

# Westinghouse 1C31129G03

## Installation & Commissioning Guide

Westinghouse 1C31129G03 serves as an analog output electronics module in the Ovation I/O subsystem. It interfaces 0-20 mA or configured 4-20 mA control output with 1C31132G01 analog-output personality module.

### PRODUCT ROLE AND VERIFIED FEATURES

#### Feature 1

Provides four isolated output channels for the documented analog output electronics module function.

#### Feature 2

Handles 0-20 mA or configured 4-20 mA control output through the specified Ovation I/O subsystem.

#### Feature 3

Works with 1C31132G01 analog-output personality module.

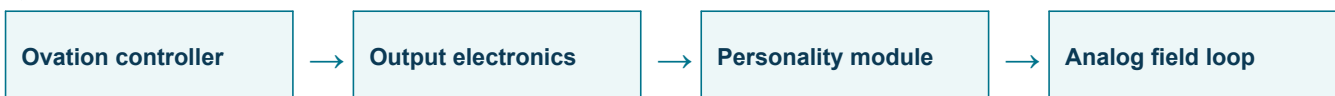
#### Feature 4

Optically isolated serial control separates the logic interface from the field-output circuits.

### VERIFIED DATA SNAPSHOT

|               |                                            |
|---------------|--------------------------------------------|
| Outputs       | 4 isolated analog channels                 |
| Current range | 0-20 mA; 4-20 mA selectable in I/O Builder |
| Diagnostics   | Current-output diagnostics included        |
| Conversion    | 12-bit serial digital-to-analog converters |

### SYSTEM RELATIONSHIP



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# Pre-installation readiness

## READINESS GATE

|                                                                                                            |                                                                                                       |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Identity</b><br>Compare the complete marking with the approved work order and installed record.         | <b>System match</b><br>Confirm the receiving channel, mating components and controlled configuration. |
| <b>Physical condition</b><br>Inspect mounting surfaces, connectors, terminals, cable and support hardware. | <b>Work controls</b><br>Apply authorized isolation, bypass, access and restoration procedures.        |

## TECHNICAL PROFILE FOR THE WORK

|                                                                 |                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Outputs</b><br>4 isolated analog channels                    | <b>Current range</b><br>0-20 mA; 4-20 mA selectable in I/O Builder |
| <b>Diagnostics</b><br>Current-output diagnostics included       | <b>Conversion</b><br>12-bit serial digital-to-analog converters    |
| <b>Channel update</b><br>All four channels updated every 1.5 ms |                                                                    |

## IMPORTANT NOTICE

Resolve every unmatched interface, configuration or receiving-system condition before removal or installation.

## SOURCE AND WORK CONTROLS

|                            |                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------|
| <b>Manufacturer source</b> | Emerson Process Management, Ovation I/O Reference Manual R3-1150 Rev 3, Section 7, February 2003. |
| <b>Evidence boundary</b>   | Technical statements are limited to the identified product or applicable manufacturer family.     |
| <b>Selection control</b>   | Use the complete ordering string and verify the installed system before purchase or installation. |

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# Installation sequence

## CONTROLLED WORK STEPS

- 01 Match the complete 1C31129G03 marking to the work order and installed position before removal.
- 02 Confirm 1C31132G01 analog-output personality module before making or breaking any field connection.
- 03 Keep the assigned 0-20 mA or configured 4-20 mA control output within the documented subsystem and range.
- 04 Record terminal designations, polarity, common and shield treatment before disconnecting conductors.
- 05 Inspect module seating, connector keying, terminal condition and strain relief before power is restored.
- 06 Restore the controlled channel configuration, range selection and alarm or timeout behavior after installation.
- 07 Check local indicators and controller diagnostics for internal, communication or channel faults during commissioning.
- 08 Prove the intended response across four isolated output channels and record the acceptance result before release.

## CONNECTION RECORD

|               |                                                                                 |
|---------------|---------------------------------------------------------------------------------|
| As found      | Photograph and label every connection and installed orientation before removal. |
| Mechanical    | Record mounting position, support, clearance and connector engagement.          |
| Electrical    | Record polarity, common, shield, channel assignment and cable route.            |
| Configuration | Preserve approved settings, scaling, alarm logic and acceptance limits.         |
| As left       | Record the final physical condition and any controlled deviation.               |



## WORK HOLD POINTS

|                   |                                                                             |
|-------------------|-----------------------------------------------------------------------------|
| Before removal    | Identity, position, wiring, orientation and controlled settings recorded.   |
| Before connection | Mating interfaces, condition and routing reviewed.                          |
| Before power-up   | Mechanical work, wiring, shielding and configuration independently checked. |
| Before release    | Static value, dynamic response and protection behavior accepted.            |

# Commissioning and functional proof

## COMMISSIONING SEQUENCE

|                                                                                                              |                                                                                                               |
|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Initial state</b><br><br>Observe status at power-up and check for unexpected fault or alarm indication.   | <b>Static value</b><br><br>Verify the expected bias, gap, loop, contact or channel value for the application. |
| <b>Dynamic response</b><br><br>Apply the approved machine or test stimulus and confirm response and scaling. | <b>Protection path</b><br><br>Verify the configured alarm, relay, data or receiving-system behavior.          |

## APPLICATION-SPECIFIC EVIDENCE

|                                                                                                                                                                             |                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Installed-base maintenance</b><br><br>Restores the documented analog output electronics module position without changing the approved system architecture.               | <b>Loop or channel service</b><br><br>Supports verification of 0-20 mA or configured 4-20 mA control output at the assigned control-system channel.        |
| <b>Planned replacement</b><br><br>Provides an exact-identity replacement path when 1C31132G01 analog-output personality module and the field interface have been confirmed. | <b>Commissioning support</b><br><br>Allows the responsible engineer to prove wiring, configuration, status and response for four isolated output channels. |

## ACCEPTANCE RECORD

|                            |                                                         |
|----------------------------|---------------------------------------------------------|
| <b>Identity</b>            | Complete marking and final installed position recorded. |
| <b>Physical inspection</b> | Mounting, connectors, terminals and routing checked.    |
| <b>Channel status</b>      | Expected status and configured measurement confirmed.   |
| <b>Functional test</b>     | Required output or protection response demonstrated.    |
| <b>Restoration</b>         | Bypasses removed and operating state approved.          |

## COMMISSIONING QUESTIONS

|                                                                       |                                                                                                             |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>What function does Westinghouse 1C31129G03 perform?</b>            | It generates four isolated Ovation current outputs with diagnostics for continuous process-control signals. |
| <b>How many channels are associated with Westinghouse 1C31129G03?</b> | The documented configuration provides four isolated output channels.                                        |

# Release record and technical references

## CLOSEOUT QUESTIONS

|                                                                                                 |                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Which signal path is used by Westinghouse 1C31129G03?</b>                                    | It is used for 0-20 mA or configured 4-20 mA control output within the specified subsystem.                                                                      |
| <b>Which companion hardware must be checked for Westinghouse 1C31129G03?</b>                    | Confirm 1C31132G01 analog-output personality module and the project-specific base or terminal arrangement.                                                       |
| <b>What technical values should be verified before installing Westinghouse 1C31129G03?</b>      | Verify 4 isolated analog channels; also confirm 0-20 ma; 4-20 ma selectable in i/o builder and every applicable range or wiring selection.                       |
| <b>What connection details should be recorded for Westinghouse 1C31129G03?</b>                  | Record terminal identifiers, polarity, common, shield termination, connector keying and the assigned channel before disconnection.                               |
| <b>Which diagnostics should be reviewed when commissioning Westinghouse 1C31129G03?</b>         | Review the applicable power, communication, internal-fault and channel-status indications, then compare the controller status with the expected field condition. |
| <b>Can a nearby ordering code replace Westinghouse 1C31129G03 without an engineering check?</b> | No. Match the complete identifier, companion hardware, signal range, wiring and controlled project configuration before substitution.                            |

## RELATED MODELS FOR INSTALLATION PLANNING

|                         |                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------|
| Westinghouse 5X00106G01 | Installation-planning reference. Review the complete ordering string before selection.      |
| Westinghouse 5X00300G01 | Installation-planning reference. Compare the required interface and system position.        |
| Foxboro AD908AC FBM202  | Installation-planning reference. Confirm the execution independently for the intended task. |

## MANUFACTURER SOURCE AND FINAL CONTROL

|                            |                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------|
| <b>Manufacturer source</b> | Emerson Process Management, Ovation I/O Reference Manual R3-1150 Rev 3, Section 7, February 2003. |
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| <b>Selection control</b>   | Use the complete ordering string and verify the installed system before purchase or installation. |

## IMPORTANT NOTICE

Release the equipment only after the responsible site authority accepts the recorded result.

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