



CompactLogix Analog Output Module

Catalog Numbers 1769-OF8C, 1769-OF8V

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Important User Information

Solid-state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (Publication [SGL-1.1](#) available from your local Rockwell Automation sales office or online at <http://www.rockwellautomation.com/literature/>) describes some important differences between solid-state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid-state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

	WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard and recognize the consequences.
	SHOCK HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that dangerous voltage may be present.
	BURN HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that surfaces may reach dangerous temperatures.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

North American Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations.	Informations sur l'utilisation de cet équipement en environnements dangereux.
Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.	Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.
WARNING: Explosion Hazard - - Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous. - Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product. - Substitution of components may impair suitability for Class I, Division 2. - If this product contains batteries, they must only be changed in an area known to be nonhazardous.	AVERTISSEMENT: Risque d'Explosion - - Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement. - Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit. - La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2. - S'assurer que l'environnement est classé non dangereux avant de changer les piles.

Environment and Enclosure



ATTENTION: This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6562 ft) without derating.

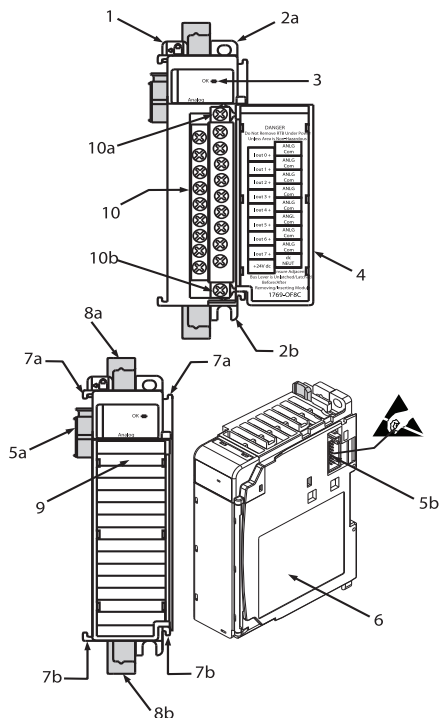
This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR 11. Without appropriate precautions, there may be difficulties with electromagnetic compatibility in residential and other environments due to conducted and radiated disturbances.

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA, V2, V1, V0 (or equivalent) if non-metallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

Besides this publication, see:

- Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#), for additional installation requirements.
 - NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.
-

About the Module



Item	Description
1	Bus lever (with locking function)
2a	Upper panel mounting tab
2b	Lower panel mounting tab
3	Module status indicator
4	Module door with terminal identification label

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Item	Description
5a	Movable bus connector with female pins
5b	Stationary bus connector with male pins
6	Nameplate label
7a	Upper tongue-and-groove slots
7b	Lower tongue-and-groove slots
8a	Upper DIN rail latch
8b	Lower DIN rail latch
9	Write-on label (user ID tag)
10	Removable terminal block (RTB) with finger-safe cover
10a	RTB upper retaining screw
10b	RTB lower retaining screw

Prevent Electrostatic Discharge



ATTENTION: This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wriststrap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- Use a static-safe workstation, if available.
- Store the equipment in appropriate static-safe packaging when not in use.

Remove Power



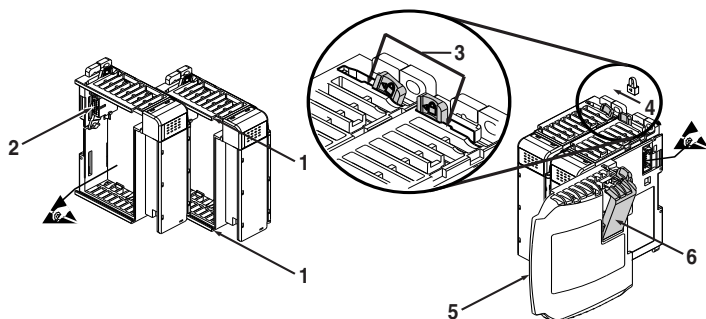
WARNING: When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations.

Be sure that power is removed or the area is nonhazardous before proceeding. Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.

Assembling the Module

The module can be attached to the controller or an adjacent I/O module before or after mounting. For mounting instructions, see [Panel Mounting on page 9](#), or [DIN Rail Mounting on page 10](#). To work with a system that is already mounted, see [Replacing a Single Module within a System on page 10](#).

The following procedure shows you how to assemble the Compact I/O system.



1. Disconnect power.
2. Check that the bus lever of the module to be installed is in the unlocked (fully right) position.
3. Use the upper and lower tongue-and-groove slots (1) to secure the modules together (or to a controller).
4. Move the module back along the tongue-and-groove slots until the bus connectors (2) line up with each other.
5. Push the bus lever back slightly to clear the positioning tab (3).

Use your fingers or a small screwdriver.

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6. To allow communication between the controller and module, move the bus lever fully to the left (4) until it clicks.

Be sure that it is locked firmly in place.



ATTENTION: When attaching I/O modules, it is very important that the bus connectors are securely locked together to ensure proper electrical connection.

7. Attach an end cap terminator (5) to the last module in the system by using the tongue-and-groove slots as before.
8. Lock the end cap bus terminator (6).

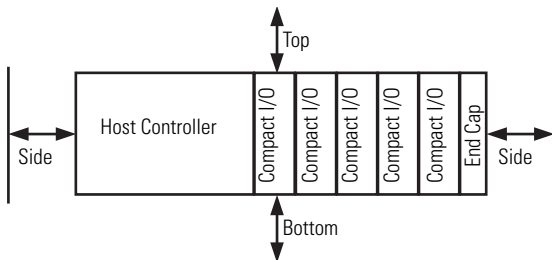
IMPORTANT A 1769-ECR or 1769-ECL right or left end cap must be used to terminate the end of the serial communication bus.

Mounting Expansion I/O



WARNING: When used in a Class I, Division 2, hazardous location, this equipment must be mounted in a suitable enclosure with proper wiring method that complies with the governing electrical codes.

Minimum Spacing



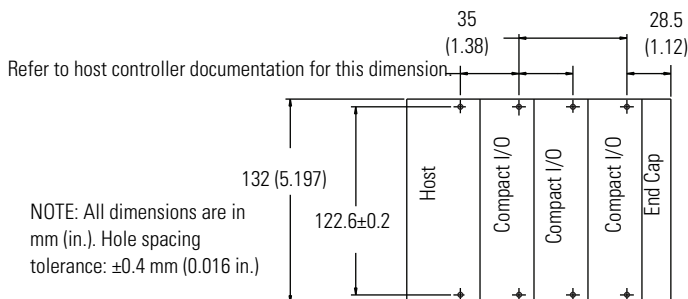
Maintain spacing from enclosure walls, wireways, and adjacent equipment. Allow 50 mm (2 in.) of space on all sides for adequate ventilation, as shown.

Panel Mounting

Mount the module to a panel by using two screws per module. Use M4 or #8 panhead screws. Mounting screws are required on every module.

Panel Mounting Using the Dimensional Template

For more than 2 modules: (number of modules-1) X 35mm (1.38 in.)



Panel Mounting Using Modules as a Template

The following procedure lets you use the assembled modules as a template for drilling holes in the panel. If you have sophisticated panel mounting equipment, you can use the dimensional template provided on page 9. Due to module mounting hole tolerance, it is important to follow this procedure.

1. On a clean work surface, assemble no more than three modules.
2. Using the assembled modules as a template, carefully mark the center of all module-mounting holes on the panel.
3. Return the assembled modules to the clean work surface, including any previously mounted modules.
4. Drill and tap the mounting holes for the recommended M4 or #8 screw.

5. Place the modules back on the panel, and check for proper hole alignment.
6. Attach the modules to the panel by using the mounting screws.

TIP If mounting more modules, mount only the last one of this group and put the others aside. This reduces remounting time during drilling and tapping of the next group.

7. Repeat steps [1...6](#) for any remaining modules.

DIN Rail Mounting



ATTENTION: During panel or DIN rail mounting of all devices, be sure that all debris (such as metal chips and wire strands) is kept from falling into the module. Debris that falls into the module could cause damage on power up.

The module can be mounted using the following DIN rails: 35 x 7.5 mm (EN 50 022 - 35 x 7.5) or 35 x 15 mm (EN 50 022 - 35 x 15).

Before mounting the module on a DIN rail, close the DIN rail latches. Press the DIN rail mounting area of the module against the DIN rail. The latches will momentarily open and lock into place.

Replacing a Single Module within a System

The module can be replaced while the system is mounted to a panel (or DIN rail). Follow the steps below:

1. Remove power.

See important note on page [6](#).

2. On the module to be removed, remove the upper and lower mounting screws from the module (or open the DIN latches using a flat-blade or phillips-style screwdriver).
3. Move the bus lever to the right to disconnect (unlock) the bus.

4. On the right-side adjacent module, move its bus lever to the right (unlock) to disconnect it from the module to be removed.
5. Gently slide the disconnected module forward.

If you feel excessive resistance, check that the module has been disconnected from the bus, and that both mounting screws have been removed (or DIN latches opened).

TIP It may be necessary to rock the module slightly from front to back to remove it, or, in a panel-mounted system, to loosen the screws of adjacent modules.

6. Before installing the replacement module, be sure that the bus lever on the module to be installed, and on the right-side adjacent module are in the unlocked (fully right) position.
7. Slide the replacement module into the open slot.
8. Connect the modules together by locking (fully left) the bus levers on the replacement module and the right-side adjacent module.
9. Replace the mounting screws (or snap the module onto the DIN rail).

Module Spare/replacement Parts

- Terminal block, catalog number 1769-RTBN12 (1 per kit)
(A-B part number A22112-319-01)
- Door, catalog number 1769-RD (2 per kit)

Grounding the Module



ATTENTION: This product is intended to be mounted to a well-grounded mounting surface such as a metal panel. Additional grounding connections from the power supply's mounting tabs or DIN rail (if used) are not required unless the mounting surface cannot be grounded. Refer to Industrial Automation Wiring and Grounding Guidelines, Rockwell Automation publication [1770-4.1](#), for additional information.

System Wiring Guidelines

**WARNING: EXPLOSION HAZARD**

All wiring must comply with N.E.C. article 501-4(b).

Consider the following when wiring your system:

- All module commons (ANLG COM) are connected in the analog module. The analog common (ANLG COM) is not connected to earth ground inside the module.
- Channels are not isolated from each other.
- Use Belden 8761, or equivalent, shielded wire.
- Under normal conditions, the drain wire and shield junction must be connected to earth ground, via a panel or DIN rail mounting screw at the analog I/O module end. Keep the shield connection to ground as short as possible.⁽¹⁾
- To ensure optimum accuracy, limit overall cable impedance by keeping your cable as short as possible. Locate the I/O system as close to your sensors or actuators as your application will permit.

IMPORTANT

To comply with UL restrictions, this equipment must be powered from a source compliant with Class 2 or Limited Voltage/Current.

- Current outputs (Iout 0+ to Iout 7+) of the 1769-OF8C module source current that returns to ANLG COM. Load resistance for a current output channel must remain between 0...500 Ω
- Voltage outputs (Vout 0+ to Vout 7+) of the 1769-OF8V module are referenced to ANLG COM. Load resistance for a voltage output channel must be equal to or greater than 1K Ω .

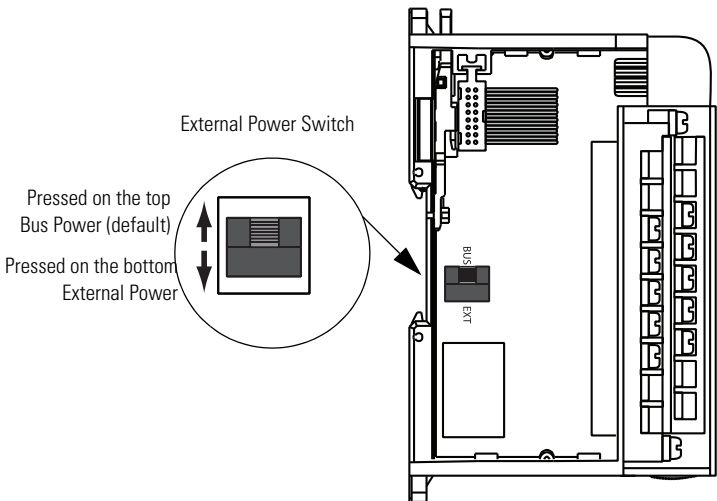
(1) In environments where high frequency noise may be present, it may be necessary to ground the shield via a 0.1 μ F capacitor at the load end and also ground the module end without a capacitor.

External Power Switch

The modules have an external 24V DC power switch that gives you the option of using an external power supply. The switch is located in on the lower left portion of the module's circuit board, as shown below. With this switch pressed on the top (default), 24V DC power is drawn from the 1769 system power supply via the 1769 I/O bus. Pressed on the bottom, 24V DC power is drawn from the external power supply.

Wire the external power supply to the module via the module's terminal block. The external power supply must be rated Class 2, with a 24V DC range of 20.4...26.4V DC and the following minimums:

- Voltage 135 mA
- Current 185mA



Wiring Output Devices

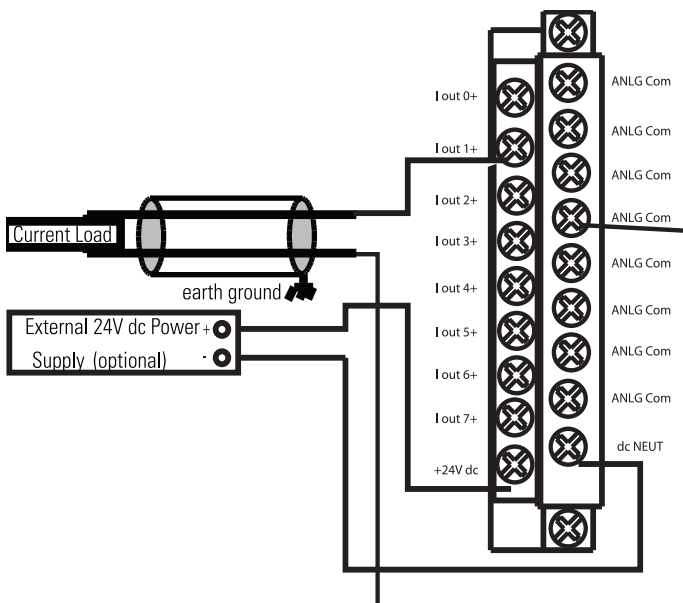
Basic wiring of output devices is shown below.



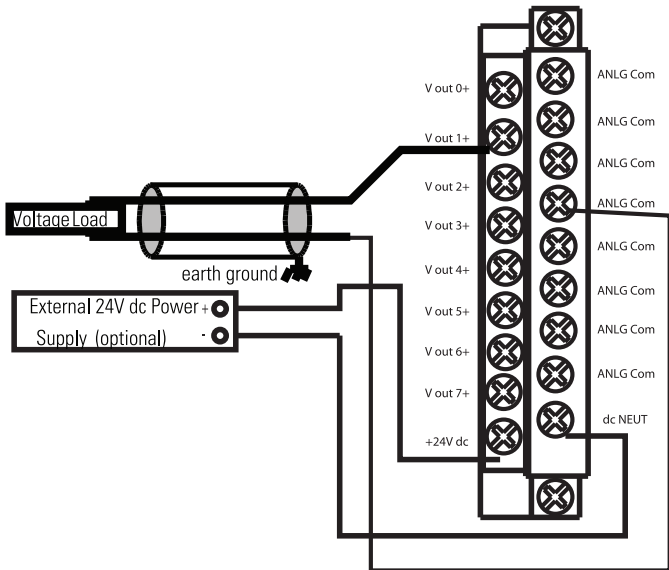
ATTENTION: Miswiring of the module to an AC/DC source will damage the module.

Be careful when stripping wires. Wire fragments that fall into a module could cause damage at power up. Once wiring is complete, make sure the module is free of all metal fragments.

- 1769-OF8C module:



- 1769-OF8V module:



Labeling the Terminals

A removable, write-on label is provided with the module. Remove the label from the door, mark the identification of each terminal with permanent ink, and slide the label back into the door. Your markings (ID tag) will be visible when the module door is closed.

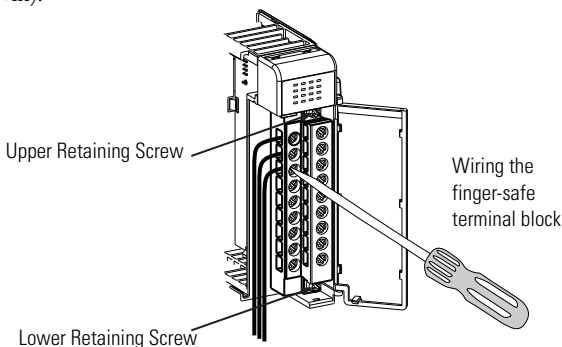
Removing the Finger-Safe Terminal Block



WARNING: When you connect or disconnect the Removable Terminal Block (RTB) with field side power applied, an electrical arc can occur. This could cause an explosion in hazardous location installations.

Be sure that power is removed or the area is nonhazardous before proceeding.

To remove the terminal block, loosen the upper and lower retaining screws. The terminal block will back away from the module as you remove the screws. When replacing the terminal block, torque the retaining screws to 0.46 N•m (4.1 lb•in).



Wiring the Finger-safe Terminal Block

When wiring the terminal block, keep the finger-safe cover in place.

1. Loosen the terminal screws to be wired.
2. Route the wire under the terminal pressure plate. You can use the bare wire or a spade lug. The terminals will accept a 6.35 mm (0.25 in.) spade lug.

TIP

The terminal screws are non-captive. Therefore, it is possible to use a ring lug [maximum 1/4 inch o.d. with a 0.139 inch minimum i.d. (M3.5)] with the module.

3. Tighten the terminal screw making sure the pressure plate secures the wire. Recommended torque when tightening terminal screws is 0.68 N•m (6 in•lb).

TIP

If you need to remove the finger-safe cover, insert a screw driver into one of the square, wiring holes and gently pry the cover off. If you wire the terminal block with the finger-safe cover removed, you will not be able to put the cover back on the terminal block because the wires will obstruct the cover.

Wire Size and Terminal Screw Torque

Each terminal accepts up to two wires with the following restrictions.

Wire Type		Wire Size	Terminal Screw Torque	Retaining Screw Torque
Solid	Cu-90 °C (194 °F)	#14...#22 AWG	0.68 N•m (6 lb•in)	0.46 N•m (4.1 lb•in)
Stranded	Cu-90 °C (194 °F)	#16...#22 AWG	0.68 N•m (6 lb•in)	0.46 N•m (4.1 lb•in)

I/O Memory Mapping

IMPORTANT If you are using RSLogix 5000 software, version 15, please refer to [RSLogix 5000 Controller Tags on page 22](#)

Output Data File

For each module, slot x, words 0...7 in the output data file contain the channel 0 ...7 output data. Word 8 is used to unlatch any condition that has been latched. Refer to the Compact I/O Analog Modules User Manual, publication [1769-UM002](#), for additional details.

Word	Bit Position															
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	SGN	Analog Output Data Channel 0														
1	SGN	Analog Output Data Channel 1														

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Word	Bit Position															
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2	SGN	Analog Output Data Channel 2														
3	SGN	Analog Output Data Channel 3														
4	SGN	Analog Output Data Channel 4														
5	SGN	Analog Output Data Channel 5														
6	SGN	Analog Output Data Channel 6														
7	SGN	Analog Output Data Channel 7														
8	UU7	U07	UU6	U06	UU5	U05	UU4	U04	UU3	U03	UU2	U02	UU1	U01	UU0	U00

- SGN = Sign bit in two's complement format.
- UU = Unlatch under-range (or low clamp exceeded) alarm.
- UO = Unlatch over-range (or high clamp exceeded) alarm.

Input Data File

For each module, slot x, input data file words 3...10 contain the state of the module's output data (output data echo) file words 0...7. During normal operation, these input words represent the analog values that the outputs are directed to by the control program.

Word	Bit Position															
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0								PF	S7	S6	S5	S4	S3	S2	S1	S0
1	D3	H3	U3	O3	D2	H2	U2	O2	D1	H1	U1	O1	D0	H0	U0	O0
2	D7	H7	U7	O7	D6	H6	U6	O6	D5	H5	U5	O5	D4	H4	U4	O4
3	Channel 0 Data Value															
4	Channel 1 Data Value															
5	Channel 2 Data Value															
6	Channel 3 Data Value															
7	Channel 4 Data Value															
8	Channel 5 Data Value															
9	Channel 6 Data Value															
10	Channel 7 Data Value															

- PF = Analog power fail.
- S = General status (over-range, under-range, or open-circuit).
- D = Open-circuit diagnostics.
- H = Output held bit.
- U = Under-range (or low-clamp exceeded) alarm.
- O = Over-range (or high-clamp exceeded) alarm

IMPORTANT The output module's input data file reflects the analog output data echo of the module, not necessarily the electrical state of the output terminals. It does not reflect shorted or open outputs.

Configuration Data File

The manipulation of the bits from this file is normally done with programming software, such as RSLogix 500, RSNetWorx for DeviceNet software, during initial configuration of the system. In that case, graphical screens are provided by the programmer to simplify configuration. However, some devices, like the 1769-ADN DeviceNet adapter, also allow the bits to be altered as part of the control program, using communication rungs. In that case, it is necessary to understand the bit arrangement. The channel configuration words, the first two words of each eight word group, are described on [page 21](#). Refer to the CompactLogix I/O Analog Modules User Manual, publication [1769-UM002](#), for additional details.

Word	Description	Word	Description
0	Channel 0 Configuration Word 0	24	Channel 3 Configuration Word 0
1	Channel 0 Configuration Word 1	25	Channel 3 Configuration Word 1
2	Channel 0 Fault Value Word	26	Channel 3 Fault Value Word
3	Channel 0 Program Idle Mode Word	27	Channel 3 Program Idle Mode Word
4	Channel 0 Low Clamp	28	Channel 3 Low Clamp
5	Channel 0 High Clamp	29	Channel 3 High Clamp
6	Channel 0 Ramp Rate	30	Channel 3 Ramp Rate

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Word	Description	Word	Description
7	Channel 0 Spare	31	Channel 3 Spare
8	Channel 1 Configuration Word 0	32	Channel 4 Configuration Word 0
9	Channel 1 Configuration Word 1	33	Channel 4 Configuration Word 1
10	Channel 1 Fault Value Word	34	Channel 4 Fault Value Word
11	Channel 1 Program Idle Mode Word	35	Channel 4 Program Idle Mode Word
12	Channel 1 Low Clamp	36	Channel 4 Low Clamp
13	Channel 1 High Clamp	37	Channel 4 High Clamp
14	Channel 1 Ramp Rate	38	Channel 4 Ramp Rate
15	Channel 1 Spare	39	Channel 4 Spare
16	Channel 2 Configuration Word 0	40	Channel 5 Configuration Word 0
17	Channel 2 Configuration Word 1	41	Channel 5 Configuration Word 1
18	Channel 2 Fault Value Word	42	Channel 5 Fault Value Word
19	Channel 2 Program Idle Mode Word	43	Channel 5 Program Idle Mode Word
20	Channel 2 Low Clamp	44	Channel 5 Low Clamp
21	Channel 2 High Clamp	45	Channel 5 High Clamp
22	Channel 2 Ramp Rate	46	Channel 5 Ramp Rate
23	Channel 2 Spare	47	Channel 5 Spare
Word	Description	Word	Description
48	Channel 6 Configuration Word 0	56	Channel 7 Configuration Word 0
49	Channel 6 Configuration Word 1	57	Channel 7 Configuration Word 1
50	Channel 6 Fault Value Word	58	Channel 7 Fault Value Word
51	Channel 6 Program Idle Mode Word	59	Channel 7 Program Idle Mode Word
52	Channel 6 Low Clamp	60	Channel 7 Low Clamp
53	Channel 6 High Clamp	61	Channel 7 High Clamp
54	Channel 6 Ramp Rate	62	Channel 7 Ramp Rate
55	Channel 6 Spare	63	Channel 7 Spare

Word/Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 0	E	Reserved							SIU	SIO	LA	ER	FM	PM	HI	PFE
Word 1	Reserved					Output Data Format Select			Reserved					Output Type/Range		

- E = Channel Enable: (0 = Disabled, 1 = output 0 and hold Enabled, process changes)
- Reserved = Set to zero
- SIU = System interrupt low clamp, under-range alarms: (0 = Disabled, 1 = Enabled)
- SIO = System interrupt high clamp, over-range alarms: (0 = Disabled, 1 = Enabled)
- LA = Latch low/high clamp, under/over-range alarms: (0 = Disabled, 1 = Enabled)
- ER = Enable ramping: (0 = Disabled, 1 = Enabled. Ramp rate limited by fault states.)
- FM = Fault mode: (0 = Hold Last State, 1 = User Defined Value)
- PM = Program mode: (0 = Hold Last State, 1 = User Defined Value)
- HI = Hold for initialization: (0 = Disabled, 1 = Enabled)
- PFE = Program/idle to fault enable: (0 = Disabled, 1 = Enabled)

Channel Configuration Words

The first two words of each eight-word group in the configuration file let you change the parameters of each channel independently. For example, words 8 and 9 correspond to channel 1 while words 56 and 57 correspond to channel 7.

Define	Indicate this	These bit settings															
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Program (idle) to Fault Enable	Program (Idle) Mode Data Applied ⁽¹⁾		0	0	0	0	0	0	0	0							0
	Fault Mode Data Applied ⁽¹⁾		0	0	0	0	0	0	0	0							1
Hold for Initialization	Disabled		0	0	0	0	0	0	0	0						0	
	Enabled		0	0	0	0	0	0	0	0						1	

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Define	Indicate this	These bit settings															
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Program (Idle) Mode	Hold Last State ⁽¹⁾		0	0	0	0	0	0	0	0	0					0	
	User-Defined Value ⁽¹⁾		0	0	0	0	0	0	0	0					1		
Fault Mode	Hold Last State ⁽¹⁾		0	0	0	0	0	0	0	0				0			
	User-Defined Fault Value ⁽¹⁾		0	0	0	0	0	0	0	0				1			
Enable Ramping	Disabled		0	0	0	0	0	0	0	0			0				
	Enabled		0	0	0	0	0	0	0	0			1				
System Interrupt High Clamp	Disabled		0	0	0	0	0	0	0	0		0					
	Enabled		0	0	0	0	0	0	0	0		1					
System Interrupt Low Clamp	Disabled		0	0	0	0	0	0	0	0	0						
	Enabled		0	0	0	0	0	0	0	0	1						
Enable Channel	Disabled	0	0	0	0	0	0	0	0	0							
	Enabled	1	0	0	0	0	0	0	0	0							

(1) These functions are not supported by all controllers (for example, MicroLogix 1500) using any configuration method. Refer to your controller manual for details.

Define	Indicate this	These bit settings															
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Output Range Select	0 to 20 mA DC	0	0	0	0	0				0	0	0	0	0	0	0	0
	4 to 20 mA DC	0	0	0	0	0				0	0	0	0	0	0	0	1
Output Data Select	Raw/proportional Counts	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Engineering Units	0	0	0	0	0	0	0	1	0	0	0	0	0			
	Scaled for PID	0	0	0	0	0	0	1	0	0	0	0	0	0			
	Percent Range	0	0	0	0	0	0	1	1	0	0	0	0	0			

RSLogix 5000 Controller Tags

Use the following controller tags with RSLogix 5000 software, version 15 and later.

Channel 0 and 1 Configuration Data

The following table lists channel 0 and 1 configuration data. The same information applies to all channels.

-	Local:1:C	AB:1769_OF8C:C:0	
	Local:1:C.Ch0ProgToFaultEn	BOOL	Decimal
	Local:1:C.Ch0HoldForInit	BOOL	Decimal
	Local:1:C.Ch0ProgMode	BOOL	Decimal
	Local:1:C.Ch0FaultMode	BOOL	Decimal
	Local:1:C.Ch0RampEn	BOOL	Decimal
	Local:1:C.Ch0AlarmLatchEn	BOOL	Decimal
	Local:1:C.Ch0OverRangeInterruptEn	BOOL	Decimal
	Local:1:C.Ch0UnderRangeInterruptEn	BOOL	Decimal
	Local:1:C.Ch0En	BOOL	Decimal
+	Local:1:C.Ch0Range	SINT	Decimal
+	Local:1:C.Ch0DataFormat	SINT	Decimal
+	Local:1:C.Ch0FaultValue	INT	Decimal
+	Local:1:C.Ch0ProgValue	INT	Decimal
+	Local:1:C.Ch0LClampValue	INT	Decimal
+	Local:1:C.Ch0HClampValue	INT	Decimal
+	Local:1:C.Ch0RampRate	INT	Decimal
	Local:1:C.Ch1ProgToFaultEn	BOOL	Decimal
	Local:1:C.Ch1HoldForInit	BOOL	Decimal
	Local:1:C.Ch1ProgMode	BOOL	Decimal
	Local:1:C.Ch1FaultMode	BOOL	Decimal
	Local:1:C.Ch1RampEn	BOOL	Decimal
	Local:1:C.Ch1AlarmLatchEn	BOOL	Decimal
	Local:1:C.Ch1OverRangeInterruptEn	BOOL	Decimal
	Local:1:C.Ch1UnderRangeInterruptEn	BOOL	Decimal

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	Local:1:C.Ch1En	BOOL	Decimal
+	Local:1:C.Ch1Range	SINT	Decimal
+	Local:1:C.Ch1DataFormat	SINT	Decimal
+	Local:1:C.Ch1FaultValue	INT	Decimal
+	Local:1:C.Ch1ProgValue	INT	Decimal
+	Local:1:C.Ch1LClampValue	INT	Decimal
+	Local:1:C.Ch1HClampValue	INT	Decimal
+	Local:1:C.Ch1RampRate	INT	Decimal

Tag Name	To Select	Make These Bit Settings ⁽¹⁾									
		15-8	7	6	5	4	3	2	1	0	
Ch#ProgToFaultEn	Enable									1	
	Disable									0	
Ch#HoldForInit	Enable									1	
	Disable									0	
Ch#ProgMode	Enable									1	
	Disable									0	
Ch#FaultMode	Enable									1	
	Disable									0	
Ch#RampEn	Enable									1	
	Disable									0	
Ch#AlarmLatchEn	Enable									1	
	Disable									0	
Ch#OverRangeInterruptEn	Enable									1	
	Disable									0	
Ch#UnderRangeInterruptEn	Enable									1	
	Disable									0	
Ch#En	Enable									1	
	Disable									0	
Ch#Range (1769-OF8C)	0...20 mA DC									0	
	4...20 mA DC									1	
Ch#Range (1769-OF8V)	-10...+10V dc								0	0	
	0...5V dc								0	1	
	0...10V dc								1	0	
	1...5V dc								1	1	

Tag Name	To Select	Make These Bit Settings ⁽¹⁾							
		15-8	7	6	5	4	3	2	1 0
Ch#DataFormat	Raw/proportional counts								0 0
	Engineering units								0 1
	Scaled for PID								1 0
	Percent range								1 1

(1) All bit positions left blank in table must be set to 0.

Input Data

1769-OF8C Input Data

Tag Name	Bit Indicates This ⁽¹⁾							
	7	6	5	4	3	2	1	0
Combined Status	Ch7 Status	Ch6 Status	Ch5 Status	Ch4 Status	Ch3 Status	Ch2 Status	Ch1 Status	Ch0 Status
Module Status								Power Fail
Ch0_1 Status	Ch1 OpenWire	Ch1 InHold	Ch1 Under Range	Ch1 Over Range	Ch0 OpenWire	Ch0 InHold	Ch0 Under Range	Ch0 Over Range
Ch2_3 Status	Ch3 OpenWire	Ch3 InHold	Ch3 Under Range	Ch3 Over Range	Ch2 OpenWire	Ch2 InHold	Ch2 Under Range	Ch2 Over Range
Ch4_5 Status	Ch5 OpenWire	Ch5 InHold	Ch5 Under Range	Ch5 Over Range	Ch4 OpenWire	Ch4 InHold	Ch4 Under Range	Ch4 Over Range
Ch6_7 Status	Ch7 OpenWire	Ch7 InHold	Ch7 Under Range	Ch7 Over Range	Ch6 OpenWire	Ch6 InHold	Ch6 Under Range	Ch6 Over Range

(1) Bit positions left blank in table are always set to 0.

1769-OF8C Input Data

-	Local:1:I	AB:1769_OF8C:I:0	
+	Local:1:I.Fault	DINT	Binary
+	Local:1:I.CombinedStatus	SINT	Binary
	Local:1:I.Ch0Status	BOOL	Decimal
	Local:1:I.Ch1Status	BOOL	Decimal
	Local:1:I.Ch2Status	BOOL	Decimal
	Local:1:I.Ch3Status	BOOL	Decimal
	Local:1:I.Ch4Status	BOOL	Decimal
	Local:1:I.Ch5Status	BOOL	Decimal
	Local:1:I.Ch6Status	BOOL	Decimal
	Local:1:I.Ch7Status	BOOL	Decimal
+	Local:1:I.ModuleStatus	SINT	Binary
	Local:1:I.PowerFail	BOOL	Decimal
+	Local:1:I.Ch0_1Status	SINT	Binary
	Local:1:I.Ch0OverRange	BOOL	Decimal
	Local:1:I.Ch0UnderRange	BOOL	Decimal
	Local:1:I.Ch0InHold	BOOL	Decimal
	Local:1:I.Ch0OpenWire	BOOL	Decimal
	Local:1:I.Ch1OverRange	BOOL	Decimal
	Local:1:I.Ch1UnderRange	BOOL	Decimal
	Local:1:I.Ch1InHold	BOOL	Decimal
	Local:1:I.Ch1OpenWire	BOOL	Decimal
+	Local:1:I.Ch2_3Status	SINT	Binary
	Local:1:I.Ch2OverRange	BOOL	Decimal
	Local:1:I.Ch2UnderRange	BOOL	Decimal
	Local:1:I.Ch2InHold	BOOL	Decimal
	Local:1:I.Ch2OpenWire	BOOL	Decimal
	Local:1:I.Ch3OverRange	BOOL	Decimal
	Local:1:I.Ch3UnderRange	BOOL	Decimal

1769-OF8C Input Data

	Local:1:I.Ch3InHold	BOOL	Decimal
	Local:1:I.Ch3OpenWire	BOOL	Decimal
+	Local:1:I.Ch4_5Status	SINT	Binary
	Local:1:I.Ch4OverRange	BOOL	Decimal
	Local:1:I.Ch4UnderRange	BOOL	Decimal
	Local:1:I.Ch4InHold	BOOL	Decimal
	Local:1:I.Ch4OpenWire	BOOL	Decimal
	Local:1:I.Ch5OverRange	BOOL	Decimal
	Local:1:I.Ch5UnderRange	BOOL	Decimal
	Local:1:I.Ch5InHold	BOOL	Decimal
	Local:1:I.Ch5OpenWire	BOOL	Decimal
+	Local:1:I.Ch6_7Status	SINT	Binary
	Local:1:I.Ch6OverRange	BOOL	Decimal
	Local:1:I.Ch6UnderRange	BOOL	Decimal
	Local:1:I.Ch6InHold	BOOL	Decimal
	Local:1:I.Ch6OpenWire	BOOL	Decimal
	Local:1:I.Ch7OverRange	BOOL	Decimal
	Local:1:I.Ch7UnderRange	BOOL	Decimal
	Local:1:I.Ch7InHold	BOOL	Decimal
	Local:1:I.Ch7OpenWire	BOOL	Decimal
+	Local:1:I.Ch0ReadBack	INT	Decimal
+	Local:1:I.Ch1ReadBack	INT	Decimal
+	Local:1:I.Ch2ReadBack	INT	Decimal
+	Local:1:I.Ch3ReadBack	INT	Decimal
+	Local:1:I.Ch4ReadBack	INT	Decimal
+	Local:1:I.Ch5ReadBack	INT	Decimal
+	Local:1:I.Ch6ReadBack	INT	Decimal
+	Local:1:I.Ch7ReadBack	INT	Decimal

1769-OF8V Input Data

Tag Name	Bit Indicates This ⁽¹⁾							
	7	6	5	4	3	2	1	0
Combined Status	Ch7 Status	Ch6 Status	Ch5 Status	Ch4 Status	Ch3 Status	Ch2 Status	Ch1 Status	Ch0 Status
Module Status								Power Fail
Ch0_1 Status		Ch1 InHold	Ch1 Under Range	Ch1 Over Range		Ch0 InHold	Ch0 Under Range	Ch0 Over Range
Ch2_3 Status		Ch3 InHold	Ch3 Under Range	Ch3 Over Range		Ch2 InHold	Ch2 Under Range	Ch2 Over Range
Ch4_5 Status		Ch5 InHold	Ch5 Under Range	Ch5 Over Range		Ch4 InHold	Ch4 Under Range	Ch4 Over Range
Ch6_7 Status		Ch7 InHold	Ch7 Under Range	Ch7 Over Range		Ch6 InHold	Ch6 Under Range	Ch6 Over Range

(1) Bit positions left blank in table are always set to 0.

1769-OF8V Input Data

-	Local:1:I	AB:1769_OF8V:I:0	
+	Local:1:I.Fault	DINT	Binary
+	Local:1:I.CombinedStatus	SINT	Binary
	Local:1:I.Ch0Status	BOOL	Decimal
	Local:1:I.Ch1Status	BOOL	Decimal
	Local:1:I.Ch2Status	BOOL	Decimal
	Local:1:I.Ch3Status	BOOL	Decimal
	Local:1:I.Ch4Status	BOOL	Decimal
	Local:1:I.Ch5Status	BOOL	Decimal
	Local:1:I.Ch6Status	BOOL	Decimal
	Local:1:I.Ch7Status	BOOL	Decimal
+	Local:1:I.ModuleStatus	SINT	Binary
	Local:1:I.PowerFail	BOOL	Decimal
+	Local:1:I.Ch0_1Status	SINT	Binary
	Local:1:I.Ch0OverRange	BOOL	Decimal
	Local:1:I.Ch0UnderRange	BOOL	Decimal
	Local:1:I.Ch0InHold	BOOL	Decimal
	Local:1:I.Ch1OverRange	BOOL	Decimal
	Local:1:I.Ch1UnderRange	BOOL	Decimal
	Local:1:I.Ch1InHold	BOOL	Decimal
+	Local:1:I.Ch2_3Status	SINT	Binary
	Local:1:I.Ch2OverRange	BOOL	Decimal
	Local:1:I.Ch2UnderRange	BOOL	Decimal
	Local:1:I.Ch2InHold	BOOL	Decimal
	Local:1:I.Ch3OverRange	BOOL	Decimal
	Local:1:I.Ch3UnderRange	BOOL	Decimal
	Local:1:I.Ch3InHold	BOOL	Decimal

1769-OF8V Input Data

+	Local:1:I.Ch4_5Status	SINT	Binary
	Local:1:I.Ch4OverRange	BOOL	Decimal
	Local:1:I.Ch4UnderRange	BOOL	Decimal
	Local:1:I.Ch4InHold	BOOL	Decimal
	Local:1:I.Ch5OverRange	BOOL	Decimal
	Local:1:I.Ch5UnderRange	BOOL	Decimal
	Local:1:I.Ch5InHold	BOOL	Decimal
+	Local:1:I.Ch6_7Status	SINT	Binary
	Local:1:I.Ch6OverRange	BOOL	Decimal
	Local:1:I.Ch6UnderRange	BOOL	Decimal
	Local:1:I.Ch6InHold	BOOL	Decimal
	Local:1:I.Ch7OverRange	BOOL	Decimal
	Local:1:I.Ch7UnderRange	BOOL	Decimal
	Local:1:I.Ch7InHold	BOOL	Decimal
+	Local:1:I.Ch0ReadBack	INT	Decimal
+	Local:1:I.Ch1ReadBack	INT	Decimal
+	Local:1:I.Ch2ReadBack	INT	Decimal
+	Local:1:I.Ch3ReadBack	INT	Decimal
+	Local:1:I.Ch4ReadBack	INT	Decimal
+	Local:1:I.Ch5ReadBack	INT	Decimal
+	Local:1:I.Ch6ReadBack	INT	Decimal
+	Local:1:I.Ch7ReadBack	INT	Decimal

Output Data

1769-OF8C and 1769-OF8V Output Data

Local:1:0		AB:1769_OF8C:0:0 / AB:1769_OF8V:0:0	
+	Local:1:0.Ch0Data	INT	Decimal
+	Local:1:0.Ch1Data	INT	Decimal
+	Local:1:0.Ch2Data	INT	Decimal
+	Local:1:0.Ch3Data	INT	Decimal
+	Local:1:0.Ch4Data	INT	Decimal
+	Local:1:0.Ch5Data	INT	Decimal
+	Local:1:0.Ch6Data	INT	Decimal
+	Local:1:0.Ch7Data	INT	Decimal
+	Local:1:0.AlarmUnlatch	INT	Binary
	Local:1:0.Ch0OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch0UnderRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch1OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch1UnderRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch2OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch2UnderRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch3OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch3UnderRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch4OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch4UnderRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch5OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch5UnderRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch6OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch6UnderRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch7OverRangeUnlatch	BOOL	Decimal
	Local:1:0.Ch7UnderRangeUnlatch	BOOL	Decimal

Specifications

General Specifications 1769-OF8C and 1768-OF8V

Attribute	1769-OF8C and 1768-OF8V
Dimensions, HxWxD (approx.)	118 mm x 35 mm x 87 mm Height including mounting tabs is 138 mm 4.65 in. x 1.38 in. x 3.43 in. Height including mounting tabs is 5.43 in.
Approximate Shipping Weight (with carton)	281g (0.62 lb.)
Enclosure type rating	None (open-style)
Wire Size	0.32...2.1 mm ² (22...14 AWG) solid copper wire or 0.32...1.3 mm ² (22...16 AWG) stranded copper wire rated at 90 °C (194 °F) insulation max
Wiring Category ⁽¹⁾	2 - on signal ports

- (1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

Environmental Specifications 1769-OF8C and 1769-OF8V

Attribute	1769-OF8C and 1769-OF8V
Temperature, storage	-40...85 °C (-40...185 °F)
Temperature, operating - IEC 60068-2-1 (Test Ad, Operating Cold) - IEC 60068-2-2 (Test Bd, Operating Dry Heat) - IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	0...60 °C (32...140 °F)
Temperature, surrounding air, max	60 °C (140 °F)
Temperature, nonoperating - IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold) - IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat) - IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40...85 °C (-40...185 °F)
North American temp code	T4A
Vibration IEC 60068-2-6 (Test Fc, Operating)	5 g @ 10...500 Hz

Environmental Specifications 1769-OF8C and 1769-OF8V

Attribute	1769-OF8C and 1769-OF8V
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	20 g
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5...95% noncondensing
Emissions	CISPR 11: Group 1, Class A
ESD immunity IEC 61000-4-2	4 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz
EFT/B immunity IEC 61000-4-4	±2 kV at 5 kHz on signal ports
Surge Transient Immunity IEC 61000-4-5	±1 kV line-earth(CM) on shielded ports
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz
Supply power and current ratings	Backplane (1769-OF8C): • 5V DC, 145mA • 24V DC, 185 mA Backplane (1769-OF8V): • 5V DC, 145mA • 24V DC, 135 mA Field (1769-OF8C): • 0...20 mA • 4...20 mA Field (1769-OF8V): • -10V to... +10V, 0...+5V, 0...+10V, 1 to... +5V
Isolation voltage	30V (continuous), Reinforced Insulation Type, channel to system and channel to channel. Type tested at 710V DC for 60 s

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Output Specifications 1769-OF8C and 1769-OF8V

Attribute	1769-OF8C and 1769-OF8V
Analog normal operating ranges ⁽¹⁾	(1769-OF8C): 0...20 mA, 4...20 mA (1769-OF8V): ± 10 V dc, 0...10V DC, 0...5V DC, 1...5V DC
Full Scale analog ranges ⁽¹⁾	(1769-OF8C): 0...21 mA, 3.2 to 21 mA (1769-OF8V): ± 10.5 V dc, -0.5...10.5V DC, -0.5...5.25V DC, 0.5...5.25V DC
Number of outputs	8 single-ended
Bus current draw, max (1769-OF8C)	145 mA at 5V DC 185 mA at 24V DC ⁽²⁾
Bus current draw, max (1769-OF8V)	145 mA at 5V DC 135 mA at 24V DC
Heat dissipation	(1769-OF8C): 2.69 total W (all points - 21 mA into 250 Ω - worst case calculated) (1769-OF8V): 2.16 total W (all points - 10.5V into 1 k Ω - worst case calculated)
Digital resolution across full range	(1769-OF8C): 16 bits (unipolar) 4...20 mA: 15.59 bits, 0.323 μ A/bit 0...20 mA: 15.91 bits, 0.323 μ A/bit (1769-OF8V): 16 bits plus sign (bipolar) ± 10 V dc: 15.89 bits, 330 μ V/bit 0 to +5V dc: 13.89 bits, 330 μ V/bit 0 to +10V dc: 14.89 bits, 330 μ V/bit +1 to +5V dc: 13.57 bits, 330 μ V/bi
Conversion rate (all channels) max.	5 ms
Step response to 63% ⁽³⁾	<2.9 ms
Resistive load on current output (1769-OF8C)	0...500 Ω (includes wire resistance)
Max inductive load (1769-OF8C)	0.1 mH
Load range output (1769-OF8V)	> 1 k Ω at 10V DC
Max capacitive load (1769-OF8V)	1 μ F
Field calibration	None required
Overall accuracy ⁽⁴⁾	(1769-OF8C): $\pm 0.35\%$ full scale at 25 °C (77 °F) (1769-OF8V): $\pm 0.5\%$ full scale at 25 °C
Accuracy drift with temperature	(1769-OF8C): $\pm 0.0058\%$ FS per °C (1769-OF8V): $\pm 0.0086\%$ FS per °C
Output ripple ⁽⁵⁾ range 0...50 kHz (referred to output range)	$\pm 0.05\%$

Output Specifications 1769-OF8C and 1769-OF8V

Attribute	1769-OF8C and 1769-OF8V
Non-linearity (in percent full scale)	±0.05%
Repeatability ⁽⁶⁾ (in percent full scale)	±0.05%
Output error over full temperature Range (0...60 °C [+32...+140 °F])	(1769-OF8C) Current: ±0.55% (1769-OF8V) Current: ±0.80%
Output offset error (0...60 °C [+32...+140 °F])	±0.05%
Output impedance	(1769-OF8C): >1 MΩ (1769-OF8V): <1 Ω
Open and short-circuit protection	Yes
Maximum short-circuit current	(1769-OF8C): 21 mA (1769-OF8V): 30 mA
Output overvoltage protection	Yes
Time to detect open wire condition (1769-OF8C)	5 ms
Output response at system power up and power down	±0.5V DC spike for < 5 ms
Rated working voltage ⁽⁷⁾	30V AC/30V DC
Module OK status indicator	On: module has power, has passed internal diagnostics, and is communicating over the bus Flashing: external power failure Off: Any of the above is not true
Output group to bus isolation (1769-OF8V)	500V AC or 710V DC for 1 minute (qualification test) 30V AC/30V DC working voltage (IEC)
Channel diagnostics	Over- or under-range by bit reporting output wire broken or load resistance high by bit reporting
System power supply distance rating	The module may not be more than 8 modules away from the system power supply.
Optional 24V DC Class 2 power supply voltage range ⁽⁸⁾	20.4 V...26.4 V DC
Recommended cable	Belden 8761 (shielded)
Vendor I.D. code	1
Product type code	10
Product code	(1769-OF8C): 40 (1769-OF8V): 39
Input words	11

Output Specifications 1769-OF8C and 1769-OF8V

Attribute	1769-OF8C and 1769-OF8V
Output words	9
Configuration words	64

- (1) The over- or under-range flag will come on when the normal operating range (over/under) is exceeded. The module will continue to convert the analog input up to the maximum full scale range. The flag automatically resets when within the normal operating range unless configured to latch.
- (2) If the optional 24V DC Class 2 power supply is used, the 24V DC current draw from the bus is 0 mA.
- (3) Step response is the period of time between when the D/A converter was instructed to go from minimum to full range until the device is at 63% of full range.
- (4) Includes offset, gain, drift, non-linearity and repeatability error terms.
- (5) Output ripple is the amount a fixed output varies with time, assuming a constant load and temperature.
- (6) Repeatability is the ability of the output module to reproduce output readings when the same controller value is applied to it consecutively, under the same conditions and in the same direction.
- (7) Rated working voltage is the maximum continuous voltage that can be applied at the input terminal, including the input signal and the value that floats above ground potential (for example, 10V DC input signal and 20V DC potential above ground).
- (8) Failure to use a Class 2 power supply without regulation within these limits could result in improper module operation.

Certifications

Certifications⁽¹⁾ (when product is marked)	1769-OF8C and 1769-OF8V
c-UL-us	UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E10314.
CE	European Union 2004/108/EC EMC Directive, compliant with: • EN 61000-6-2; Industrial Immunity • EN 61000-6-4; Industrial Emissions • EN 61131-2; Programmable Controllers (Clause 8, Zone A & B)
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions

- (1) See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

Additional Resources

These documents contain additional information concerning related Rockwell Automation products.

Resource	Description
1769-L32E and 1769-L35E CompactLogix Controller Installation Instructions, publication 1769-IN020	Provides details about how to assemble and mount the controller, how to upgrade firmware, and controller technical specifications.
1769-SDN Compact I/O DeviceNet Scanner Module Installation Instructions, publication 1769-IN060	Provides information about installing the 1769-SDN module and technical specifications.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.ab.com	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/literature/>. To order paper copies of technical documentation, contact your local Rockwell Automation distributor or sales representative.

Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <http://www.rockwellautomation.com/support/>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/support/>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

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Publication 1769-IN089A-EN-P - March 2011

PN-101426

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