS technology provides high spatial resolution (0.1x 0.1 x 0.1 mm³) and superior orthogonality precision (better than 0.05 °), suitable for institutes, Universities and high tech enterprises.
1.3 About this operating manual

Characters and symbols used

Various elements are used in this operating manual to indicate special meanings or particularly important passages in the text.

Symbols and terms used in warnings

According to the American National Standard ANSI Z535.6-2006, the following warnings, symbols, and terms are used in this document:

<table>
<thead>
<tr>
<th>SIGNAL WORD</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTICE</td>
<td>Indicates a danger that results in damage to or destruction of the instrument.</td>
</tr>
<tr>
<td>CAUTION</td>
<td>Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.</td>
</tr>
<tr>
<td>WARNING</td>
<td>Indicates a hazardous situation which, if not avoided, could result in death or serious injury.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Indicates a hazardous situation which, if not avoided, will result in death or serious injury.</td>
</tr>
</tbody>
</table>

Structure of warnings

All warnings are structured as follows:

- **SIGNAL WORD**
- Type and source of danger
- Consequences of failure to observe warning
- Instructions for preventing danger
# Symbols and marks used in this document

| ! | Important instruction  
|   | Indicates an instruction that must be followed to avoid danger. |
| ✓ | Requirement  
|   | Indicates a requirement that must be met before the next instruction can be carried out, e.g.  
|   | ✓ The instrument is switched off. |
| ⏰ | Instruction  
|   | Indicates a single instruction, e.g.  
|   | ⇒ Switch the instrument on. |
| 1. | Sequence of instructions  
| 2. | Indicates a sequence of instructions that must be carried out in the order given. |
| ✚ | Result  
|   | Indicates the result of carrying out an instruction, e.g. The instrument starts a self test. |
This chapter contains important instructions on how to use the G90 series gaussmeter safely. Please therefore read this chapter carefully and follow the instructions closely.

2.1 Using this operating manual

2.2 Proper use

2.3 Improper use

2.4 Dangers when handling rechargeable Batteries

2.5 Dangers from AC adapter/charger
2.1 Using this operating manual

! Carefully read this entire operating manual before you start using the instrument.

! Keep this operating manual so that it is available to everyone who uses the instrument, and ensure that this operating manual is with the instrument if you pass it on to a third party.

2.2 Proper use

The G90 series gaussmeter is designed to measure and evaluate magnetic fields.

! Only use the instrument for the purpose and under the conditions for which it has been designed.

! In particular, observe the technical data given in the “Specification”.

! Ensuring that the instrument is used only by appropriately qualified and trained persons.

2.3 Improper use

The G90 series gaussmeter is not a warning device that gives active notice of the existence of dangerous fields by means of a visible or audible warning signal.

! Remember that this instrument is a measuring device, not a warning device.

2.4 Dangers when handling rechargeable Batteries

⚠️ When handled improperly, rechargeable batteries can overheat, explode, or ignite.

⇒ Only use the G90 series gaussmeter with its rechargeable batter.

Do not use dry batteries.
2.5 Dangers from AC adapter/charger

You could experience electric shock from the AC adapter/charger.

⇒ Do not use the instrument when the casing is damaged because parts carrying dangerous voltages could be exposed.

⇒ Do not use an AC adapter/charger that has been moved from a cold to a warm room.

⇒ Only use the AC adapter/charger indoors and at temperatures between 0 °C and +40 °C.

⇒ Only use the AC adapter/charger if the voltage specification on the AC adapter/charger matches the AC line voltage.
Preparing G90 series gaussmeter for use

This chapter describes all you need to do before starting to use the G90 series gaussmeter.

3.1 Unpacking
3.2 Instrument overview
3.3 Power supply
3.4 Connecting the probe
3.1 Unpacking

Packaging

The packaging is designed to be re-used as long as it has not been damaged.

Keep the original packaging and use it whenever the instrument needs to be shipped or transported.

Transport damage

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument/accessories damaged during transportation</td>
</tr>
<tr>
<td>Using damaged instrument/accessories can lead to subsequent damage.</td>
</tr>
<tr>
<td>⇒ Check the instrument and all accessories for damage when you have unpacked them.</td>
</tr>
<tr>
<td>⇒ If the instrument is damaged, contact your Coliy Service Center.</td>
</tr>
</tbody>
</table>

The addresses of your Coliy Service Center are listed at the end of this operating manual and on the Internet at http://www.Coliy.com

Equipping the case

You can use the case provided to store a wide range of optional accessories in addition to the items supplied. The figures below show the compartments in the case lid and case base.

**Note:** The instrument is not ready for use until it has reached a temperature within the operating range of -10 to +50 °C.
3.2 Instrument overview

3.3 Power supply

The power supply is normally taken from the batteries provided. You can use the AC Adapter / Charger supplied as an alternative power source.

**Operation from rechargeable batteries**

The rechargeable batteries for this device are packaged separately. The charging cycle takes about 6 hours.

**Charging the batteries**

If the device is probably not going to be used for several weeks, it should be recharged before being stored to avoid the possibility of deep discharge of the batteries.

---

**WARNING**

Charging the batteries with wrong AC Adapter/Charger

Overheating, explosion, or ignition of rechargeable batteries/batteries or their surroundings

⇒ You must use only the AC Adapter / Charger supplied to charge the batteries.
Note: A complete charge cycle takes about 6 hours (With the instrument switched off).

Starting the charge cycle

✓ The AC line voltage must match the operating voltage of the AC Adapter / Charger.
1. Connect the AC Adapter / Charger to the USB charging socket of the G90 series gaussmeter.
2. Connect the AC Adapter / Charger to the AC line.
   ☑️ The charge cycle starts.
   ☑️ The Charge LED glows red during the entire charge cycle.

As soon as the batteries are fully charged, the AC Adapter / Charger switches to trickle charge mode and the Charge LED glow green.

Proper handling of rechargeable batteries

⇒ Observe the following precautions when handling rechargeable batteries:
   • Always handle the batteries with care.
   • Do not drop or damage the batteries or expose them to excessively high temperatures.

3.4 Connecting the probe

There are many different probes available for different applications for the G90 series gaussmeter. You can find more information about the order numbers and specifications of the probes under “Ordering information”, as well as in the data sheets of the G90 series gaussmeter and probes. These documents can also be downloaded from the Coliy web site on the Internet at http://www.Coliy.com.

NOTICE
Wrong handling of the probe
Damage of the probe head
Transverse and axial probes

Probes with “Push-Pull” connector

Connecting the probe

✓ The red mark on the probe plug is pointing towards the back of the instrument.

⇒ Push the probe plug straight down into the probe socket until it clicks into place.

+ The G90 series gaussmeter detects the probe model automatically. The probe model is displayed top left when you switch on the instrument.

Disconnecting the probe

⇒ Slide the sleeve on the probe plug upwards and pull the probe upwards to remove it.

3.5 Transverse and axial Probes

COLIY G90 series gaussmeter probes are designed to meet the electrical and mechanical requirements of virtually any application. Models are available for transverse, axial, and very low field measurements. The probe style is dependent upon the measurement environment. The probe’s length, outside diameter (axial probes) or thickness and width (transverse probes) are important if there are physical constraints where the probe will be used. In ‘transverse’ probes the Hall generator is mounted in a thin, flat stem whereas in ‘axial’ probes the Hall generator is mounted in a cylindrical stem. The primary difference is the axis of measurement, as shown by ‘+B’ in following picture. Generally transverse probes are used to make measurements between two magnetic poles such as those in audio speakers, electric motors and imaging machines. Axial probes are often used to measure the magnetic field along the axis of a coil or solenoid. Either probe can be used where there are few physical space limitations, such as in geomagnetic or electromagnetic interference surveys.
all Probe Configurations
4 Measuring with G90 series gaussmeter

This chapter describes how to make measurements using the G90 series gaussmeter.

4.1 Avoiding measurement errors
4.2 Switching on
4.3 Overview of the display
4.4 OPERATING OF SINGLE PROBE
4.5 The Menu screen
4.6 Switching off
4.7 Gaussmeter interface
4.1 Avoiding measurement errors

The measurement result can be falsified by external influences when measuring magnetic fields. Considerable measurement deviations can occur under certain circumstances, particularly when measuring low field strengths. The following tips may be of assistance in recognizing sources of interference so as to avoid measurement errors. The following factors can affect the measurement result:

- Distance
- Changes in temperature
- Angle

Distance

To a great extent, the reading magnetic field strengths is determined by distance between the hall sensor and magnet.

Make a test standard. Make a fixture for the probe. Ensure the distance between probe and magnetic material.

Recommendation: Changes in temperature

The temperature coefficient of hall sensor is 0.03%/°C, thus stable vicinity temperature will contribute to the test accuracy.

Recommendation:

The calibration temperature of the probe is 25°C. Following are some tips to gain an optimal accuracy in a different vicinity temperature:

1. To calculate an accurate data according to the actual temperature and temperature coefficient.
2. Utilize another type of Gaussmeter and choose a probe that has a temperature a sensor integrated.

HALL sensor and magnetic angle

For axial probe, the maximum magnetic strength is only measured when the HALL sensor perpendiculars to the magnetic direction. For any other cases, if the angle between HALL sensor and magnetic field is Ø, in consequence, the measured maximum data is *sinØ.
Others
1. Failure to zero the error signals from the instrument, probe, and nearby sources of magnetic interference.

Recommendation:
2. Subjecting the probe to physical abuse.

In order to measure the maximum magnetic strength, the HALL sensor should approximately perpendicular to the magnetic field. The factor of magnetic direction is out of consideration when a 3 axial probe is utilized.

Further useful information can be found at www.Coliy.com

4.2 Switching on

You can switch the instrument on as soon as you have prepared it for use.

⇒ Press the ON/OFF button to switch the instrument on.

+ The instrument displays the instrument information and performs a self test.

4.3 Overview of the display

The image below shows the items that can be displayed during a measurement.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gaussmeter logo</td>
</tr>
<tr>
<td>2</td>
<td>Note information</td>
</tr>
<tr>
<td>3</td>
<td>Measure value</td>
</tr>
<tr>
<td>4</td>
<td>Others value</td>
</tr>
<tr>
<td>5</td>
<td>Time</td>
</tr>
<tr>
<td>6</td>
<td>Battery allowance</td>
</tr>
<tr>
<td>7</td>
<td>Company logo</td>
</tr>
<tr>
<td>8</td>
<td>Units</td>
</tr>
</tbody>
</table>
4.4 Operating of single probe

- Used to switch the instrument on or off.
- Used to select the backlight.
- Gaussmeter logo

**NOTICE**

When pulling out the probe from the Gaussmeter, and inserting the probe again, 5 seconds interval is valid.

4.5 The Menu screen

You can directly activate a function or make a selection by touch icon in the measurement screen.

All other settings have to be made using the menus described below.
The example shows: Setting Menu

The example shows: Auto Store

The example shows: Display
The example shows: Dataview

The example shows: System

The example shows: Product
4.6 Switching off

To switch the instrument off

⇒ Press and hold down the **POWER** button for about three seconds.

the instrument switches off.

4.7 Gaussmeter interface

**Analog output function**

The G92 gaussmeter is capable of providing an analog voltage signal proportional to the present flux density level. Calibration is set to 3.0V full scale DC and AC, two model is same. This signal, available at the DC/AC connector, can be connected to a voltmeter, oscilloscope, recorder, data logger, or external analog to digital converter. (Use a tie line to make DC interface into BNC interface.)

Power consumption increases when using the analog output. If use of the analog output port is unnecessary, maximize battery life by disabling the analog output feature. The ANALOG ON icon will turn on when the analog output feature is active.

**Analog output usage**

The analog output is the same for AC and DC, it output true effective value. It divided into two range file:0-3,000G,3,000G-30,000G. For instance, when in the 3,000G DC/AC range a reading of 1,000G relates to an analog output voltage of 1.0 VDC/AC. When in the 30,000AC/DC range, a reading of -10,000 produces the same output, -1VDC/AC.

**Accessories**

The instrument is shipped with a “zero flux chamber” used for shielding the probe from unwanted fields during zeroing. A sturdy carrying case is provided for the zero flux chamber, probes, and this manual.

Optional Components including power adaptor which input:100-230VDAC, output:5VDC;3 channel MULTIPLEXER, up to 3 probes, which allows three probes connection, support for main unit and probe; customized low impedance USB cable for communication and power connection; BNC adapting cable.
This chapter gives you some basic information about the COLIY SMART 100 PC software. It explains the possible applications of the software, how to connect the G90 series gaussmeter to the PC.

5.1 Using the PC software

5.2 Connecting the G90 series gaussmeter

5.3 Working with the PC software

5.4 PC software interface
5.1 Using the PC software

The software provides the following functions:

- DISPLAY
- SAVE DATA

Minimum system requirements

The following minimum system requirements must be met:

- Windows 7 OR Windows XP SP2
- software can be downloaded from [www.coliy.com](http://www.coliy.com)

5.2 Connecting the G90 series gaussmeter

You can connect the G90 series gaussmeter to the PC using USB cable. Use the 1.5m long USB cable supplied with the G90 series gaussmeter for this purpose. Longer cables are available as accessories.

5.3 Working with the PC software

The following conditions must be fulfilled before you can work with the PC software:

- The PC is ready to use and the PC software has been installed successfully.
- The G90 series gaussmeter is ready to use.
- G90 series gaussmeter and PC are connected together by USB cable.

5.4 PC software interface
Instrument maintenance

This chapter describes how to clean the instrument, replace the batteries, dispose the instrument and check the instrument for proper operation.

6.1 Cleaning the instrument

6.2 Replacing / removing the batteries

6.3 Disposal
6.1 Cleaning the instrument

**Damage to the instrument from liquids**

The instrument may be damaged or destroyed if liquids are allowed to get inside the casing.

⇒ Make sure that no liquid gets inside the instrument.

**NOTICE**

Solvents

Solvents can corrode the surfaces of basic unit, probe and AC Adapter/Charger.

⇒ You must not use solvents to clean the basic unit, probe, and AC Adapter/Charger.

**Cleaning the instrument:**

1. Use a soft cloth to clean the instrument. You can use lukewarm water to which a little detergent solution has been added as a cleansing agent.
2. To prevent streaks and spots, wipe off the instrument with a dry cloth while it is still damp.

6.2 Replacing/removing the batteries

The rechargeable batteries have a useful life of about 1000 charge cycles or 3 years (whichever occurs soonest). Replace the batteries if the operating time is significantly reduced although the batteries are fully charged.

**WARNING**

Improper replacement of batteries

Overheating, explosion, or ignition of rechargeable batteries/batteries or their surroundings

⇒ Only use the G9 with rechargeable battery.
⇒ Do not use dry batteries.
⇒ you can buy lithium battery from Coliy.
**Replacing the batteries**
1. Switch off the instrument and disconnect it from all other devices (AC Adapter / Charger, optical cable).
2. Open the plastic case by screwdriver
3. Remove the old batteries and dispose of them according to the waste disposal ordinances applicable in your country.
4. Connect the new batteries. Make sure you connect them the right way.
5. Close the plastic case by screwdriver
6. Connect the AC Adapter / Charger and charge the batteries (a complete charge cycle takes about 6 hours).

**6.3 Disposal**

**Rechargeable batteries**

Do not dispose of the batteries with the normal household waste. You should dispose of old batteries that are no longer required in accordance with the waste disposal ordinances in your country.

This product is subject to European Guideline 2002/96/EC governing the disposal of waste electrical and electronic equipment (WEEE).

Do not dispose of this instrument with the normal household waste. You should dispose of it in accordance with the waste disposal ordinances in your country.
This chapter lists the specifications of the G90 series gaussmeter.
7.1 Catalogue

G90 Series Handheld Hall Gaussmeter

Description:

The G90 series Handheld Hall Effect Gaussmeters are Coliy Tech’s latest generation of Handheld Gaussmeters. The product line consists of three user friendly models: Model G91(2% accuracy), Model G92(1% accuracy), and the Model G93(3-axis,1% accuracy). G92 Gaussmeter can be configured for three channels with the use of an optional MULTIPLEXER to connect three probes. A revolutionary state of the art operating system provides the user Smartphone interface, with easy step by step operating instructions via the exclusive COLIY UI system.

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coefficient of single axis Hall probe is 300ppm/℃, temperature coefficient of 3-axis Hall probe is 600ppm/℃. We strongly recommend buying temperature compensated Hall probes, for the best precision and stability when the temperature changes.

Users can select from a complete selection Hall Probes: Axial Probe, Transverse Probe, Three-Axis Probe, High Temp. Probe (up to 160°C), Ultra thin Probe (0.5mm thickness).

Our Three-Axis Hall Sensor developed by MEMS technology provides high spatial resolution (0.1x 0.1 x 0.1 mm³) and superior orthogonality precision (better than 0.05°), suitable for institutes, Universities and high tech. enterprises.

**Features**

- 3. Ergonomically designed
- 4. Colorful display style
- 5. Smartphone operation
- 6. 3.2 inches color touch LCD
- 7. Display trend graph & measured data
- 8. Max/Min/Hold Function
- 9. Frequency bandwidth DC to 30KHz
- 10. Temperature compensation
- 11. Water Proof and Dirt Resistant
- 12. Battery life 12 hours operation
- 13. S or N Polar indication
- 14. Transverse and Axial probe
- 15. Extremely small volume 3-axis sensor
- 16. High Temp. Probe (up to 160 Celsius)
- 17. Ultrathin Probe (0.5mm thickness).
- 18. 20µs Sampling Peak Mode
- 19. Smart record and review
- 20. Multi-probe function
Display Style

Color LCD shows magnificent data: time, value, polarity, Max, Min, note, Stick figure.... This is extreme experience by COLIY UI system.

SMARTPHONE Operation

A revolutionary operating system is developed by Coliy. Customers will operate G90 units using a Smartphone interface. This is extreme experience by COLIY UI system.
Smart record and review

This function provides the full size record list. Users can use MEMO to memorize any specification at every measurement. Click any record list, users can select screen shots. This is extreme experience by COLIY UI system.

Unique Three-Axis Sensor

The Three-Axis sensor using particular MEMS technology, it has minimal spatial resolution. Three mutually orthogonal magnetic field sensitive volume only 0.1 × 0.1 × 0.1 mm³ and orthogonality precision better than 0.05°.

20µs Sampling Peak Mode

G92 Gaussmeter is capable of capturing the Peak measurements of a pulsed magnetic field and the fast variation of the magnetic field as narrow as 20µs in width.
Temp. Compensation

Temperature coefficient of single axis probe is 300ppm/°C, temperature coefficient of 3-axis probe is 600ppm/°C, strongly recommend buying temperature compensation probe, can keep the precision and stability when the temperature changes.

High temperature probe

Our advanced technology and ergonomically designed probe provides high temperature operation: -20°C to +160°C (-4°F to +320°F)
**3D Movement Platform**

The 3-directions movement Platform is made of non-magnetic materials. Probe fixed to the bracket front-end, user can manually do any movement of the X, Y, Z directions, positioning accuracy is 0.1 mm.

**Multi-probes Function**

G92 Gaussmeter employs THREE CHANNELS MULTIPLEXER which allows customers to apply 3 probes simultaneously. Therefore these 3 probes can perform as 3 separate Gaussmeters.

**Magnetic Pole Direction**

G90 Series can show the magnetic pole with colorful cartoon picture in LCD display.
## G90 Series Hall gaussmeter Specification:
Option P(MODEL G92P): G92 with 20µs Sampling Peak Mode function

<table>
<thead>
<tr>
<th>Model</th>
<th>G91</th>
<th>G92</th>
<th>G93</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>3-AXIS</td>
</tr>
<tr>
<td><strong>Precision</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuracy (DC)</td>
<td>2% of reading±3 Number of Count</td>
<td>1% of reading±3 Number of Count</td>
<td>1% of reading±3 Number of Count</td>
</tr>
<tr>
<td><strong>RANGE</strong></td>
<td>0.1G-20KG (auto range: 200G,2KG,20KG) 0.01mT-2T</td>
<td>0.1G-30KG (auto range: 300G,3KG,30KG) 0.01mT-3T</td>
<td>0.1G-30KG (standard probe) 1mG-30G (Low field probe)</td>
</tr>
<tr>
<td>Frequency</td>
<td>DC - 10KHz</td>
<td>DC - 30KHz</td>
<td>DC -100Hz</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.1G</td>
<td>0.1G</td>
<td>0.1G</td>
</tr>
<tr>
<td>Temperature compensation</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Function</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit</td>
<td>GAUSS,T</td>
<td>GAUSS,T,A/M</td>
<td>GAUSS,T,A/M</td>
</tr>
<tr>
<td>OPTION P: 20µs Sampling Peak Mode</td>
<td>NO</td>
<td>SELECTABLE (model G92P)</td>
<td>NO</td>
</tr>
<tr>
<td>High-speed large capacity memory</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Smart record and review</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>SMART PHONE operating style</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Calibration remind</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Polar indication</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Hardware</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROBE</td>
<td>Transverse Probe, axial probe, Ultrathin Probe (0.5mm thickness).</td>
<td>Transverse Probe, axial probe, Ultrathin Probe (0.5mm thickness), High Temperature Probe(+160°C)</td>
<td>3-axis probe, Sensitive volume 0.1x0.1x0.1mm, orthogonality precision 0.05°</td>
</tr>
<tr>
<td>3-axis probe</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>±3V OUTPUT</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Can connect 3pcs probes simultaneously</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Temp. compensation probe</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>USB output</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Rechargeable battery</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Touch Color Screen</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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</table>
Unit General Specification

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-10ºC to +60ºC (14 to 140 ºF)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-20ºC to +75ºC (-4 ºF to 167 ºF)</td>
</tr>
<tr>
<td>Display</td>
<td>3.2 inches colorful tough LCD, 320x240 Pixel</td>
</tr>
<tr>
<td>SMART PC software</td>
<td>Selectable</td>
</tr>
<tr>
<td>Operating battery life</td>
<td>12 hours</td>
</tr>
<tr>
<td>Dimension</td>
<td>238mm x 95mm x 42mm 9.4” x 3.75” x 1.65”</td>
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<tr>
<td>Weight</td>
<td>350g 0.8lbs</td>
</tr>
<tr>
<td>Battery</td>
<td>Rechargeable 4500mAH Li-ion</td>
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</tbody>
</table>

Probes Specification

<table>
<thead>
<tr>
<th>Probe Model</th>
<th>Range &amp; Resolution</th>
<th>Frequency</th>
<th>Stem dimension mm</th>
<th>Working temp.</th>
<th>linearity</th>
<th>Stem material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transverse</td>
<td>Range 0-20KG,</td>
<td>DC-10KHz</td>
<td>80<em>2.5</em>1</td>
<td>-20ºC to +75ºC</td>
<td>2%</td>
<td>PLASTIC</td>
</tr>
<tr>
<td>T08P150G91</td>
<td>Resolution 0.1G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axial</td>
<td>Range 0-20KG,</td>
<td>DC-10KHz</td>
<td>80*Φ5</td>
<td>-20ºC to +75ºC</td>
<td>2%</td>
<td>Copper</td>
</tr>
<tr>
<td>A08M150G91</td>
<td>Resolution 0.1G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5mm Ultrathin</td>
<td>Range 0-20KG,</td>
<td>DC-5KHz</td>
<td>60<em>2.5</em>0.5</td>
<td>-20ºC to +75ºC</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>T06U150G91</td>
<td>Resolution 0.1G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probe Model</td>
<td>Range Resolution &amp; Resolution</td>
<td>Frequency</td>
<td>Stem dimension mm</td>
<td>Working temp.</td>
<td>linearity</td>
<td>Stem material</td>
</tr>
<tr>
<td>---------------------</td>
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<td>-------------</td>
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<tr>
<td><strong>Transverse</strong></td>
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</tr>
<tr>
<td>T08P150G92</td>
<td>Range 0-30KG, Resolution 0.1G</td>
<td>DC-30KHz</td>
<td>80<em>2.5</em>1</td>
<td>-20°C - +75°C</td>
<td>1%</td>
<td>PLASTIC</td>
</tr>
<tr>
<td>T08P150G92T</td>
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<tr>
<td><strong>Transverse</strong></td>
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<tr>
<td>T08M150G92</td>
<td>Range 0-30KG, Resolution 0.1G</td>
<td>DC-30KHz</td>
<td>80<em>2.5</em>1</td>
<td>-20°C - +75°C</td>
<td>1%</td>
<td>Copper</td>
</tr>
<tr>
<td>T08M150G92T</td>
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<tr>
<td><strong>High Temp.</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transverse</strong></td>
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<td></td>
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</tr>
<tr>
<td>T08H150G92</td>
<td>Range 0-30KG, Resolution 0.1G</td>
<td>DC-30KHz</td>
<td>80<em>5</em>1</td>
<td>-35°C - +160°C (-31°F to +320°F)</td>
<td>1%</td>
<td>PLASTIC</td>
</tr>
<tr>
<td>T08H150G92T</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Axial</strong></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>A08M150G92</td>
<td>Range 0-30KG, Resolution 0.1G</td>
<td>DC-30KHz</td>
<td>80*Φ5</td>
<td>-20°C - +75°C</td>
<td>1%</td>
<td>Copper</td>
</tr>
<tr>
<td>A08M150G92T</td>
<td></td>
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</tr>
<tr>
<td><strong>High Temp.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Axial</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A08H150G92</td>
<td>Range 0-30KG, Resolution 0.1G</td>
<td>DC-30KHz</td>
<td>80*Φ5</td>
<td>-35°C - +160°C (-31°F to +320°F)</td>
<td>1%</td>
<td>Copper</td>
</tr>
<tr>
<td>A08H150G92T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>0.5mm Ultrathin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T06U150G92</td>
<td>Range 0-30KG, Resolution 0.1G</td>
<td>DC-10KHz</td>
<td>60<em>2.5</em>0.5</td>
<td>-20°C - +75°C</td>
<td>1%</td>
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<tr>
<td>T06U150G92T</td>
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</tbody>
</table>

**Model G93 3-axis gaussmeter Probes**

<table>
<thead>
<tr>
<th>Probe Model</th>
<th>Range Resolution &amp; Resolution</th>
<th>Frequency</th>
<th>Stem dimension mm</th>
<th>Working temp.</th>
<th>linearity</th>
<th>Stem material</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td>Range 0-30KG, Resolution 0.1G</td>
<td>DC-100Hz</td>
<td>80<em>5</em>1.5</td>
<td>-20°C - +75°C</td>
<td>1%</td>
<td>PLASTIC</td>
</tr>
<tr>
<td>Y08P150G93</td>
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<td>Y08P150G93T</td>
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</tr>
<tr>
<td><strong>Low Field</strong></td>
<td>Range 0-45G, Resolution 1mG</td>
<td>DC-60Hz</td>
<td>80<em>5</em>1.5</td>
<td>-20°C - +75°C</td>
<td>1%</td>
<td>PLASTIC</td>
</tr>
<tr>
<td>Y08L150G93</td>
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Option “T” : TEMPERATURE COMPENSATED PROBE
Accessories

<table>
<thead>
<tr>
<th>model</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZC10</td>
<td>Zero chamber, provides up to 80 db attenuation in fields up to 500 G and can be used with standard probes. Hole size: diameter 6.8mm x 44.5mm</td>
</tr>
<tr>
<td>PS2000</td>
<td>Power Adaptor</td>
</tr>
<tr>
<td>STD30</td>
<td>Input:100-230VDAC, Output:5VDC</td>
</tr>
<tr>
<td>CAB20</td>
<td>Customized low impedance USB cable for communication and power connection.</td>
</tr>
<tr>
<td>CAB30</td>
<td>BNC adapting cable for analog output</td>
</tr>
<tr>
<td>GHO100</td>
<td>3-directions movement Platform for probe</td>
</tr>
<tr>
<td>SAMRT PC</td>
<td>PC SOFTWARE for Gaussmeter</td>
</tr>
<tr>
<td>MULTI3</td>
<td>3 channels MULTIPLEXER, which allows to connect up to three probes simultaneously.</td>
</tr>
<tr>
<td>CKM10</td>
<td>Aluminum carry case</td>
</tr>
</tbody>
</table>

Description of probe type selection

<table>
<thead>
<tr>
<th>T</th>
<th>08</th>
<th>M</th>
<th>150</th>
<th>G93</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROBE TYPE</td>
<td>STEM LENGTH</td>
<td>PROBE STYLE</td>
<td>CABLE LENGTH</td>
<td>GAUSSMETER MODEL</td>
<td>TEMPERATURE COMPENSATED</td>
</tr>
<tr>
<td>A - AXIAL</td>
<td>06 - 6 cm</td>
<td>C - CRYOGENIC</td>
<td>150 - 150cm</td>
<td>G91 – G91 probe</td>
<td>T - YES</td>
</tr>
<tr>
<td>T - TRANSVERSE</td>
<td>08 - 8 cm</td>
<td>F - FLEXIBLE</td>
<td>G92 – G92 probe</td>
<td>G92 – G92 probe</td>
<td>BLANK - NO</td>
</tr>
<tr>
<td>X - 2 AXIS</td>
<td>10 - 10 cm</td>
<td>H – HIGH TEMP.</td>
<td>G93 – G93 probe</td>
<td>G93 – G93 probe</td>
<td></td>
</tr>
<tr>
<td>Y - 3 AXIS</td>
<td>25 - 25 cm</td>
<td>L – LOW FIELD</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>STEM LENGTH</td>
<td>...</td>
<td>M – METAL</td>
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<tr>
<td>...</td>
<td></td>
<td>P – PLASTIC</td>
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<tr>
<td>...</td>
<td></td>
<td>U – ULTRATHIN</td>
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<tr>
<td>...</td>
<td></td>
<td>W – WIDE FIELD</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Colyi precision magnetic product description

21. If the ambient temperature of measurement field changes sharply, we suggest to use temperature compensation function.

22. The difference of accuracy between Coliy products and other brand’s products. Coliy’s acquisition of accuracy is based on the accuracy or % of reading. Other brand’s accuracy are list as % full scale. Coliy products’ accuracy is always more precise than other brands. For example: When a magnetic field is detected at 500G, COLIY Gauss meter readings range 500G ± 500 * 1%, other Gauss meter readings range 500G ± 3000 * 1%, 3000G for the range.
Bracket and main unit, model STD30