Allen-Bradley 1756-OF8I

ControlLogix Isolated Analog Output Module

Product photograph, application notes and selected Allen-Bradley technical pages.



PRODUCT IDENTIFICATION

Allen-Bradley 1756-OF8I is a ControlLogix eight-channel isolated analog output module. Each channel can provide a voltage or current output for driving analog field devices with channel-to-channel isolation.

Replacement check
Confirm 1756-OF8I, channel output type, load resistance and RTB wiring. Review engineering-unit scaling and clamp limits before replacement.

HARDWARE AND SYSTEM COMPATIBILITY

The 1756-OF8I provides eight channels with 16-bit resolution and selectable ±10V, 0-10V, 0-5V or 0-20mA ranges. Current-mode loads can be 0-1000ohms; voltage-mode loads must exceed 1000ohms. The module occupies one chassis slot and uses a 1756-TBCH or 1756-TBS6H removable terminal block.

Configure the 1756-OF8I in the Logix Designer I/O project with the correct module revision, output type, range and engineering-unit scaling. Channel functions include ramping, hold for initialization and output clamps. When scaling changes, review the clamp settings separately because their engineering-unit values do not update automatically.

Photo scope: the photographed 1756-OF8I is Series A. Confirm the offered unit series, firmware and included accessories before ordering. This EWOLO CONTROL compilation contains selected Allen-Bradley original pages and does not replace the complete manufacturer manual.

Manufacturer references: 1756-TD002U-EN-E, U, September 2026; 1756-IN056E-EN-P, E, August 2022; 1756-UM540G-EN-P, G, June 2023.

1756-OF8I - Connection and installation

OUTPUT AND LOAD SELECTION

Eight isolated channels can use voltage or current mode. Nominal ranges are -10 to 10V, 0-10V, 0-5V and 0-20 mA, with 16-bit resolution. Current-mode loads are 0-1000 ohms; voltage-mode loads must exceed 1000 ohms. Backplane demand is 200 mA at 5.1V plus a load-dependent 220-385 mA at 24V. Isolation is 250V continuous, reinforced to the backplane and basic between outputs. Use the channel's OUT/V or OUT/I terminal and RTN as shown on page 3. [1756-TD002U, pp.212-213]

POWER AND ELECTRICAL SAFETY

Before module, wiring or RTB insertion/removal, remove the relevant power or establish a nonhazardous area: energized changes can arc and create an explosion hazard. Powered RTB changes can cause unintended motion or lost process control. Do not exceed the isolation voltage when using separate sources. Use at least 105 C shielded copper conductors: TBCH supports one 0.33-2.1 mm2 wire or two equal 0.33-1.3 mm2 wires; TBS6H supports one 0.33-2.1 mm2 wire. Do not mix sizes or solid/stranded wire types. Maximum conductor insulation diameter is 1.2 mm; TBCH terminal torque is 0.5 N m. [TD002U, p.213; IN056E, pp.3,8]

ENVIRONMENT AND HANDLING

Use at 0-60 C indoors, Pollution Degree 2, overvoltage Category II, up to 2000 m without derating. Protect this open-type industrial module in a suitable tool-access enclosure; nonmetallic enclosures require 5VA or application approval. Use trained personnel and applicable codes. Discharge static, wear a grounding wriststrap, avoid pins/circuits, and use static-safe work and storage. Do not dismantle or repair damaged equipment; return it to the manufacturer. Clean only with a dry antistatic cloth. [1756-IN056E, p.3] For a marked and approved Zone 2 installation, use a certified IP54 tool-access enclosure, Pollution Degree 2, UV protection and transient protection at no more than 140% of peak rated voltage. Secure external connections; substitutions can impair hazardous-location suitability. [1756-IN056E, p.4]

INSTALLATION, SHIELDING AND LOCKING

Slide the module into the prepared ControlLogix chassis until the locking tabs click. Fit the module's U-shaped keying band and the corresponding RTB wedges. Belden 8761 is recommended. Connect grounding before signal wiring; ground the shield at the field side where possible, otherwise at chassis earth. Insulate the ungrounded shield/drain end. For TBCH insert the conductor and tighten clockwise; for TBS6H open the outer hole with a screwdriver, insert the conductor and release. Secure strain relief. Fit the wired RTB into its housing, close the door and unlock the module tab. Align the top/bottom/left guides, seat evenly until latched, then slide the locking tab down. [1756-IN056E, pp.5-8]

SCALING AND COMMISSIONING

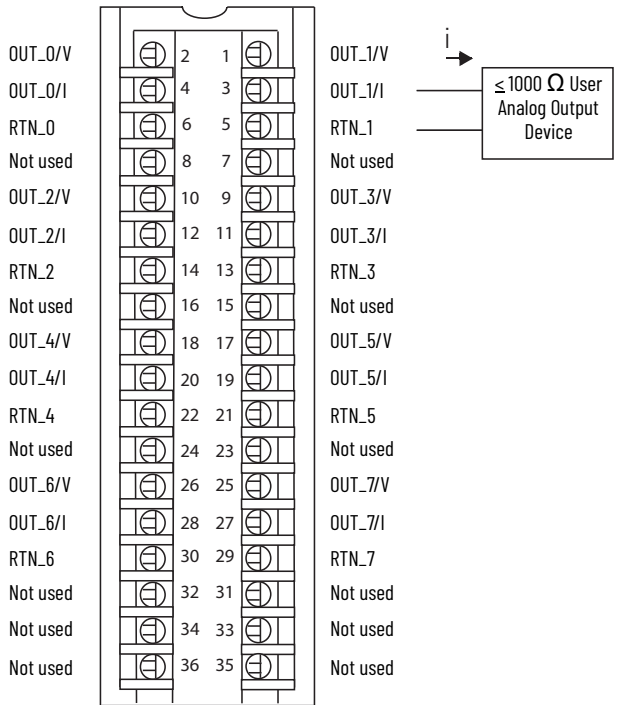
Check output type, load, engineering-unit scaling and clamp limits before operation. Clamp limits do not automatically change when scaling limits change; review them separately to avoid an unexpected limited output. Confirm the terminal assignment against the original page that follows. [1756-UM540G, p.83]

Source scope: This is an EWOLO CONTROL summary; the next page is the original manufacturer current/voltage connection diagram. The complete 1756-IN056E instructions and 1770-4.1 system wiring guidance remain required for installation-specific assessment. The stricter 105 C conductor rating above follows the current TD002U specifications.

1756-OF8I, 1756-OF8IK

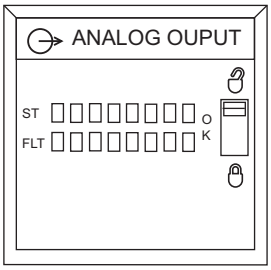
ControlLogix isolated voltage/current output analog module.

1756-OF8I Module Wiring Diagram - Current Mode

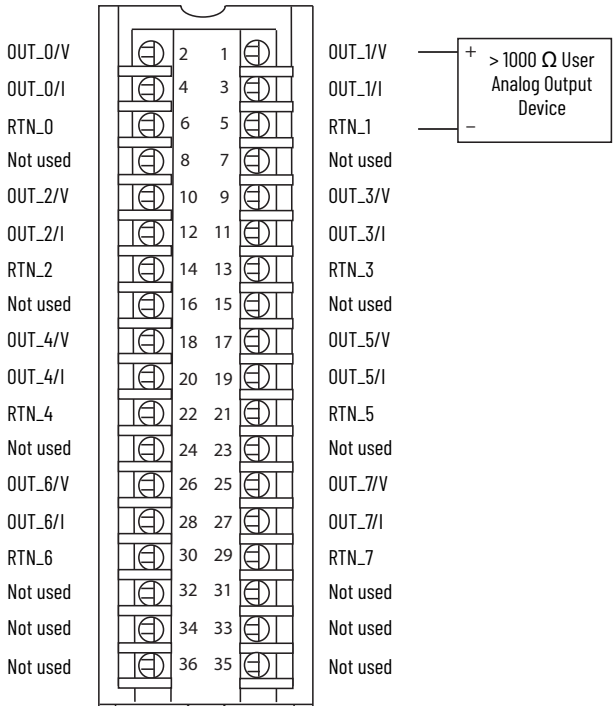


IMPORTANT: Remember the following:

- If separate power sources are used, do not exceed the specific isolation voltage as listed in the specifications.
- Place additional devices anywhere in the loop.



1756-OF8I Module Wiring Diagram - Voltage Mode



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- Place additional devices anywhere in the loop.