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OMEGA®

DRP Series

DRP-8508, 8509, 8510, 8513, 8514

INSTRUCTION SHEET

M3208/0499

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The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.
WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one **(1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY / DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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Models DRP-8508, 8509, 8510, 8513, 8514 Dual Channel PLC Interface Modules

Features

- Current or Voltage Output
- Compatible with 24 Volt PLC Discrete High Speed Counter Output
- 2000 Hz or 5000 Hz Full Scale
- Isolated Input to Output
- High Resolution
- 0.02% Linearity
- Din Rail Mountable
- Operates on a standard PLC 24 Volt Supply

Applications

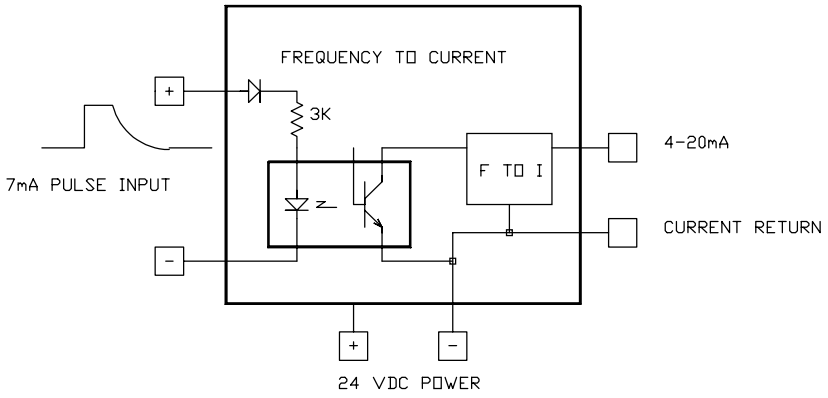
- PLC Control Systems
- Discrete Automation
- Industrial Process Control Systems
- Automated Control Systems

Description

These frequency to analog converters are designed to operate from the common 24 Volt , 7mA PLC discrete outputs or any source that can switch 7mA through 3000 ohms. Their input is an isolated optocoupler diode which provides DC isolation from the pulse source, DC power and the output. These units will operate with a DC supply of 22 Volts to 26 Volts. The modules are housed in a plastic housing with a U-foot for mounting on standard DIN rails. The unit's dimensions, excluding the mounting foot, are 1.65"H x 1.06"W x 3.78"L. Connections are made to screw clamp terminal blocks.

The model DRP-8508 provides a 4 to 20mA output for a 1kHz to 5kHz input frequency for a 4 µA per Hertz resolution. The model 8509 voltage output is scaled for 1mV per Hertz to 5kHz for 5 Volts output and the DRP-8510 is scaled for 2.5 mV per Hertz to produce 5 volts output at 2kHz input. The model DRP-8513 provides 4 to 20mA output for 400Hz to 2kHz input frequency for a 10µA per Hertz resolution. Model DRP-8514 voltage output is scaled for 5mV per Hertz to 2kHz for 10 volts output.

Model DRP-8508 & 8513 Block Diagram



Model DRP-8509, 8510 & 8514 Block Diagram

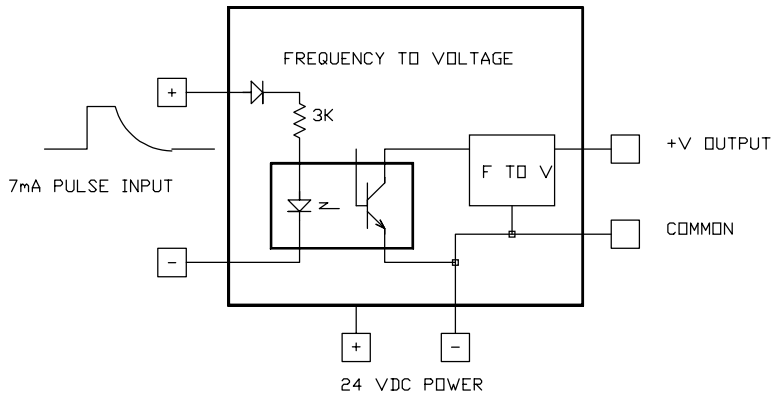


Figure 1. Block Diagrams

Models DRP-8508, 8509, 8510, 8513, 8514 Dual Channel PLC Interface Modules

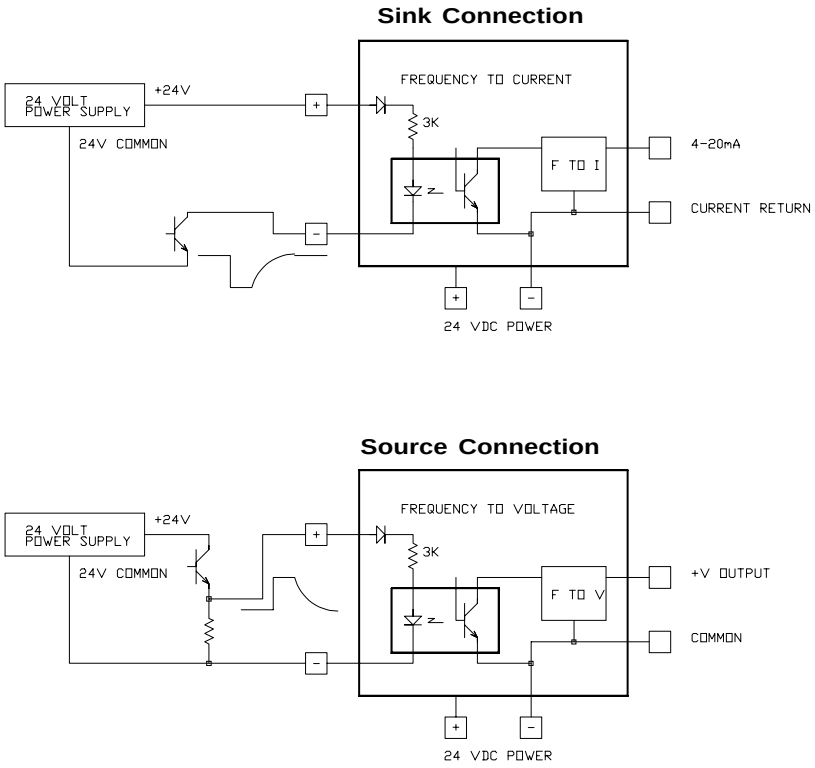


Figure 2. Models DRP-8508, 8509, 8510, 8513 & 8514 Sink and Source Connection Diagrams

Specifications	DRP-8508	DRP-8509	DRP-8510	DRP-8513	DRP-8514
Input	1000 to 5000 Hz	0 to 5000 Hz	0 to 2000 Hz	400 to 2000 Hz	0 to 2000 Hz
	Optocoupler Diode 7 mA into 3.3K, 20 µSec pulse width minimum				
Output	4 mA to 20 mA	0.1 to 5 Volts	0.05 to 5 Volts	20 mA	10 Volts
Resolution	4 µA/Hz 12 Bits	1 mV/Hz 12 Bits	2.5 mV/Hz 12 Bits	10 µA/Hertz 12 Bits	5 mV/Hertz 12 Bits
Linearity	±0.02% Typical ±0.05% Maximum			200 Hz to 2KHz ±0.02% Typical ±0.05% Maximum	
Accuracy	±0.15% Maximum				
Temperature Coefficient 0° to 55°C	±0.005%/°C Typical				
Output Load	0 to 500 ohms	5 mA Maximum	5 mA Maximum	0 to 500 ohms	5 mA Maximum
Response Time	200 mSec	200 mSec	400 mSec	200 mSec	1 Sec
Frequency Ripple	4 µA Maximum	5 mV Maximum	10 mV Maximum	100Hz 12µA pp 1 KHz 3µA pp 2KHz 1µA pp	100Hz 5mV 1 KHz 2mV 2KHz 1mV
Power Requirements					
Voltage	22 to 26 Volts	15 to 26 Volts	15 to 26 Volts	22 to 26 Volts	15 to 26 Volts
Current	30 mA Typical	15 mA Typical	15 mA Typical	30 mA Typical	15 mA Typical
	Power Supply Common Connected to Signal Input Common				
Size	1.65" H x 1.06" W x 3.78" L (42 x 27 x 96 mm)				
Weight	3 oz. (85 grams)				