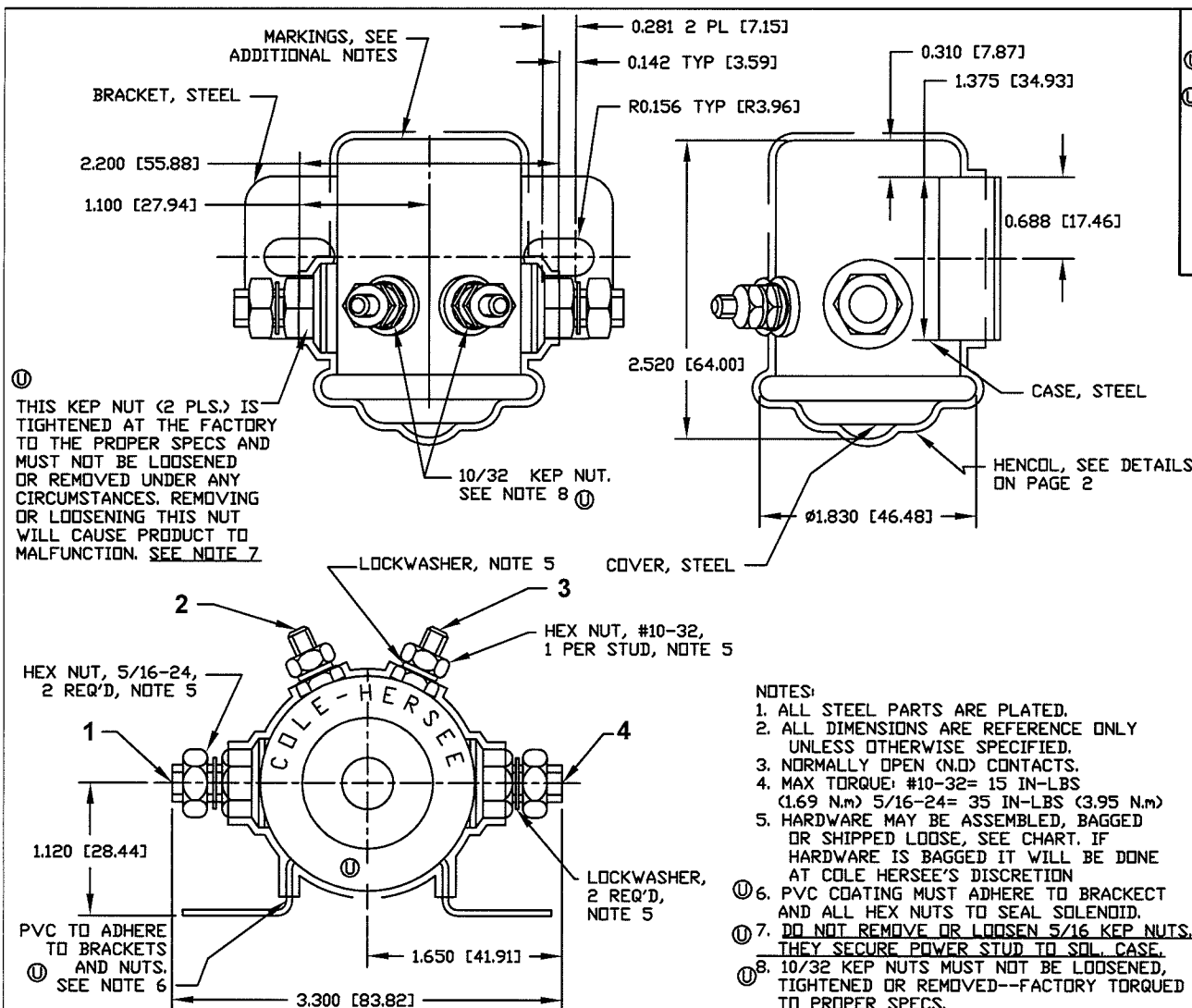




ADDITIONAL NOTES:

- ① A. INTERIOR POTTED WITH HENCOL#13 EPOXY TO ENCAPSULATE COIL AND COIL LEADS AGAINST VIBRATION.
- ① B. COIL WIRES SECURED WITH RTV.
- C. BOBBIN SECURED IN PLACE WITH EPOXY PLACED AROUND THE TOP RIM.
- D. ALL PARTS ARE SHIPPED LOOSE.
- E. PART NUMBER, DATE CODE & VOLTAGE INK STAMPED ON THIS SURFACE.
- F. COIL SURPRESSION DIODE#1N4005, MOUNTED INTERNALLY.
- G. CONTAINS IGNITION COIL RESISTOR SHORTING CIRCUIT.
- H. SILVER CONTACT SURFACES.
- J. UL & CE APPROVED.
- K. USES 081112 SPRING FOR STRONGER CONTACT RETURN FORCE. ①

CONSERVATIVE ELECTRICAL RATINGS ①

A	INTERMITTENT DUTY 24-36V DC	120 AMPS MAKE, 65 AMPS BREAK 10 SECONDS ON, 30 MINUTES OFF
B	INTERMITTENT DUTY 6-12V DC	750 AMPS MAKE, 100 AMPS BREAK 10 SECONDS ON, 20 MINUTES OFF
C	CONTINUOUS DUTY 24V DC	200 AMPS CARRY ONLY. 150 AMPS MAKE & BREAK ①
D	CONTINUOUS DUTY 12V DC ①	200 AMPS, MAKE&BREAK. INRUSH: 600A
E	CONTINUOUS DUTY 6-36V DC	85 AMPS, 125A MAKE & BREAK ①
F	UL & CE INTERMITTENT RATING:	750 AMPS@12VDC MAKE, 100 AMPS BREAK 10 SECONDS ON, 30 MINUTES OFF
G	UL & CE CONTINUOUS RATING: INTERMITTENT RATING: UL & CE	65 AMPS, 12V DC 750 AMPS MAKE, 100 AMPS BREAK 10 SECONDS ON, 30 MINUTES OFF
H	UL & CE CONTINUOUS RATING: INTERMITTENT RATING: UL & CE	65 AMPS, 24V DC 120 AMPS MAKE, 65 AMPS BREAK 10 SECONDS ON, 30 MINUTES OFF
J	UL & CE CONTINUOUS RATING: INTERMITTENT RATING: UL & CE	65 AMPS, 36V DC 120 AMPS MAKE, 65 AMPS BREAK 10 SECONDS ON, 30 MINUTES OFF
K	CONTINUOUS DUTY:	200 AMPS, 36VDC, CARRY ONLY.

Revision Control Record				Revision Control Record			
Rev.	Description of Change	ECN No.	Date	Rev.	Description of Change	ECN No.	Date
V	BOM REV. UPDATED	12101	03/29/12	N	CHART CHANGE	01579	10/11/01
U	DRAWING CLARIFIED	09449	09/18/09	M	ADDED 24143-03	01338	6/5/01
P	ADDED PN24106-07	07078	3/5/07	L	NOTE CHANGE	01045	1/25/01
				K	PUT ON AUTOCAD	N/A	12/12/00

Tolerances Unless otherwise specifically noted, the following are default tolerances:
 * 2-place Decimal Dimensions $\pm .02"$
 * 3-place Decimal Dimensions $\pm .005"$
 * 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.: Scale: **1:1**

PROPRIETARY INFORMATION 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.

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: **CF** Date Drawn: **4/1/66**

Key for Special Characteristics:

Ⓢ Critical Characteristic, relating to Safety and/or Regulatory Compliance

ⓧ Significant Characteristic relating to Process Control (SPC)

Ⓢ 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: **N/A** Pg. 1 of 5

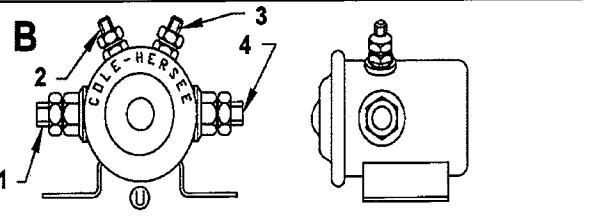
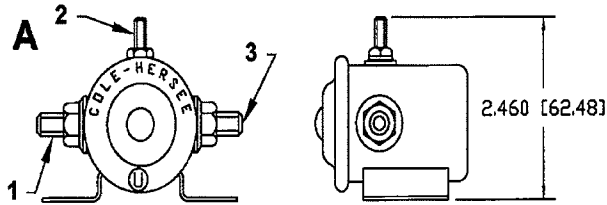
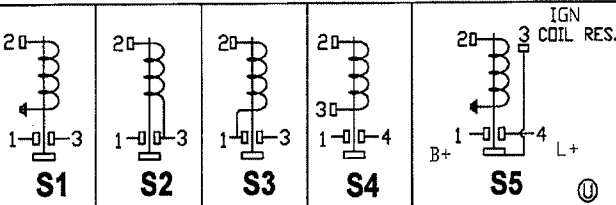
Cole Hersee Co.
 20 Old Colony Ave., South Boston, MA, 02127
 Phn: 617-268-2100 Web: www.colehersee.com

SOLENOID

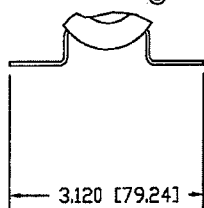
Drawing/ Part No.: **24008** Current Rev.: **V**

SOLENOID STYLE ①

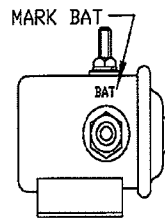
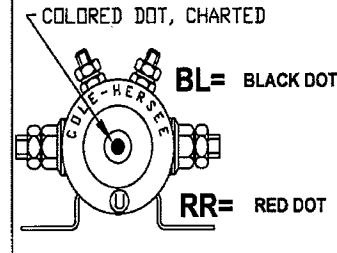
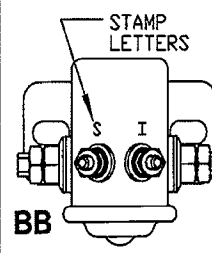
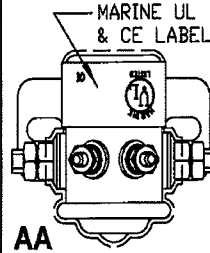
SCALE 1/2:1

**SOLENOID SCHEMATIC****MOUNTING BRACKETS**

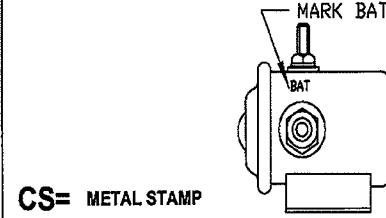
SCALE 1/2:1

FLAT ①**CURVED ①****EXTERIOR MARKINGS ①**

SCALE 1/2:1



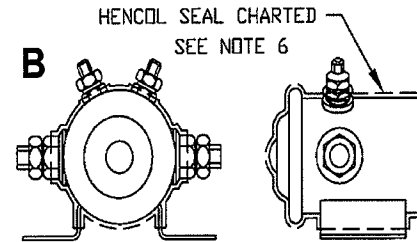
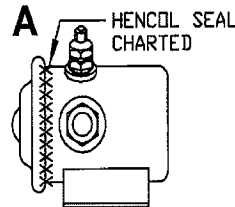
DS= METAL STAMP



CS= METAL STAMP

EXTERIOR SEALANT ①

SCALE 1/2:1

**Revision Control Record****Revision Control Record**

Rev.	Description of Change	ECN No.	Date	Rev.	Description of Change	ECN No.	Date

**SEE PAGE 1 FOR
REVISION NOTES**

Tolerances Unless otherwise specifically noted, the following are default tolerances:

- 2-place Decimal Dimensions $\pm .02$ "
- 3-place Decimal Dimensions $\pm .005$ "
- 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 (mm) are expressed in millimeters

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

Used On
or Ref.:

Scale: **1:1**

PROPRIETARY INFORMATION 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.

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 **CF**
By:

Date **4/1/66**
Drawn:

Key for Special Characteristics:

- ① Critical Characteristics, relating to Safety and/or Regulatory Compliance
 - ② Significant Characteristics relating to Process Control (SPC)
 - ③ 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: **N/A**

Pg. 2 of 5

**Cole Hersee Co.**

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

Description:**SOLENOID**

Drawing /
Part No.:

24008

Current Rev.
SEE
PAGE 1

24063-09	24	71	CONTINUOUS	4	B	E	INSULATED	FLAT	B	12	YES SEE NOTE A		S4	ASSEMBLED	A
24063-08	24	71	CONTINUOUS	4	B	H	INSULATED	FLAT	B	12		AA	S4	ASSEMBLED	J
24063-06	24	71	CONTINUOUS	4	B	E	INSULATED	FLAT	B	12			S4	ASSEMBLED	E
24063-05	24	71	CONTINUOUS	4	B	E	INSULATED	FLAT					S4	ASSEMBLED	
24063-04	24	71	CONTINUOUS	4	B	E	INSULATED	FLAT	A	13	YES SEE NOTE A	RR	S4	ASSEMBLED	A
24063-01	24	71	CONTINUOUS	4	B	E	INSULATED	FLAT			YES SEE NOTE B,C		S4	ASSEMBLED	B,C ①
24063	24	71	CONTINUOUS	4	B	E	INSULATED	FLAT					S4	BAGGED	
24060	12	4.4	INTERMITTENT	3	A	B	INSULATED	FLAT				CS	S2	ASSEMBLED	K
24059-16	12	17.5	CONTINUOUS	4	B	E	INSULATED	FLAT					S4	ASSEMBLED	④
24059-15	12	17.5	CONTINUOUS	4	B	E	INSULATED	FLAT	B	20	YES SEE NOTE A		S4	ASSEMBLED	A,K
24059-12	12	17.5	CONTINUOUS	4	B	E	INSULATED	FLAT	A	13	YES SEE NOTE A		S4	ASSEMBLED	A
24059-10	12	17.5	CONTINUOUS	4	B	E	INSULATED	FLAT	A	13	YES SEE NOTE A		S4	ASSEMBLED	A,K
24059-09	12	17.5	CONTINUOUS	4	B	E	INSULATED	FLAT					S4	ASSEMBLED	K
24059-08	12	17.5	CONTINUOUS	4	B	G	INSULATED	FLAT				AA	S4	ASSEMBLED	J
24059	12	17.5	CONTINUOUS	4	B	E	INSULATED	FLAT					S4	BAGGED	⑤
24055	6	1.6	INTERMITTENT	3	A	B	INSULATED	FLAT				CS	S2	ASSEMBLED	K
24047-05	12	4.5	INTERMITTENT	4	B	B	INSULATED	FLAT					S4		D,K
24047-03	12	4.4	INTERMITTENT	4	B	B	INSULATED	FLAT			YES SEE NOTE B		S4	ASSEMBLED	B,K
24047	12	4.4	INTERMITTENT	4	B	B	INSULATED	FLAT					S4	BAGGED	K
24046	12	4.4	INTERMITTENT	3	A	B	INSULATED	FLAT				DS	S3	ASSEMBLED	K
24044	12	4.4	INTERMITTENT	3	A	B	GROUNDING	CURVED					S1	BAGGED	K
24043	6	1.6	INTERMITTENT	4	B	B	INSULATED	FLAT					S4	ASSEMBLED	K
24041	6	1.6	INTERMITTENT	3	A	B	GROUNDING	FLAT					S1	ASSEMBLED	K
24039	6	1.6	INTERMITTENT	3	A	B	GROUNDING	CURVED					S1	⑥ BAGGED	K
24037-03	12	4.4	INTERMITTENT	3	A	B	GROUNDING	FLAT	A	13	YES SEE NOTE A		S1	ASSEMBLED	A,K
24037	12	4.4	INTERMITTENT	3	A	B	GROUNDING	FLAT					S1	BAGGED	K
24008-02	24	29	INTERMITTENT	4	B	A	INSULATED	FLAT	B	19	YES SEE NOTE B,C		S4	ASSEMBLED	B,C,K
24008	24	29	INTERMITTENT	4	B	A	INSULATED	FLAT					S4	ASSEMBLED	K
PART NO	V DC	OHMS	DUTY CYCLE	#	STUDS	SOL. STYLE	CONTACT RATINGS	COIL TYPE	BRACKET STYLE	LOC. TYPE	INTR. ①	EXTR SEALANT	SLNOID SCHEM.	HARDWARE NOTE 5	ADDITIONAL NOTES

Revision Control Record

Revision Control Record

Tolerances Unless otherwise specifically noted, the following are default tolerances:
 * 2-place Decimal Dimensions $\pm .02"$
 * 3-place Decimal Dimensions $\pm .005"$
 * 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:

Scale: 1:1

PROPRIETARY INFORMATION 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.

DESIGN CONTROL It is the responsibility of the individual using 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.

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

Drawn By: CF

Date: 4/1/66

Key for Special Characteristics:

⊠ Critical Characteristic, relating to Safety and/or Regulatory Compliance

⊞ Significant Characteristic relating to Process Control (SPC)

Ⓢ 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: N/A

Pg. 3 of 5



Cole Hersee Co.

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

Description:

SOLENOID

Drawing / Part No.:

24008

Current Rev.

SEE PAGE 1

**SEE PAGE 1 FOR
REVISION NOTES**

24119-01	24	29	INTERMITTENT	3	A	A	GROUND	CURVED						S1	ASSEMBLED	K	
24119	24	29	INTERMITTENT	3	A	A	GROUND	FLAT						S1	ASSEMBLED	K	
24117-03	12	17.5	CONTINUOUS	4	B	G	INSULATED	FLAT	B	20			AA	S4	ASSEMBLED	J	
24117-01	12	17.5	CONTINUOUS	4	B	G	INSULATED	FLAT	B	20			AA	S4	BAGGED	J	
24117	12	17.5	CONTINUOUS	4	B	E	INSULATED	FLAT	B	20				S4	ASSEMBLED	E	
24115-01	12	17.5	CONTINUOUS	3	A	E	INSULATED	CURVED	B	12			CW	S2	ASSEMBLED		
24115	12	17.5	CONTINUOUS	3	A	E	INSULATED	FLAT					CS	S2	BAGGED		
24107	24	71	CONTINUOUS	3	A	E	INSULATED	FLAT					CS	S2	ASSEMBLED		
24106-07	12	17.5	CONTINUOUS	3	A	E	GROUND	FLAT	B	12				S1	BAGGED	E	
24106-04	12	17.5	CONTINUOUS	3	A	E	GROUND	FLAT			YES SEE NOTE A			S1	ASSEMBLED	A	
24106	12	17.5	CONTINUOUS	3	A	E	GROUND	FLAT						S1	BAGGED		
24105	6	4.2	CONTINUOUS	3	A	E	GROUND	FLAT						S1	ASSEMBLED		
24104	24	29	INTERMITTENT	3	A	A	INSULATED	FLAT					CS	S2	ASSEMBLED	K	
24103	12	4.4	INTERMITTENT	4	B	B	INSULATED	FLAT					BB	S5	ASSEMBLED	G,K	
24097	6	4.2	CONTINUOUS	4	B	E	INSULATED	FLAT						S4	ASSEMBLED		
24082	12	17.5	CONTINUOUS	3	A	E	GROUND	CURVED						S1	BAGGED		
24080-01	36	130	CONTINUOUS	4	B	J	INSULATED	FLAT					AA	S4	ASSEMBLED	J	
24080	36	130	CONTINUOUS	4	B	E	INSULATED	FLAT						S4	ASSEMBLED		
24077	12	4.4	INTERMITTENT	3	A	B	INSULATED	FLAT	B	19			DS	S3	ASSEMBLED	K	
24076	12	4.4	INTERMITTENT	4	B	B	INSULATED	FLAT	B	19				S4	ASSEMBLED	K	
24075	6	1.6	INTERMITTENT	4	B	B	INSULATED	FLAT	B	19				S4	ASSEMBLED	K	
24071-02	12	4.4	INTERMITTENT	3	A	B	GROUND	CURVED	B	19				S1	ASSEMBLED	K	
24071-01	12	4.4	INTERMITTENT	3	A	B	GROUND	FLAT	B	12				S1	ASSEMBLED	E,K	
24071	12	4.4	INTERMITTENT	3	A	B	GROUND	FLAT	B	19				S1	ASSEMBLED	K	
PART NO	V DC	OHMS	DUTY CYCLE	# STUDS	SOL. STYLE	CONTACT RATINGS	COIL TYPE	BRACKET STYLE	LOC.	TYPE	INTR.® SEALANT	EXTR. SEALANT	INTR.® SEALANT	EXTR. MARKINGS	SLN/DID SCHEM.	HARDWARE NOTE 5	ADDITIONAL NOTES

<u>Revision Control Record</u>						<u>Revision Control Record</u>						Tolerances: Unless otherwise specifically noted, the following are default tolerances; • 2-place Decimal Dimensions +/- .00" • 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 [] are expressed in millimeters *REF.* or an Asterisk (*) = Non-Toleranced Reference Dimension, shows for clarification purposes only. Used On _____ or Ref. _____ Scale: 1:1						PROPRIETARY INFORMATION: 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. DRAWING 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 / reproductions. Drawn: CF Date Drawn: 4/1/66						<u>Key for Special Characteristics:</u> (D) Critical Characteristic, relating to Safety and/or Regulatory Compliance (X) Significant Characteristic relating to Process Control (BPC) (F) Control Dimension relating to Form - Fit - Function as defined by Cole Hersee Company and/or its 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: N/A Pg. 4 of 5						 Cole Hersee Co. 20 Old Colony Ave., South Boston, MA, 02127 Phn: 617-268-2100 Web: www.colehersee.com <u>Description:</u> SOLENOID <u>Drawing / Part No.:</u> 24008						<u>Current Rev.:</u> SEE PAGE 1					
---------------------------------------	--	--	--	--	--	---------------------------------------	--	--	--	--	--	--	--	--	--	--	--	---	--	--	--	--	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PART NO	V DC	OHMS	DUTY CYCLE ①	# STUDS	SOL. STYLE	CONTACT RATINGS	COIL TYPE	BRACKET STYLE	LOC.	TYPE	INTR.② SEALANT	EXTR MARKINGS	SLNOID SCHEM.	HARDWARE NOTE 5	ADDITIONAL NOTES
	COIL RATINGS								EXTR.	SEALANT					

Revision Control Record				Revision Control Record				Tolerances: Unless otherwise specifically noted, the following are default tolerances: • 2-place Decimal Dimensions $\pm .005$ • 3-place Decimal Dimensions $\pm .002$ • Angular Dimensions ± 1.0 Deg. • Metric: Refer to equivalent English Dimension Tolerance NOTE: All tolerances are Non-Cumulative. <<<				PROPRIETARY INFORMATION This Engineering Drawing, and the information contained herein, is proprietary to Cole Hersee Company and may not be reproduced, modified, 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.				Key for Special Characteristics: Critical Characteristic, relating to Safety and/or Regulatory Compliance Significant Characteristic relating to Process Control (SPC) 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.)				Cole Hersee Co. 20 Old Colony Ave., South Boston, MA, 02127 Phn: 617-268-2100 Web: www.colehersee.com			
Rev.	Description of Change	ECN No.	Date	Rev.	Description of Change	ECN No.	Date	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 purpose only.	Used On or Ref.:	Scale: 1:1	Drawn By: CF	Date Drawn: 4/1/66	Responsible Engineer: N/A	Pg. 5 of 5	Description:	Current Rev. SEE PAGE 1							
SEE PAGE 1 FOR REVISION NOTES																SOLENOID							
24008																							