

## Output Specifications

Specification	1769-OF8C
Analog Normal Operating Ranges <sup>(1)</sup>	0 to 20 mA, 4 to 20 mA
Full Scale Analog Ranges <sup>(1)</sup>	0 to 21 mA, 3.2 to 21 mA
Number of Outputs	8 single-ended
Bus Current Draw (max.)	145 mA at 5V dc 185 mA at 24V dc <sup>(2)</sup>
Heat Dissipation	2.69 Total Watts ( <i>All points - 21 mA into 250Ω - worst case calculated.</i> )
Digital Resolution Across Full Range	16 bits (unipolar)  +4 to +20 mA: 15.59 bits, 0.323 μA/bit 0 to +20 mA: 15.91 bits, 0.323 μA/bit
Conversion Rate (all channels) max.	5 ms
Step Response to 63% <sup>(3)</sup>	<2.9 ms
Resistive Load on Current Output	0 to 500 Ω (includes wire resistance)
Max. Inductive Load	0.1 mH
Field Calibration	None required
Overall Accuracy <sup>(4)</sup>	±0.35% full scale at 25°C

<sup>(1)</sup> 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.

<sup>(2)</sup> If the optional 24V dc Class 2 power supply is used, the 24V dc current draw from the bus is 0 mA.

<sup>(3)</sup> 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.

<sup>(4)</sup> Includes offset, gain, drift, non-linearity and repeatability error terms.

Specification	1769-OF8C
Accuracy Drift with Temperature	$\pm 0.0058\%$ FS per °C
Output Ripple <sup>(1)</sup> range 0 to 50 kHz (referred to output range)	$\pm 0.05\%$
Non-linearity (in percent full scale)	$\pm 0.05\%$
Repeatability <sup>(2)</sup> (in percent full scale)	$\pm 0.05\%$
Output Error Over Full Temperature Range (0 to 60°C [+32 to +140°F])	Current: $\pm 0.55\%$
Output Offset Error (0 to 60°C [+32 to +140°F])	$\pm 0.05\%$
Output Impedance	$>1 \text{ M}\Omega$
Open and Short-Circuit Protection	Yes
Maximum Short-Circuit Current	21 mA
Output Overvoltage Protection	Yes
Time to Detect Open Wire Condition	5 ms
Output Response at System Power Up and Power Down	$\pm 0.5\text{V}$ dc spike for $< 5$ ms
Rated Working Voltage <sup>(3)</sup>	30V ac/30V dc
Output Group to Bus Isolation	500V ac or 710V dc for 1 minute (qualification test)  30V ac/30V dc working voltage (IEC Class 2 reinforced insulation)
Module OK LED	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.
Channel Diagnostics	Over- or under-range by bit reporting  output wire broken or load resistance high by bit reporting

<sup>(1)</sup> Output ripple is the amount a fixed output varies with time, assuming a constant load and temperature.

<sup>(2)</sup> 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.

<sup>(3)</sup> 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).

Specification	1769-OF8C
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 <sup>(1)</sup>	20.4 V to 26.4 V dc
Recommended Cable	Belden™ 8761 (shielded)
Vendor I.D. Code	1
Product Type Code	10
Product Code	40
Input Words	11
Output Words	9
Configuration Words	64

<sup>(1)</sup> Failure to use a Class 2 power supply without regulation within these limits could result in improper module operation.

## Hazardous Location Considerations

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D or non-hazardous locations only. The following WARNING statement applies to use in hazardous locations.

### WARNING



#### EXPLOSION HAZARD

- Substitution of components may impair suitability for Class I, Division 2.
- When in hazardous locations, turn off power before replacing or wiring modules.
- Do not disconnect components unless power has been switched off or the area is known to be non-hazardous.
- This product must be installed in an enclosure.

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