Honeywell The power of connected

User Instructions for the Sensor Evaluation Kit, SEK001, for Use with TruStability™ RSC Series and Digital Output Versions of the HSC Series and SSC Series Board Mount Pressure Sensors

32324959 Issue B

1.0 OVERVIEW

The Sensor Evaluation Kit, SEK001, along with the readilyavailable components shown in Table 1, and the free evaluation software available on Honeywell's website, comprise a simple set of components used to evaluate Honeywell TruStability RSC Series and the digital output versions (SPI or I²C) of the TruStability HSC Series and SSC Series Board Mount Pressure Sensors.

The SEK001 allows the user to obtain sensor readings without needing to develop any code. The sensor to be evaluated is mounted into the receiving sockets on the SEK001. The SEK001 is then plugged in as a shield board to the Arduino[™] Uno Rev3 Microcontroller Board. Honeywell evaluation software, downloaded to the user's PC, controls the Arduino Uno Rev3 to take sensor readings that are then displayed on the PC's screen.

The readings may also be recorded to a .csv file for further analysis, and, in the case of the RSC Series, used in the equations found in the RSC Series datasheet.

In addition to being mounted directly on the SEK001, the sensor may also be remotely connected to the SEK001 via wire leads, allowing the sensor to be tested in adverse environments, or in a prototype product for proof of concept testing.

2.0 SEK001 AND USER-PROVIDED COMPONENTS

2.1 Assemble the components shown in Table 1.



¹The Honeywell RSC, HSC or SSC Series pressure sensor is not included with the SEK001. The user must purchase the sensor separately.

Sensing and Internet of Things

Table 1. Sensor Evaluation Kit Contents and User-Provided Items¹

2.2 Choose the sensor to be evaluated. Click on the links to the specific series in Table 2 to access the product datasheets.



2.3 Connect the sensor to be evaluated to the SEK001

The SEK001 is preconfigured with five jumpers in order to evaluate an HSC Series or SSC Series, I²C output, 5 Vdc sensor. For the purposes of these User Instructions, the part number being evaluated is **HSCDRRN001ND2A5.** (*Note: For the other compatible sensors, see Appendix C for the jumper selections and configure the jumpers accordingly.*)

Mount the **HSCDRRN001ND2A5** in the appropriate set of receiving sockets (S2) on the SEK001. The white dot on the socket set indicates pin 1 of the sensor (see Figure 1). (*Note: Only one sensor may be evaluated at a time.*)

Figure 1. HSCDRRN001ND2A5 Mounted on the SEK001



Issue B **32324959**

2.4 Connect the SEK001 to the Arduino Uno Rev3 to form the SEK001/Arduino Assembly

Place the SEK001 over the Arduino Uno Rev3 and align all pins and sockets. Gently, but firmly, press both boards together until the SEK001 is seated on top of the Arduino Uno Board (see Figure 2).

Figure 2. SEK001/Arduino Assembly



3.0 DOWNLOAD AND INSTALL SOFTWARE AND FIRMWARE

3.1 Follow the steps given in Table 3.

Issue B 32324959

Table 3. Software and Firmware Download and Installation Process

| Table 3 | . Software and Firmware Download and Installation Proce | SS |
|---------|--|---|
| Step | Procedure | Notes and Troubleshooting |
| 1 | Go to: http://sensing.honeywell.com/sensors/evaluation-kit and download the following three files to a location of your choice on your PC: a. Sensor Evaluation Kit SEK001 Version 1.0.exe b. Arduino Firmware SEK001 Version 1.0.zip c. XLoader.zip | a. Windows application that also contains Virtual COM Port (VCP) drivers. b. Contains Arduino Firmware SEK001 Version 1.0.hex which is the Arduino firmware needed to drive the SEK001. c. Contains XLoader.exe which is used to flash Arduino Firmware SEK001 Version 1.0.hex to the SEK001/ Arduino Assembly. (Also available at http://xloader. russemotto.com, which is made available from a third party and may be freely distributed.) |
| 2 | Using the USB Cable, connect the SEK001/Arduino Assembly to your PC's USB port. | See Appendix C for selecting an internal or external power supply. If using an external source, it must be connected <u>before</u> this step to avoid damaging the SEK001/Arduino Assembly. If using a docking station computer, ensure that the computer is not in its docking station when installing and running the software. |
| 3 | Click on Sensor Evaluation Kit SEK001 Version 1.0.exe downloaded in Step 1.a. and run the software. Follow the InstallShield Wizard to complete the installation. If prompted for device drivers, install the VCP drivers also located in Sensor Evaluation Kit Version 1.0.exe. This step is required only when the SEK001 is connected to a USB port for the first time. Go to your computer's Device Manager>Ports. Ensure that the Arduino UNO Virtual UART (COM) is listed and note the COM Port number. If it is not listed, look for "Unknown Device" and update the drivers with the VCPs referenced in Step 4. | A new version of the software may be installed to replace an older version. However, if you desire to replace a newer version with an older version, you will first need to uninstall the newer version. If you have already connected and have used an Arduino Uno Board for another purpose, a suitable VCP driver may already be installed. In this case, you will not be prompted to install a device driver. |
| 4 | This step flashes the firmware Arduino Firmware SEK001 Version 1.0.hex downloaded in Step 1.b to the SEK001/ Arduino Assembly. a. Open Xloader.zip downloaded in Step 1.c, extract the files, and run XLoader.exe. Figure 3 will appear. Figure 3. Firmware Screen $\boxed{X Xload X Hex file}$ | XLoader.exe Anti-virus software may block the XLoader.exe file from being extracted. You may need to temporarily disable your antivirus software long enough to extract and run the XLoader software. Device The correct device must be selected. The XLoader software will default to "Device" ATMega1280 the first time it is used. Change this field to ATmega328 unless you are certain you are using a different Arduino Uno Board. Only the ATmega328 device has been available for testing as of this time. |

Issue B **32324959**

Table 3. Firmware and Software Download and Installation Process (continued)

| Step | Procedure | Notes and Troubleshooting |
|--------------|---|--|
| 4 (con't) | <pre>Procedure b. Ensure Figure 3 reads as follows: Hex file: Arduino Firmware SEK001 Version 1.0.hex file path Device: Uno/(ATmega328) COM port: COM39 Baud rate: 115200 c. Click on the "Upload" button. When successfully flashed, a message similar to "14572 bytes uploaded" will be displayed, as shown in Figure 4. Figure 4. Firmware Screen Showing Successful Flash</pre> | Notes and TroubleshootingEnsure you are not using VCP driver version 1.2.3.0. This driver, which is known to have trouble with Xloader, may already be installed on your computer if you have used the Arduino Uno Board for another purpose. If version 1.2.3.0 is |
| 5 | Run the "Sensor Evaluation Kit" desktop app. Image: Sensor Evaluation Kit Image: Desktop app | _ |
| | | |

Issue B **32324959**

4.0 SOFTWARE SCREENS

4.1 Sensor Selection Panel Screen (see Figure 5 and Table 4)

Figure 5. Sensor Selection Panel Screen

| Sensor Sele | ection Panel | | | \otimes |
|---------------|---|---|--|-----------|
| Sensor type | Pressure | v | | |
| Sensor series | HSC Series | v | A TELA | |
| Part number | HSCDRRN001ND2A5 | ~ 1 | | |
| Serial number | | 0 | HSCDRRN001ND2A5 | |
| | Selected Sensor Information ±1 inH2O, I ² C, Address 0x28, 10% to 90% | of Vsupply (analog), 214 counts (digital) no temper | ature output, no sleep mode, 5.0 Vdc supply voltage. | |
| RECENT SE | LECTIONS | | | |
| HSCDRRM | N001ND2A5 Pressure (HSC | Series) | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | SUBMIT | CANCEL | |
| | | | | |

Table 4. Sensor Selection Panel Screen Functions

| Function | Description |
|---|---|
| Sensor Type | Select Pressure from the drop-down menu. (Note: Other selections are not currently available.) |
| Sensor Series | Select RSC Series, HSC Series, or SSC Series from the drop-down menu. |
| | (Note: Other selections are not currently available.) |
| Part Number | Slowly begin to enter the part number of the sensor to be evaluated until all but the last several |
| (Note: The last eight digits are digits appear. Then, select the final part number from the remaining drop-down list. After | |
| found on the sensor label.) | part number appears, click on the SUBMIT button. |
| | (Note: Do not enter the entire Part Number or copy/paste it into the field. The Part Number must |
| | be selected from the drop-down list.) |
| Serial Number | Not used. |
| RECENT SELECTIONS | If applicable, a part number may be selected from this list directly. It is not necessary to enter |
| | the Sensor Type or Series first. |

Issue B **32324959**

4.2 Measurement Screens

4.21 Measurement Screen (see Figures 6, 7 and Table 5)

Figure 6. Measurement Screen for HSC, SSC Series Only



Table 5. Measurement Screen Functions for HSC, SSC Series Only

| Function | Description |
|---|---|
| Input Panel: Temperature Pressure #Samples to Avg. Auto Range | Selects the desired graph parameters. Click on the "Play" button after making a selection to restart the evaluation. Displays °C or °F of the sensor's ASIC. Displays the sensor's pressure. Select from the given number. Select to automatically adjust to keep trace on screen. |
| Play/Pause | Starts/pauses the LIVE STREAMING function. Also used to restart an evaluation after changing any Input Panel characteristics. |
| Record | Records the measurements in a .cvs file in Excel for offline analysis. |
| Restart | Resets the time line to 0 sec. |
| Snap Shot | Saves a screenshot to a selected folder. |
| Saved Snaps Path | Opens the folder of recent file clips and snap shots. |
| Captured File Clips | Displays/provides access to recent .cvs files in Excel. |
| Part | Displays the part number of the sensor currently being evaluated. |
| Serial | Not displayed. |

Figure 7. Captured File Clip Sample for HSC, SSC Series Only

| | X 🚽 🌒 = 🕅 = = | | | | | | |
|----------|--|-----------------------|---------|--------------------|--------------------|--|--|
| | File Home Insert Page Layout Formulas Data Review View Acrobat | | | | | | |
| | | | | | | | |
| | Image: Second secon | | | | | | |
| Pa | ste | er B I U - 🖂 - 🖄 - | | E 🔤 Merge & Center | - s - % , 號 | | |
| | Clipboard | G Font | G Align | ment | G Number | | |
| | J1 | • (= f _x | | | | | |
| 1 | A | В | С | D | E | | |
| 1 | Date | 04-May-2017 10-09-28 | - | _ | _ | | |
| 2 | Data Rate (SPS) | 5 | | | | | |
| 3 | Part Number | HSCDRRN001ND2A5 | | | | | |
| 4 | Serial Number | | | | | | |
| 5 | | RAW TEMPERATURE COUNT | | | | | |
| 6 | 0:00:00 | 820 | | 30.12 | | | |
| 7 | 0:00:00 | 820 | | 30.12 30.12 | 0.02 | | |
| 8 | 0:00:01 | 820 | | 30.12 | | | |
| 10 | 0:00:01 | 820 | | 30.12 | | | |
| 11 | 0:00:01 | 820 | | 30.12 | | | |
| 12 | 0:00:01 | 820 | 8320 | 30.12 | 0.02 | | |
| 13 | 0:00:02 | 820 | 8322 | 30.12 | 0.02 | | |
| 14 | 0:00:02 | 820 | 8320 | 30.12 | 0.02 | | |
| 15 | 0:00:02 | 820 | | 30.12 | 0.02 | | |
| 16 | 0:00:02 | 820 | | 30.12 | | | |
| 17 | 0:00:02 | 820 | | 30.12 | | | |
| 18 19 | 0:00:03 | 820 | | 30.12 | | | |
| 20 | 0:00:03 | 820 | | 30.12 | | | |
| 21 | 0:00:03 | 820 | | 30.12 | | | |
| 22 | 0:00:03 | 820 | | 30.12 | | | |
| 23 | 0:00:04 | 820 | 8320 | 30.12 | 0.02 | | |
| 24 | 0:00:04 | 820 | 8322 | 30.12 | 0.02 | | |
| 25 | 0:00:04 | 820 | 8322 | 30.12 | 0.02 | | |
| 26 | | | | | | | |
| 27 | | | | | | | |
| 28 29 | | | | | | | |
| 30 | | | | | | | |
| 31 | | | | | | | |
| 32 | | | | | | | |
| 33 | | | | | | | |
| 34 | | | | | | | |
| 35 | | | | | | | |
| 36 | | | | | | | |
| 37 | | | | | | | |
| | H → H 04May2017_LOGDATA_1 2 | | | | | | |
| Rea | adv | | | | | | |

Issue B **32324959**

4.22. Measurement Screen for RSC Series Only (see Figures 8, 9, 10 and Table 6)





Table 6. Measurement Screen Functions for RSC Series Only

| Function | Description |
|---------------------|---|
| Input Panel: | Selects the desired graph parameters. Click on the "Play" button after making a selection to restart the evaluation. |
| VIEW COEFFICIENTS | Displays 12 coefficients, as well as other data (see Figure 10). |
| Temperature | Displays temperature in °C or °F of the sensor's ASIC. |
| Pressure | Displays the sensor's pressure. |
| #Samples to Avg | Select from a given number. |
| Auto Range | Select to automatically adjust scale to keep trace on screen. |
| Sensor Data Rate | Select from a given number the rate at which the sensor is programmed to make successive readings. |
| Play/Pause | Starts/pauses the LIVE STREAMING function. Also used to restart an evaluation after changing any Input Panel characteristics. |
| | |
| Record | Records the measurements in a .cvs file in Excel for offline analysis. |
| Restart | Resets the time line to 0 sec. |
| Snap Shot | Saves a screen shot to a selected folder. |
| Saved Snaps Path | Opens the folder of recent file clips and snap shots. |
| Captured File Clips | Displays/provides access to recent .cvs files in Excel format. |
| Part | Displays the part number of the sensor currently being evaluated. |
| Serial | Displays the serial number of the sensor currently being evaluated. |

Figure 9. Captured File Clip Sample for RSC Series Only

| | 🛛 🛃 🚽 🛛 Screen S | Shots | | | | | |
|----------|--|-----------------------|--------------------|------------------|--------------------|--|---------------------|
| X | K 🛃 🍠 ▼ 🔍 ▽ ╤ 04May2017_LOGDATA_3.csv - Mie | | | | | | |
| F | File Home Insert Page Layout Formulas Data Review View Acrobat | | | | | | |
| ľ | Copy - | Calibri • 11 • | | | General | ▼ | Normal |
| Pas * | 💞 Format Painter | B I <u>U</u> ▼ | | 🚝 🔤 Merge & Cent | | 0 .00 →.0 Conditional Formatting ▼ | |
| | Clipboard 🕞 | | S Alig | gnment | 5 Number | G. | |
| | M34 | ▼ (° <i>f</i> x | | | | | |
| | А | В | С | D | F | F | G |
| 1 | Date | 04-May-2017 10-48-46 | | TE03: -525555.7 | TE02: 15.06208 T | TE01: 0.002973723 | TE00: -3.581009E-07 |
| 2 | Data Rate (SPS) | 5 | | TES3: 2234052 | TES2: -185.6375 T | TES1: 0.009351089 | TES0: -1.918478E-08 |
| 3 | Part Number | RSCDRRI002NDSE3 | | PS3: 0.4999541 | PS2: 0.997693 P | PS1: -0.002024277 | PS0: 0.008609019 |
| 4 | Serial Number | 20170680051 | | | | | |
| 5 | TIME (hh:mm:ss) | RAW TEMPERATURE COUNT | RAW PRESSURE COUNT | TEMPERATURE(°C) | PRESSURE (INH20 D) | | |
| 6 | 0:00:00 | 818 | -534849 | 25.5625 | -0.044914484 | Coet | fficients |
| 7 | 0:00:00 | 818 | -535027 | 25.5625 | -0.045254588 | | |
| 8 | 0:00:01 | 818 | -534916 | 25.5625 | -0.045042515 | | |
| 9 | 0:00:01 | 818 | -534898 | 25.5625 | -0.045008063 | | |
| 10 | 0:00:01 | 818 | -535093 | 25.5625 | -0.045380712 | | |
| 11 | 0:00:01 | 818 | -534920 | 25.5625 | -0.045050144 | | |
| 12 | 0:00:01 | 818 | -535030 | 25.5625 | -0.04526031 | | |
| 13 | 0:00:02 | 818 | -534997 | 25.5625 | -0.045197248 | | |
| 14 | 0:00:02 | 818 | -534921 | 25.5625 | -0.045052052 | | |
| 15 | 0:00:02 | 818 | -535041 | 25.5625 | -0.045281291 | | |
| 16 | 0:00:02 | 818 | -534841 | 25.5625 | -0.044899106 | | |
| 17 | 0:00:02 | 818 | -534918 | 25.5625 | -0.045046329 | | |
| 18 | 0:00:03 | 818 | -534887 | 25.5625 | -0.044987082 | | |
| 19 | 0:00:03 | 818 | -534806 | 25.5625 | -0.04483223 | | |
| 20 | 0:00:03 | 818 | -534982 | 25.5625 | -0.045168638 | | |
| 21 | 0:00:03 | 818 | -534851 | 25.5625 | -0.044918299 | | |
| 22 | 0:00:03 | 818 | -534866 | 25.5625 | -0.044946909 | | |
| 23 | 0:00:04 | 818 | -535008 | 25.5625 | -0.045218229 | | |
| 24 | 0:00:04 | 818 | -534921 | 25.5625 | -0.045052052 | | |
| 25 | 0:00:04 | 818 | -535062 | 25.5625 | -0.045321465 | | |
| 26 | 0:00:04 | 818 | -534939 | 25.5625 | -0.045086384 | | |
| 27 | 0:00:04 | 818 | -534936 | 25,5625 | -0.045080662 | | |



| EEPROM COEFFICIENTS | | , | \otimes |
|-----------------------|--------------------|--------------------|--------------------|
| OFFSET COEFFICIENTS | | | |
| OffsetCoefficient0 | OffsetCoefficient1 | OffsetCoefficient2 | OffsetCoeffciient3 |
| -525555.7 | 15.06208 | 0.002973723 | -3.581009E-07 |
| SPAN COEFFICIENTS | | | |
| SpanCoefficient0 | SpanCoefficient1 | SpanCoefficient2 | SpanCoefficient3 |
| 2234052 | -185.6375 | 0.009351089 | -1.918478E-08 |
| PRESSURE COEFFICIENTS | | | |
| ShapeCoefficient0 | ShapeCoefficient1 | ShapeCoefficient2 | ShapeCoefficient3 |
| 0.4999541 | 0.997693 | -0.002024277 | 0.008609019 |

Issue B **32324959**

4.3 Configuration Screen (see Figure 11 and Table 7)

Figure 11. Configuration Screen

| CONFIGURAT | TION | \otimes | | | |
|-----------------|------------------------|-----------|--|--|--|
| UNITS AND ME | UNITS AND MEASUREMENT | | | | |
| Data Format | Eng Units Counts | | | | |
| Temperature | TC TF | | | | |
| STREAMING | | | | | |
| Sample Rate | 5 v Samples/Sec | | | | |
| OFFLINE DATA | STORAGE | | | | |
| File Type | CSV | | | | |
| File Name | LOGDATA | | | | |
| File Path | J:\Screen Shots BROWSE | | | | |
| File Size Limit | 1024 KB | | | | |
| 3 | SUBMIT CANCEL | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Table 7. Configuration Screen Functions

| Function | Description |
|---|---|
| Data Format Selects Engineering Units or raw Counts for pressure and temperature measurement. | |
| Temperature | Displays temperature in °C or °F of the sensor's ASIC. |
| Sample Rate Selects from a given numer of samples per second. | |
| File Type | Default is a .csv file which displays in Excel. |
| File Name | Default is LOGDATA. |
| | Change by entering a different FIle Name. |
| File Path | Default is C:\ProgramData\SensorEvalKit\Report. (Note: Drive location depends on the Windows installation |
| I lie Falli | location.) Change by entering a different File Path or use BROWSE. |
| File Size Limit | Default is 1024 kB; may be adjusted for a single file. |

4.4 Help Screen (see Figure 12 and Table 8)

Figure 12. Help Screen

| Sensor Evaluation Kit Help | | | | |
|----------------------------|--|--|--|--|
| | Sensor Evaluation Kit Software Version: 1.6.5.0 | | | |
| | | | | |
| About this Software | | | | |
| Getting Started | Version: 1.6.5.0 | | | |
| Contact Support | Release Date: 28-April-2017 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Table 8. Help Screen Functions

| Function Description | | |
|---|---|--|
| About this Software Provides software revision number and release date. | | |
| Getting Started | Provides links to User Instructions and online sensor product information, including datasheets, installation instructions, and applications notes. | |
| Contact Support | Requests technical support from Honeywell. | |

APPENDIX A. SEK001 SPECIFICATIONS

Table A1. SEK001 Specifications

| Characteristic | Parameter | | |
|--|--|--|--|
| Temperature range ¹ | 20°C to 30°C [68°F to 86°F] | | |
| Humidity range ¹ | 30 %RH to 70 %RH | | |
| Power supply: internal (Arduino Uno Rev3) external | 3.3 V or 5 V 3.3 V or 5 V | | |
| Compatible sensors | RSC Series HSC Series (digital verions only) SSC Series (digital versions only) | | |
| Associated software | Sensor Evaluation Kit SEK001 Version 1.0.exe Arduino Firmware SEK001 Version 1.0.zip XLoader.zip | | |

¹ See Appendix B. Remote Connection if evaluation conditions are different.

APPENDIX B. REMOTE CONNECTION

Use wire leads to connect a remotely-located sensor to either the sockets provided on the SEK001 or directly to the Arduino UNO board. See Tables B1 and B2 for the correlating sensor pins and SEK001 sockets.

| Table B1. RSC Series Pinout | | | Table B2. | Table B2. HSC Series, SSC Series Pinouts | | | |
|-----------------------------|----------------------------|---------------|---------------|--|----------------|------|------------------|
| Sensor Pin | SPI Function (DIP, SMT) | SEK001 Socket | | Function | | | |
| | | | Sensor Pin | SPI | I ² | °C | SEK001 Socket |
| 1 | SCLK | | | DIP, SMT | DIP, SMT | SIP | JUCKEL |
| 2 | DRDY | NC | 1 | GND | GND | GND | 13 |
| 3 | DIN | 11 | 2 | VCC | VCC | VCC | NC |
| 4 | CS ADC | 10 | 3 | MISO | SDA | MISO | 11 |
| 5 | GND | GND | - 4 | SCLK | SCL | SCLK | 10 |
| 6 | VCC | 5V | 5 | SS | NC | - | GND |
| 7 | CS EE | 9 | 6 | NC | NC | - | 5V |
| 8 | VOUT | 12 | 7 | NC | NC | - | 9 |
| 0 | 0001 | 12 | 8 | NC | NC | - | 12 |

APPENDIX C. JUMPER CONFIGURATIONS

Power Supply Source (See Table C1)

Jumper J6 may be set for either an internal power supply (furnished on the Arduino Uno Rev3) or an external power supply (furnished by the user). Although the internal voltages are approximately 3.3 Vdc and 5 Vdc, they are not exact. The difference may affect sensor output due to self-heating on the pressure die, causing some ratiometricity error.

For very exacting measurements, use an external power supply to avoid this ratiometricity error. Set J6 to terminals 1 and 2 and connect the external power supply to P4. P4+ is then the positive supply terminal. (*Note: Make these connections prior to powering the Arduino Uno Rev3 through the USB cable in Table 3, Step 2. Ensure that the SEK001 terminals are not damaged when connecting the external power supply.*)

Table C1. Common Power Supply Selection for RSC, HSC, SSC Series

| Valtaria Cauraa | Power Supply | | | |
|-----------------------------|--------------------|--------------------|--|--|
| Voltage Source | 3.3 V | 5 V | | |
| Internal (Arduino Uno Rev3) | J7 (2-3), J6 (2-3) | J7 (1-2), J6 (2-3) | | |
| External | J6 (1-2) | J6 (1-2) | | |

Table C2. RSC Series Jumper Locations According to Package Style and Digital Function

| Chamatariatia | DIP | SMT | | |
|---|----------------|----------------|--|--|
| Characteristic | SPI | | | |
| Part number | RSCDXXXXXXSEX | RSCMXXXXXXSEX | | |
| Sensor: position on SEK001 jumper selection | S5 J2 (2-3) | S1 J2 (1-2) | | |

Table C3. HSC, SSC Series Jumper Locations According to Package Style and Digital Function¹

| | DIP | | SI | SIP | |
|---|---|-----------------------------------|-----------------------------------|----------------------------------|---|
| Characteristic | SPI | l²C* SPI | | l²C* | l²C* |
| Part number | HSCDXXXXXXXXXXXXX SSCDXXXXXXXXXXXXXX | SSCDXXXXXXXX2XX SSCDXXXXXXX2XX | HSCMXXXXXXXXSXX SSCMXXXXXXXSXX | HSCMXXXXXXX2XX SSCMXXXXXXX2XX | HSCSXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX |
| Sensor: position on SEK001 jumper selection | S2 J1 (1-2) | | S6 J5 (1-2) | | S4 J3 (1-2) |
| Other jumper selections | J8 (2-3) J9 (2-3) | J8 (1-2) J9 (1-2) | J8 (2-3) J9 (2-3) | J8 (1-2) J9 (1-2) | J8(1-2) J9 (1-2) |

¹ See Appendix D for board layout.

* Options for the I²C address (third digit from the end in the catalog listing) range from 2 (0x28) to 7 (0x78).

Issue B **32324959**

۲

0

0

 \bigcirc

 \bigcirc

APPENDIX D. SEK001 EXTERNAL FEATURES AND DIMENSIONS

Figure D1. SEK001 Board Layout (Note: The AWM24B set of receiving sockets is not currently used.)



Front (no jumpers shown)

 \bigcirc

0

0

 \bigcirc

 \bigcirc



VOLTAGE SUPPLY JUMPER CONFIG

1-2 EXTERNAL PS

2-3 INTERNAL PS

1-2 INTERNAL PS 5V

2-3 INTERNAL PS 3.3V

0

1-2 EXTERNAL PS CONN

000000

JG

J6

J7

J7

P4

0

Issue B **32324959**

APPENDIX D. SEK001 EXTERNAL FEATURES AND DIMENSIONS (continued) Figure D2. SEK001 Dimensions (For reference only: mm/[in].)



AWARNING PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

Honeywell serves its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

E-mail: info.sc@honeywell.com Internet: sensing.honeywell.com Phone and Fax: USA/Canada +1-800-537-6945 International +1-815-235-6847; +1-815-235-6545 Fax

Honeywell Sensing and Internet of Things

9680 Old Bailes Road Fort Mill, SC 29707 honeywell.com



32324959-B-EN | B | 05/17 © 2017 Honeywell International Inc.

Arduino is a trademark or registered trademark of Arduino, LLC in the United States and/or other countries.