User's Guide

Shop online at
omega.com
www.omega.com
e-mail: info@omega.com
For latest product manuals:
www.omegamanual.info

PCM3
Solid State Relay Driver

Rev. 2/05
OMEGA.net® Online Service  
www.omega.com

Internet e-mail  
info@omega.com

Servicing North America:

USA: One Omega Drive, P.O. Box 4047  
Stamford CT 06907-0047  
TEL: (203) 359-1660  
e-mail: info@omega.com  
FAX: (203) 359-7700

Canada: 976 Bergar  
Laval (Quebec) H7L 5A1  
TEL: (514) 856-6928  
e-mail: info@omega.ca  
FAX: (514) 856-6886

For immediate technical or application assistance:

USA and Canada:  
Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®  
Customer Service: 1-800-622-2378 / 1-800-622-BEST®  
Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN®  
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Mexico:  
En Español: (011) 203-359-7803  
e-mail: espanol@omega.com  
FAX: (011) 203-359-7807  
info@omega.com.mx

Servicing Europe:

Eenlux:  
Postbus 8034, 1180 LA Amstelveen, The Netherlands  
TEL: +31 (0)20 3472121  
FAX: +31 (0)20 6434643  
Toll Free in Benelux: 0800 0993344  
e-mail: sales@omegaeng.nl

Czech Republic:  
Rudé armády 1868, 733 01 Karviná 8  
TEL: +420 (0)69 6311899  
Toll Free: 0800-1-66342  
e-mail: sales@omega.com

France:  
11, rue Jacques Cartier, 78280 Guyancourt, France  
TEL: +33 (0)1 61 37 29 00  
FAX: +33 (0)1 30 57 54 27  
Toll Free in France: 0800-4-06342  
e-mail: czech@omega.com

Germany/Austria:  
Daimlerstrasse 26, D-75392 Deckenpfronn, Germany  
TEL: +49 (0)7056 9398-0  
FAX: +49 (0)7056 9398-29  
Toll Free in Germany: 0800 639 7678  
e-mail: sales@austria.omega.de

United Kingdom:  
One Omega Drive, River Bend Technology Centre  
Northbank, Irlam, Manchester  
M44 5BD United Kingdom  
TEL: +44 (0)161 777 6611  
FAX: +44 (0)161 777 6622  
e-mail: sales@omega.co.uk

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.
PCM3 Solid State Relay Driver

Introduction

Description
The PCM3 module accepts a 4 - 20 mA control signal and converts it to a 3.7 - 32 Vdc time proportional control signal. A power supply is not required. The PCM3 is powered by the 4 - 20 mA loop. The PCM3 Module supports single and three-phase 2-leg power control configurations.

The PCM3 module mounts directly to the input terminals labeled A2 (-) and A1 (+) of the solid state relay. Screw terminals are provided on the PCM3 module for the 4 - 20 mA control signal. The solid state relay's load is connected to terminals L1 and T1.

Once the connections are made the PCM3 module and solid state relays provide a time proportional zero-fired control signal to the load.

Specifications

Input .................................................. 4 - 20 mA
Time Base ........................................ 0.4 seconds @ 50%, extends to 0.8 seconds @ 20% and 80%
Compliance Voltage Requirement
1-Leg ............................................ 8 Vdc (400 ohms @ 20 mA)
2-Leg ............................................. 16 Vdc (800 ohms @ 20 mA)
Span & Linearity ............................... Better than 2%
Ambient Temperature ......................... 32 - 104°F
Dimensions ..................................... 1.25"W x 1.75"L x .75"D

Wiring

Single Phase Power Control Wiring
1. Mount PCM3 Module as shown by loosening A1 and A2 connection screws on SSR. Insert PCM3 "Fingers" under connection screws. Tighten screws.
2. Connect 4 - 20 mA control signal input wiring to terminal connections on PCM3 module.
3. Connect load wiring to L1 and T1 screw terminals.

Three Phase 3-Wire 2-Leg Switching Power Control Wiring
1. Mount PCM3 Module as shown by loosening A1 and A2 connection screws on SSR. Insert PCM3 "Fingers" under connection screws. Tighten screws.
2. Remove single-leg harness jumper connection (Pin 9023-70173). Install 2-Leg Harness (Pin 9023-70178) as shown.
3. Connect 4 - 20 mA control signal input wiring to terminal connections on PCM3 module.
4. Connect load wiring to L1 and T1 screw terminals.
WARRANTY/_DISCLAIMER

OMEGA ENGINEERING, INC. warrants the unit to be free of defects in materials and workmanship for a period of 13 months from date of purchase. OMEGA's 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, current, heat, moisture or vibration; improper specifications; 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 fuses. OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any statements or stumbles nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either written or oral. OMEGA's WARRANTY only covers the parts manufactured by it and does not cover any 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 medical human. Should any product be used in or with any nuclear installation or activity, medical applications used on humans, or installed 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 to the OMEGA Customer Service Department. Before returning any products to OMEGA, the PART NUMBER must be obtained from OMEGA Customer Service. The assigned part number must be sealed on the outside of the return package and on any correspondence. The customer is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit.

FOR WARRANTY RETURNS, please follow the following information available IN-FO:

1. Purchase order number. This is the product P/N.
2. Model and serial number of the product on which warranty is claimed.
3.故障 information on other specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for repair information. 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 the product.
3. Repair instructions and/or specific problems relative to the product.

Where Do I Find Everything I Need for Process Measurement and Control? OMEGA...Of Course! Shop online at www.omega.com

TEMPERATURE

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

PRESSURE, STRAIN AND FORCE

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

FLOW/LEVEL

- Rotameters, Gas Mass Flowmeters & Flow Computers
- Air Velocity Indicators
- Turbine/Paddle/Level 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 & Compaq
- Datadatalogging 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

For more information, visit www.omega.com

OMEGA Engineering is a registered trademark of OMEGA Engineering, Inc. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA Engineering, Inc.

MA129/0205