

Smart Series® TAS-05-11, TAS-05-12



Temperature Alarm & System Control Module

User's Manual

D-M-E Company

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WARRANTY

D-M-E Company warrants that this product will be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. If any such product proves defective during this warranty period, D-M-E Company, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. D-M-E Company shall not be obligated to furnish service under this warranty; a) to repair damage resulting from attempts by personnel other than D-M-E Company representatives to repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; or c) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

This warranty excludes replacement of fuses and damage to the module from the use of improper styles of fuses. Use only ABC1 type replacement fuses.

SAFETY

D-M-E Company products have been designed to be safe and simple to operate. As with any electronic equipment, you must observe standard safety procedures to protect both yourself and the equipment.

To Prevent Injuries:

- To avoid electrical shock or fire hazard, do not apply voltage to a terminal that exceeds the range specified for that terminal.
- To avoid mechanical injury, electrical shock or fire hazard, do not operate this product with covers or panels removed. All unused slots of a main frame must be covered with the appropriately sized blank panels.
- To avoid electrical shock or fire hazard, do not operate this product when wet.
- To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

To Prevent Product Damage:

- Do not operate this product from a power source that applies more than the voltages specified.

D-M-E Standard Smart Series® Temperature Alarm & System Control Module

TAS-05-11, TAS-05-12

GENERAL DESCRIPTION

This new Temperature Alarm and System Control module offers expanded functionality to D-M-E customers. With the new Off, and Boost functions, this module now offers greater flexibility in total system control.

With the original Stand-by Heat (Idle) function, a machine operator can set the unit in Idle mode, close up shop for the night, and return the next morning to find the machine ready to go without waiting for the machine to warm up.

The new Off function allows an operator to inhibit power output indefinitely from all D-M-E temperature controllers which are enabled to support this function in the system.

The new Boost function allows an operator to temporarily increase temperature setpoints of all D-M-E temperature controllers which are enabled to support this function in the system.

The Temperature Alarm function can alert an operator to an over, or under temperature condition. A visual indicator on the front panel, as well as a switchable audible horn signals the operator when a fault occurs. This module also offers a pair of relay contacts via a front panel connector, that close or open upon a temperature alarm condition.

A D-M-E communication style mainframe is required for this module to operate in the temperature control system.

OPERATION

The Off, Idle, Normal, and Boost functions are selected by a 4 position rotary switch on the front panel. Simply turn the switch to the desired function and any temperature controller in the system with that function enabled will perform that function.

The visual Temperature Alarm indicator, and relay output are activated automatically when any D-M-E temperature controller in the system senses a temperature fault condition. An audible horn will also sound if enabled by the horn toggle switch. ("1" = enabled, "0" = off)

The alarm will stay activated for the duration of the temperature controllers fault condition, unless the controller is switched over to Manual operation.

FEATURES

- Simple to use – requires no special training.
- It can globally command up to 63 D-M-E temperature controllers in a single system.
- It can receive a temperature alarm signal from unlimited D-M-E temperature controllers in a single system.
- Provides the operator with relay contact outputs for activation of ancillary equipment when an alarm condition occurs.

PERFORMANCE SPECIFICATIONS

Advanced Diagnostic Indicators: LEDs and audible horn.

Output Relay Contacts: One normally open contact, one normally closed contact, and one chassis ground connection.

INPUT SPECIFICATIONS

Overload Protection: Fuses are provided on both sides of the AC line.

Transient Protection: dv/dt and transient pulse suppression included.

Power Line Isolation: Transformer isolated from AC lines. (Isolation > 2500 volts.)

Input Signal Line: Alarm input signals are optically coupled to all D-M-E temperature controllers. +5 VDC input required to activate the temperature alarm.

OUTPUT SPECIFICATIONS

Relay Contacts: 1 normally open, and 1 normally closed contact. 5 amps, 240 VAC / 30 VDC

Output Signal Lines: Function output signals are optically coupled to all D-M-E temperature controllers. +5 VDC output to activate D-M-E temperature controller functions.

Audible Horn: Multi-Tone: 3 Khz / 1.75 Khz, 65. dB at two feet.

ELECTRICAL POWER SPECIFICATIONS

Supply Voltage: TAS-05-11: 120 VAC nominal, +10% -20%, single phase. 50/60 Hz.
 TAS-05-12: 240 VAC nominal, +10% -20%, single phase. 50/60 Hz.

Fuse Requirements: (2) ABC-1 fuses.
 Note: (2) spare fuses included with the module.

Module Power Usage: Less than 5 Watts.

DC Power Supplies: Internally generated, regulated, and compensated.

FRONT PANEL CONTROLS AND INDICATORS (See figure 1)

1. **POWER ON INDICATOR:** LED is illuminated when power is applied to the module.
2. **AUDIBLE HORN:** Device emits a loud sound when enabled by the Audible Horn Switch (4), and a temperature controller is signaling a temperature alarm condition.
3. **VISUAL ALARM INDICATOR:** LED is illuminated when a temperature controller is signaling a temperature alarm condition.
4. **AUDIBLE HORN SWITCH:** Enables the horn to sound when a temperature alarm condition exists.
 Note: "1" = Horn enabled, "0" = Horn disabled.
5. **POWER ON/OFF SWITCH:** Controls AC power to the module.
6. **OUTPUT FUNCTION SWITCH:** Selects 1 of 4 output functions, OFF, IDLE, NORMAL, BOOST.
7. **OUTPUT RELAY CONNECTOR:** 4 pin circular connector provides access to output relay contacts.
 Note: D-M-E provides the mating connector with the module.

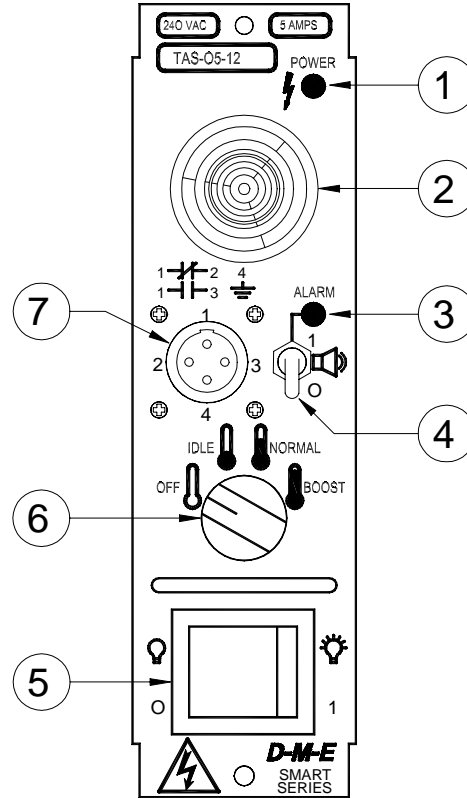


Figure 1 – Front Panel Controls and Indicators

COMMUNICATION CONNECTOR COMPATIBILITY (See figure 2)

The communication connector in older D-M-E mainframes may have pins 3 & 4 missing.

If this is the case, you must order a new communications strip from D-M-E to allow the alarm feature in this module to function properly.

The alarm feature will not work without these pins installed.

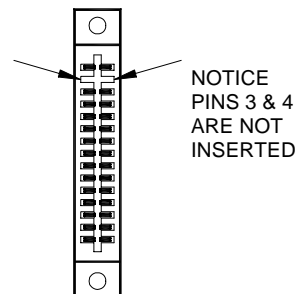


Figure 2- Communication Connector Not Compatible

EUROPEAN CONFORMITY (CE) REQUIREMENTS (See figure 3)

This module is shipped with a 3MM x 10MM screw that is used to secure the module to a mainframe for the purpose of satisfying CE requirements.

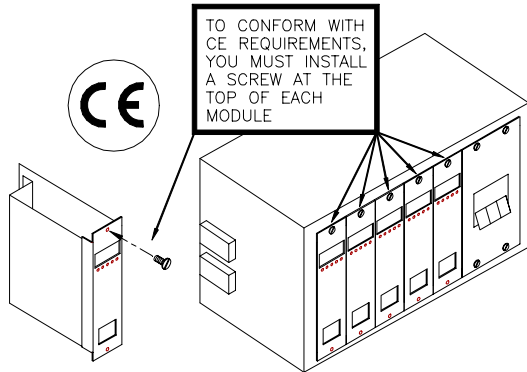


Figure 3 - European Conformity (CE) Requirement

When the module is screwed down securely, this module is considered to be CE compliant. **NEVER REMOVE OR INSERT MODULES WHEN MAINFRAME CIRCUIT BREAKER IS ON.**

RETURN POLICY

The D-M-E TAS-05-11, and TAS-05-12 modules are warranted for 1 year, parts and labor, excluding fuses.

Contact D-M-E Customer Service for return authorization for repairs or warranties. Replacement parts are also available through the Customer Service Dept.

D-M-E Customer Service:

U.S.A. 1-800-626-6653
 U.S.A. (West Coast) 1-323-263-9261
 Canada 1-905-677-6370

SERVICE CENTER U.S.A.

D-M-E WORLD HEADQUARTERS
 29111 STEPHENSON HIGHWAY
 MADISON HEIGHTS, MICHIGAN 48071
 TELEFAX: (248) 398-6174

REPLACEMENT PARTS LIST

To meet warranty requirements, use only DME® parts.	
F1, F2: Fuse, 1 Amp, 250 Volt, ABC1	ABC1
Nylatch fastener: Plunger and Grommet	NYL0001
S1: Power Switch, 16 Amp, 250 VAC	RPM0008
SA1: Audible Horn	RPM0025
T1: Transformer, 240VAC / 120VAC	RPM0026
Handle: Front Panel	RPM0027
S3: Horn Switch, 5 Amp, 28VDC	RPM0028
P1: Relay Connector Recepticle	RPM0029
P1: Relay Connector Plug	RPM0030
P1: Relay Connector Recepticle Pins	RPM0031
P1: Relay Connector Plug Sockets	RPM0032
RLY1: Relay, 5 Amp, 240 VAC / 30 VDC	RPM0033
RLY2: Relay, 0.5 Amp, 200 VAC	RPM0034
D1: LED, Green	RPM0035
D2: LED, Red	RPM0037
S2: Function Switch, 1 Amp, 28 VDC	RPM0057
S2: Knob, Function Switch	RPM0058

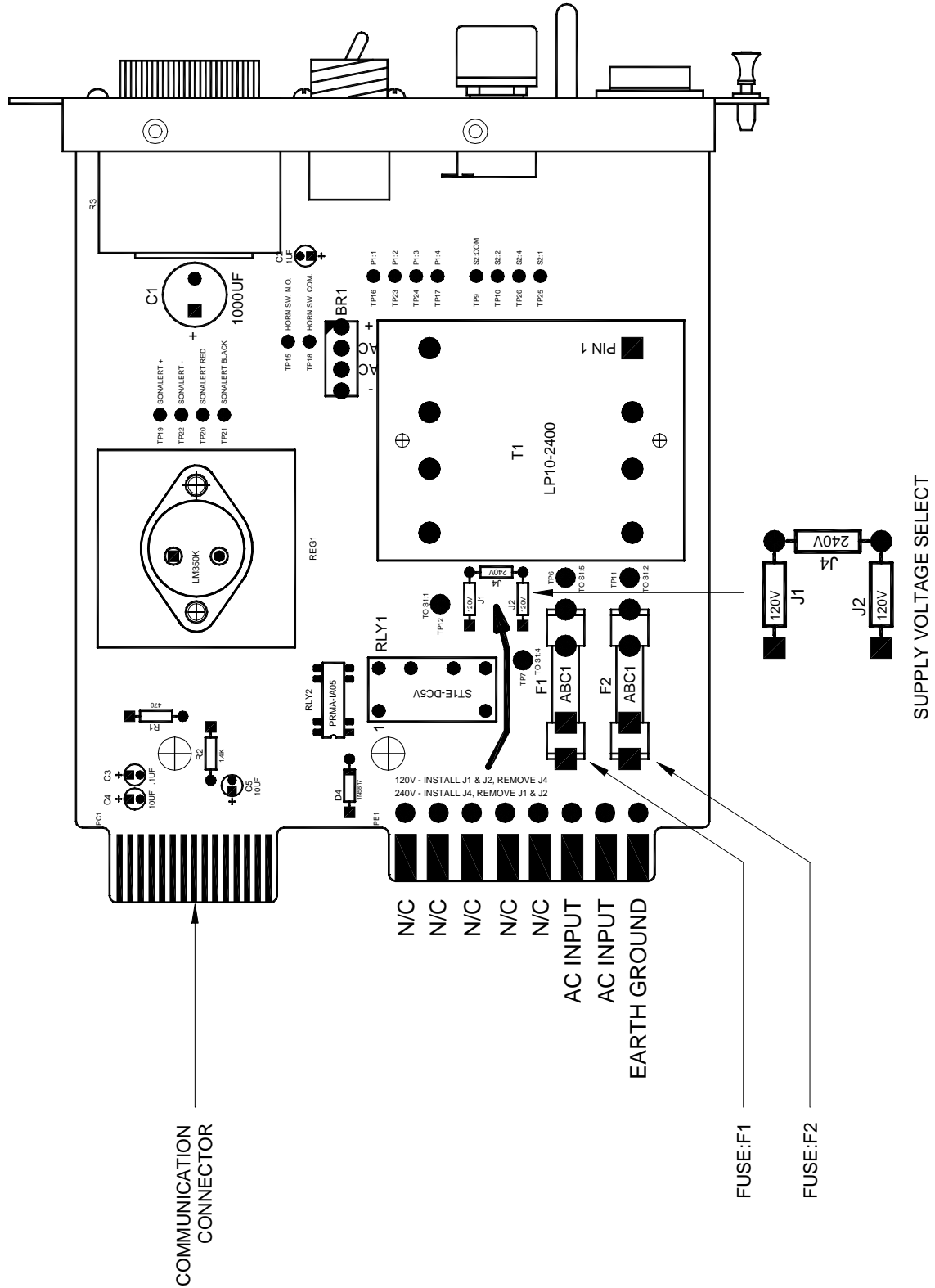


Figure 4. Component Layout TAS Main Circuit Board

ECN'S

APPROVAL

_____ SENIOR PRODUCT ENGINEER _____ DATE

_____ MANAGER OF ENGINEERING _____ DATE