

X-NUCLEO-OUT01A1

Industrial Digital output expansion board based on ISO8200BQ for STM32 Nucleo

Data brief



Features

- Enables industrial programmable logic controller (PLC) capabilities on STM32 Nucleo
- ISO8200BQ galvanic isolated octal high-side smart power solid state-relay
- Operating voltage from 10.5 V to 33 V
- Maximum operating output current per channel lout = 700 mA
- Status LEDs: Fault, Thermal protection
- Compatible with Arduino[®] UNO R3 connector
- Compliance with EMC standards:
 - IEC61000-4-2: 8kV Contact Discharge and 15kV Air discharge
 - IEC61000-4-3: 4kV Discharge on output and supply line
 - IEC61000-4-5: 2kV Discharge on output and supply line
- Compatible with STM32 Nucleo boards
- RoHS compliant

Description

The X-NUCLEO-OUT01A1 is an Industrial Digital output expansion board based on ISO8200BQ for STM32 Nucleo boards.

It provides an affordable and easy-to-use solution involving galvanic insulation embedded in industrial power switch driver applications.

The Arduino[™] UNO R3 connector compatibility allows to connect the following STM32 Nucleo development boards: NUCLEO-F103RB, NUCLEO-F302R8 and NUCLEO-F401RE.

The X-NUCLEO-OUT01A1 can be connected to the X-NUCLEO-PLC01A1 to form a powerful industrial PLC with 8 inputs and 16 outputs.

Wireless communication capabilities can be added with the X-NUCLEO-IDW01M1, which establishes communication on a smart device to manage the PLC remotely. A dedicated ST-PLC app is available for Android[™] and iOS[™] systems for this purpose.

This evaluation board is designed to meet industrial standard requirements.



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GND_DEC

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Figure 1: Schematic diagram (1 of 2) CON8 GND DEC Vcc supply ISO N8 ISO N7 ISO N6 ISO N5 ISO N4 ISO N3 ISO N2 ISO_SYNC ISO_LOAD ISO_OUT EN ****** 87 25 25 R22 ₩2 <u>,,,</u>∣€ु ₩23 8k2 825 *//* R26 <u>, k</u> ₩25 ~~~ ٩ŀ 9 R28 22nF/50V 22m 22nF/50V 22nF/50V 22nF/50V 22nF/50V 22nF/50V 22nF/50V 응 100nF/50V 10uF/63V - OUT8a - OUT7a - OUT7a - OUT6a - OUT6a - OUT5a - OUT5a - OUT5a - OUT5a OUT2b OUT1a OUT1b ОЛТ За ОЛТ ЗЪ ç 2.2uF/50V MLCC B Vo GND1 3 NC 2 ISO8200BQ GND2 33 GND3 34 GND4 35 GND \$-OUT EN FAULT IN3 IN5 IN12 I 47uF/10 27 28 12 2 220nF/10V ⋬ -o≚ <u>, K</u> ంజ ISO INE ISO N7 ISO N6 ISO N6 ISO N7 ISO N7 ISO N8 ISO N7 ISO N8 ISO N2 ISO N1 ISO N2 ISO N6 ISO N7 D4 RED LED R16 470R ROW Right A7k A7k ~~~ 7



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<u>c121bbF6.31</u> c131bbF6.3V <u>c141bbF6.3V</u> <u>c151bbF6.3V</u> <u>c151bbF6.3V</u> <u>c151bbF6.3V</u>

C1810bF/6.3V

<u>C10100F%3V</u> C11100F%3V

C810pF/6.3V

47K 47K

×47 R19

A72





Revision history

Table 1: Document revision history

| Date | Version | Changes |
|-------------|---------|------------------|
| 24-May-2017 | 1 | Initial release. |

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