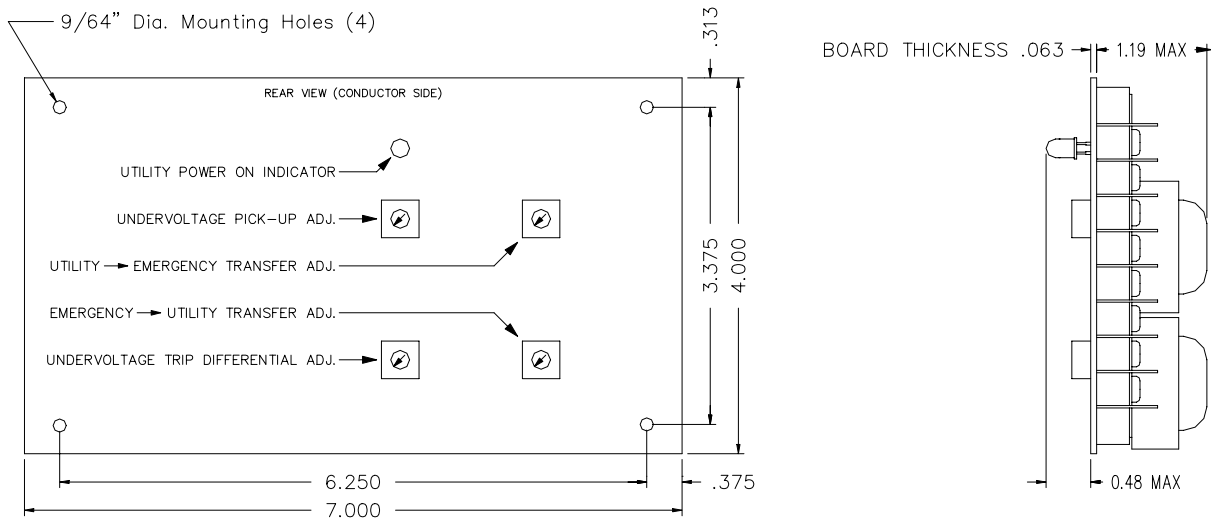


TRANSFER CONTROL MODULE

TCM4E / TCM4M

Features:

- One model for 1 or 2-stage electrically operated, electrically held transfer switches. (TCM4E)
- One model for electrically operated, mechanically held transfer switches. (TCM4M)



TCM4E Transfer Control Module—Typical Outside Mounting Dimensions

General Description:

The Transfer Control Module is an electronic package which permits OEM's to construct their own proprietary transfer switch assemblies. It is packaged to mount behind the OEM control panel face, and provide the necessary voltage sensing, timing, and trip adjustments required to control a variety of power switching devices; cross-connected motorized circuit breakers, mechanically and electrically interlocked power contactors, etc.

Bouchette Electronics, Inc.

N11325 County Highway Y, Clintonville, WI 54929
 (715) 823-7770 (715) 823-7771 Fax Bouch@frontiernet.net

TCM4E / TCM4M

Specifications:

Utility Input Voltage: 120VAC, 1 PH, 50/60Hz, true RMS sensing.

Generator Input Voltage: 120VAC, 1 PH, 50/60Hz.

Utility Voltage Sensing: Undervoltage Pick-up Adjust range: 85-100% (100-120VAC).
Trip Differential Adjust range: 0-15%.

Time Delays: First utility load to emergency power transfer: 1-45 seconds (adjustable.)

Second utility load to emergency power transfer: 15 seconds (non-adjustable.)

*

*TCM4E Only (Time shown for Second transfer begins after the First transfer.)

Return emergency loads to utility power transfer: 30-70 seconds (adjustable.)

Transfer Relay Contacts: 10A at 125VAC.

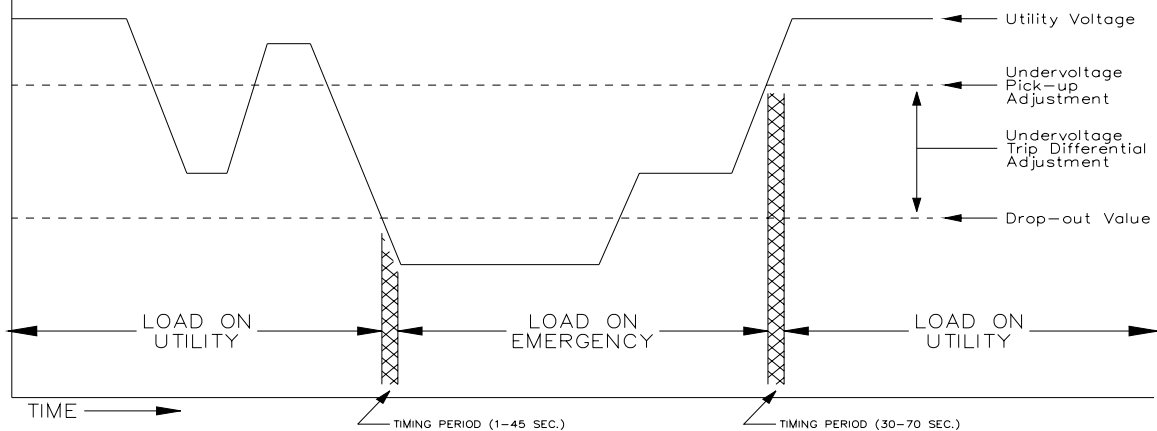
GCM Remote Start Relay Contacts: 1A at 30VDC, resistive.

Ambient Temperature: -25° F to +140° F

Finish: PC Board protected with moisture/fungus proof varnish.

Terminal Blocks: Industrial screw-terminal type.

Typical Load Transfer Protection:



As long as utility voltage remains above the drop-out value, the emergency generator is held in automatic STOP. Whenever utility voltage drops below the drop-out value, the emergency generator is held in automatic RUN. Time delay (if any) for actual start-up of the generator is located within the generator control system.

Load Transfer: Utility to Emergency

Time delay to transfer the first load group to emergency power is adjustable from 1 to 45 seconds. Timing begins when generator voltage is available. *TCM4E Only*; Time delay to transfer the second load group to emergency power is fixed at 15 seconds. Timing begins as the first load group is transferred to emergency.

Load Transfer: Emergency to Utility

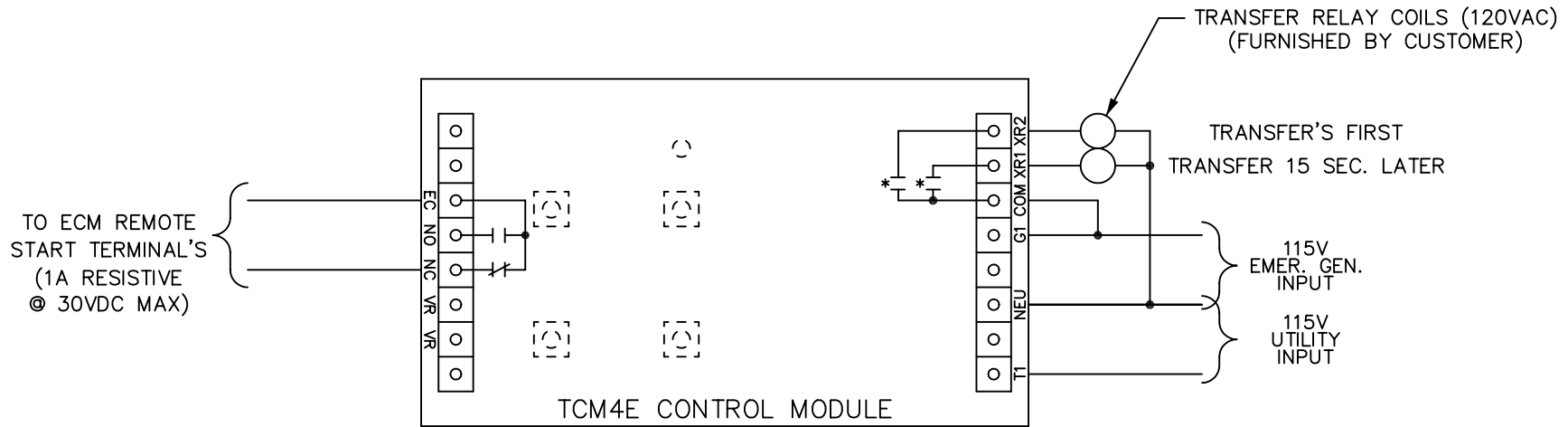
Time delay to transfer both load groups back to utility power is adjustable from 30 to 70 seconds. Timing begins when utility voltage exceeds the undervoltage pick-up setting. After the re-transfer occurs, the emergency generator is returned to automatic STOP. Time delay (if any) for actual shutdown of the generator is located within

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CONNECTION DIAGRAM – TCM4E

FOR USE WITH 2-STAGE ELECTRICALLY OPERATED, ELECTRICALLY HELD, TRANSFER SWITCHES.

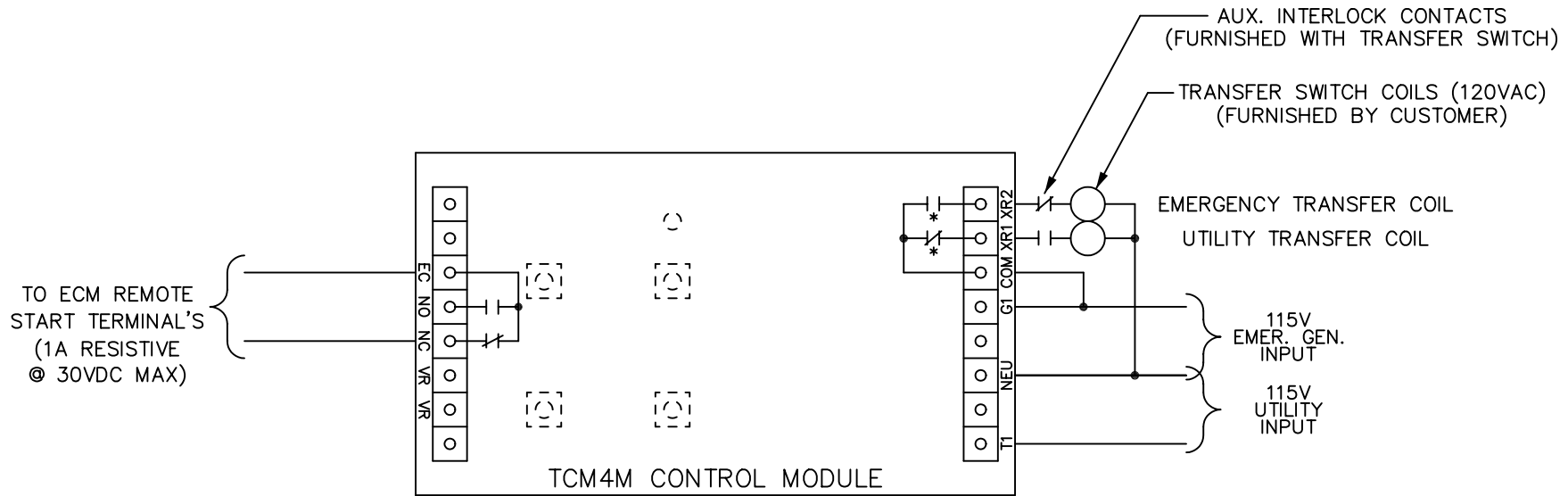


* TCM OUTPUT RELAY CONTACT RATING:
 10 AMPS AT 125VAC (EACH CONTACT).
 IF TRANSFER SWITCH OPERATING COILS EXCEED
 10 AMPS, CUSTOMER MUST USE INTERMEDIATE
 PILOT RELAYS TO CONTROL THE TRANSFER COILS.

Bouchette Electronics, Inc. N11325 County Highway Y Clintonville, WI 54929			
TITLE CONNECTION DIAGRAM TCM4E – TRANSFER CONTROL			
DATE	DWN BY	CHK	SCALE
02/22/94	DSB	TJB	NONE
P/N	CAD REF	DWG NO	
	PCB110	E125-3	

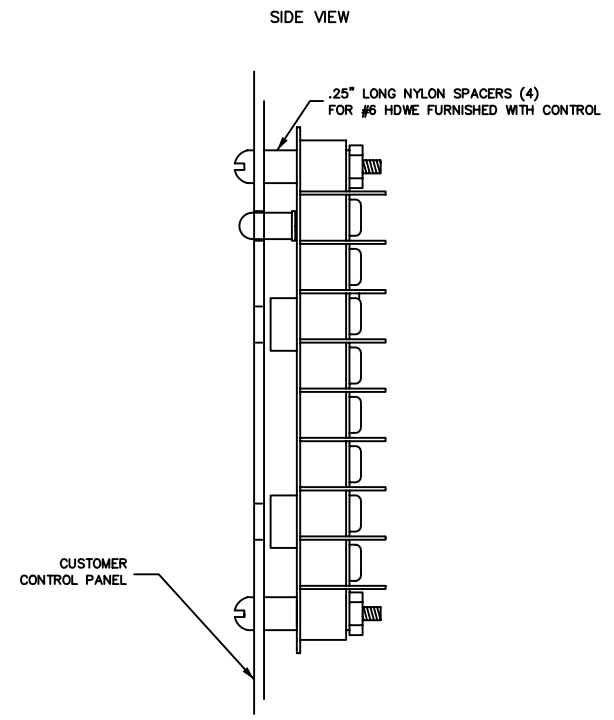
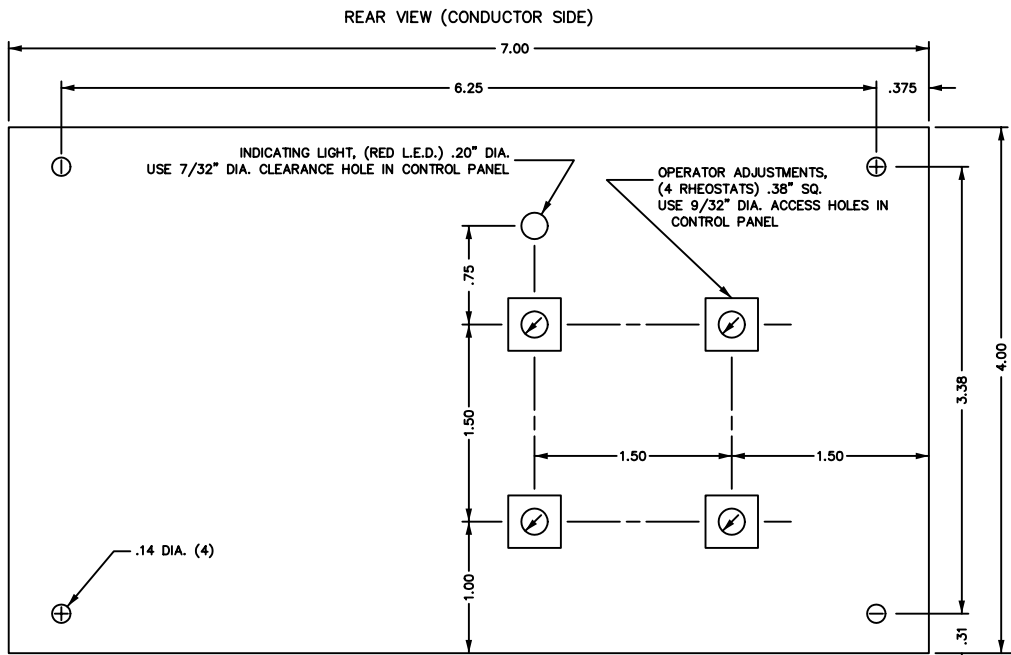
CONNECTION DIAGRAM – TCM4M

FOR USE WITH ELECTRICALLY OPERATED, MECHANICALLY HELD, TRANSFER SWITCHES.

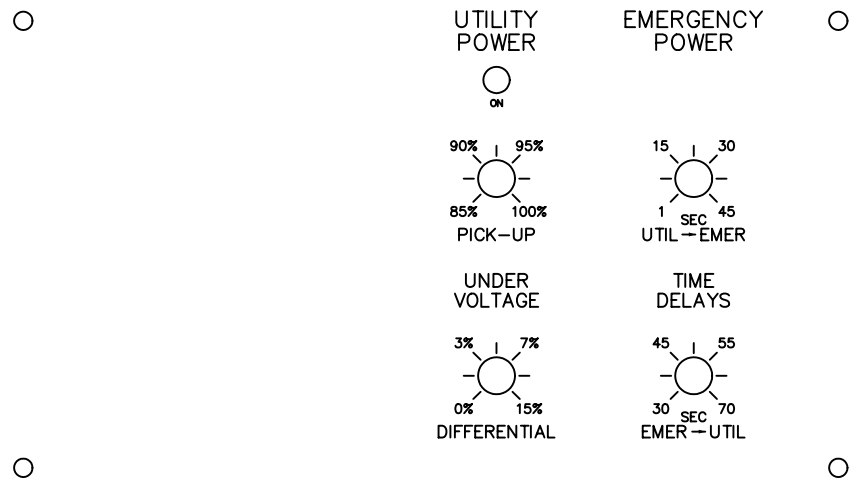


* TCM OUTPUT RELAY CONTACT RATING:
 10 AMPS AT 125VAC (EACH CONTACT).
 IF TRANSFER SWITCH OPERATING COILS EXCEED
 10 AMPS, CUSTOMER MUST USE INTERMEDIATE
 PILOT RELAYS TO CONTROL THE TRANSFER COILS.

Bouchette Electronics, Inc. N11325 County Highway Y Clintonville, WI 54929			
TITLE CONNECTION DIAGRAM TCM4M – TRANSFER CONTROL			
DATE	DWN BY	CHK	SCALE
03/22/94	DSB	TJB	NONE
P/N	CAD REF	DWG NO	
	PCB110	E125-4	



TYPICAL CONTROL PANEL ENGRAVING / SILK-SCREENING
(FULL SCALE)



CONTROL PANEL

Bouchette Electronics, Inc.
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TITLE INSTALLATION DIAGRAM
TCM4 CONTROL MODULE

DATE	DWN BY	CHK	SCALE
09/18/89	DSB	TJB	NONE

A	02/10/92	COMPLETELY REDRAWN	DSB
REV	DATE	DESCRIPTION	DWN BY

P/N	CAD REF	DWG NO
		BE123-1