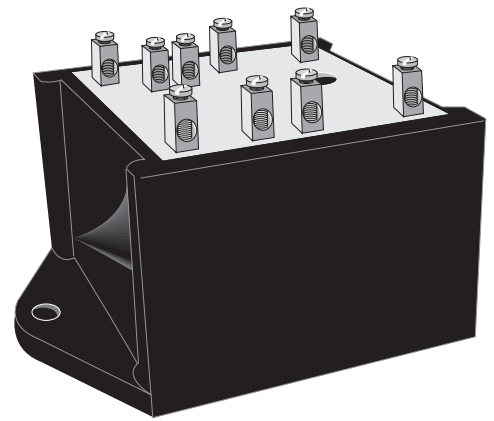


BCM-1

Bridge Completion Module



**INSTRUCTION
SHEET**

M1760/1106

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

DESCRIPTION

The OMEGA[®] BCM-1 Bridge Completion Module provides a convenient means of completing the Wheatstone Bridge circuit used for strain gage measurements. The module can be used for quarter bridge measurements with 120 or 350 ohm gages or for half bridges with gages of any resistance. Quarter bridges with two or three wire hookup can be accommodated. In addition, a bridge balance adjustment potentiometer is provided to zero the bridge output. Screw terminals are provided for strain gage, excitation, and output signal connections.

The BCM-1 is constructed using precision resistors with 5 PPM/°C temperature coefficient for maximum temperature stability. The unit is completely encapsulated for use in rugged environments and can be mounted by using the screw holes provided in the baseplate.

MOUNTING

The BCM-1 module is equipped with a baseplate which provides holes for screw mounting. Where required, it can also be glued or secured in place with double-sided tape or Velcro.

SPECIFICATIONS

Maximum Excitation	
120 Ohm Bridge:	10 Vdc
350 Ohm Bridge:	16 Vdc
Temperature Limits:	-20 to 80°C (-4 to 176°F)
Temperature Effects:	±1.5 microvolts/volt/°C
Zero Adjust:	±6 mV/V
Resistor Tolerance:	±0.1%
Resistor TEMPCO:	5 PPM/°C
Dimensions:	3.0" W x 1.25" H x 1.0" D (50.8 mm x 31.8 mm x 25.4 mm)
Mounting Holes:	0.175" holes (2) on 2.5" center

BCM-1 HOOKUP

Connections to the BCM-1 are made using the screw terminals on the top of the unit using stripped wires. One side has four terminals used for excitation and signal output connections. The excitation voltage is connected to the outer terminals labeled +EX and -EX. The readout device is connected to the two center terminals which are labeled + and - Vout.

Connection of the strain gages to the BCM-1 depends on the particular application. For the proper hookup, refer to Figures 1-3.

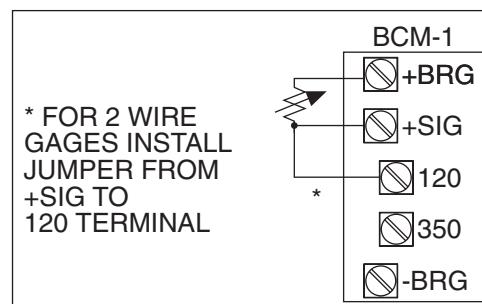


Figure 1. 1/4 Bridge 120Ω Hook-up

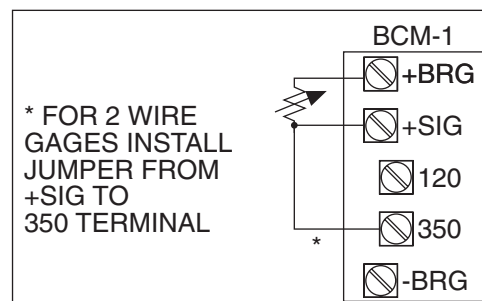


Figure 2. 1/4 Bridge 350Ω Hook-up

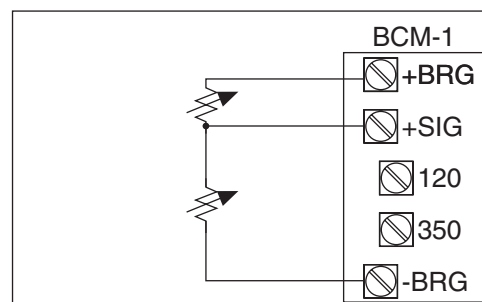


Figure 3. 1/2 Bridge Hook-up



OMEGAnet® Online Service omega.com	Internet e-mail info@omega.com
--	--

Servicing North America:

U.S.A.: Omega Engineering, Inc., One Omega Drive, P.O. Box 4047
ISO 9001 Certified Stamford, CT 06907-0047
Toll-Free: 1-800-826-6342 Tel: (203) 359-1660
FAX: (203) 359-7700 e-mail: info@omega.com

Canada: 976 Bergar
Laval (Quebec), Canada H7L 5A1
Toll-Free: 1-800-826-6342 TEL: (514) 856-6928
FAX: (514) 856-6886 e-mail: info@omega.ca

Servicing Europe:

Benelux: Managed by the United Kingdom Office
Toll-Free: 0800 099 3344 TEL: +31 20 347 21 21
FAX: +31 20 643 46 43 e-mail: sales@omega.nl

Czech Republic: Frystatska 184
733 01 Karviná, Czech Republic
Toll-Free: 0800-1-66342 TEL: +420-59-6311899
FAX: +420-59-6311114 e-mail: info@omegashop.cz

France: Managed by the United Kingdom Office
Toll-Free: 0800 466 342 TEL: +33 (0) 161 37 29 00
FAX: +33 (0) 130 57 54 27 e-mail: sales@omega.fr

Germany/Austria: Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
Toll-Free: 0 800 6397678 TEL: +49 (0) 7059 9398-0
FAX: +49 (0) 7056 9398-29 e-mail: info@omega.de

United Kingdom: OMEGA Engineering Ltd.
ISO 9001 Certified One Omega Drive, River Bend Technology Centre, Northbank
Irlam, Manchester M44 5BD England
Toll-Free: 0800-488-488 TEL: +44 (0)161 777-6611
FAX: +44 (0)161 777-6622 e-mail: sales@omega.co.uk

For immediate technical or application assistance:

U.S.A. 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®

Mexico: En Español: 001 (203) 359-7803 FAX: (001) 203-359-7807
info@omega.com.mx e-mail: espanol@omega.com

It is the policy of OMEGA Engineering, Inc. 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 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, human 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'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; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are 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 the company 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. 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 the 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 2009 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 the prior written consent of OMEGA ENGINEERING, INC.