



User's Guide

Ω OMEGA

<http://www.omega.com>

[e-mail: info@omega.com](mailto:info@omega.com)

DRA-ACT-4I & DRA-ACT-4V
AC Input, Four-Wire Transmitter
Operator's Manual

omega.com™

an OMEGA®

OMEGAnetSM On-Line Service
<http://www.omega.com>

Internet e-mail
info@omega.com

Servicing North America:

USA:
ISO 9001 Certified
One Omega Drive, Box 4047
Stamford, CT 06907-0047
Tel: (203) 359-1660
FAX: (203) 359-7700
e-mail: info@omega.com

Canada: 976 Bergar
Laval (Quebec) H7L 5A1
Tel: (514) 856-6928
FAX: (514) 856-6886
e-mail: canada@omega.com

For immediate technical or application assistance:

USA and Canada: Sales Service: 1-800-826-6342 / 1-800-TC-OMEGASM
Customer Service: 1-800-622-2378 / 1-800-622-BESTSM
Engineering Service: 1-800-872-9436 / 1-800-USA-WHENS M
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Mexico and

Latin America: Tel: (95) 800-TC-OMEGASM FAX: (95) 203-359-7807
En Espanol: (95) 203 359-7803 e-mail: espanol@omega.com

Servicing Europe:

Benelux: Postbus 8034, 1180 LA Amstelveen, The Netherlands
Tel: (31) 20 6418405 FAX: (31) 20 6434643
Toll Free in Benelux: 06 0993344
e-mail: nl@omega.com

Czech Republic: Ostravska 767,733 01 Karvina
Tel:42(69)6311899 FAX:42(69) 6311114
e-mail: czech@omega.com

France: 9, rue Denis Papin, 78190 Trappes
Tel: (33) 130-621-400 FAX: (33) 130-699-120
Toll Free in France: 0800-4-06342
e-mail: france@omega.com

Germany/Austria: Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
Tel: 49 (07056) 3017 FAX: 49 (07056) 8540
Toll Free in Germany: 0130 11 21 66
e-mail: germany@omega.com

United Kingdom: 25 Swannington Road,
ISO 9002 Certified Broughton Astley, Leicestershire,
LE9 6TU, England P.O. Box 7, Omega Drive,
Irlam, Manchester,
M44 5EX, England
Tel: 44 (1455) 285520 Tel: 44 (161) 777-6611
FAX: 44 (1455) 283912 FAX: 44 (161) 777-6622
Toll Free in England: 0800-488-488
e-mail: uk@omega.com

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.

Contents:

1. CALIBRATION INSTRUCTIONS
2. CONNECTION DIAGRAMS
3. MECHANICAL DIMENSIONS
4. SPECIFICATIONS

1.CALIBRATION INSTRUCTIONS

1.1 The DRA-ACT-4 coarse ranging and supply voltage are factory set.The Zero and Span potentiometers located on the unit's front panel are used for fine tuning.

1.2 Calibration instrumentation:

1. 24Vdc power supply
2. AC voltage/current calibrator
3. High accuracy DVM
4. Small screwdriver

Connect the transmitter to be calibrated according to fig.1.

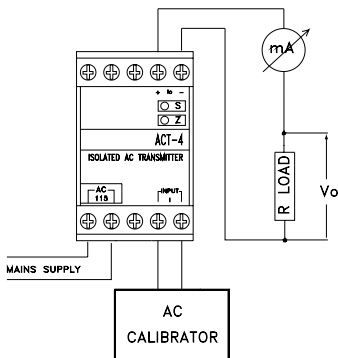


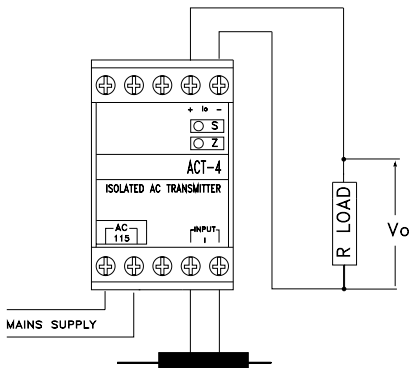
Fig.1

- Set calibrator to 0 output
- Adjust with the Zero potentiometer to obtain an output current of 4.000mA.
- Set the calibrator to I/V maximum.
- Adjust with the Span potentiometer to obtain an output current of 20.000mA.

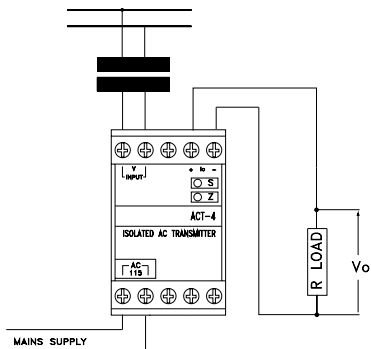
Repeat steps a to d until satisfactory results are achieved.

2. CONNECTION DIAGRAMS

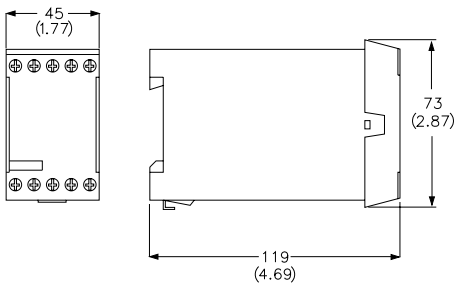
2.1 DRA-ACT-4I



2.2 DRA-ACT-4V



3. MECHANICAL DIMENSIONS mm (In)



4. DRA-ACT-4I & DRA-ACT-4V SPECIFICATIONS

DRA-ACT-4I

INPUT:	AC current
INPUT SPANS:	0-1 Aac, 0-5 Aac (RMS)
INPUT POWER CONSUMPTION:	0.26 VA at 5 Aac
INRUSH CURRENT:	40 Aac (RMS) maximum for 8 seconds, 75 Aac (RMS) maximum for 1 second every 10 minutes
ISOLATION:	
Current Input:	2.5 KV (RMS)/1 minute
Power Input:	4 KV (RMS)/1 minute

DRA-ACT-4V

INPUT:	AC voltage
INPUT SPANS:	0-150 Vac, 0-250 Vac, 0-400 Vac (RMS)
INPUT POWER CONSUMPTIONS:	0.3 VA at 120 Vac, 1.4 VA at 250 Vac (RMS)
ISOLATION:	
Signal and Power Inputs:	4 KV (RMS)/1 minute

GENERAL SPECIFICATIONS

OUTPUT CURRENT RANGE:	4-20 mA
POWER SUPPLY:	115 Vac \pm 15%, 50/60 Hz standard 230 Vac \pm 15%, 50/60 Hz optional
POWER CONSUMPTION:	1.9 VA

SUPPLY AND LOAD VARIATION EFFECT:	< $\pm 0.03\%$ of span for full change
LOAD RESISTANCE:	750 Ω for nominal AC supply 600 Ω for minimum AC supply
RESPONSE TIME:	220 msec. (0-98% of span)
OUTPUT RIPPLE:	Better than 0.1% of span RMS
FREQUENCY:	40-500 Hz
ACCURACY (2-100% of input span):	$\pm 0.1\%$ of span for pure sinusoidal input
FINE ADJUSTABILITY:	Zero: $\pm 35\%$ of span (minimum) Span: $\pm 25\%$ of span (minimum)
CMR:	122 dB typical 117 dB minimum
TEMPERATURE STABILITY:	$\pm 0.02\%$ of span/ 1°C
OPERATING AMBIENT:	32 to 158 $^{\circ}\text{F}$ (0 to 70 $^{\circ}\text{C}$)
STORAGE TEMPERATURE:	-13 to 185 $^{\circ}\text{F}$ (-25 to +85 $^{\circ}\text{C}$)
HUMIDITY:	5-95% relative humidity, non-condensing
HOUSING:	Plastic, Polycarbonate
PROTECTION LEVEL:	Box: According to IP-40 DIN 40050 Terminals: According to IP-10 DIN 40050
MOUNTING:	Standard 35 mm DIN rail
WEIGHT:	0.9 lb (0.4Kg)

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 should malfunction, 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 being 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, EXPRESSED 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. P.O. 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. P.O. 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.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 1996 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without prior written consent of OMEGA ENGINEERING, INC.

Where Do I Find Everything I Need for Process Measurement and Control? OMEGA...Of Course!

TEMPERATURE

- Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- Wire: Thermocouple, RTD & Thermistor
- Calibrators & Ice Point References
- Recorders, Controllers & Process Monitors
- Infrared Pyrometers

PRESSURE, STRAIN AND FORCE

- Transducers & Strain Gauges
- Load Cells & Pressure Gauges
- Displacement Transducers
- Instrumentation & Accessories

FLOW/LEVEL

- Rotameters, Gas Mass Flowmeters & Flow Computers
- Air Velocity Indicators
- Turbine/Paddlewheel Systems
- Totalizers & Batch Controllers

pH/CONDUCTIVITY

- pH Electrodes, Testers & Accessories
- Benchtop/Laboratory Meters
- Controllers, Calibrators, Simulators & Pumps
- Industrial pH & Conductivity Equipment

DATA ACQUISITION

- Data Acquisition & Engineering Software
- Communications-Based Acquisition Systems
- Plug-in Cards for Apple, IBM & Compatibles
- Datalogging Systems
- Recorders, Printers & Plotters

HEATERS

- Heating Cable
- Cartridge & Strip Heaters
- Immersion & Band Heaters
- Flexible Heaters
- Laboratory Heaters

ENVIRONMENTAL

MONITORING AND CONTROL

- Metering & Control Instrumentation
- Refractometers
- Pumps & Tubing
- Air, Soil & Water Monitors
- Industrial Water & Wastewater Treatment
- pH, Conductivity & Dissolved Oxygen Instruments