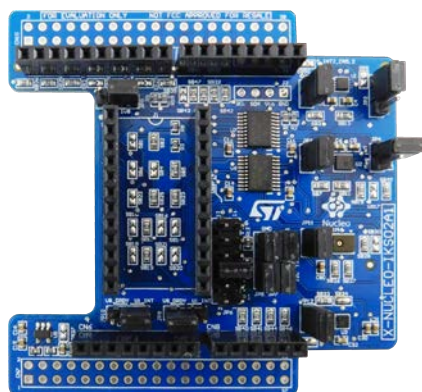


Motion MEMS and microphone MEMS expansion board for STM32 Nucleo



Features

- **ISM330DHCX** MEMS 3D accelerometer ($\pm 2/\pm 4/\pm 8/\pm 16$ g) plus 3D gyroscope ($\pm 125/\pm 250/\pm 500/\pm 1000/\pm 2000$ dps)
- **IIS2MDC** MEMS 3D magnetometer (± 50 gauss)
- **IIS2DLPC** MEMS 3D accelerometer low power ($\pm 2/\pm 4/\pm 8/\pm 16$ g)
- **IMP34DT05** MEMS digital omnidirectional microphone (-26 dBFS, ± 3 dB sensitivity)
- DIL 24-pin socket available for additional MEMS adapters and other sensors
- Free comprehensive development firmware library and samples for all sensors compatible with **STM32Cube** firmware
- Available I²C sensor hub features on **ISM330DHCX**
- Compatible with **STM32 Nucleo** boards
- Equipped with Arduino UNO R3 connector
- RoHS and WEEE compliant

Description

The **X-NUCLEO-IKS02A1** industrial motion MEMS sensor expansion board is compatible with the Arduino UNO R3 connector layout.

It embeds the **ISM330DHCX** 3-axis accelerometer and 3-axis gyroscope, the **IIS2MDC** 3-axis magnetometer, the **IIS2DLPC** 3-axis accelerometer, the **IMP34DT05** digital microphone.

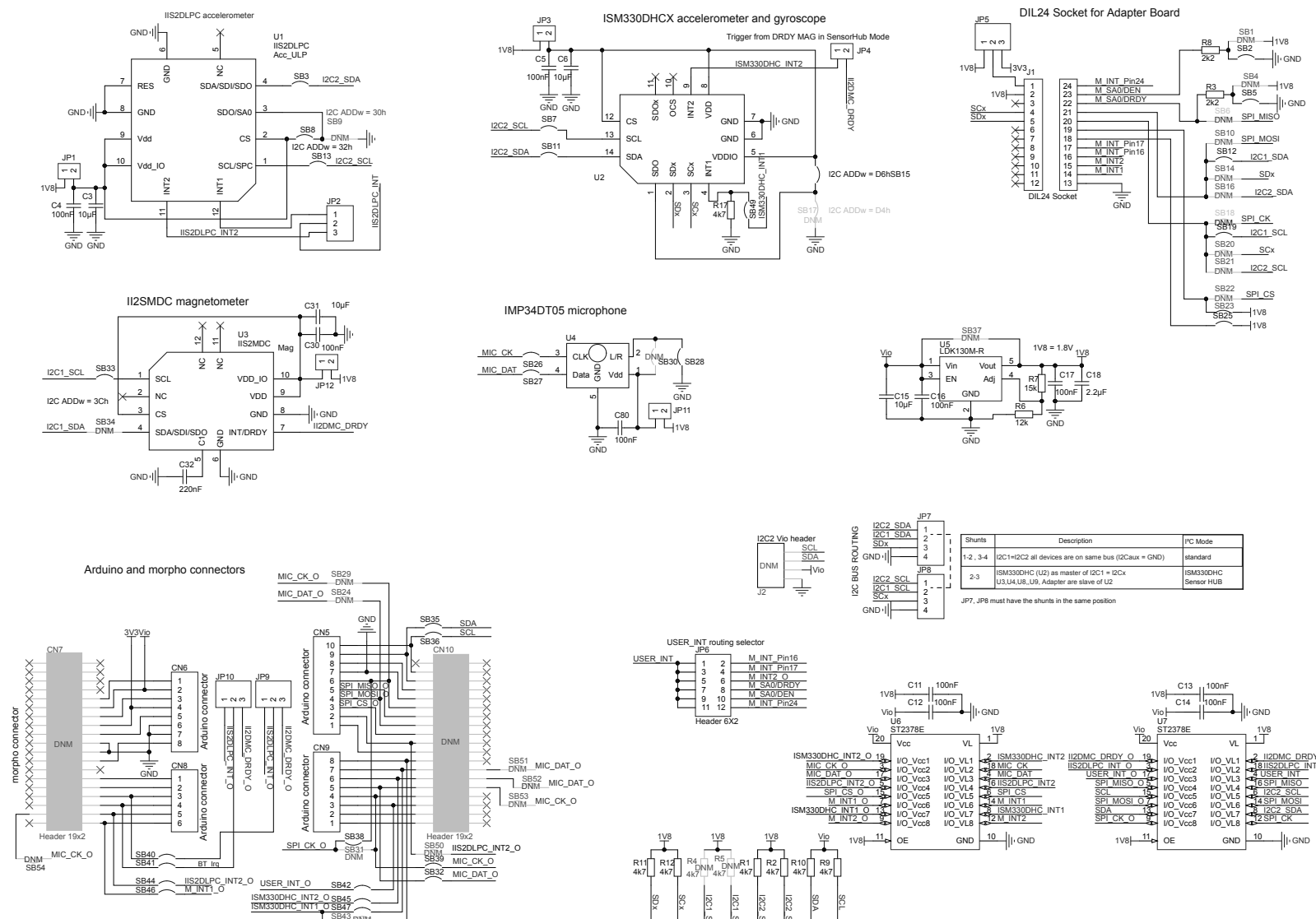
The **X-NUCLEO-IKS02A1** interfaces with the STM32 microcontroller via I²C pin, with the possibility of changing the default I²C port.

Product summary	
Motion MEMS and microphone MEMS expansion board for STM32 Nucleo	X-NUCLEO-IKS02A1
iNEMO inertial module: always-on 3D accelerometer and 3D gyroscope with digital output for industrial applications	ISM330DHCX
High performance, ultra-low-power 3-axis accelerometer for industrial applications	IIS2DLPC
High accuracy, ultra-low-power, 3-axis digital output magnetometer	IIS2MDC
MEMS audio sensor omnidirectional digital microphone for industrial applications	IMP34DT05
Application	Industrial Sensors

1 Schematic diagram



Figure 1. X-NUCLEO-IKS02A1 circuit schematic



Revision history

Table 1. Document revision history

Date	Version	Changes
11-Nov-2019	1	Initial release.

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