Mark III Series Selectronic® Tattletale® Digital Fault Annunciator

MK3-95052B
Revised 07-06
Catalog Section 50

MARK III Series

- Monitors Engine Driven Pumps and Compressors for Alarm and Shutdown
- 7-Bit Binary Code (BCD) Port
- Built-in Power Supply
- 32 Sensors Can Be Displayed
- Approved for Class I, Division 2, Group D Hazardous Areas

NRTL/C

When installed per Murphy Drawings: HA14227 and HA14228. Call Murphy for details.

Description

The MARK III Series models are solid-state fault annunciators and shutdown control systems, designed to protect engines and associated equipment. The MARK III models can be powered from either a negative ground CD ignition or from 12 or 24 VDC (specify).

MARK III accepts 32 sensor inputs. Signal inputs are supplied from normally open and/or normally closed sensors. A Liquid Crystal Display annunciates any fault from the sensor inputs.

The built-in test mode allows to test the sensor circuits without shutting down the equipment. A selectable start-run timer (0-9 minutes) can be used during start-up.

The remote lockout input option resets the start-run timer and enables the Class B lockouts. The remote reset option is offered to reset the complete unit.

An optional BCD Port, D-Sub type (7 bit BCD code), is used to interface with micro-controllers.

Onboard backup battery retains the fault display after engine shutdown. The annunciator provides for both closing of a fuel valve and grounding of the ignition for shutdown. A time delay of 2-3 seconds (approximately) in grounding the ignition after the fuel valve closes is also included.

An ignition monitoring and annunciation feature is included to monitor low ignition voltage or ignition failure (ignition powered models). Number 41 is displayed when ignition voltage drops below 75 VDC (approximately). Number 40 is displayed in the event of a manual stop.

Basic models

Two MARK III models are available:

MARK III-N: *for negative ground CD ignitions.*

MARK III-12/24: *for 12 or 24 VDC systems.*

Features

- Built-in power supply.
- Plug-in sensor terminal blocks.
- Alarm and shutdown for up to 32 sensors.
  - *Sensors 1–9 are used for timed, alarm-override at start-up.*
  - *Sensor 30 is typically used for optional remote lockout input or remote reset option.*
  - *Sensor 31 is typically used for remote stop.*
  - *Sensor 32 is used for overspeed sensing.*
- Monitoring and annunciation for ignition voltage drop or ignition failure (ignition models).
- Easy-to-read liquid crystal display indicates the tripped sensor and allows you to view the timer countdown during start-up.
- 3-second time delay allows the fuel valve to close before grounding the ignition.
- Optional BCD port (7-bit binary code) to interface with micro-controllers.
- Optional remote lockout input to reset start-run timer and to enable Class "B" sensor lockouts.

Specifications

Power Consumption: 700 μa, 100 VDC.

Power Inputs (Operating Voltages):

MARK III-N: *90-250 V, CD ignition, negative ground.*

MARK III-12/24: *12-24 VDC @ 4.7 watts max. including 2 externally operated relays.*

Sensor Inputs: MARK III accepts 32 sensor switches. These can be either normally open or normally closed passive switches.

Inputs 1-32: *Designated as Class "A" sensors.*

Inputs 1-9: *Can be selected as Class "B" sensor lockouts.*

Input 9: *Delayed for 20 seconds unless selected as Class "B" sensor lockout.*

Input 30: *Can be dedicated for remote lockout input or for remote reset option.*

Input 31: *Overrides test timer, (typically used for remote stop input).*

Input 32: *Overrides test timer dedicated for overspeed sensing.*

Outputs (all models): FET (Field Effect Transistor)*; 0.5 amp @ 250 V maximum.*

Output Selections:

- Ground ignition immediately.
- Trip fuel valve, then ground ignition after a 2-3 second factory-set delay.

***Note:** MARK III-12/24 outputs switch "ON" for normal operation; operation can be reversed in field.*

Sensor Terminal Block: Four plug-in terminals with screw type connections and factory installed jumper for each terminal.

Operating Temperature: -40 to 185°F (-40 to 85°C).

Storage Temperature: -40 to 302°F (-40 to 150°C).

Case: Anodized aluminum.

Multiplexer Scan Rate: 0.75 seconds.

Start-Run/Test Time: Selectable from 0 thru 9 minutes (1 minute increments).

Backup Power (All models): Onboard 6 VDC @ 1300 mAh, DL223A lithium.

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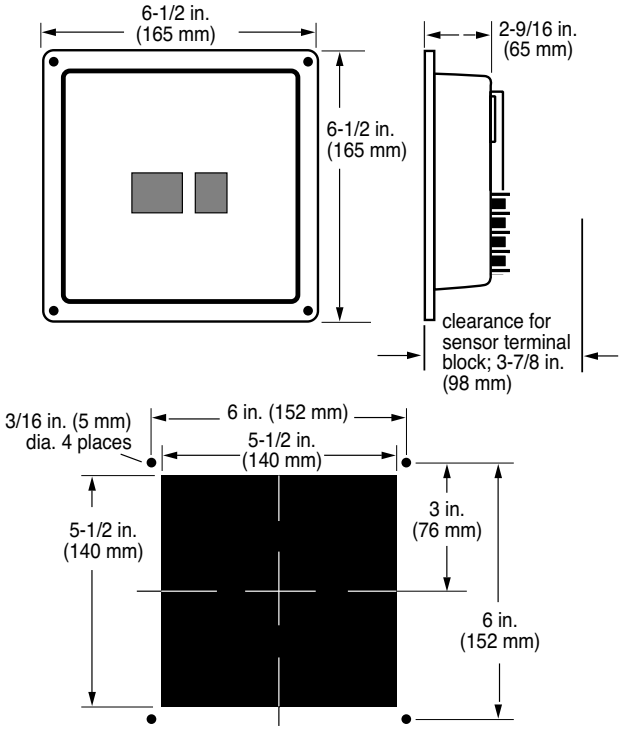
Dimensions–All Models



How to Order

To order the MARK III specify the following:

Example: MARK **III** – N – BCD – RL

Power Source
N = Negative ground CD ignition
12/24 = 12 or 24 VDC

BCD Port
Blank = Without BCD port
BCD = With BCD port

Options (one option only)
Blank = Without options
RL = With remote lockout
RR = With remote reset
C3 = With three Class "C" lockouts
C4 = With four Class "C" lockouts

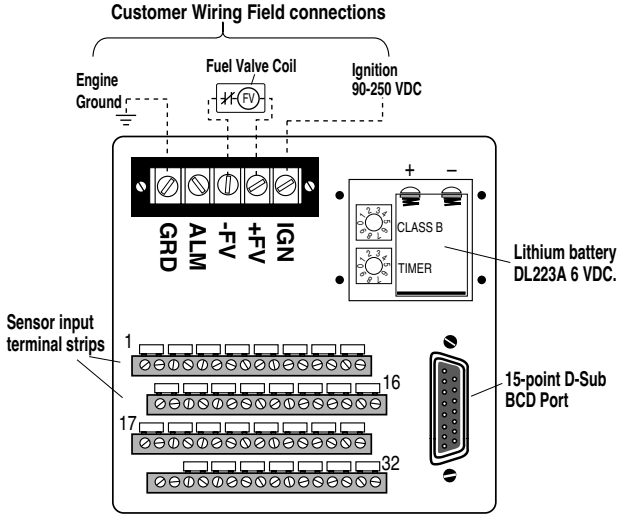
Shipping Dimensions: 7-1/2 x 9-1/2 x 3-1/4 in. (191 x 241 x 83 mm).

Shipping Weight: 1 lb. (0.45 kg).

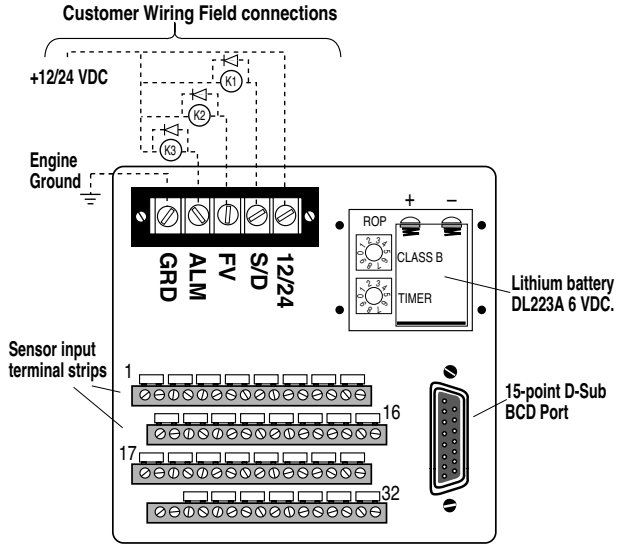
Typical Wiring Diagrams

WARNING: Typical wiring diagrams are shown for clarity only. These diagrams are not intended for use as installation instructions.

MARK **III**-N Model



MARK **III**-12/24 Model



Warranty

A limited warranty on materials and workmanship is given with this FW Murphy product. A copy of the warranty may be viewed or printed by going to www.fwmurphy.com/support/warranty.htm

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