

Dear ONE TOUCH® Profile® Meter User:

Thank you for requesting additional information regarding your ONE TOUCH Profile Blood Glucose Monitoring Meter. We hope the following **ONE TOUCH Profile Meter RS-232 Communication Specification** is helpful to you.

Please note that this specification is not intended to be a substitute for a complete data management software product. We are providing this specification to you with the understanding that you are very familiar with computers and computer programming and will be able to use the information appropriately.

For your information, we have found the use of most standard communications packages extremely helpful in establishing meter to computer communications and performing meter data downloading. Additionally, the use of a commercial spreadsheet program can be useful for data analysis.

If you are interested in obtaining the LifeScan Interface Cable described in this specification, please contact us. Within the U.S. please call the Data Management Professional Line at 1 800 382-7226, M-F, 8AM to 5PM, PST, or send us an e-mail at [LifeScan@lfsus.jnj.com](mailto:LifeScan@lfsus.jnj.com). In Canada please call our Customer Care Line at 1 800 663-5521. Outside of the U.S. and Canada, please contact your local country office for product availability information. A list of countries is available via the [Around The World](#) section of the LifeScan Web site.

Thank you for your interest in LifeScan products.

For diabetes and life.



## ONE TOUCH<sup>®</sup> Profile<sup>®</sup> Meter RS-232 Communication Specification

The following information may be used when attempting to **upload** the ONE TOUCH Profile Meter memory to a computer while using a communications package and the LifeScan Interface Cable. The information may also be used to **erase** the Meter's data log. For additional technical information, see the following pages, call our Data Management Line at 1 800 382-7226, or send us an e-mail at [LifeScan@lfsus.jnj.com](mailto:LifeScan@lfsus.jnj.com).

### EQUIPMENT NEEDED

- Meter:** ONE TOUCH Profile
- Cable:** LifeScan Interface Cable
- Computer:** IBM<sup>®</sup>, IBM compatible or Macintosh<sup>®</sup>
- Adapter:** IBM or compatible: A 25-pin to 9-pin adapter if serial/com port is a 9-pin  
Macintosh: Hayes Modem cable or equivalent
- Software:** A communications software package

### PROCEDURE

- Cable:** Insert cable into meter data port and available serial/com port on computer.
- Software:** Select port settings in communications software:
- |                         |                             |
|-------------------------|-----------------------------|
| Baud Rate = 9600 bps    | Data Bits = 8               |
| Stop Bits = 1           | Parity = none               |
| Flow Control = Xon/Xoff | Com. Port = port # utilized |

Initiate the terminal screen of your communications software package. Turn the meter on. The screen should mimic the content of the ONE TOUCH Profile display, for example:

```
0, " ", 0, "INSERT", " "  
0, " ", 0, "CODE 9", " "  
0, " ", 0, "STRIP", " "
```

The meter is now communicating with your computer. You may now issue the following commands to download and erase the results stored in the Meter's memory.

- To **download** data, type "**DMI**" - displays results and insulin records stored in the Meter's memory.  
or type "**DMP**" - displays only the results stored in the Meter's memory.
- To **erase** the data, type "**DMZ**" - erases results and insulin records stored in the Meter's memory.

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**RS-232 COMMUNICATION**

The ONE TOUCH Profile Meter supports asynchronous, RS-232 communications via the data port at 9600 baud only. The “Data Manager” signaling scheme used by the ONE TOUCH and GlucoScan 3000 Meters, and the “DATA A” and “DATA B” data formats supported by the ONE TOUCH II Meter are NOT supported. Data are transferred as 8-bit characters with no parity and one stop bit. Communications is via three-wire (RS-232 designations of BA, BB, AB) cable with XON/XOFF handshaking supported on transmissions from the Meter, except for mimicked messages (see below).

**MIMICKING**

The ONE TOUCH Profile Meter “mimics” its LCD screen by transmitting comma delimited, ASCII text records. The minimum length record (blank screen except, possibly, one or more icons) is 14 bytes:

n, “ ”, m, “ ”, “ ”

The maximum length record (all decimal points and colons) is 47 bytes:

n, “12.3”, m, “1.2.:3.4.5.6.”, “12:3456789ABCDEF”

The “normal” record is about 38 bytes:

n, “123”, m, “123456”, “123456789ABCDEF”  
line 1    line 2                    line 3

where:

n    encodes the Memory and Battery icons as:

- 0    neither icon displayed
- 1    Memory displayed
- 2    Battery displayed
- 3    Memory and Battery displayed

m    encodes the UNITS, mg/dL, and mmol/L icons as:

- 0    none displayed
- 1    mmol/L displayed
- 2    mg/dL displayed
- 3    mmol/L and mg/dL displayed
- 4    UNITS displayed
- 5    mmol/L and UNITS displayed
- 6    mg/dL and UNITS displayed
- 7    mmol/L, mg/dL, and UNITS displayed

For example, the following screen will be mimicked as follows:

Ü120á :AVG: ::::30-DAY::::	1, “120”, 2, “AVG”, “30-DAY”
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## **RS-232 COMMAND SUMMARY**

- DM? - send the Meter's software version and date
- DM@ - send the Meter's serial number
- DM^[nnn] - change or display the Meter's "new data marker"
- DMF - send date and time from the Meter's clock
- DMI - dump the data log from the Meter's memory
- DMP - dump blood, control, and check strip records from the Meter's memory
- DMS... - change or display the Meter's Status
  - DMS? - send all options settings
  - DMSB'x' - change or display the current Beep setting
  - DMSC'x' - returns the Communications mode
  - DMSD'x' - change or display the Date display format
  - DMSE'x' - change or display the current Event Averages setting
  - DMSI'x' - change or display the current Insulin Prompt setting
  - DMSL'x' - change or display the current Language setting
  - DMSP'x' - change or display Punctuation symbol used with mmol/L or BOLUS insulin
  - DMSR'x' - display the baud Rate setting
  - DMSS'x' - change or display the Strip lot calibration code
  - DMST'x' - change or display the Time display format
  - DMSU'x' - change or display the glucose Units
  - DMSX'x' - display the translation status for new languages
- DMTmm/dd/yy hh:mm[:ss] - set the date and time of the Meter's clock
- DMZ - Zero the Meter's data log





<b><u>Command</u></b>	<b><u>Action / Response</u></b>
DMP	Dumps the blood, control solution, and check strip records from the meter's memory in ASCII text format. This command is intended to be compatible with the ONE TOUCH II Meter's "DMP" command.  <i>Same response as the "DMI" command except insulin records are NOT sent and the leading character for the header and each datalog record is a "P" instead of an "I".</i>
DMSn	Invalid 'DMS' sub-command ("n") received. The valid 'DMS' sub-commands are (? , B, C, D, E, I, L, P, R, S, T, U, and X)  S 0053<CR><LF>
DMS?	Return all user options settings.  S? , Sn , Ln , X0 , Bn , Un , Pn , Dn , Tn , C0 , R0 , En , In cksm<CR><LF>  S0-SF : Strip Cal. Code (0 - 9 corresponds to 1 - 10, A - F corresponds to 11 - 16) L0-LH, LJ : Selected language: 0 - English           7 - German           E - Turkish 1 - Spanish          8 - Symbolic       F - Czech 2 - French           9 - Danish          G - Greek 3 - Italian           A - Finnish         H - Russian 4 - Dutch            B - Norwegian     J - British 5 - Portuguese      C - Polish 6 - Swedish         D - Hungarian  X0 : Translation status (for compatibility with OT2, always ENGL.) B0   B1 : Beeper (0 = ON, 1 = OFF) U0   U1 : Units (0 = mg/dL, 1 = mmol/L) P0   P1 : Punctuation (0 = decimal point, 1 = comma) D0   D1 : Date format (0 = M-D-Y, 1 = D-M-Y) T0   T1 : Time format (0 = AM/PM, 1 = 24:00) C0 : Communications mode (for OT2 compatibility, always RS-232) R0 : RS-232 Baud Rate (for OT2 compatibility, always 9600) E0   E1 : Event Averages (0 = OFF, 1 = ON) I0   I1 : Insulin Prompt (0 = OFF, 1 = ON)
DMSBx	Change and/or return the current Beep setting. Beeper sounds if turned ON or left ON.  SB0 , " BEEP " 0291<CR><LF> - turn ON, return new setting SB1 , "NOBEEP" 02EF<CR><LF> - turn OFF, return new setting SB+ , "xxxxxxx" cksm<CR><LF> - toggle, return new setting SB? , "xxxxxxx" cksm<CR><LF> - invalid command, return current setting
DMSCx	Returns the Communications mode. Note that the communications mode CANNOT be changed.  SC0 , "RS-232" 029F<CR><LF> - always set to RS-232 SC+ , "RS-232" 029A<CR><LF> - always set to RS-232 SC? , "RS-232" 02AE<CR><LF> - invalid command, return current state

<u>Command</u>	<u>Action / Response</u>
DMSDx	<p>Change and/or return the Date format.</p> <p>SD0, " M.D.Y. " 030B&lt;CR&gt;&lt;LF&gt; - select month/day/year, return new setting</p> <p>SD1, " D.M.Y. " 030C&lt;CR&gt;&lt;LF&gt; - select day/month/year, return new setting</p> <p>SD+, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - toggle, return new setting</p> <p>SD?, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - invalid command, return current setting</p>
DMSEn	<p>Change and/or return the current Event Averages setting.</p> <p>SE0, "NOAVGS" 0306&lt;CR&gt;&lt;LF&gt; - turn OFF, return new setting</p> <p>SE1, " AVGS " 02AA&lt;CR&gt;&lt;LF&gt; - turn ON, return new setting</p> <p>SE+, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - toggle, return new setting</p> <p>SE?, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - invalid command, return current setting</p>
DMSIn	<p>Change and/or return the current Insulin Prompt setting.</p> <p>SI0, "NOINSL" 030F&lt;CR&gt;&lt;LF&gt; - turn OFF, return new setting</p> <p>SI1, " INSL " 02B3&lt;CR&gt;&lt;LF&gt; - turn ON, return new setting</p> <p>SI+, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - toggle, return new setting</p> <p>SI?, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - invalid command, return current setting</p>
DMSLx	<p>Change and/or return the current Language setting (SL0 - SLH compatible with OT2).</p> <p>SL0, "ENGL. " 02D3&lt;CR&gt;&lt;LF&gt; - select English, return new setting</p> <p>SL1, "ESPAN. " 0305&lt;CR&gt;&lt;LF&gt; - select Spanish, return new setting</p> <p>SL2, "FRANC. " 02F9&lt;CR&gt;&lt;LF&gt; - select French, return new setting</p> <p>SL3, "ITALIA" 02F6&lt;CR&gt;&lt;LF&gt; - select Italian, return new setting</p> <p>SL4, "NEDER. " 02FF&lt;CR&gt;&lt;LF&gt; - select Dutch, return new setting</p> <p>SL5, "PORT. " 02F7&lt;CR&gt;&lt;LF&gt; - select Portuguese, return new setting</p> <p>SL6, "SVENS. " 0322&lt;CR&gt;&lt;LF&gt; - select Swedish, return new setting</p> <p>SL7, "DEUTS. " 0319&lt;CR&gt;&lt;LF&gt; - select German, return new setting</p> <p>SL8, "0X00X0" 0333&lt;CR&gt;&lt;LF&gt; - select Symbolic, return new setting</p> <p>SL9, "DANSK " 02D9&lt;CR&gt;&lt;LF&gt; - select Danish, return new setting</p> <p>SLA, "SUOMI " 02FD&lt;CR&gt;&lt;LF&gt; - select Finnish, return new setting</p> <p>SLB, "NORSK " 02FE&lt;CR&gt;&lt;LF&gt; - select Norwegian, return new setting</p> <p>SLC, "POLSKI" 0324&lt;CR&gt;&lt;LF&gt; - select Polish, return new setting</p> <p>SLD, "MAGYAR" 0314&lt;CR&gt;&lt;LF&gt; - select Hungarian, return new setting</p> <p>SLE, "TURKCE" 0322&lt;CR&gt;&lt;LF&gt; - select Turkish, return new setting</p> <p>SLF, "CESKY " 02F4&lt;CR&gt;&lt;LF&gt; - select Czech, return new setting</p> <p>SLG, "E^^/KA" 0312&lt;CR&gt;&lt;LF&gt; - select Greek, return new setting</p> <p>SLH, "PRCK. " 0318&lt;CR&gt;&lt;LF&gt; - select Russian, return new setting</p> <p>SLJ, "BRIT " 02CA&lt;CR&gt;&lt;LF&gt; - select British, return new setting</p> <p>SL+, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - select next language (wrap), return new setting</p> <p>SL?, "xxxxxxx" cksm&lt;CR&gt;&lt;LF&gt; - invalid command, return current setting</p>



<u>Command</u>	<u>Action / Response</u>
DMSPx	Change and/or return the Punctuation symbol used with mmol/L or BOLUS insulin values. SP0, "DEC PT" 02D3<CR><LF> - select decimal point, return new setting SP1, "COMMA " 02D1<CR><LF> - select comma, return new setting SP+, "xxxxxxx" cksm<CR><LF> - toggle, return new setting SP?, "xxxxxxx" cksm<CR><LF> - invalid command, return current setting
DMSRx	Returns the baud Rate setting. Note that the baud rate CANNOT be changed. SR0, " 9600" 0254<CR><LF> - always set to 9600 SR+, " 9600" 024F<CR><LF> - always set to 9600 SR?, " 9600" 0263<CR><LF> - invalid command, return current setting
DMSSx	Change and/or return the current Strip lot calibration code (SCC). SS0, "CODE 1" 02B2<CR><LF> - set SCC = 1 : SS9, "CODE10" 02CB<CR><LF> - set SCC = 10 SSA, "CODE11" 02D4<CR><LF> - set SCC = 11 : SSF, "CODE16" 02DE<CR><LF> - set SCC = 16 SS+, "CODEnn" cksm<CR><LF> - increment SCC (wrap from 16 to 0), return new setting SS?, "CODEnn" cksm<CR><LF> - invalid command, return current setting
DMSTx	Change and/or return the Time format. ST0, "AM/PM " 02C1<CR><LF> - select AM/PM, return new setting ST1, "24:00 " 0288<CR><LF> - select 24 hour, return new setting ST+, "xxxxxxx" cksm<CR><LF> - toggle, return new setting ST?, "xxxxxxx" cksm<CR><LF> - invalid command, return current setting
DMSUx	Change and/or return the glucose Units setting. SU0, "MG/DL " 02BB<CR><LF> - select mg/dL, return new setting SU1, "MMOL/L" 02F9<CR><LF> - select mmol/L, return new setting SU+, "xxxxxxx" cksm<CR><LF> - toggle, return new setting SU?, "xxxxxxx" cksm<CR><LF> - invalid command, return current setting
DMSXn	Returns the translate status for "DM" command responses. Note that the translate status CANNOT be changed. SX0, "ENGL. " 02DF<CR><LF> - always set to English SX+, "ENGL. " 02DA<CR><LF> - always set to English SX?, "ENGL. " 02EE<CR><LF> - invalid command, return current status

**Command**

**Action / Response**

DMTmm/dd/yy  
hh:mm[:ss]  
<CR>

Sets the meter clock with the specified date (entered in M-D-Y format) and time (entered in 24 hour format). If seconds are not specified, seconds are set to zero. Returns the new meter clock date and time after the clock has been successfully set, or returns "T 0054" if the date and/or time specified was invalid. The date must be specified as "month-day-year", and the separator can be slash ("/") or dash ("-"). The clock setting range is 1/1/92, 00:00:00 through 12/31/22, 23:59:59. The date and time returned will be in the selected time and date formats. "dow" ("day-of-week") is always in English (SUN, MON, TUE, WED, THU, FRI, or SAT). This command will also reset the automatic shut-off time to 2 minutes.

T "dow", "mm/dd/yy", "hh:mm:ss xM" cksm<CR><LF> for (M-D-Y, AM/PM)  
T "dow", "mm/dd/yy", "hh:mm:ss " cksm<CR><LF> for (M-D-Y, 24:00)  
T "dow", "dd/mm/yy", "hh:mm:ss xM" cksm<CR><LF> for (D-M-Y, AM/PM)  
T "dow", "dd/mm/yy", "hh:mm:ss " cksm<CR><LF> for (D-M-Y, 24:00)  
T 0054<CR><LF> - specified date and/or time invalid

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DMZ

Zeros the meter's datalog stored in EEPROM and resets the meter.

Z 005A<CR><LF>

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## CABLING

We recommend using the Interface Cable from LifeScan. This cable can be used to connect a ONE TOUCH Profile Meter to the serial port (communication port) of an IBM<sup>®</sup>, or compatible, personal computer. The LifeScan Interface Cable may be adapted for use with a Macintosh<sup>®</sup> computer by using a Hayes Modem, or equivalent, cable which will interface the DB-25 connector to the Macintosh communication port.

For cable availability, please contact us. In the U.S., please call the LifeScan Data Management Line at 1 800 382-7226, M-F, 8AM-5PM, PST, or send us an e-mail at [LifeScan@lfsus.jnj.com](mailto:LifeScan@lfsus.jnj.com). In Canada, please call our Customer Care Line at 1 800 663-5521. For cable availability outside of the U.S. and Canada, please contact your local country office. A list of countries is available via the [Around The World](#) section of the LifeScan Web site.

LifeScan Interface Cable Pin-out:

<u>DB-25 pin</u>	<u>RS-232 Signal</u>	<u>Description</u>
2	TXD	transmitted data from computer to Meter
3	RXD	received data from Meter to computer
4	RTS	request to send from computer
6	DSR	data set ready to computer (connected to DTR)
7	GND	signal ground
20	DTR	data terminal ready from computer

The following conditions must be met to enable the LifeScan Interface Cable to work with the ONE TOUCH Profile Meter:

1. The computer must assert (apply a positive RS-232 voltage to) RTS and/or DTR. Either or both of these signals supply power to the cable circuitry.
2. The computer may leave RTS "open" but may not drive it to a negative RS-232 level.
3. The computer communications port must be set to 9600 baud, 8 data bits, no parity, and one stop bit.