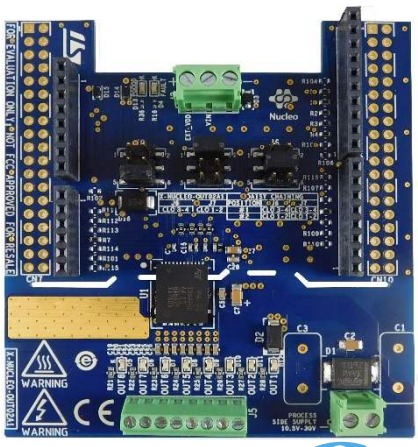
X-NUCLEO-OUT02A1

Data brief

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 mΩ)
  - 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

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

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.

1 Schematic diagrams

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

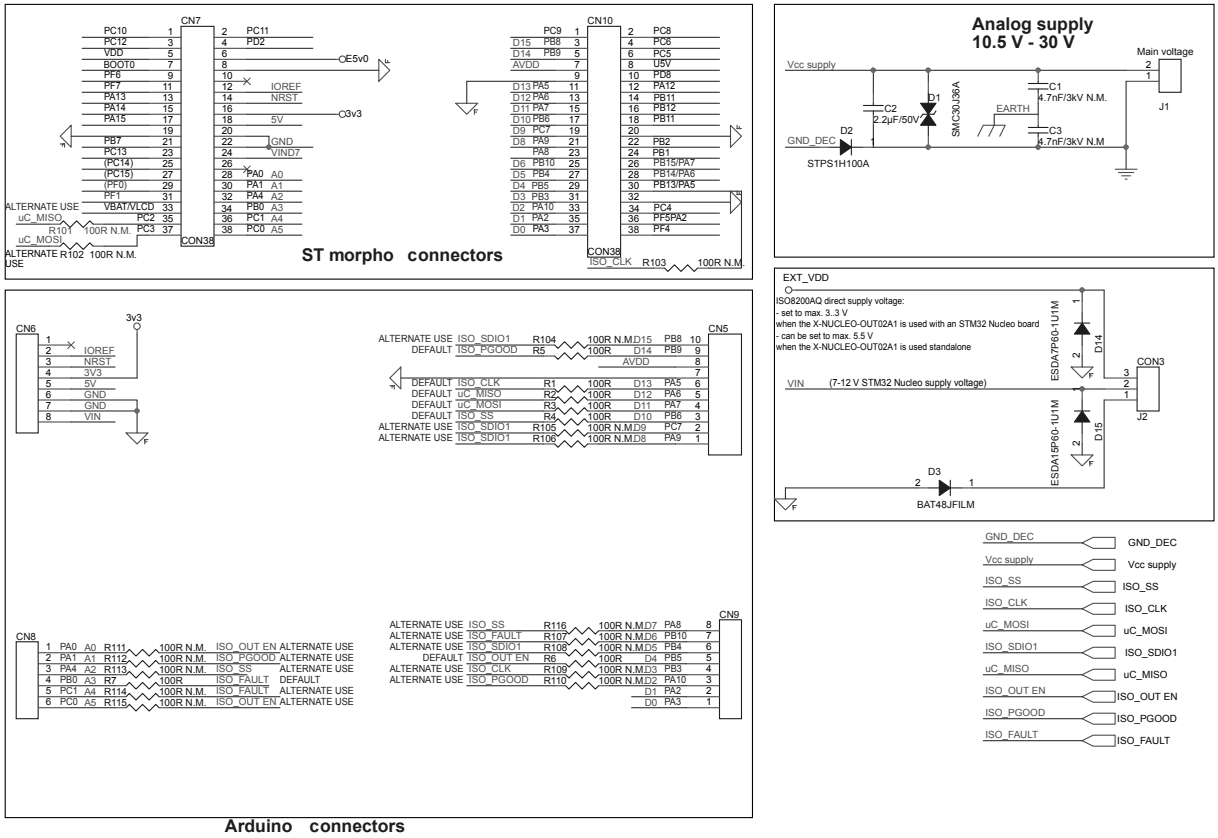
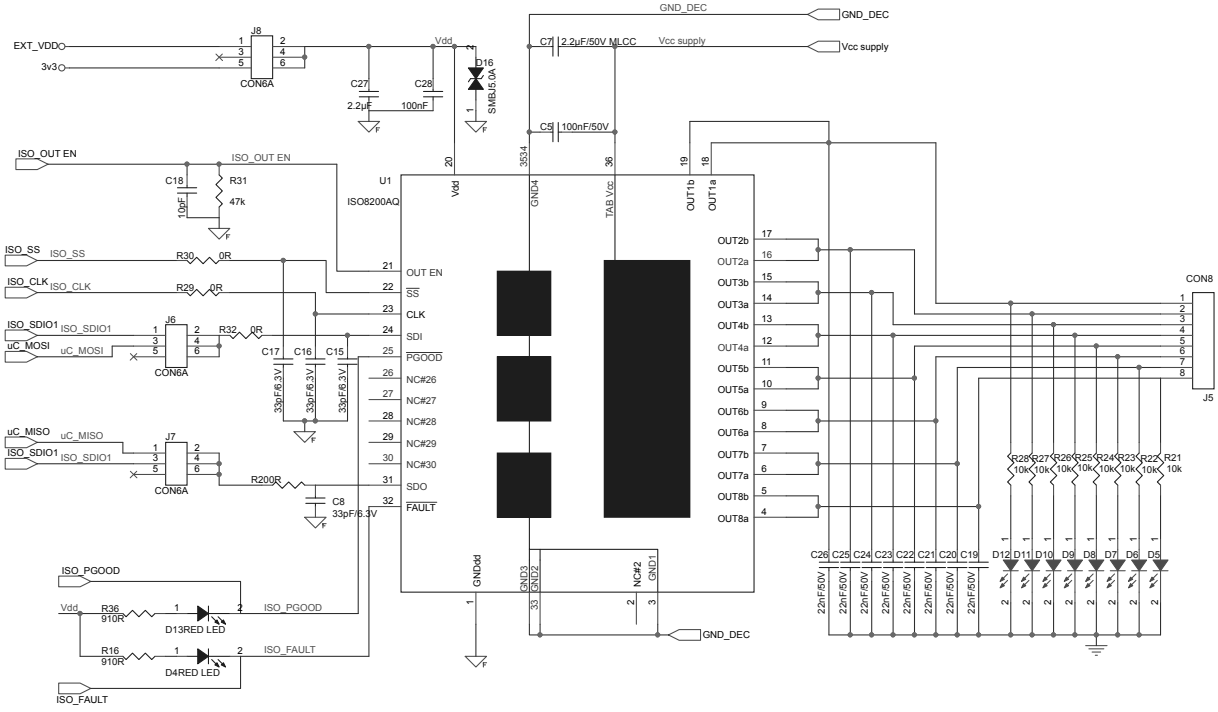


Figure 2. X-NUCLEO-OUT02A1 circuit schematic (2 of 2)



Revision history

Table 1. **Document revision history**

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