Height Measuring and Scribing Instrument Digimar 814 SR

**Features**

- **Functions:**
  - RESET (Set the display to zero for relative measurement)
  - ABS (Switch between relative and absolute measurement)
  - mm/inch
  - Reference-Lock/Unlock
  - PRESET (To enter a numerical value)
  - DATA (Data transmission via connection cable)
  - Auto-ON/OFF

- **TechnicalSpecifications:**
  - Life of the battery up to 3 years
  - Max. measuring speed 1.5 m/s (60”/s)
  - MarConnect Data output: choose either USB OPTO RS232C Digimatic

- **Application:**
  - Scribing and marking of work pieces
  - Measuring heights and distances

**Technical Data**

<table>
<thead>
<tr>
<th>Measuring range</th>
<th>Resolution</th>
<th>Error limit</th>
<th>Weight</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm (inch)</td>
<td>mm / inch</td>
<td>mm / inch</td>
<td>kg / lbs</td>
<td></td>
</tr>
<tr>
<td>350 (14”)</td>
<td>0.01 / .0005”</td>
<td>0.04 / .0016”</td>
<td>7 / 15.43</td>
<td>4426100</td>
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<tr>
<td>600 (24”)</td>
<td>0.01 / .0005”</td>
<td>0.05 / .0020”</td>
<td>8 / 17.64</td>
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</table>

**Accessories**

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Measuring / Scribe Point, carbide tipped</th>
<th>Holder for Test Indicators</th>
<th>Battery 3V, type CR 2032</th>
<th>Data Connection Cable USB (2 m)</th>
<th>Data Connection Cable Opto RS232C (2 m), with SUB-D jack 9-pin</th>
<th>Data Connection Cable Digimatic (2 m), Flat plug 10-pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>814 SR</td>
<td>814 SRs</td>
<td>27 Sp</td>
<td>4123041</td>
<td>4102520</td>
<td>4102357</td>
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<td>27 Sp</td>
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<td>4123867</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
MarCom Professional
Enables data acquisition via SPC software

MarCom Software
Clear and flexible data acquisition

Overview
MarConnect Integrated Wireless
The integrated wireless data transmission for uncomplicated and inexpensive data transmission.

MarConnect USB Ready
Simply transmit data to a PC; can be easily adapted to become a multi device measuring station.

Radio Transmission
MarConnect Radio System FM 1
Secure wireless data transmission

MarConnect Radio System FM 2
Secure wireless data transmission

Overview
MarConnect Data Connection Cables
To connect Measuring Instruments to External Devices
MarConnect  MarCom Professional 4.0

Whether you are using the tried and tested MarConnect interface or the new wireless data transmission Integrated Wireless, the MarCom software enables you to transmit data quickly and easily from a measuring station to a PC.

Inexpensive, . . .

. . . as no interface is required.
Data acquisition with MarCom Professional 4.0 now no longer requires an interface box; even so you do not lose the functionality of an interface box.

Trouble free connection to measuring . . .

. . . instruments.
With MarCom all Mahr measuring instruments with MarConnect interfaces (RS232, USB) or Integrated Wireless can be connected; simply extend the measuring workplace with USB Hubs.

Flexible data transmission

Regardless of whether you are using a foot switch, directly on a measuring instrument, with a Timer function or with a PC keyboard: MarCom is extremely flexible and enables freely configurable measuring cycles.
MarCom 4.0

Simple connection to SPC software

Data acquisition via SPC software

Simply connect your Mahr measuring instruments with the box emulation (Mux-50 Format) from MarCom Professional 4.0. In your SPC software select a MUX 50 compatible interface box, once selected you can start to obtain the measured values from all the connected Mahr measuring instruments.

Data acquisition with a keyboard code in

Simple acquisition in Microsoft Office Excel®

Whether you use an existing Excel template or you wish to create a customized template, the cell controller from MarCom is highly flexible.

Data acquisition with a keyboard code in

... a windows application

Do you use an application which the connection of a measuring instrument does not allow? No problem! With the keyboard emulation from MarCom the measured values will be directly sent to the active cells in the programme.

Order no.

MarCom Software 4.0

4102552
MarConnect. MarCom Software

Regardless of whether you use the well-established MarConnect interface or the new wireless transmission system Integrated Wireless, the MarCom software enables simple and fast connection data transmission from the measuring station to a PC.

- **MarConnect Integrated Wireless** - the wireless transmission system for the price of a cable. Connect up to 8 Integrated Wireless measuring instruments with an i-Stick receiver for wireless data transmission.

- **Compatible** with all MarConnect USB ready measuring instruments

- **Choose alternative methods of data transmission** either with a foot switch or a PC keyboard, with the Timer function or direct on the measuring instrument.

- **Clear and flexible data acquisition** with the easy to use MarCom Professional Software

- **Easily extendable** with additional USB hubs

- **Multiple measuring station** is easily set up with a USB hub, up to 100 measuring devices can be simultaneously connected.
### MarCom Software

#### Features

**Software MarCom Professional 4.0**
- Measured values can be directly transferred into either Microsoft Office Excel® (from version 97), into a text file or as a key code.
- The measured values from each instrument can be sent to a different column, table or folder in Excel.
- Data transmission is possible via wireless transmission (connect up to 8 instruments per i-Stick, max. 4 i-Sticks), USB and 2 serial COM interfaces.
- USB hub is also suitable as a measuring instrument interface.
- Connect up to 100 measuring instruments.
- Clear portrayal of the chosen measuring instruments with the aid of icons.
- Several foot switches can be connected up and freely assigned in conjunction with USB measuring instruments.
- Individually define and configure measurement cycles.
- There are a variety of ways to transmit data, you can either press the “Data” button on the measuring instrument or on the data cable; via a computer, timer, keyboard; or by activating a foot switch connected to a USB interface.
- Text file can be edited; making translation in another language easy.

**Software MarCom Standard 3.1**
(USB cable or the i-Stick are not included in the scope of supply)
Features and system requirements are identical to MarCom Professional, except that it only has one USB and one serial COM interface.

### Systemanforderung

IBM AT compatible PC
Microsoft Office Windows® 2000, XP, Vista, 7, 8
USB interface, higher than 1.1
up to 10 MB
Recommended: Microsoft Office Excel® from Version 97 onwards

<table>
<thead>
<tr>
<th>Order no.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Software MarCom</td>
<td></td>
</tr>
<tr>
<td>Professional 4.0</td>
<td>4102552</td>
</tr>
<tr>
<td>Standard 3.1</td>
<td>4102551</td>
</tr>
</tbody>
</table>
## Integrated Wireless and USB ready measuring instruments

**USB-HUB** 7-fold industrial model incl. USB cable for connection to a PC and power adapter

<table>
<thead>
<tr>
<th>220 V</th>
<th>110 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>4102553</td>
<td>2245786</td>
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**MarCom Software**

### Order no.

<table>
<thead>
<tr>
<th>Wireless Receiver i-Stick</th>
<th>Data Connection Cable 16 EXu</th>
<th>Data Connection Cable 2000 usb</th>
<th>Data Connection Cable 800 EWu</th>
</tr>
</thead>
<tbody>
<tr>
<td>4102220</td>
<td>Order no. 4102357</td>
<td>Order no. 4346023</td>
<td>Order no. 4305121</td>
</tr>
</tbody>
</table>

**MarConnect**

**i-Stick**

**USB-HUB**

**Order no. 4102220**
- Wireless Receiver i-Stick
  - Order no. 4102220
  - incl. MarCom Standard
  - for **MarCal**. Calipers
    - 16 EWRi
    - 30 EWRi
  - for **MarCator**. Digital Indicators
    - 1086 Ri
    - 1087 Ri
    - 1087 BRI

**Order no. 4102357**
- Data Connection Cable 16 EXu
  - Order no. 4102357
  - incl. MarCom Standard
  - for **MarCal**. Calipers
    - 16 ER / 16 EWR
    - 16 EWV
    - 18 EWR
    - 30 ER / 30 EWR / 30 EWN
  - for **Digimar**. Height Gage
    - 814 SR

**Order no. 4346023**
- Data Connection Cable 2000 usb
  - Order no. 4346023
  - incl. MarCom Standard
  - for **MarCator**. Digital Indicator
    - 1088

**Order no. 4305121**
- Data Connection Cable 800 EWu
  - Order no. 4305121
  - incl. MarCom Standard
  - for **MarCal**. Calipers
    - 31 EW

**Order no. 4495079**
- incl. MarCom Standard

**Order no. 4102330 to 4102334**
- incl. MarCom Standard

**Wireless Receiver i-Stick**

**Order no. 4102220**

**for MarCal. Calipers**
- 16 EWRi
- 30 EWRi

**for MarCator. Digital Indicators**
- 1086 Ri
- 1087 Ri
- 1087 BRI

**for Digimar. Height Gage**
- 814 SR

**for Micromar. Micrometers**
- 40 EWR / 40 EWS / 40 EWV / 46 EWR / 44 EWR

**for MarCator. Digital Indicators**
- 1075 R
- 1086 R
- 1087 R

**for MarSurf. PS1**

**for MarTest. Test Indicators**
- 800 EW / 800 EWL

**for Millimess. Digital Comparators**
- 2000
- 2001
- 2100
- µMaxµm //

**for Digimar. 816 CL**

**for MarTest. Test Indicators**
- 800 EW / 800 EWL
<table>
<thead>
<tr>
<th>Device Type</th>
<th>Order Numbers</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>MarConnect. Data Processing</td>
<td>11-7</td>
<td></td>
</tr>
<tr>
<td>Data Connection Cable MC-I</td>
<td>Order no. 4102782</td>
<td>incl. MarCom Standard</td>
</tr>
<tr>
<td>Foot switch</td>
<td>Order no. 4102058</td>
<td></td>
</tr>
<tr>
<td>Data Connection Cable 838 usb</td>
<td>Order no. 4495079</td>
<td>incl. MarCom Standard</td>
</tr>
<tr>
<td>Adapter RS232-USB</td>
<td>Order no. 4102330 to 4102334</td>
<td>incl. MarCom Standard</td>
</tr>
<tr>
<td>for MarMeter. Indicating Measuring Instruments for Internal and External Measurements</td>
<td>838 E1 Ausführung A 838 EA Ausführung A</td>
<td></td>
</tr>
<tr>
<td>for Digimar</td>
<td>4102330 + 4102510</td>
<td>for M 814</td>
</tr>
<tr>
<td>for Millimeter</td>
<td>4102331 + 7024634</td>
<td>for C 1208 C 1216 C 1245 S 1840 X 1715 X 1745 1240</td>
</tr>
<tr>
<td>for Digitmar</td>
<td>4102333 + 7024634</td>
<td>for 817 CLM</td>
</tr>
<tr>
<td>for MarTool</td>
<td>4246113</td>
<td>for (4102334 + 4102715)</td>
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<tr>
<td>for Multimar</td>
<td></td>
<td>for MM 320</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Radio Transmission radio system FM 1*

Features

- Secure data transmission with dialogue between receiver and transmitter
- Acoustic and optical confirmation of receipt by the transmitter
- Compact transmitter is connected directly on the interface of the measuring instrument
- Power is supplied for the receiver via a USB-Interface on the PC
- Up to 120 measuring instruments can be connected to the receiver
- Radio transmission distance is from 10 m / 32.8 ft up to 200 m / 656.2 ft (depending on the environment)
- Radio frequency is 433.926 MHz

The transmission of the measured value takes place via actuation of the DATA button on the transmitter. The transmitter supplements the measured value with an address number, a communication control word and a double check sum. The special data coding and the feedback from the PC to the transmitter ensures absolute data security.

A transmission error is recognized by the dialogue between PC and transmitter. The data transmission is then repeated up to three times automatically within a few milliseconds. When the data is successfully transmitted the green light on the transmitter flashes and a short beep is heard confirming transmission.

Receiver

Order no. 4102320
For USB interface includes, driver and basic Sim Key software to store measured values in an MS-Excel file.

Sim Key software keeps track of every transmitters specific RF signature and assigns a frequency so incoming data transmissions are not lost.

Also supplied with MAHR_EXDLL Software (REQUIRES DONGLE ACCESS KEY) sold separately*

MAHR_EXDLL software offers more sorting options for incoming data transmissions.

* Only available in North America, Canada and Mexico

Note: FM 1 and FM 2 are not compatible with one another.

Transmitter

For Measuring Instruments Order no.
MarCal 16 ER, 16 EWR, 16 EWW, 18 EWR, 30 EWR, 30 EWN 16 Ex 4102321
Digimar 814 SR, 816 CL
Micromar 40 EWR, 44 EX, 46 EX, 40 EWS, 40 EWW
MarCator 1075 R, 1086 R, 1087 R
MarCal 25 ES, 30 EWD, 31 ES, 32 ES 16 Est 4102322
Digimar 27 ES, M 814
MarTool 106 ES
Millimar C1208, C1216, C1245, S1840 RS232t 2121447
Digimar CX2, 817 CLM
MarCator 1088, µMaxµmll XL

Contact Mahr Federal for transmitters to be used with: Maxµmll, Digimatic devices, Digimatic data cables

* Dongle access key 2121335
Radio transmission radio system FM 2

FM 2 is not available in North America, Canada and Mexico

Features

- Wireless data transmission from a measuring instrument to a PC
- Secure data transmission due to the acknowledgement dialog of the received data from the PC to the measuring instrument
- Optical confirmation of received data on the transmitter
- TWIN receiver for USB and RS232 interfaces
- Compact transmitter without an external antenna
- Theoretically unlimited amount of measuring instruments can be connected to a receiver
- Distance of radio wave up to 100 m / 328.1 ft (depending on the working environment)
- Radio frequency is 433 MHz*

* Further frequencies are available upon request

Transmitter

<table>
<thead>
<tr>
<th>For Measuring Instruments</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MarCal 16 ER, 16 EWR, 16 EVV, 18 EWR, 30 ER, 30 EWN, 30 EWR</td>
<td>16 EXf 4102306</td>
</tr>
<tr>
<td>Digimar 814 SR</td>
<td>4102307</td>
</tr>
<tr>
<td>Micromar 40 EW, 44 EX, 40 EX, 40 EWS, 40 EWV</td>
<td>1075, 1080, 1081, 1086, 1087</td>
</tr>
<tr>
<td>MarCator 25 ES, 30 EWD, 31 ES, 32 ES</td>
<td>1082 f 4102307</td>
</tr>
<tr>
<td>MarCal 27 ES, M 814</td>
<td>4102309</td>
</tr>
<tr>
<td>MarCator 106 ES</td>
<td>2000 f</td>
</tr>
<tr>
<td>MarCator 1088</td>
<td>817 CLM</td>
</tr>
<tr>
<td>Digimar 816 CL</td>
<td>Millimar C1208, C1216, C1245, S1840</td>
</tr>
</tbody>
</table>

Further transmitters are available, see page 11-11

Receiver

<table>
<thead>
<tr>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM 2 4102305</td>
</tr>
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</table>

TWIN Receiver for USB and RS232 interfaces incl. driver and basic software. Basic software consists of a software keyboard interface and software to store measured values in an MS-Excel® column

Software

<table>
<thead>
<tr>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Pack Plus to store measured data from several transmitters in separate MS-Excel® columns. Remote control with the hand switch. 4102315</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand switch for remote control* HTF 1 4102314</td>
</tr>
</tbody>
</table>

* only in conjunction with Software Pack Plus

Note:

FM 1 and FM 2 are not compatible with one another.
# MarConnect. Interfaces

## OVERVIEW

<table>
<thead>
<tr>
<th>Connect to . . .</th>
<th>Instrument</th>
<th>direct via USB and MarCom Software</th>
<th>direct via RS232C and MarCom Software</th>
<th>via Digi-USB 1</th>
<th>via T-Box</th>
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</thead>
<tbody>
<tr>
<td>Foot switch</td>
<td>4102058+4102782</td>
<td>4102058+4102782</td>
<td>4102058</td>
<td>4102556</td>
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<tr>
<td>16EWRi, 30 EWRi, 1086Ri, 1087Ri, 1087Bri</td>
<td>i-Stick 4102220</td>
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<td>16 ER / EWR</td>
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<td>4102410</td>
<td>4102915</td>
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<td>16 EWR</td>
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<td>4102915</td>
<td>4102915</td>
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<td>18 EWR</td>
<td>4102357</td>
<td>4102410</td>
<td>4102915</td>
<td>4102915</td>
<td></td>
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<tr>
<td>30 ER / EWR / EWN</td>
<td>4102357</td>
<td>4102410</td>
<td>4102915</td>
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<td>40 EWR, 40 EWS, 40 EWW, 46 EWR, 44 EWR</td>
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<td>1075 R, 1086 R, 1087 R</td>
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<td>1088, 816 CL</td>
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<td>4346020</td>
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<td>µMaxµm II</td>
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<tr>
<td>Maxµm III</td>
<td>6 pin</td>
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<td>10 pin</td>
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<td>25 ES</td>
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<td>7024634</td>
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<tr>
<td>Digimar 817 CLM</td>
<td>7024634+4102333</td>
<td>7024634</td>
<td>7024634</td>
<td>4102715</td>
<td></td>
</tr>
</tbody>
</table>

1. Only available in North America, Canada and Mexico
2. Foot switch; only with an additional USB Port
3. Cable length 18 cm / 7”
4. Data transmission only with the "Data" key or "automatic transmission" on the measuring instrument
5. Foot switch to transfer data on the measuring instrument
6. Data cable is included in the handle of the measuring instrument, cable length 1.5 m / 5 ft
7. Hand switch only in conjunction with Software pack Plus
8. Not available for Millimar 1240
MarConnect. Regardless of which interface standard you use, whether; USB, Opto RS232 oder Digimatic, MarConnect always provides you with the optimum connection.

Standard cable length 2 m

<table>
<thead>
<tr>
<th>Transmitter FM 1 via USB</th>
<th>Transmitter FM 2 via USB or RS232</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>4102314 ☮</td>
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<tr>
<td>4102321</td>
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<tr>
<td>2121369</td>
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<td>Act Mahr Federal</td>
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<td>2121317 ☮</td>
<td>4102311 ☮</td>
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<tr>
<td>2121317</td>
<td>4102310</td>
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</tbody>
</table>

Connect up to 8 Integrated Wireless measuring instruments per i-Stick

Cable length 1 m