

► **Accessories for SCM7B Analog Modules**

SCM7BXEV

Description

The SCM7BXEV (Figure 1 and 2) is a single channel backpanel that can accept any of the SCM7B analog modules. It is meant to be used primarily for module evaluation. Unlike multiple channel backpanels, the single high-level system output (or input) signal is routed to all channel pins on the system interface DB25 connector. The backpanel contains four standoffs to allow mounting, using a #6 or smaller screw.

System Side - Power

Using the "V+" supply input, the power supply voltage can be as little as +14VDC. If +15VDC is available, it is recommended that the supply be connected between the "V+A" or "V+B" connections and "COM"; this will protect the module against accidental supply reversal. Using both these connections with two power supplies enables redundant operation. It is also recommended that a diode transient absorber be installed to reduce power supply transient events from degrading system performance. An "accessory" location, between the supply and common lines, is provided for this purpose. The backpanel is fused at 1/4 Amp for module protection.

System Side - Signal

The SCM7BXEV uses either the SCM7BXCA01 (DB25 to 26-pin adapter cable) and SCM7BXCA004-XX (26-pin to 26-pin interface cable), or the SCM7BXCA02 (DB25 to DB25 interface cable), depending on system requirements.

Field Side - Signal

On the field side, a temperature sensor is mounted underneath the field side terminal block to provide cold junction compensation for thermocouple modules, and a current-to-voltage conversion resistor (P/N SCM7BXR1) socketing location is provided (supplied with SCM7B33 modules). Field connections are terminated with three screw terminals

Specifications

Operating Temperature	-40°C to +85°C
ATEX Group II, Category 3	-20°C to +40°C
Relative Humidity	90%
Interface Connector:	
Field	high density screw clamp, 10-24 AWG
System	DB25 (male) with 4-40 screwlocks and high density screw clamp, 10-24 AWG

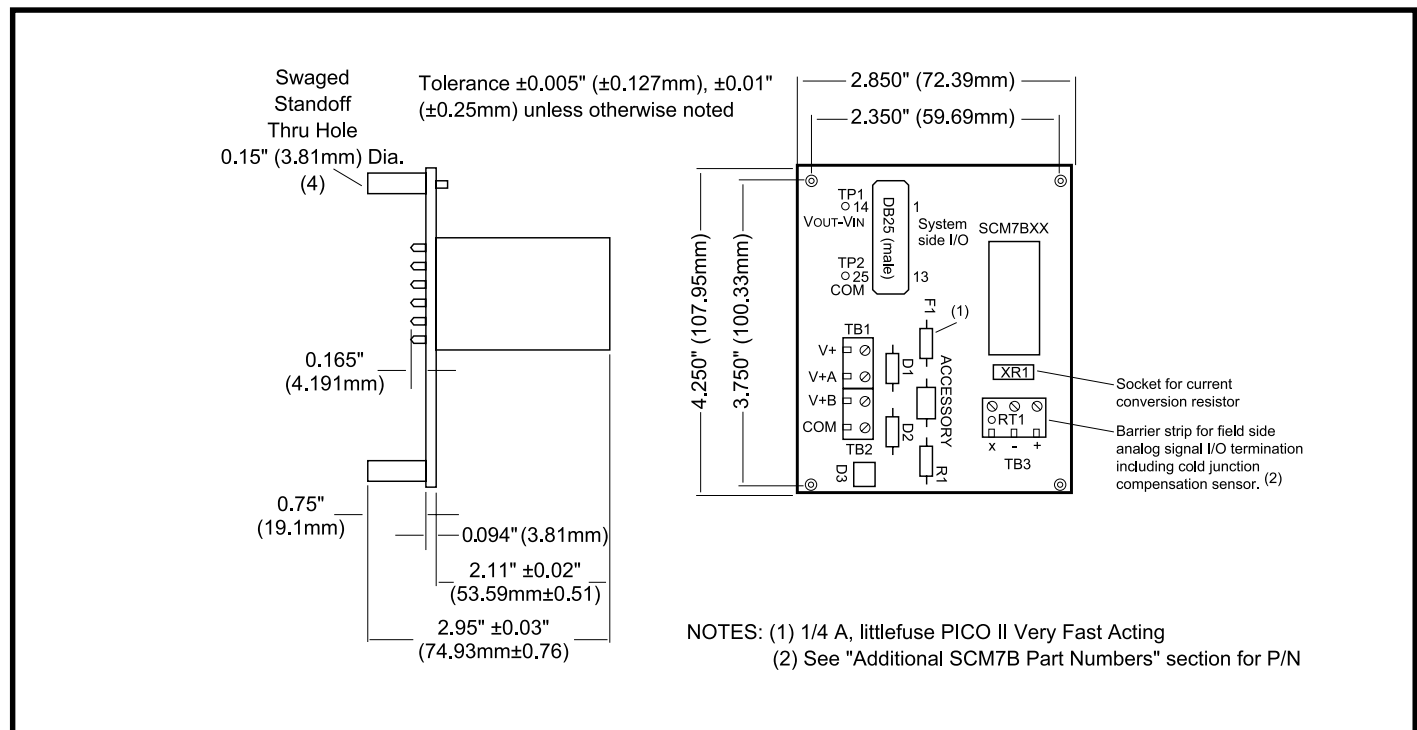


Figure 1: SCM7BXEV Dimensions

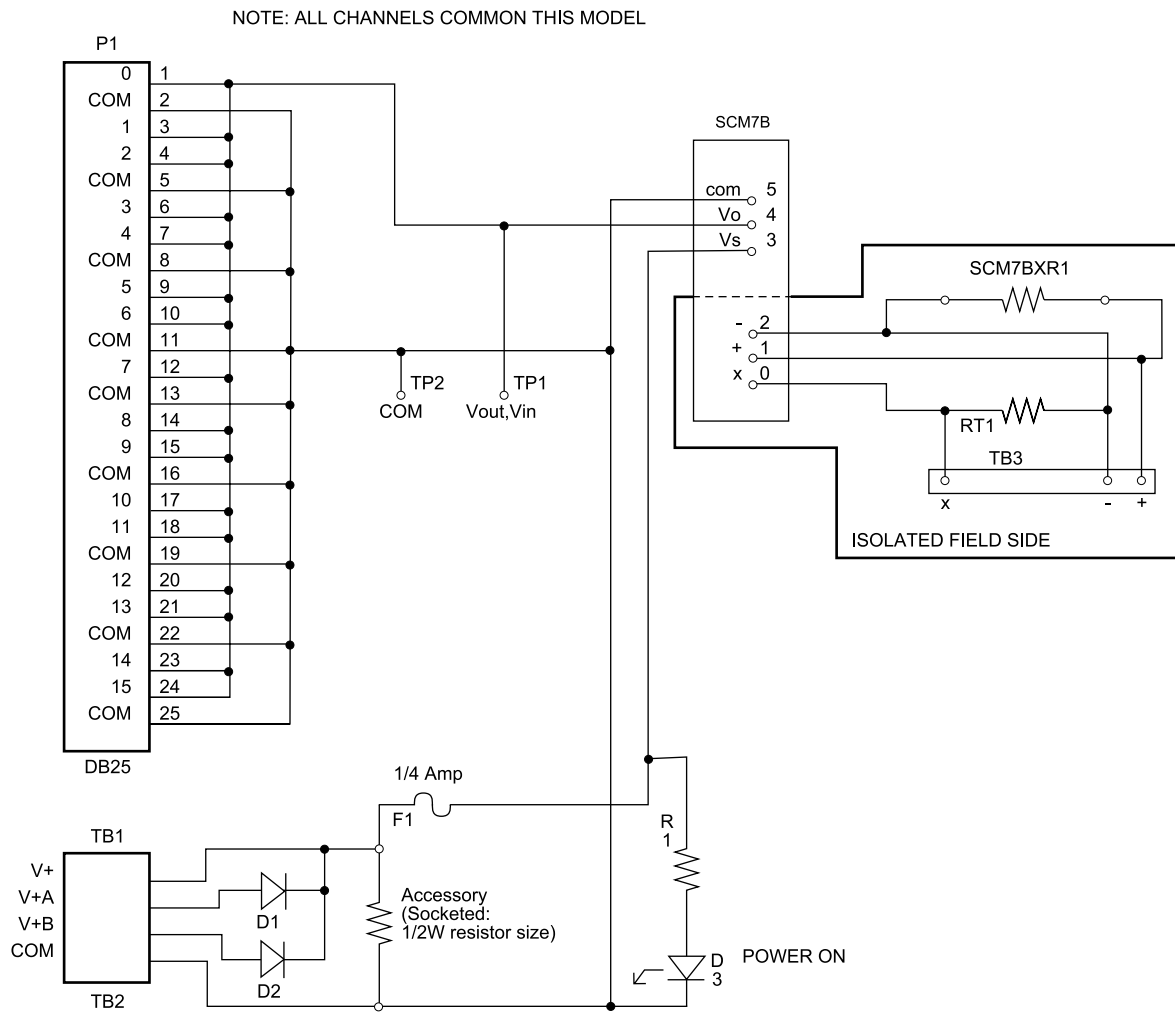


Figure 2: SCM7BxEV Schematic Diagram

SCM7BP01/SCM7BP02

Backpanel



Description

The SCM7BP01 (Figure 3) and SCM7BP02 (Figure 4) are 1 and 2 channel backpanels. Unlike other backpanels available, both the system and field side sides have screw terminal connectors able to accept discrete wire (10-24 AWG). The backpanels can be ordered with standoffs to allow mounting, using a #6 or smaller screw, or with DIN rail mounting hardware.

System Side - Power

Both backpanels accept 14-35VDC between "V+" and "COM" using a screw terminal (10-24 AWG) block. No reverse supply diodes are provided with this model, but both are fused at 1/4 Amp (01) or 1/2 Amp (02) for module protection.

Field Side - Signal

On the field side, a temperature sensor is mounted underneath the field side terminal block to provide cold junction compensation for thermocouple modules, and a current-to-voltage conversion resistor (P/N SCM7BXR1) socket location is provided (supplied with SCM7B33 modules).

Specifications

Operating Temperature	-40°C to +85°C
ATEX Group II, Category 3	-20°C to +40°C
Relative Humidity	90%
Interface Connector:	
Field	high density screw clamp, 10-24 AWG
System	high density screw clamp, 10-24 AWG

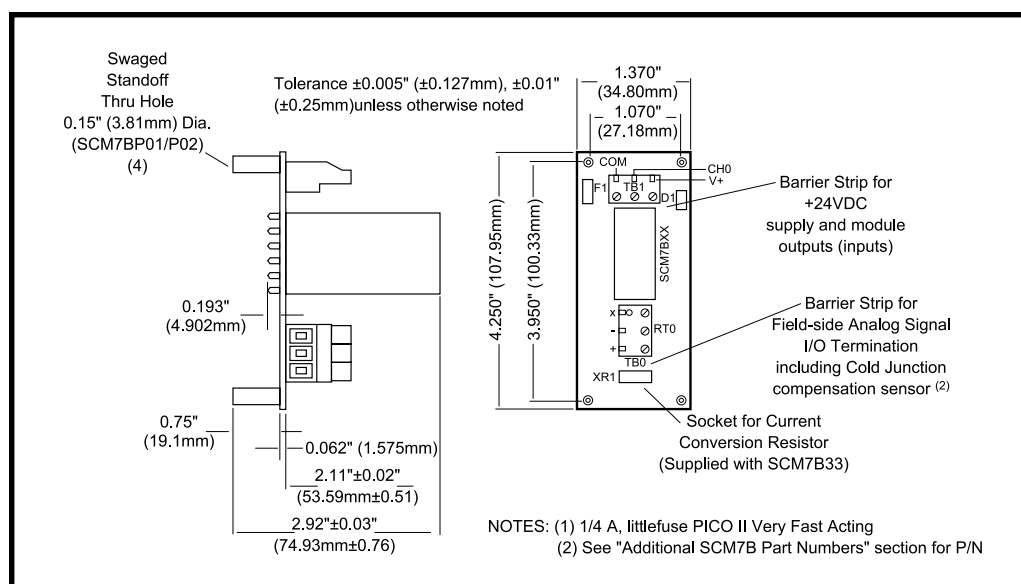


Figure 3: SCM7BP01 Dimensions

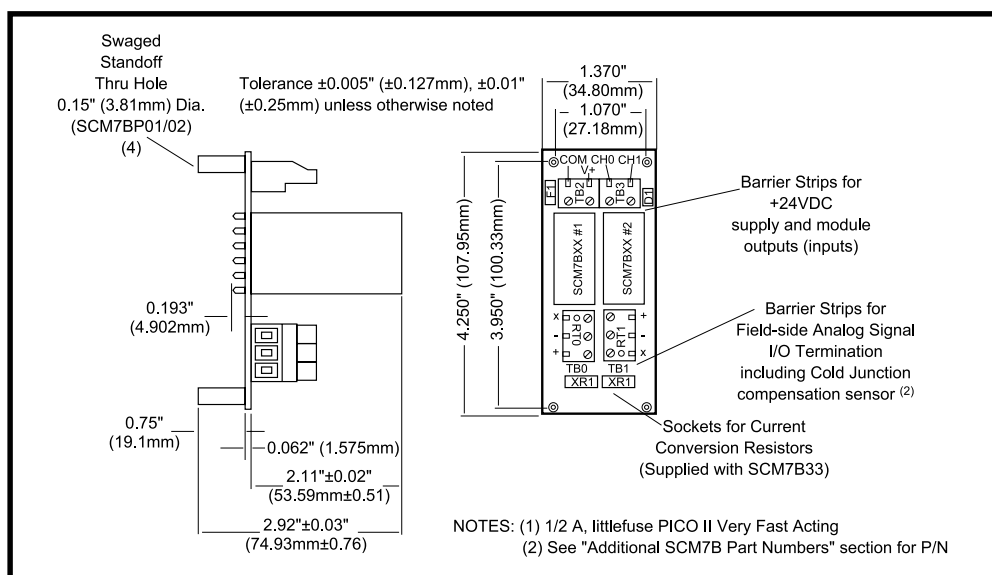


Figure 4: SCM7BP02 Dimensions

SCM7BP01-DIN/SCM7BP02-DIN

Panels & DIN Rail Mounting Accessories



Description

The following Dataforth parts (Figure 5) are required for DIN mounting one SCM7BP01 or SCM7BP02 panel:

Qty	Model	Description
1	SCMXBEFE	Base element with snap foot
2	SCMXSE	Side element

The following Dataforth parts are required for DIN mounting two SCM7BP01-DIN and/or SCM7BP02-DIN panels:

Qty	Model	Description
2	SCMXBEFE	Base element with snap foot
2	SCMXSE	Side element
4	SCMXVS	Connection pins

The following Dataforth parts are required for DIN mounting three or more SCM7BP01-DIN and/or SCM7BP02-DIN panels:

Qty	Model	Description
2	SCMXBEFE	Base element with snap foot
2	SCMXSE	Side element
(# panels) - 2	SCMXBE	Base element without snap foot
(4 x (# panels)) - 4	SCMXVS	Connection pins

The following DIN rail styles are available. Specify the required length in meters (-XX):

SCMXRAIL1-XX	DIN EN 50022-35 x 7.5 (slotted steel)
SCMXRAIL2-XX	DIN EN 50035-G32 (slotted steel)
SCMXRAIL3-XX	DIN EN 50022-35 x 15 (slotted steel)

Ordering Information

Part Number	Description
SCM7BP01	Standard single channel backpanel with standoffs for mounting.
SCM7BP01-DIN	One SCM7BP01 with DIN rail mounting hardware. Shipped fully assembled. Accepts one SCM7Bxx-xx module.
SCM7BP02	Standard dual channel backpanel with standoffs for mounting.
SCM7BP02-DIN	One SCM7BP02 with DIN rail mounting hardware. Shipped fully assembled. Accepts 2 SCM7Bxx-xx modules.

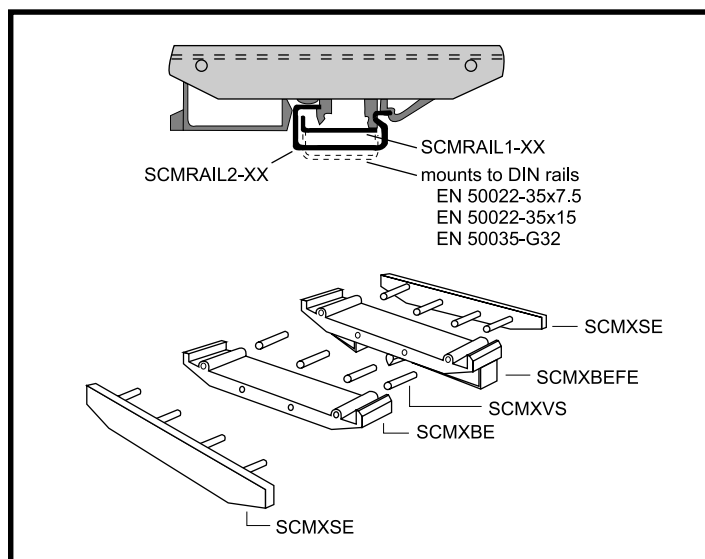


Figure 5: DIN Rail Mounting Elements

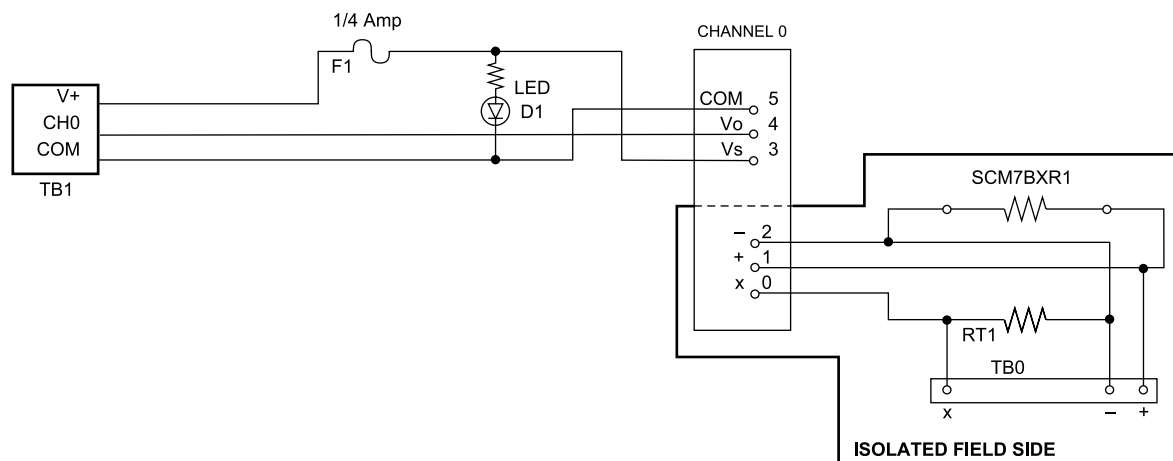


Figure 6: SCM7BP01 (-DIN) Schematic Diagram

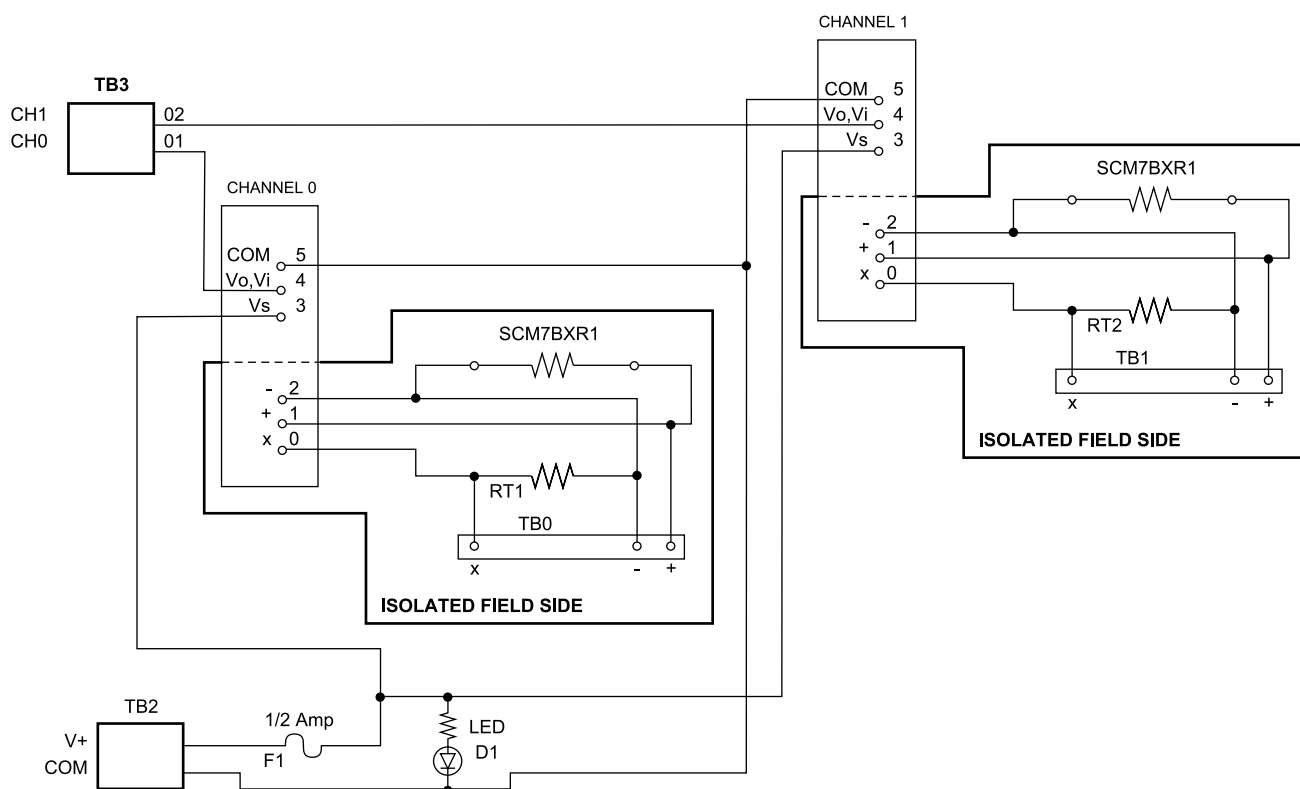


Figure 7: SCM7BP02 (-DIN) Schematic Diagram

SCM7BP04(-DIN)/SCM7BP08(-DIN)/SCM7BP16(-DIN)



Backpanels

Description

The SCM7BP04, SCM7BP08, and SCM7BP16 (see Figures 10-13) are 4, 8, & 16 channel backpanels that can accept any of the SCM7B analog modules. All three of these backpanels can either be rack mounted using Dataforth's 19-inch rack P/N SCM7XRK-002 (using the provided 3mm screws), or directly mounted to a surface using #6 or smaller screws. The SCM7BP04-DIN, SCM7BP08-DIN, and SCM7BP16-DIN are identical to their standoff counterparts but with DIN rail mounting brackets attached instead of standoffs. These brackets allow the backpanels to be mounted on either EN 50022-35 x 7.5 (35 x 15) or EN 50035-G32 type DIN rails.

System Side - Power

Using the "V+" power supply input, the power supply voltage can be as little as +14VDC. If +15VDC is available, it is recommended that the supply be connected between the "V+A" or "V+B" connections and "COM"; this will protect the modules against accidental supply reversal. Using both these connections with two power supplies enables redundant power supply operation. It is also recommended that a diode transient absorber be installed to reduce power supply transient events from degrading system performance. An "accessory" location, between the supply and common lines, is provided for this purpose. A system side grounding #10-32 stud is also provided for use if desired. All backpanels are fused according to channel count, allowing 1/4 Amp per channel.

System Side - Signal

Two system interface DB25 connectors are used, to enable using both input and output modules simultaneously, or to route the signal from an input module backplane to an output module backplane. These backpanels use either the SCM7BXCA01 (DB25 to 26-pin adapter cable) and SCM7XCA004-XX (26-pin to 26-pin interface cable), or the SCM7BXCA02 (DB25 to DB25 interface cable), depending on system requirements.

Field Side - Signal

On the field side a temperature sensor is mounted underneath the field side terminal block to provide cold junction compensation for thermocouple modules, and a current-to-voltage conversion resistor (P/N SCM7BXR1) socket location is provided (supplied with SCM7B33 modules) for each channel. Field connections are terminated with three screw terminals.

Specifications

Operating Temperature	-40°C to +85°C
ATEX Group II, Category 3	-20°C to +40°C
Relative Humidity	90%
Interface Connector:	
Field	high density screw clamp, 10-24 AWG
System	2 DB25 (male) connectors with 4-40 screwlocks

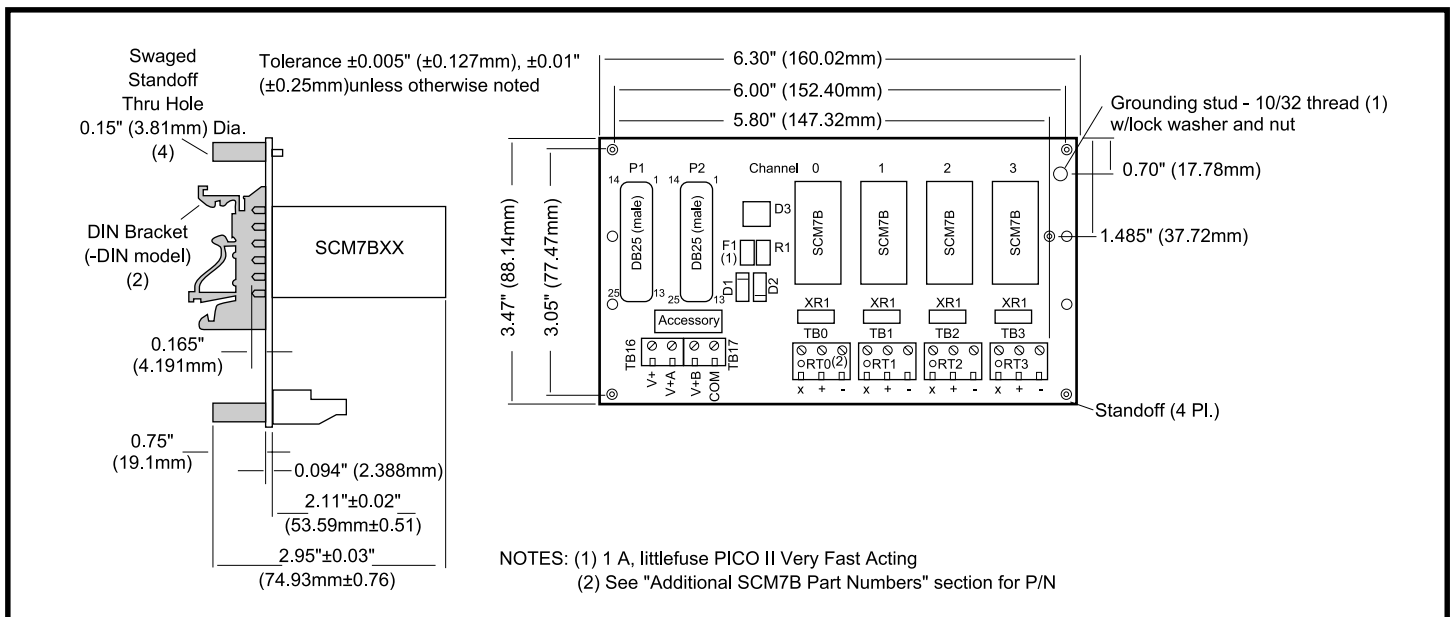


Figure 10: SCM7BP04(-DIN) Dimensions

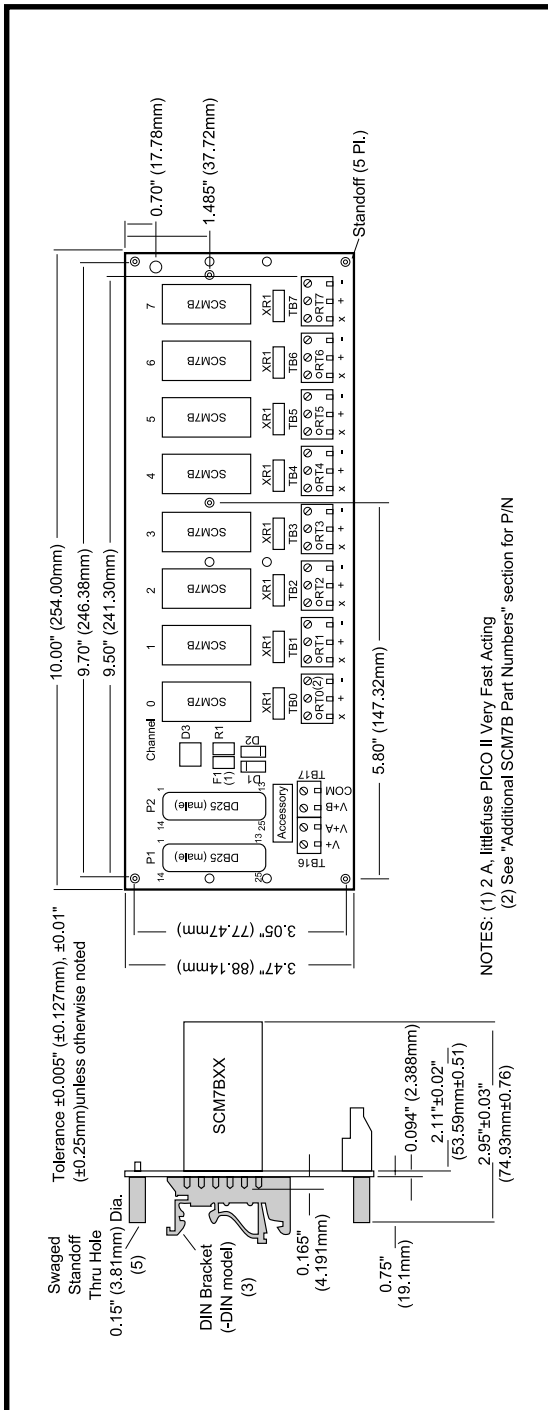


Figure 11: SCM7BP08(-DIN) Dimensions

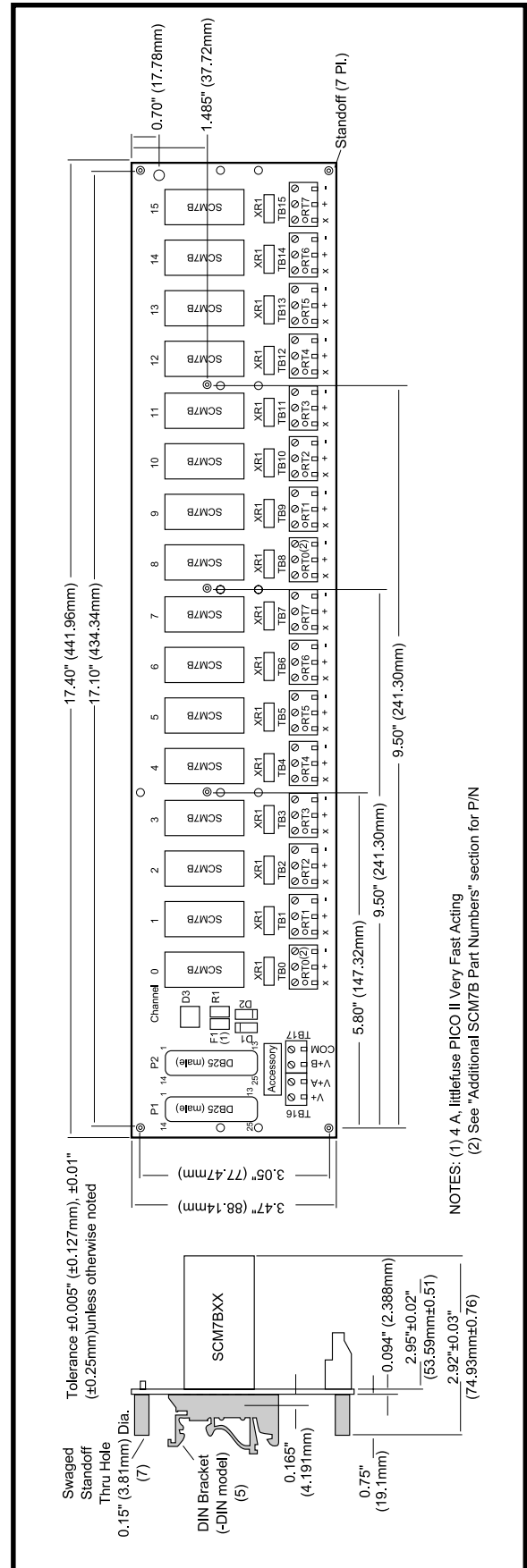


Figure 12: SCM7BP16(-DIN) Dimensions

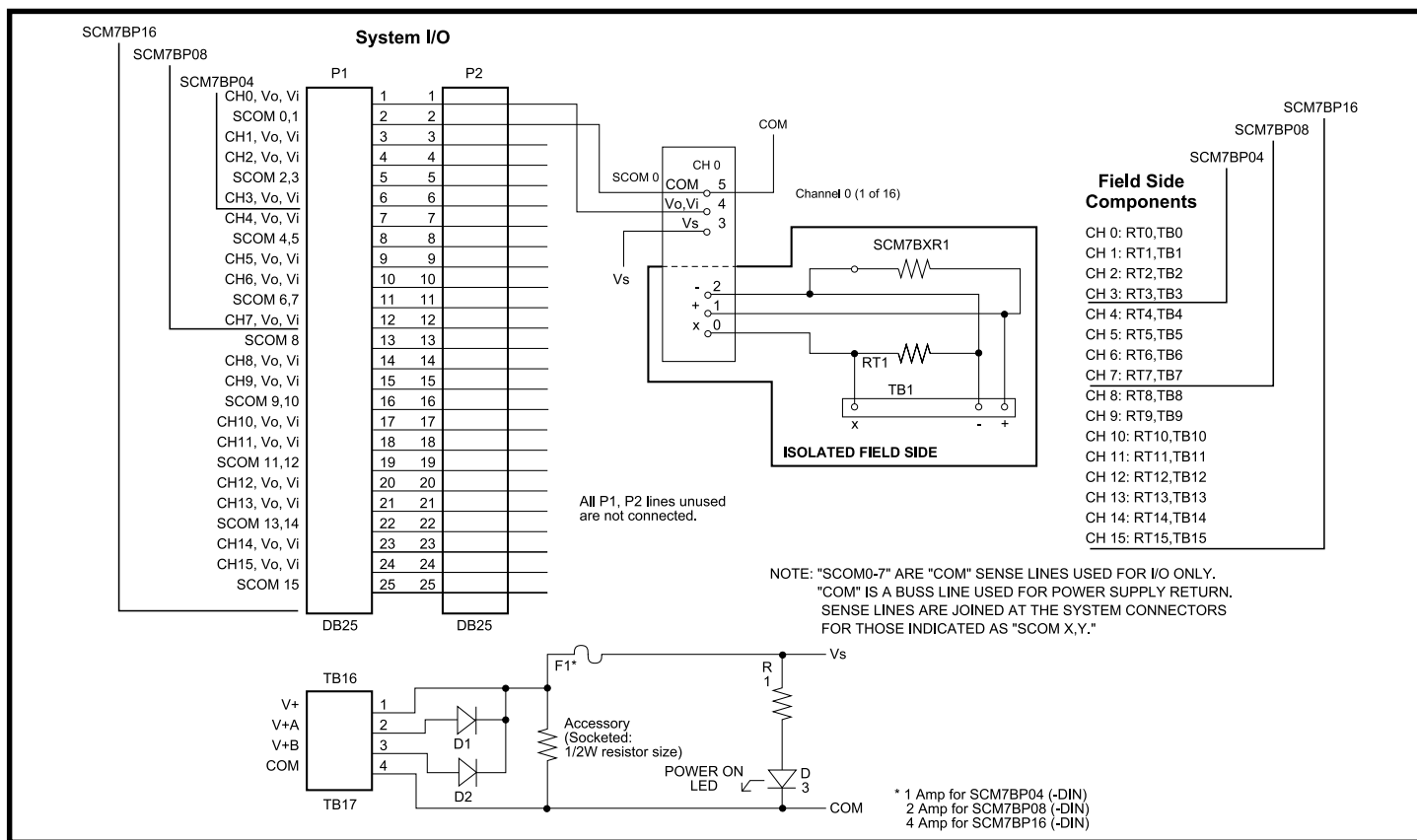


Figure 13: SCM7BP04/08/16(-DIN) Schematic Diagram

SCMXRK-002 19 Inch Metal Mounting Rack

Description

The SCMXRK-002 is a 19-inch metal rack for mounting the SCM7BP04/08/16 backpanels. It also provides capability to mount a system power supply and the universal interface board, P/N SCMXF. (See Figure 14 for dimensions.)

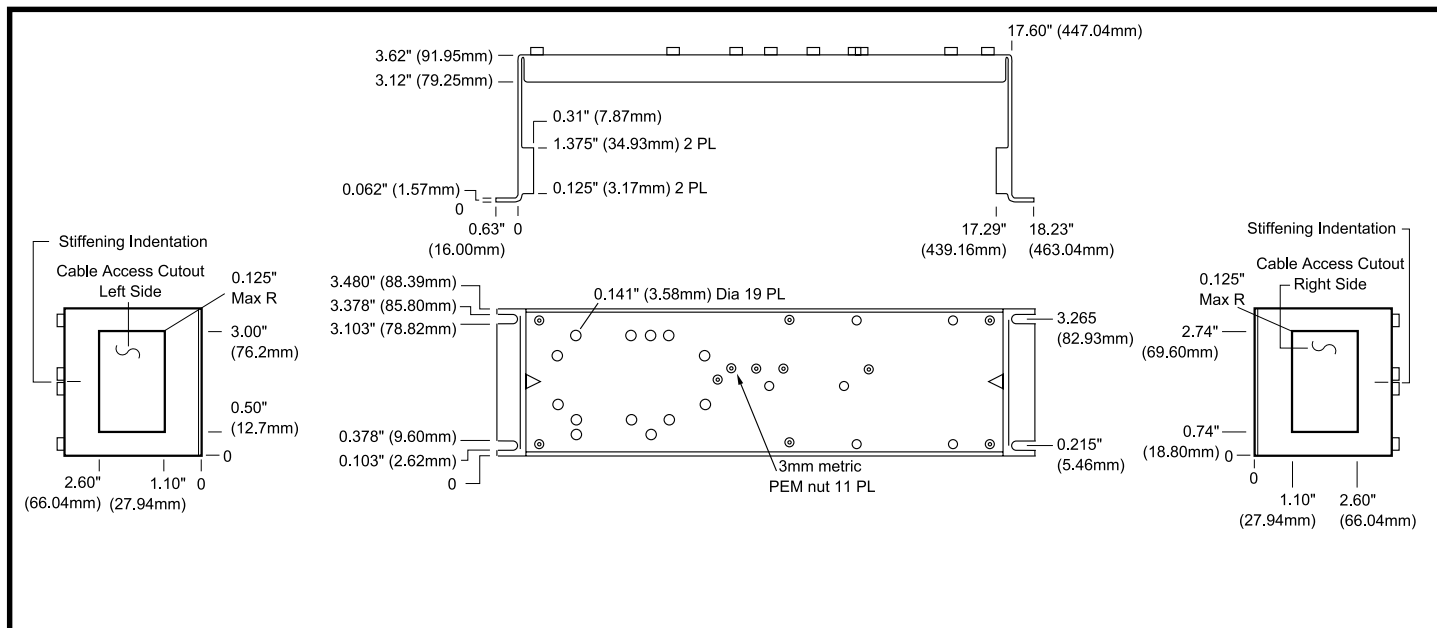


Figure 14: SCMXRK-002 Analog Rack Dimensions

SCM7B

Backpanel-to-Host System Interface

Description

SCM7BXCA01

The SCM7BXCA01 adapter cable converts the SCM7BXEV/04/08/16 channel backpanel male DB25 connection to a male 26-pin ribbon connection.

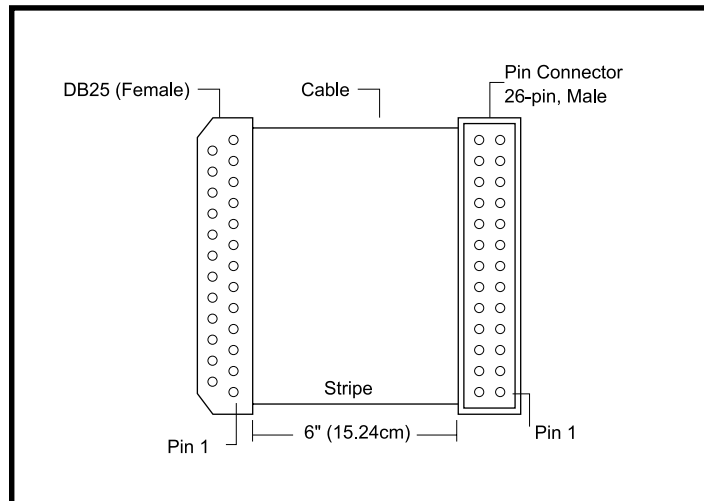


Figure 15: SCM7BXCA01

SCM7BXCA02

The SCM7BXCA02 interface cable is used between the SCM7BXEV/04/08/16 channel backpanels and host system capable of accepting a DB25 (female) interface connector.

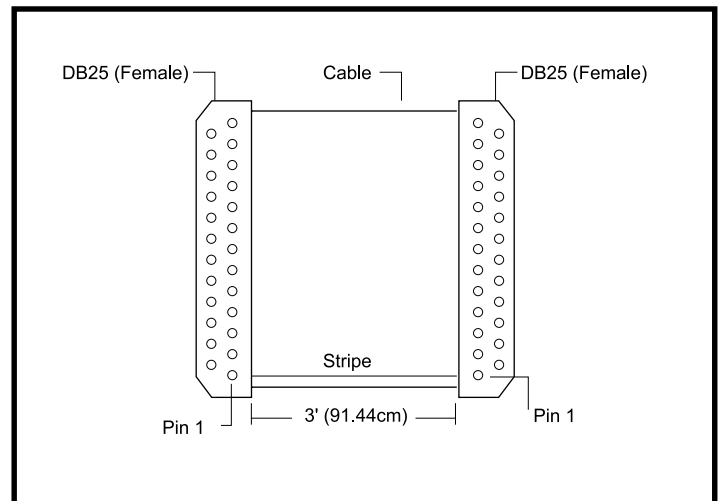


Figure 17: SCM7BXCA02

SCMXCA004-XX

The SCMXCA004-XX interface cable is used with the SCM7BXCA01 adapter cable to provide interface either between host systems requiring a 26-pin ribbon interface or between the universal interface board (ribbon-to-discrete wire), P/N SCMXIF. Specify cable length (-XX) in meters.

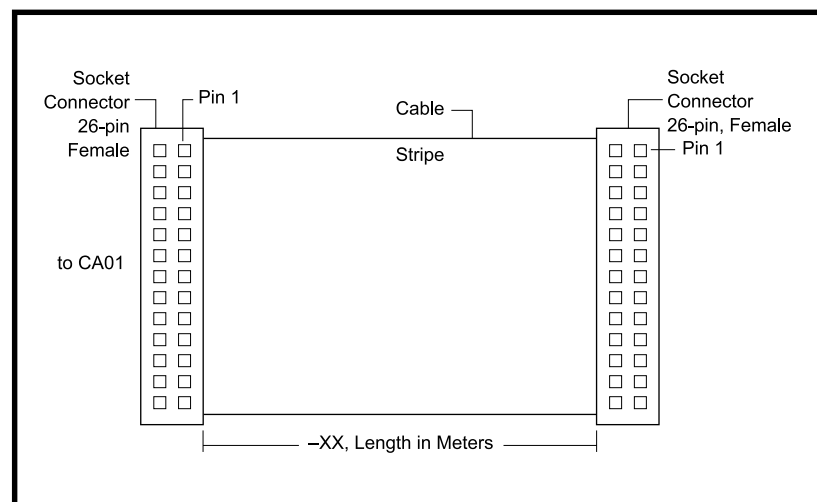


Figure 16: SCMXCA004-XX

SCMXIF

Universal Interface Board

Description

The SCMXIF is a universal interface board which converts a 26-pin ribbon cable input to 26 screw terminals for discrete wire. It can be mounted on

the back of the SCMXRK-002 mounting rack (SCMXIF) or on a DIN rail (SCMXIF-DIN). Required mounting hardware is included. Use SCMXCA004-XX cable (See Figure 18 for dimensions).

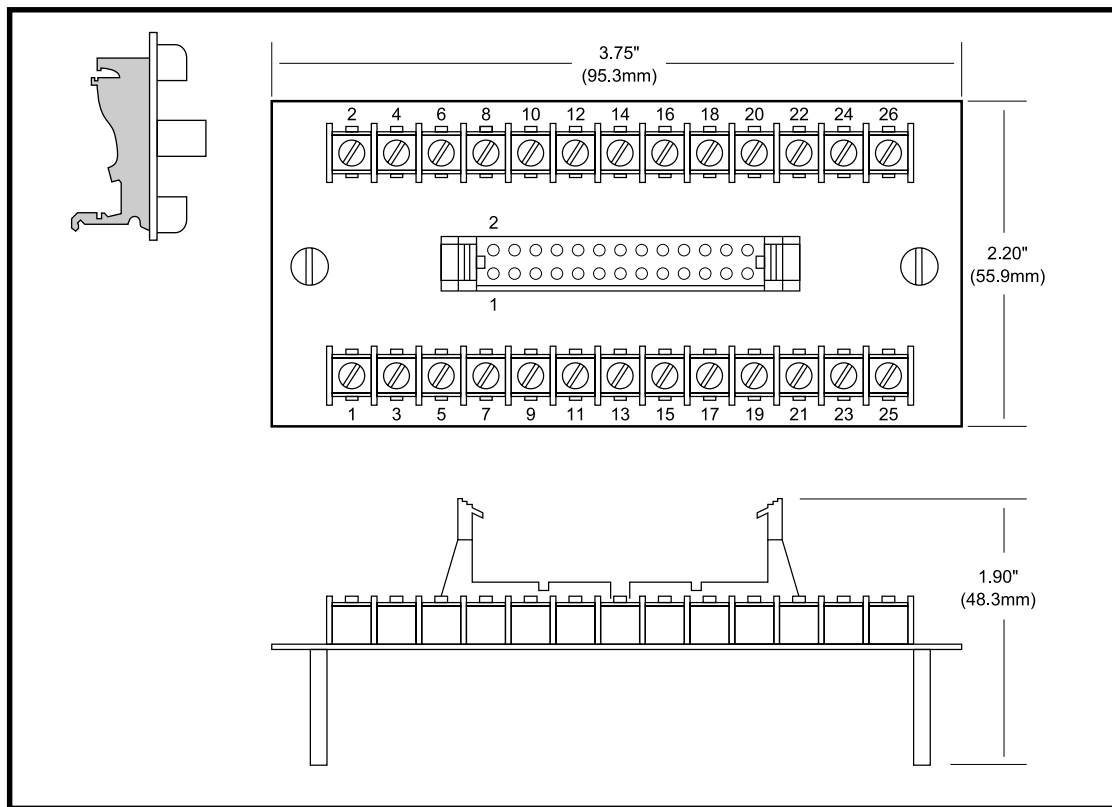


Figure 18: SCMXIF Universal Interface Board Dimensions

SCM7BXR1

Current Conversion Resistor



Description

The SCM7BXR1 current-to-voltage conversion resistor (250Ω , 0.1%, 10ppm) is used with the SCM7B33 voltage input modules. Sockets are provided on all backpanels to allow installation of this resistor. Other values are available; consult the factory for ordering details and specifications.

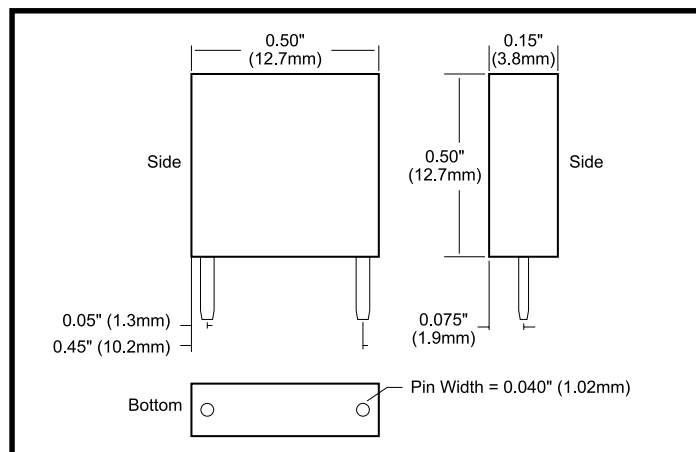


Figure 19: SCM7BXR1 Dimensions

SCM7BPT



Non-Isolated Pass Thru Module

Description

The SCM7BPT is a non-isolated signal pass-thru module which shorts together the signal inputs-to-outputs.

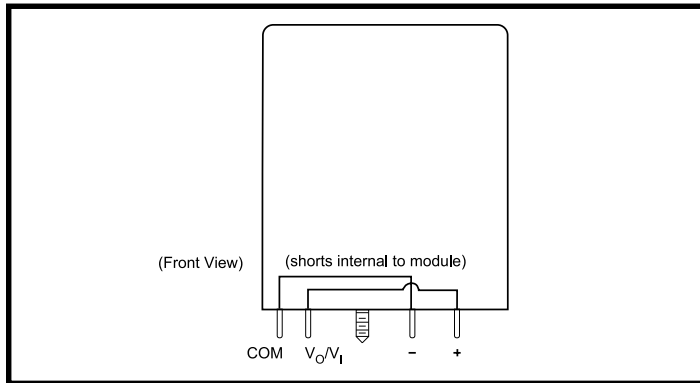


Figure 20: SCM7BPT

SCM7B-PROTO

Breadboard Kit

Description

The SCM7B-PROTO breadboard kit was designed to allow users to incorporate their own module functions using an SCM7B format. The kit includes a pc board designed for breadboard circuits, a module case, header and mounting screw. Contact the factory for additional information.

Additional Part Numbers of Interest

The following is a list of parts that are available for use with your SCM7B system, or for fabrication of your own backpanel, along with manufacturer's part number. Dataforth makes no claim as to availability and/or quality of parts purchased from vendors other than Dataforth.

Part Description	Part Number	Manufacturer
CJC Thermistor	100K6A1 DC95G104W	Betatherm Corp. Thermometrics
Diode Transient Absorber	SA series	General Semiconductor
Sockets for SCM7B pins	50865-5	Amp Incorporated
Module retaining screw captive nut, 4-40 thread	KSF2-440 ET	PEM Engineering
Grounding Stud, 0.625", 10-32 thread	KFH 10-32-10	PEM Engineering
Part Description	Part Number	Manufacturer
Axial Fuse	PICO II series	Littlefuse
2 position termination block	MKDS5/2-6,35	Phoenix Contact, Inc.
3 position termination block	MKDS5/3-6,35	Phoenix Contact, Inc.
DB25 (male) PCB connector	745078-3	AMP Incorporated
DB25 (female) ribbon connector (for custom cables)	745078-5	AMP Incorporated
0.062" PCB Standoff	647A-5015-19	Concord
0.094" PCB Standoff	647A-5023-19	Concord