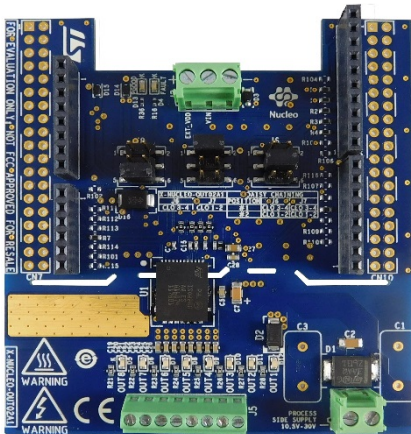


## Industrial digital output expansion board based on ISO8200AQ for STM32 Nucleo



### Features

- Based on the [ISO8200AQ](#) whose main characteristics are:
  - Embedded 4kV galvanic isolation
  - Radio frequency communication between the logic and process sides for maximum noise immunity
  - Very low power dissipation ( $R_{ON(MAX)} = 220\text{ m}\Omega$ )
  - Fast decay for inductive loads
  - 20 MHz SPI I/F on logic side
  - $V_{CC}$  power good diagnostics
  - Overload and overheating protections with thermal shutdown and diagnostics
  - QFN-32L (9x11x1 mm) package
- 10.5 to 33 V operating voltage range
- Green LED (x8) for output on/off status
- Red LED for process supply power good fault
- Red LED for overload and overheating
- Supply reverse polarity protection
- EMC compliance according to IEC61000-4-2, IEC61000-4-3, IEC61000-4-5
- Compatible with [STM32 Nucleo](#) boards
- Equipped with [Arduino™ UNO R3](#) connectors
- CE certified
- RoHS and China RoHS compliant
- WEEE compliant

### Description

The [X-NUCLEO-OUT02A1](#) industrial digital output expansion board for [STM32 Nucleo](#) is based on the [ISO8200AQ](#) galvanic isolated octal high-side smart power solid state-relay.

It provides an affordable and easy-to-use solution for the development of 8-channel digital output modules, letting you easily evaluate the [ISO8200AQ](#) communication and industrial load driving features.

The [X-NUCLEO-OUT02A1](#) can be connected to a [NUCLEO-F401RE](#) or [NUCLEO-F334R8](#) development board via [Arduino™ UNO R3](#) connectors.

You can also evaluate the 16-channel digital output modules by connecting two [X-NUCLEO-OUT02A1](#) expansion boards and activating the daisy chaining feature.

The [X-NUCLEO-OUT02A1](#) interfaces with the STM32 controller via SPI and GPIO pins and is compatible with the [Arduino™ UNO R3](#) (default configuration) and ST morpho (optional, not mounted) connectors.

Industrial PLC functionality with 8 inputs and 16 outputs can be added with the [X-NUCLEO-PLC01A1](#) expansion board.

#### Product summary

Industrial digital output expansion board based on <a href="#">ISO8200AQ</a> for <a href="#">STM32 Nucleo</a>	<a href="#">X-NUCLEO-OUT02A1</a>
Industrial input/output expansion board based on <a href="#">VNI8200XP</a> and <a href="#">CLT01-38SQ7</a> for <a href="#">STM32 Nucleo</a>	<a href="#">X-NUCLEO-PLC01A1</a>
Galvanic isolated octal high-side smart power solid state-relay	<a href="#">ISO8200AQ</a>
<a href="#">STM32 Nucleo-64</a> development board with <a href="#">STM32F401RE/</a> <a href="#">STM32F334R8</a> MCU	<a href="#">NUCLEO-F401RE/</a> <a href="#">NUCLEO-F334R8</a>

# 1 Schematic diagrams

Figure 1. X-NUCLEO-OUT02A1 circuit schematic (1 of 2)

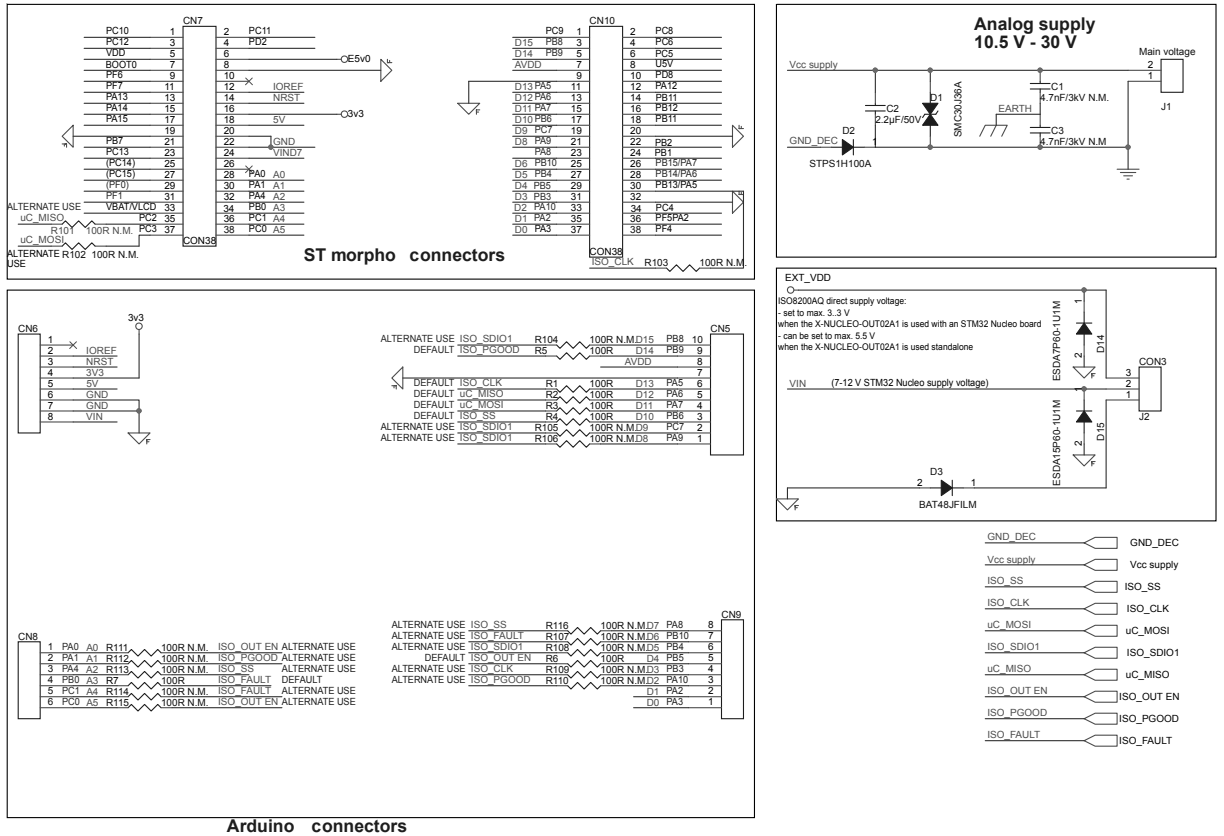
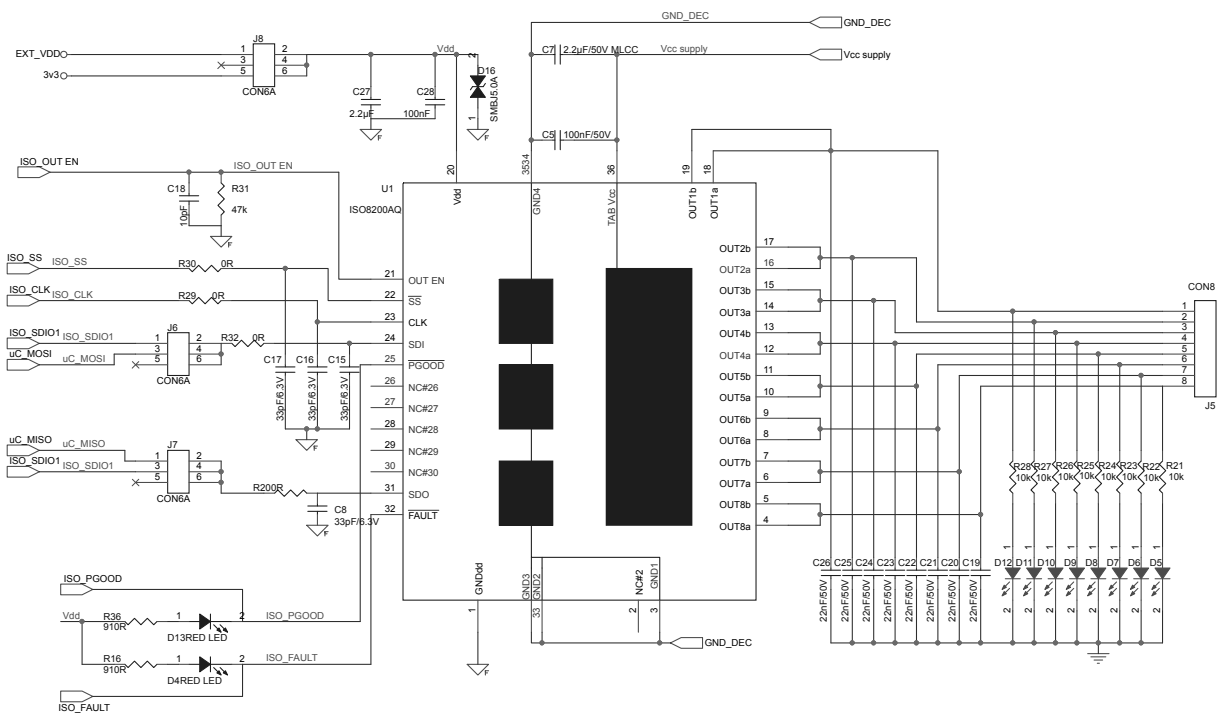


Figure 2. X-NUCLEO-OUT02A1 circuit schematic (2 of 2)



## Revision history

**Table 1. Document revision history**

Date	Version	Changes
06-Nov-2018	1	Initial release.
20-Nov-2018	2	Updated cover page description.

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