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CE OMEGA[®]

DRP Series

DRP-8540

**INSTRUCTION
SHEET**

M3210/0499

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It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

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.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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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Model DRP-8540 Pt100E RTD to Frequency to PLC Converter

Features

- Linearized Frequency 10 Hz per degree Centigrade
- -100 to +400 Degrees Centigrade
- Isolated Input to Output

Description

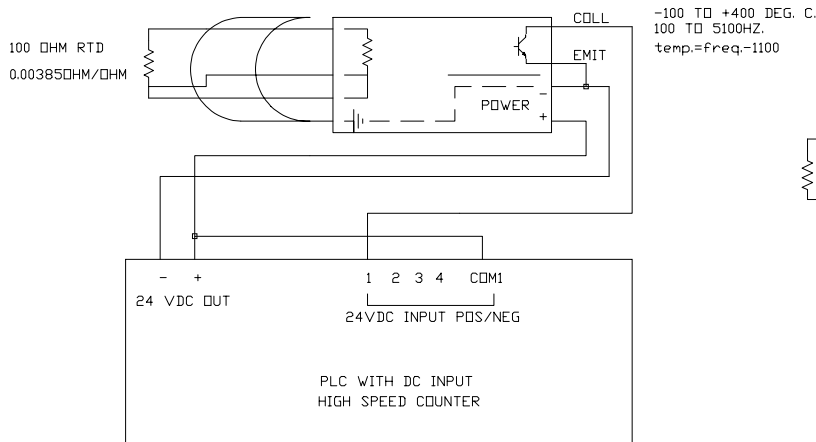
This RTD to frequency converter is designed to operate into the common 24 volt, 7mA PLC high speed counter inputs. It's output is an isolated optocoupler transistor and provides DC isolation from the input and DC power. The 8540 will operate with a DC supply of 15 volts to 26 volts at 37mA.

The model DRP-8540 has compensation for the non-linear characteristic of the platinum 100 ohm RTD and is calibrated to the European $\alpha=0.00385$. The output frequency is 100Hz at -100°C to 5100Hz at +400°C providing 0.1 degree or 12 bits resolution. The linearization is accurate to 0.5 degree over the 500 degree span.

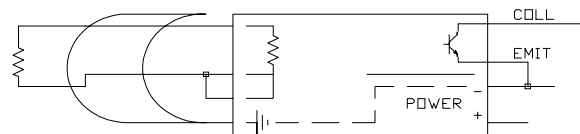
The module is housed in a plastic housing with a U-foot for mounting on standard DIN rails. The unit's dimensions, excluding the mounting foot, are 1.65"H x 1.06"W x 3.78"L. Connections are made to screw clamp terminal blocks.

Model DRP-8540 Block Diagram

3 Wire Connection



2 Wire Connection



Specifications	DRP-8540
Input	Type PT100 E -100 to +400°C 100 ohm Platinum RTD European $\alpha = 0.00385$ 2 or 3 Wire Connection
Calibration	European $\alpha = 0.00385$
Output	100 Hz at -100°C to 5100 Hz at 400°C (Temp. in Tenths=Freq. -1100)
Resolution	0.1°C for 1 second Time Base 12 Bits
Accuracy	$\pm 0.5^\circ\text{C}$ plus RTD conformity
Temperature Coefficient 0°C to 55°C Ambient	$\pm 0.01\%/^\circ\text{C}$ typ
RTD Current	1 mA typ
Output Source	Floating Optocoupler Transistor 7 mA min current
Pulse Width	50 microseconds typ
Response Time	0.1 second typ
Isolation Input to Output Transistor	700 volts DC 5pF
Power Requirements	
Voltage	24 volts nominal 15 to 26 volts
Current	37 mA typ
Sensitivity	0.1°C / volt max
Size	1.65"H x 1.06"W x 3.78"L (42 x 27 x 96 mm)
Weight	3 oz. (85grams)

Model DRP-8540 Pt100E RTD to Frequency to PLC Converter