



MODEL 730IS

# SPARTAN™ INTRINSICALLY SAFE NOISE DOSIMETER

- ATEX, UL 913, IECEx, FCC, CAN/CSA C22.2 approved
- Wireless operation, charging, and Bluetooth low-energy communication (available without Bluetooth for radio-free zones)
- Full control and live monitoring via LD Atlas™ app <sup>(1)</sup>
- Download and view measurements, generate reports, and share annotated data from your mobile device.
- Built-in bump and motion detection
- Automatic dosimeter calibration

## TYPICAL APPLICATIONS

- Worker noise exposure measurements
- Risk mitigation studies
- Measuring for Compliance to OSHA, ACGIH, ISO 9612, and EU Directive 2003/10/EC

## WIRELESS WORKER NOISE MEASUREMENTS IN EXPLOSIVE ENVIRONMENTS

The Spartan™ Intrinsicly Safe Noise Dosimeter Model 730IS is designed to safely make noise exposure measurements, even for workers in explosive environments, such as those found in the petrochemical industry and pharmaceutical manufacturing. Simple design and intuitive setup make getting worker noise dose measurements easy and fast. With Spartan-IS, control test setup and measurements either on the device itself or directly from the Larson Davis Atlas™ mobile app. All essential tasks can be completed from your iOS® or Android® device.

LD Atlas offers interference-free monitoring using low-energy Bluetooth, ensuring that you get the valuable data you need the first time. When a test is complete, Spartan-IS communicates with LD Atlas to download the data, which is viewable directly from a phone or tablet. Generate reports, including the full data file, from the mobile interface before sharing via email. For high security, radio-free zones, option 730-NBT without Bluetooth is available and allows setup and data download through G4 LD Utility software via a USB connection.

To begin testing, simply remove the dosimeters from their rugged case and attach them to workers. After a shift, place the dosimeters back in the case where they will charge wirelessly. The G4 LD Utility software offers another option for control of your testing. With all the functionality of the LD Atlas mobile app, G4 LD Utility adds the ability to complete “what-if” analysis to model potential changes and determine the impact of different data selections.

| SPECIFICATIONS  |   |
|---|---|
| <b>Performance</b>  |   |
| Standards   | ANSI S1.25-1991 (R2017), IEC 61252 Ed. 1.2  |
| Linear Operating Range  | 52 – 140 dB rms A-weighted  |
| Dynamic Range   | 94 dB   |
| Peak Range  | 78 – 143 dB Peak, C-weighted  |
| Peak Weightings   | A, C, Z   |
| RMS Weightings  | A, C, Z   |
| Time Weightings   | Slow, Fast, Impulse   |
| Frequency Range   | 20 Hz to 10 kHz   |
| Data Logging  | Selectable 1 second or 1 minute samples   |
| Logged data   | $L_{Aeq}$ , $L_{Ceq}$ , $L_{Cpeak}$ , $L_{Zpeak}$ , $L_{ASmax}$ , $L_{AFmax}$<br>TWA3, TWA5, Motion |
| Memory  | 8 GB internal   |
| Communications  | Bluetooth Low Energy 4.1<br>USB 2.0 (Micro-B connector)   |
| Battery   | Rechargeable NiMH   |
| Run Time  | Charged by USB: 30 hours typical<br>Charged by Qi: 20 hours typical                                 |
| Charge Time   | 16 hours from full discharge  |
| Charger   | Qi-compliant wireless or USB  |
| Compliance  | CE, ROHS, WEEE  |
| Approvals   | ATEX, UL 913, IECEx, FCC, CAN/CSA C22.2   |
| Motion  | Overall motion percentage and bump  |
| Languages   | English, Spanish, Italian, French, Portuguese, German, Finnish                                      |
| <b>Virtual Dosimeter</b>  |   |
| Virtual Dosimeters  | 4 independent with configurable LED indication  |
| Exchange Rate   | 3, 4, 5, 6  |
| Criterion Level   | 70.0 to 100.0 dB  |
| Threshold   | 70.0 to 100.0 dB  |
| Alarms  | 2 independent with configurable indication  |
| Measurement Results   | Dose; ProjDose; $L_{AVG}$ ; TWA(8); Proj TWA(8); Lex,8h; Lep,d;<br>Proj Lep,d                       |
| <b>Summary Measured Values (Common to all virtual dosimeters)</b>   |   |
| $L_{\omega T}$ (SPL), $L_{\omega eq}$ (Leq), $L_{\omega pk}$ (Lpeak), $L_{\omega TMax}$ (Lmax), $L_{\omega TMin}$ (Lmin) where $\omega = A, C, \text{ or } Z$ frequency weighting<br>T = F, S, or I time weighting<br>Lpeak, Lmax, & Lmin including time of occurrence<br>$L_{C-A}$ , Exposure (Pa <sup>2</sup> s & Pa <sup>2</sup> h), Motion<br>Exceedance count and time for 2 rms and 3 peak thresholds<br>Overload count, duration, and percentage |   |
| <b>Mechanical</b>   |   |
| Display   | Color LCD 176 x 176 pixels, always on with low light sensor and front light                         |
| Ingress Protection  | IP65  |
| Weight  | 130 g (4.6 oz.) including clips and windscreen  |
| Dimensions  | 85 x 54 x 39 mm (3.35 x 2.13 x 1.54 in.) dosimeter only   |

| SPECIFICATIONS (CONTINUED)                      |  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
|---|--|--------------------|--------------------------|--------------------|---------------------|------|----|---|--------|------------|--------|----|---|--------|------------|--------|----|---|--------|------------|--------|----|----|--------|------------|--------|
| Microphone                                      | ¼-inch Model 375A03  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| Operating Temperature                           | -10 to +50 °C (14 to 122 °F)   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| Operating Humidity                              | Up to 90% RH, non-condensing   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| <b>1/1 Octave Filters (optional)</b>            |  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| Filters   | 31.5 Hz to 8 kHz   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| <b>Event Audio Recording (optional)</b>         |  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| Format  | 16-bit .wav  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| Sample Rate                                     | 8 kHz  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| Recording Time                                  | Fixed: 2 s pre-trigger and 10 s post-trigger   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| Trigger Source                                  | $L_{AS}$ , $L_{AF}$ , $L_{CS}$ , $L_{CF}$ , $L_{Aeq,1s}$ , $L_{Ceq,1s}$  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| <b>ORDERING INFORMATION</b>                     |  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 730IS   | Spartan 730IS noise dosimeter with one windscreen and two clips. Includes calibration certificate  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 730IS-PKxx-EU<br>730IS-PKxx-UK<br>730IS-PKxx-US | Complete Spartan 730IS noise dosimeter kit that includes quantity 'xx' dosimeters and one USB to Bluetooth dongle. Each dosimeter includes one windscreen, two clips, and a calibration certificate. Versions without CAL150 calibrator available. [2]   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
|   | <table border="1"> <thead> <tr> <th>'xx'</th> <th>Spartan 730IS Dosimeters</th> <th>Calibrator (Qty 1)</th> <th>Calibration Adapter</th> <th>Case</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>1</td> <td>CAL150</td> <td>1 x ADP109</td> <td>CCS056</td> </tr> <tr> <td>03</td> <td>3</td> <td>CAL150</td> <td>2 x ADP109</td> <td>CCS057</td> </tr> <tr> <td>05</td> <td>5</td> <td>CAL150</td> <td>2 x ADP109</td> <td>CCS058</td> </tr> <tr> <td>10</td> <td>10</td> <td>CAL150</td> <td>2 x ADP109</td> <td>CCS059</td> </tr> </tbody> </table> | 'xx'               | Spartan 730IS Dosimeters | Calibrator (Qty 1) | Calibration Adapter | Case | 01 | 1 | CAL150 | 1 x ADP109 | CCS056 | 03 | 3 | CAL150 | 2 x ADP109 | CCS057 | 05 | 5 | CAL150 | 2 x ADP109 | CCS058 | 10 | 10 | CAL150 | 2 x ADP109 | CCS059 |
| 'xx'  | Spartan 730IS Dosimeters   | Calibrator (Qty 1) | Calibration Adapter      | Case               |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 01  | 1  | CAL150             | 1 x ADP109               | CCS056             |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 03  | 3  | CAL150             | 2 x ADP109               | CCS057             |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 05  | 5  | CAL150             | 2 x ADP109               | CCS058             |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 10  | 10   | CAL150             | 2 x ADP109               | CCS059             |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
|   | - EU includes a Type C power plug for use in Europe<br>- UK includes a Type G power plug for use in the UK<br>- US includes a Type A power plug for use in North America   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 730-ESR   | Spartan 730IS option to add event sound recording  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 730-OB1   | Spartan 730IS option to add 1/1 octave filters   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 730-NBT   | Spartan 730IS option to remove Bluetooth capability  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| <b>Accessories [3]</b>                          |  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| CAL150  | Class 2 calibrator, with user-selectable output 94 or 114 dB at 1 kHz, ½ in. opening with ¼ in. adaptor (ADP109) and calibration certificate included  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| WS012-XX  | Replacement windscreen for Spartan 730IS. Available in 1, 3, 5, 10, or 25 packs where XX is the number of windscreens  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| 730-CLIPS                                       | Replacement clip for Spartan 730IS, Qty 2  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| <b>Intrinsic Safety Ratings</b>                 |  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| ATEX/IECEx                                      | II 1G Ex ia IIC T165 °C Ga<br>I 1M Ex ia I Ma<br>IECEx ETL 19.0045X<br>ITS20ATEX205538X<br>-10 °C ≤ TAMB ≤ +50 °C  |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |
| USA/CANADA                                      | Class I, Zone 0, AEx ia IIC T165 °C Ga<br>Class I, Division 1, Groups A, B, C & D, T165 °C<br>-10 °C ≤ TAMB ≤ +50 °C   |                    |                          |                    |                     |      |    |   |        |            |        |    |   |        |            |        |    |   |        |            |        |    |    |        |            |        |

[1] May require intrinsically safe mobile device  
[2] See Product Specification Sheet for full list of accessories  
[3] Versions without CAL150 calibrator available



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Larson Davis offers a full line of noise and vibration measurement instrumentation such as Class 1 and 2 sound level meters, outdoor noise monitoring systems, personal noise dosimeters, human vibration meters, audiometric calibration systems, microphones and preamplifiers, and data analysis software. Instrumentation is used in community and environmental noise monitoring, measurement of building acoustics, managing worker exposure to noise and vibration, and various automotive, aerospace, and industrial applications. Larson Davis is a division of PCB Piezotronics, Inc., a wholly owned subsidiary of MTS Systems Corporations.

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