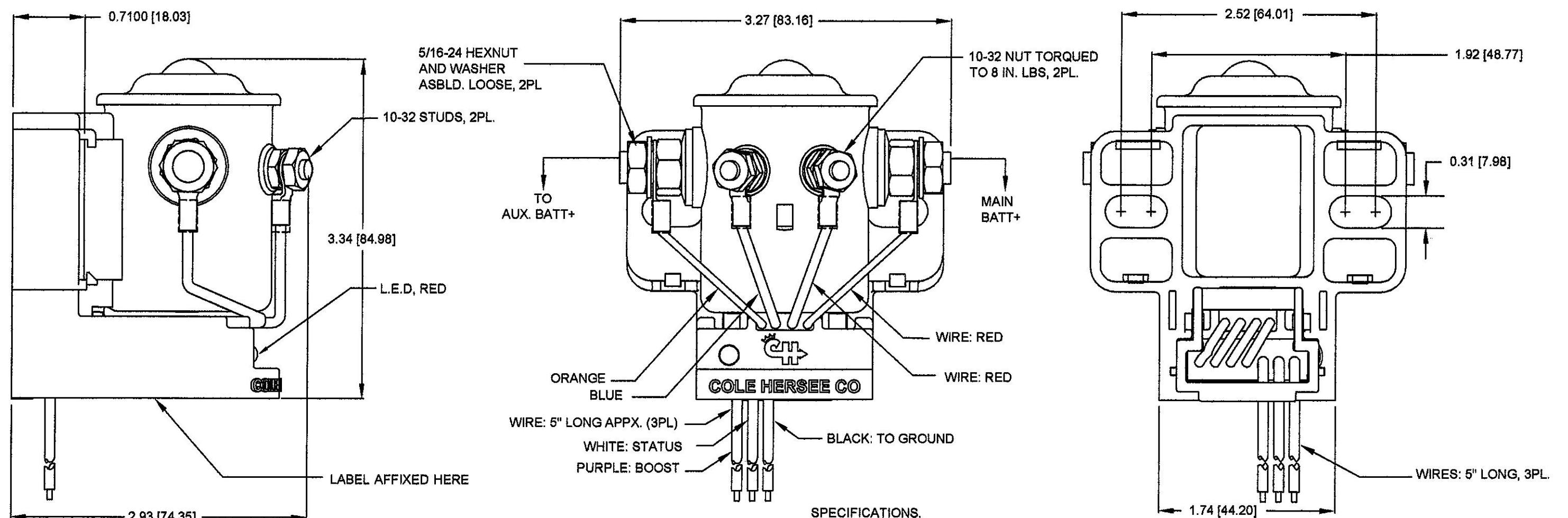


**Revision Control Record**

Rev.	Description of Change	ECN No.	Date
A	NEW PRODUCT	07437	11/09/07
B	USE 24069-12 SOLENOID	08024	01/10/08



**SPECIFICATIONS.**

ENVIRONMENTAL: SAE J1455 AND J1113  
-40 TO +85°C;

MOISTURE PROTECTION: IP67 (ELECTRONIC MODULE ONLY)

ELECTRICAL: 9-16 VDC  
LOAD: 85A CONTINUOUS  
INRUSH: 750A  
8 mA QUIESCENT CURRENT

ACCURACY: +/- 100 mV

POWER STUDS: 5/16-24

WIRE CONNECTIONS: 18AWG, SXL, 5" LONG

a. VIOLET: BOOST  
b. BLACK: GROUND  
c. STATUS

**NOTES.**

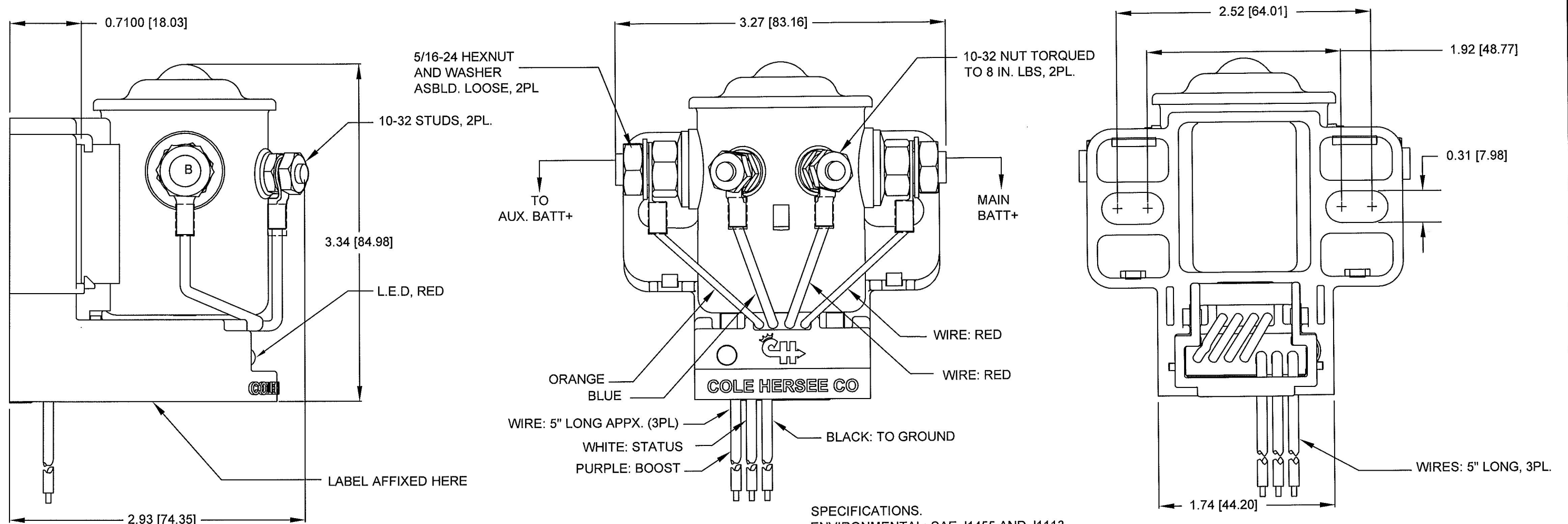
- 1) SOLENOID MONITORING AND CONTROLLING DEVICE
- 2) ALL STEEL PARTS ARE PLATED.
- 3) ALL DIMENSIONS ARE FOR REFERENCE ONLY
- 4) NO ADDITIONAL CONNECTIONS OF ANY KIND TO THE 10-32 (COIL) STUDS OF THE SOLENOID BY THE END USER, ARE ALLOWED. DOING SO COULD DAMAGE THE ELECTRONIC CONTROL MODULE.

**OPERATION.**

- 1) THE TWO BATTERIES ARE ELECTRICALLY CONNECTED WHEN EITHER BATTERY VOLTAGE IS ABOVE 13.2V FOR 2 MIN. (I.e DURING CHARGING)
- 2) THE TWO BATTERIES ARE ISOLATED WHEN BOTH BATTERY VOLTAGES ARE BELOW 12.7V FOR 1 MINUTE.
- 3) THE BOOST FUNCTION CONNECTS THE TWO BATTERIES TO PROVIDE ADDITIONAL STARTING POWER.
- 4) TO ENABLE THE BOOST FUNCTION, CONNECT THE VIOLET WIRE TO +12VDC.
- 5) THE L.E.D STATUS INDICATOR IS TURNED ON WHEN THE TWO BATTERIES ARE CONNECTED.

<p><b>Tolerances.</b> Unless otherwise specifically noted, the following are default tolerances:</p> <ul style="list-style-type: none"> <li>• 2-place Decimal Dimensions <math>\pm .01</math>"</li> <li>• 3-place Decimal Dimensions <math>\pm .005</math>"</li> <li>• Angular Dimensions <math>\pm 1.0</math> Deg.</li> <li>• Metric: Refer to equivalent English Dimension Tolerance</li> </ul> <p>&gt;&gt;&gt; NOTE: All tolerances are Non-Cumulative. &lt;&lt;&lt;</p> <p><b>Dimensional Units.</b> All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters</p> <p>*REF. or an Asterisk (*) = Non-Toleranced Reference Dimension, shown for clarification purposes only.</p>	<p><b>PROPRIETARY INFORMATION.</b> This Engineering Drawing, and the information contained herein, is proprietary to Cole Hersee Company and may not be disclosed, reproduced, or in any other way transferred or communicated to any other party without the express written consent of an authorized representative of Cole Hersee Company.</p> <p><b>DESIGN CONTROL.</b> It is the responsibility of the individual using/referencing this drawing to ensure that the noted design revision level agrees with the revision level of the Controlled Document (Master Drawing). This is a NON-CONTROLLED DOCUMENT unless otherwise specifically noted.</p> <p>DO NOT SCALE - Dimensional variation may occur during printing/reproduction.</p>	<p><b>Special Characteristics.</b></p> <ul style="list-style-type: none"> <li>⊠ Critical Characteristic, relating to Safety and/or Regulatory Compliance</li> <li>X Significant Characteristic relating to Process Control (SPC)</li> <li>KG Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer</li> </ul> <p>(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions &amp; tolerances must be met.)</p>	<p><b>Cole Hersee Co.</b> 20 Old Colony Ave., South Boston, MA, 02127 Phn 617-288-2100 Web: www.colehersee.com</p>	
			<p>Use On or Ref: <b>EX-28421</b></p>	<p>Scale: <b>1:1</b></p>
			<p>Description: <b>SOLENOID MODULE</b></p>	<p>Current Rev. <b>B</b></p>
			<p>Drawing/Part No.: <b>48525</b></p>	<p>Pg. 1 of 1</p>

Revision Control Record			
Rev.	Description of Change	ECN No.	Date
A	NEW PRODUCT	07437	11/09/07
B	ADD BOX TO BOM	08024	01/10/08
C	BOM CHANGE	11415	12/6/11



- NOTES.
- 1) SOLENOID MONITORING AND CONTROLLING DEVICE
  - 2) ALL STEEL PARTS ARE PLATED.
  - 3) ALL DIMENSIONS ARE FOR REFERENCE ONLY
  - 4) NO ADDITIONAL CONNECTIONS OF ANY KIND TO THE 10-32 (COIL) STUDS OF THE SOLENOID BY THE END USER, ARE ALLOWED. DOING SO COULD DAMAGE THE ELECTRONIC CONTROL MODULE.

- OPERATION.
- 1) THE TWO BATTERIES ARE ELECTRICALLY CONNECTED WHEN EITHER BATTERY VOLTAGE IS ABOVE 13.2V FOR 2 MIN. (i.e DURING CHARGING)
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SPECIFICATIONS.

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8 mA QUIESCENT CURRENT

ACCURACY: +/- 100 mV

POWER STUDS: 5/16-24

WIRE CONNECTIONS: 18AWG, SXL, 5" LONG  
a. VIOLET: BOOST  
b. BLACK: GROUND  
c. STATUS

**Tolerances** Unless otherwise specifically noted, the following are default tolerances;  
 \* 2-place Decimal Dimensions +/- .02"  
 \* 3-place Decimal Dimensions +/- .005"  
 \* Angular Dimensions +/- 1.0 Deg.  
 \* Metric: Refer to equivalent English Dimension Tolerance  
 >>> NOTE: All tolerances are Non-Cumulative. <<<

**Dimensional Units** All dimensions are expressed in inches except those shown in brackets (xxx) are expressed in millimeters

"REF." or an Asterisk (\*) = Non-Toleranced Reference Dimension, shown for clarification purposes only.

Used On or Ref.: **EX-28421** Scale: **1:1**

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**DESIGN CONTROL** It is the responsibility of the individual using / referencing this drawing to assure that the noted design revision level agrees with the revision level of the Controlled Document (Master Drawing). This is a NON-CONTROLLED DOCUMENT unless otherwise specifically noted.

DO NOT SCALE - Dimensional variation may occur during printing / reproduction.

Drawn By: **G.Auguste** Date Drawn: **10/12/07**

**Special Characteristics:**

- CC Critical Characteristic, relating to Safety and/or Regulatory Compliance
- X Significant Characteristic relating to Process Control (SPC)
- KC Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or the Customer

(Note that the identification of any Characteristics as being "Special" does not alter the requirement that ALL specified dimensions & tolerances must be met.)

Responsible Engineer: **B. Pevear** Pg. 1 of 1

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 20 Old Colony Ave., South Boston, MA, 02127  
 Phn: 617-268-2100 Web: www.colehersee.com

Description:  
**SOLENOID MODULE**

Drawing / Part No.: **48530** Current Rev. **C**