

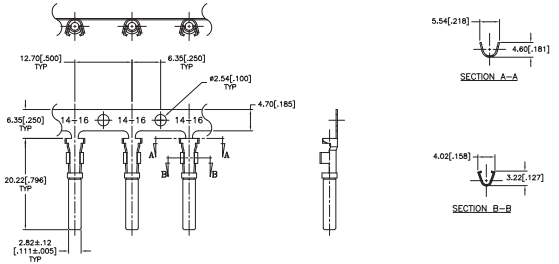
STAMPED AND FORMED CONTACTS, PG 1 of 2

Click on [blue underlined part numbers](#) to be taken to their spec sheets.

OPTIONS

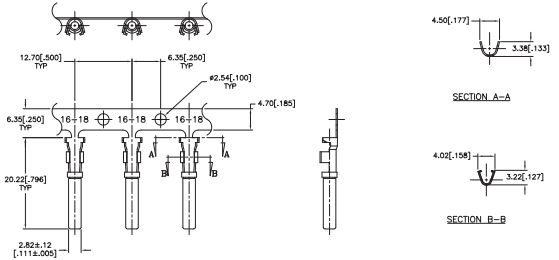
PART NUMBER: [AT62-14-01XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-00, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



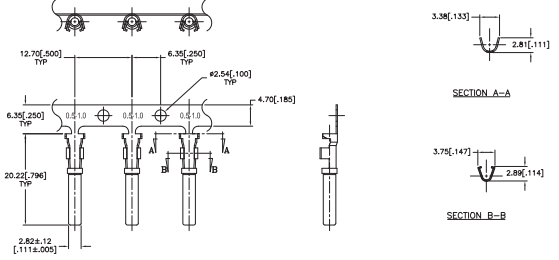
PART NUMBER: [AT62-16-01XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-00, ATT-16-01, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



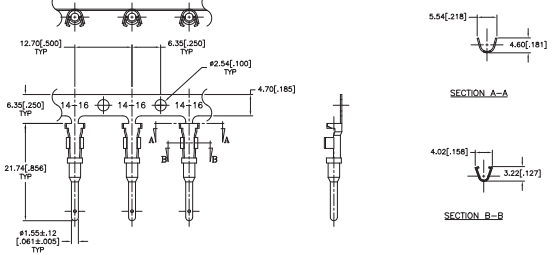
PART NUMBER: [AT62-16-06XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-01, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



PART NUMBER: [AT60-14-01XX](#)
DESCRIPTION: CONTACT, PIN, STAMPED, SIZE 16

MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-00, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)

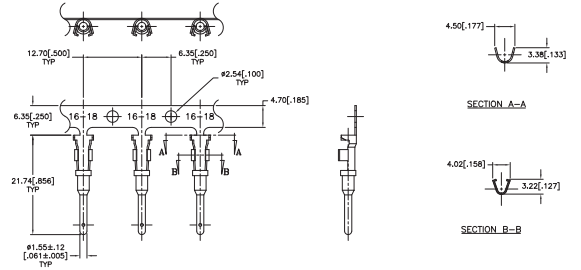


STAMPED AND FORMED CONTACTS, PG 2 of 2

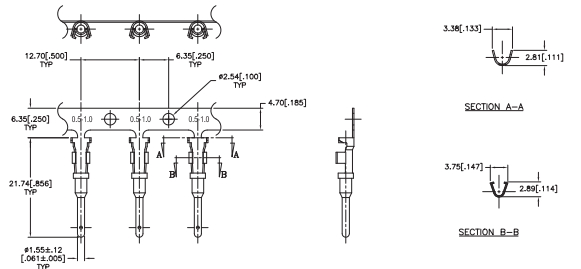
Click on blue underlined part numbers to be taken to their spec sheets.

OPTIONS

PART NUMBER: AT60-16-01XX
DESCRIPTION: CONTACT, PIN, STAMPED, SIZE 16
MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-00, ATT-16-01, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



PART NUMBER: AT60-16-06XX
DESCRIPTION: CONTACT, PIN, STAMPED, SIZE 16
MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=22 NICKEL PLATING
 XX=44 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: ATT-16-01, MFX-3950 & MFX-3953
CRIMPER SPECIFICATIONS: S2-15223 & S2-15224
CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



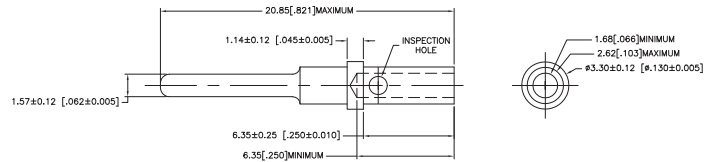
SOLID/MACHINED CONTACTS

Click on [blue underlined part numbers](#) to be taken to their spec sheets.

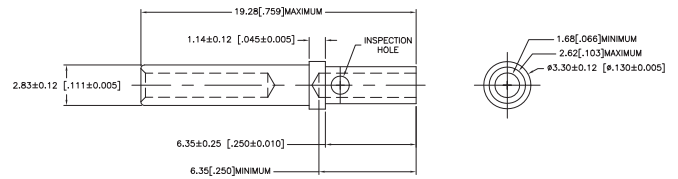
OPTIONS

MILITARY-STYLE

PART NUMBER: [AT60-202-16XX](#)
DESCRIPTION: CONTACT, PIN, SOLID MACHINED, SIZE 16
MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=141 NICKEL PLATING
 XX=31 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218

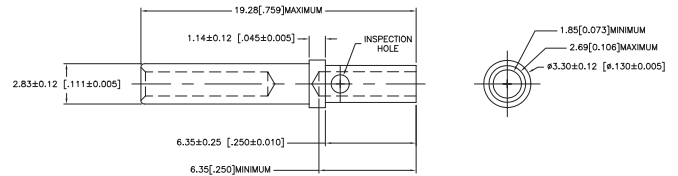


PART NUMBER: [AT62-201-16XX](#)
DESCRIPTION: CONTACT, SOCKET, SOLID MACHINED, SIZE 16
MATERIAL:
 CONTACT BODY: COPPER ALLOY
 HOOD: STAINLESS STEEL
PLATING SUFFIX CODE:
 XX=141 NICKEL PLATING
 XX=31 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218

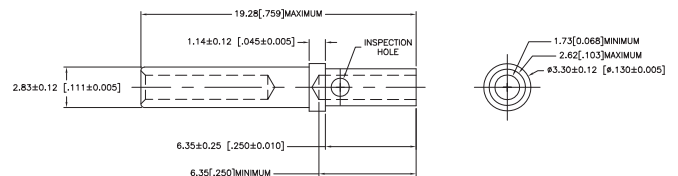


ROCKSOLID™ CONTACTS

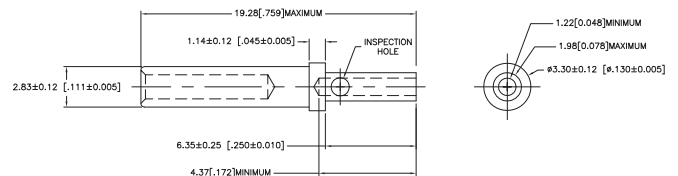
PART NUMBER: [65-54942-14](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 14AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



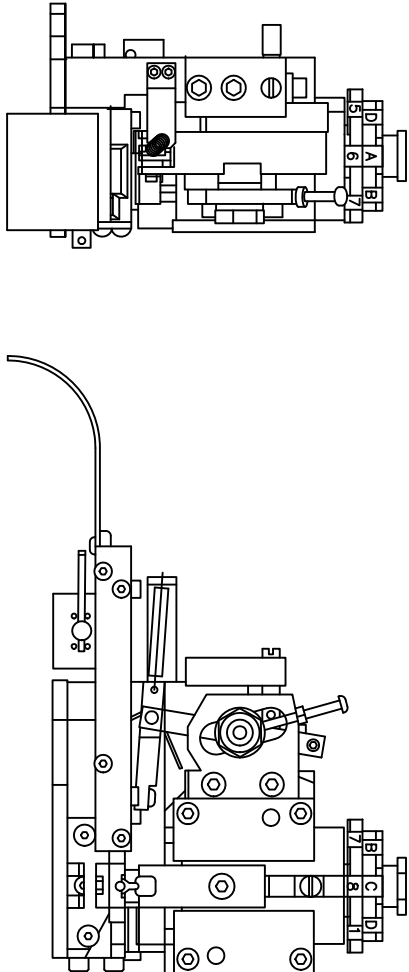
PART NUMBER: [65-54942-16](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 16AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



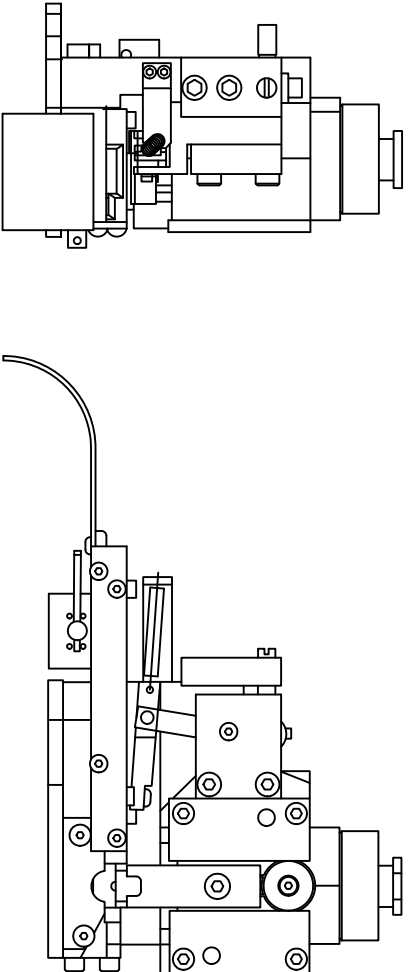
PART NUMBER: [65-54942-20](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 20AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



REVOLUTIONS		DESCRIPTION	DATE	BY	APPR
REV	ZONE	ECO	RELEASE NUMBER	B.D.B.	M.R.F.
A1	-	-	016571	6/12/08	



SINE PART NUMBER	MFX-3950
DEUTSCH PART NUMBER	DCT16-02-00
TYCO PART NUMBER	1-3-1385344-1, 2, 3, 4, 5 & 7



SINE PART NUMBER	MFX-3953
DEUTSCH PART NUMBER	DCT1620-02-00

ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.
 ALL REFERENCES TO TYCO PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO TYCO ELECTRONICS.

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
UNLESS OTHERWISE SPECIFIED			
1) All dimensions are in inches.			
2) Tolerances are as follows:			
1. HOLE ±0.005			
2. PL. DIM. ±0.015			
3. FRACTIONAL DIMENSIONS ±0.010			
4) Hole: SS-20020			
APPROVAL: <input checked="" type="checkbox"/> U			
DRAWN: BERNUI			
CHECKED: TONCE			
DATE: 6/9/09			
ENGINEER: BERNUI			
APPROVAL: BERNUI			
DATE: 6/9/09			
CUSTOMER: CRIMPER INFORMATION			
M/FX-3950 & M/FX-3953			
THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND PERFORMANCE DATA OF THE PARTS LISTED THEREON. NO WARRANTIES ARE MADE BY TYCO ELECTRONICS, INC. OR DEUTSCH INDUSTRIAL PRODUCTS, INC. FOR THE USE OF THIS DRAWING IN ANY OTHER APPLICATION. ALL DIMENSIONS ARE SUBJECT TO NORMAL MANUFACTURING VARIATIONS. DRAWING REVISED HEREON MAY CONTAIN REVISIONS TO THIS DRAWING.			
SIZE: 1/2" x 1/2" x 1/2"		SCALE: NONE	
C 10K44		S2-15224	
S2-15224		SHEET 1 OF 1	

REV ZONE		ECO	DESCRIPTION	DATE	BY	APP
AT	-	-	RELEASE NUMBER 016571	6/12/09	B.D.B.	M.F.F.

STAMPED CONTACT PART NUMBER 106=PIN 106=SOCKET	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT	CRIMP WIDTH	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE
AT80-14-011x AT82-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	16	14 AWG 2.00mm ² 1.50mm ² 16 AWG 1.00mm ² 18 AWG 0.75mm ²	0.055(1.40) 0.055(1.40) 0.055(1.39) 0.050(1.27) 0.049(1.24) 0.048(1.22)	±0.003 NCH [±0.08 mm]	AT17-002-0200	AT17-101-0200	29(111)
AT60-16-011x AT62-16-011x INSULATION RANGE 0.075-0.140(1.91-3.56)	16	14 AWG 2.00mm ² 1.50mm ² 16 AWG 1.00mm ² 18 AWG 0.75mm ²	0.055(1.40) 0.055(1.40) 0.051(1.29) 0.050(1.27) 0.049(1.24) 0.048(1.22)	±0.003 NCH [±0.08 mm]	AT17-003-0200	AT17-103-0200	29(111)
AT60-16-066x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	16 AWG 1.00mm ² 0.75mm ² 20 AWG 0.50mm ²	0.050(1.27) 0.049(1.24) 0.048(1.22) 0.045(1.14)	±0.003 NCH [±0.08 mm]	AT17-003-0200	AT17-103-0200	29(111)

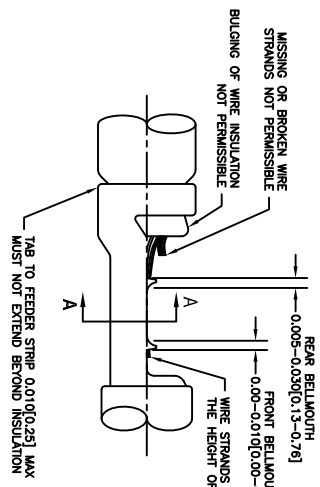
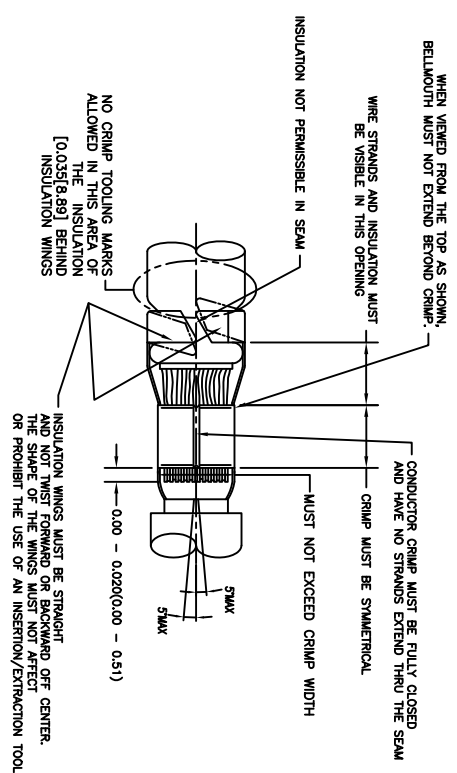
CROSS REFERENCE

SINE PART NUMBER	DEUTSCH PART NUMBER
MX-3950	DC116-02-00
AT17-002-0200	1017-002-0200
AT17-003-0200	1017-003-0200
AT17-101-0200	1017-101-0200
AT17-103-0200	1017-103-0200
AT17-210-0200	1017-210-0200
AT17-211-0200	1017-211-0200
AT17-213-0200	1017-213-0200
AT17-214-0200	1017-214-0200
AT17-217-0200	1017-217-0200
AT17-218-0200	1017-218-0200
AT17-310-0200	1017-310-0200
AT17-311-0200	1017-311-0200
AT17-313-0200	1017-313-0200
AT17-304-0200	1017-304-0200
AT17-317-0200	1017-317-0200
AT17-318-0200	1017-318-0200

INSULATION DIAMETER RANGE	INSULATION PUNCH NUMBER	INSULATION ANVIL NUMBER
0.120-0.150 [3.05-3.81]	AT17-210-0200	AT17-310-0200
0.105-0.125 [2.67-3.18]	AT17-211-0200	AT17-311-0200
0.085-0.111 [2.16-2.82]	AT17-213-0200	AT17-313-0200
0.075-0.105 [1.91-2.67]	AT17-214-0200	AT17-304-0200
0.065-0.094 [1.62-2.39]	AT17-217-0200	AT17-317-0200
0.050-0.075 [1.27-1.91]	AT17-218-0200	AT17-318-0200

NOTES: UNLESS OTHERWISE SPECIFIED

- ALL DIMENSIONS ARE IN INCHES(mm).
- FORCES ARE IN POUNDS(LBS) AND NEWTONS(N).
- "X"= PLATING SUFFIX. SEE INDIVIDUAL CONTACT DRAWING.
- WIRE STRIP LENGTH: 0.175±0.029(4.45±0.74). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
- USE A BLADE MICROMEETER (0.100(2.54) MIN. AND 0.060(0.010)(1.50(0.040) ANVIL) TO MEASURE THE CONDUCTOR CRIMP. SEE SECTION AA.
- CRIMP TENSILE STRENGTH IS DETERMINED AT A PULL RATE SPEED OF 1.00 INCH(25.4) PER MINUTE. INSULATION WINGS ARE REMOVED FOR TEST. ACTUAL CRIMP TENSILE STRENGTH DEPENDS ON WIRE/CONDUCTOR SIZE. VALUES ON THIS SPECIFICATION ARE FOR REFERENCE ONLY.
- INSULATION DIAMETER RANGE IS DETERMINED BY CONNECTOR AND ITS WIRE SEAL SIZE. SEE CONNECTOR DRAWING FOR INSULATION RANGE.
- INSULATION CRIMP DIAMETER SHOULD BE THE EQUAL OR LESS THAN THE DIAMETER OF THE WIRE INSULATION (HARD OR TEFION INSULATION MAY BE AN EXCEPTION). INSULATION CRIMP SHALL NOT AFFECT REMOVAL TOOL PERFORMANCE AND SHALL NOT DAMAGE CONNECTOR BROWNEI SEAL.
- CONDUCTOR TYPE ARE PER SAE J1128(AWG) AND ISO 6722(METRIC)
- FOR CONTACT MATERIAL AND PERFORMANCE DATA, SEE DRAWING S2-15217.
- REFER TO S2-15223 AND S2-15224 AND CROSS REFERENCE CHARTS FOR CRIMP TOOL DATA.



ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.

QUANTITY	PART NUMBER	MATERIALS LIST	DESCRIPTION	ITEM
UNLESS OTHERWISE SPECIFIED				
1) All dimensions are in inches.				
2) For SINE 3400 1 Position 31/4				
3) For SINE 3400 1 Position 31/4				
4) For SINE 3400 1 Position 31/4				
5) Production Standard Per: BERNEU				
6) Part: S2-20020				
7) Material Specification: WIRE				
8) Process Specifications: NA				
9) The use of this drawing is for reference only. It does not constitute a contract. All dimensions are subject to removal without notice. All documents referenced herein may contain revised information.				
CUSTOMER: BERNEU DATE: 6/8/09				
DRAWN: POTER DATE: 4/7/09				
CHECKED: TONCE DATE: 6/8/09				
ENGINEER: BERNEU				
APPROVAL: BERNEU DATE: 6/8/09				
SIZE: (PUSH) 10K/14				
SCALE: NONE				
S2-15222				
SHEET 1 OF 1				

SINE SYSTEMS CORPORATION
A Subsidiary of Amphenol Corporation
44724 Moley Drive
Clinton Township, MI 48036

CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MX-3950

REVISIONS			
REV	ZONE	ECO	DESCRIPTION
A1	-	-	RELEASE NUMBER 016971
			DATE 6/12/09
			BY B.O.B.
			APP. M.F.F.

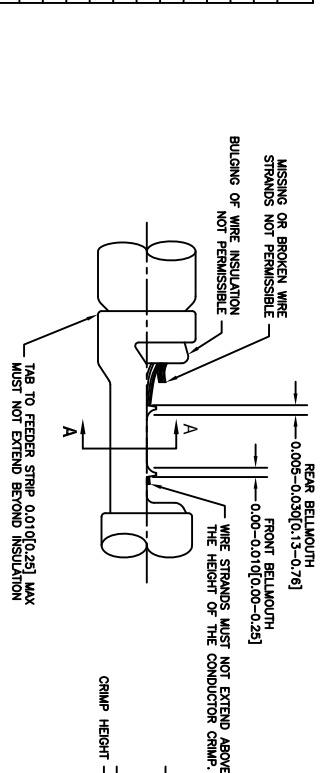
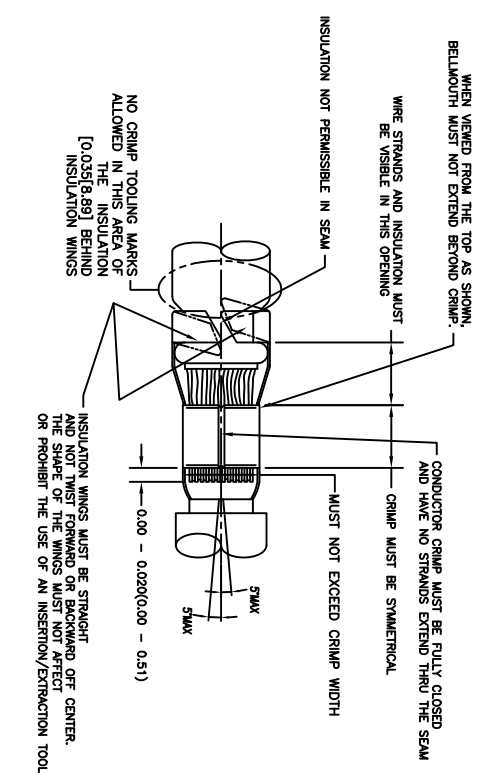
STAMPED CONTACT PART NUMBER (1009=PIN, 1009=SOCKET)	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT (+0.001/-0.002 INCH / +0.025/-0.05 mm)	CRIMP WIDTH (±0.013 INCH / ±0.08 mm)	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE (LBS/IN)
A160-14-011x A162-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	16	14 AWG 2.00mm ² 1.50mm ² 16 AWG 1.00mm ² 18 AWG	0.0591(1.40) 0.0551(1.40) 0.0531(1.39) 0.0501(1.27) 0.0481(1.24)	0.094(2.39) 0.084(2.39) 0.094(2.39) 0.084(2.39) 0.084(2.39)		A117-4083-0200 A117-183-0200	29(111)
A160-16-011x A162-16-011x INSULATION RANGE 0.075-0.140(1.91-3.59)	16	14 AWG 2.00mm ² 1.50mm ² 16 AWG 1.00mm ² 18 AWG	0.0591(1.40) 0.0551(1.40) 0.0531(1.39) 0.0501(1.27) 0.0481(1.24)	0.094(2.39) 0.084(2.39) 0.094(2.39) 0.084(2.39) 0.084(2.39)		A117-4083-0200 A117-183-0200	29(111)
A160-16-061x A162-16-061x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	16 AWG 1.00mm ² 0.75mm ² 20 AWG 0.50mm ²	0.0501(1.27) 0.0481(1.24) 0.0461(1.14) 0.0481(1.24) 0.0461(1.14)	0.079(2.01) 0.079(2.01) 0.079(2.01) 0.079(2.01) 0.079(2.01)		A117-4082-0200 A117-182-0200	29(111) 19(67)

CROSS REFERENCE

INSULATION DIAMETER RANGE	INSULATION PUNCH NUMBER	INSULATION ANVIL NUMBER	SINE PART NUMBER	DEUTSCH PART NUMBER
0.120-0.150 [3.05-3.81]	A117-225-0200	A117-326-0200	MPX-3953	DCT1620-02-00
0.105-0.125 [2.67-3.18]	A117-226-0200	A117-326-0200	A117-083-0200	1017-083-0200
0.085-0.111 [2.16-2.82]	A117-227-0200	A117-327-0200	A117-082-0200	1017-082-0200
0.075-0.105 [1.91-2.67]	A117-228-0200	A117-328-0200	A117-183-0200	1017-183-0200
0.063-0.094 [1.62-2.39]	A117-229-0200	A117-329-0200	A117-182-0200	1017-182-0200
0.050-0.075 [1.27-1.91]	A117-230-0200	A117-330-0200	A117-225-0200	1017-225-0200
			A117-226-0200	1017-226-0200
			A117-227-0200	1017-227-0200
			A117-228-0200	1017-228-0200
			A117-229-0200	1017-229-0200
			A117-230-0200	1017-230-0200
			A117-325-0200	1017-325-0200
			A117-326-0200	1017-326-0200
			A117-327-0200	1017-327-0200
			A117-328-0200	1017-328-0200
			A117-329-0200	1017-329-0200
			A117-330-0200	1017-330-0200

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN INCHES(mm).
2. FORCES ARE IN POUNDS(LBS) AND NEWTONS(N).
3. "X"= PLATING SUFFIX. SEE INDIVIDUAL CONTACT DRAWING.
4. WIRE STRIP LENGTH: 0.175±0.029(4.45±0.54). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE. USE A BLADE MICROMETER (0.100[2.54] MIN SPINDLE AND 0.060[0.010][1.50][0.040] ANVIL) TO MEASURE THE CONDUCTOR CRIMP. SEE SECTION AA.
5. CRIMP TENSILE STRENGTH IS DETERMINED AT A PULL RATE SPEED OF 1.00 INCH(2.54) PER MINUTE. INSULATION WINGS ARE REMOVED FOR TEST. ACTUAL CRIMP TENSILE STRENGTH DEPENDS ON WIRE/CONDUCTOR SIZE. VALUES ON THIS SPECIFICATION ARE FOR REFERENCE ONLY.
6. INSULATION DIAMETER RANGE IS DETERMINED BY CONNECTOR AND ITS WIRE SEAL SIZE. SEE CONNECTOR DRAWING FOR INSULATION RANGE.
7. INSULATION CRIMP DIAMETER SHOULD BE THE EQUAL OR LESS THAN THE DIAMETER OF THE WIRE INSULATION (HARD OR TEFION INSULATION MAY BE AN EXCEPTION). INSULATION CRIMP SHALL NOT AFFECT REMOVAL TOOL PERFORMANCE AND SHALL NOT DAMAGE CONNECTOR GROMMET SEAL.
8. CONDUCTOR TYPE ARE PER SAE J1128(AWG) AND ISO 6122(METRIC)
9. FOR CONTACT MATERIAL AND PERFORMANCE DATA, SEE DRAWING S2-15217.
10. REFER TO S2-15223 AND S2-15224 AND CROSS REFERENCE CHARTS FOR CRIMP TOOL DATA.



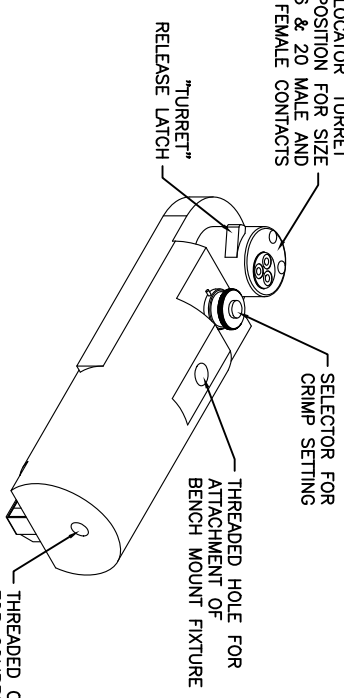
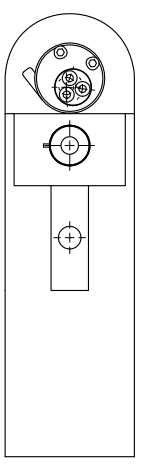
ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
UNLESS OTHERWISE SPECIFIED			
1) All dimensions are in inches.			
2) 1 lb. = 16.01 oz.			
3) 1 in. = 25.4 mm			
4) 1 mm = 0.03937 in.			
5) Reduction Standard Per: ASME Y14.5			
6) Form: S2-20020			
7) Material Specification: A			
8) Material Specification: NA			
PROCESS SPECIFICATIONS:			
THE USE OF THIS DRAWING IS SPECIFIC TO THE PART AND PERFORMANCE OF THE PART. ALL DIMENSIONS ARE SUBJECT TO NORMAL DOCUMENTS REVIEWED HEREON UNLESS OTHERWISE NOTED.			
SIZE: TYPICAL DIMENSIONS: 10K/44			
SCALE: NONE			
CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MPX-3953			
REVISION: A1			

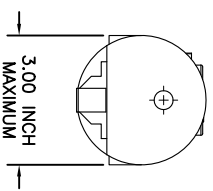
DATE	BY	APP.
4/7/09	ROTTER	
6/8/09	BERNIM	
6/8/09	BERNIM	

REVIZIONS		DESCRIPTION	DATE	BY	APPR
REV	ZONE	ECO	RELEASE NUMBER 016571	6/12/09	B.D.B.
AI	-	-			M.R.F.

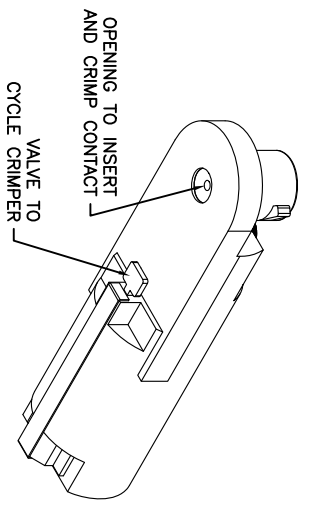
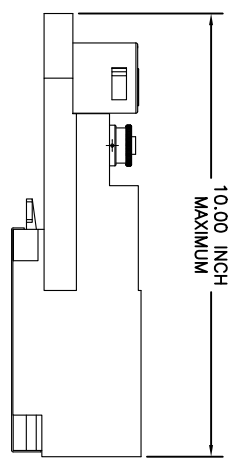
CONTACT LOCATOR "TURRET"
THREE POSITION FOR SIZE
12, 16 & 20 MALE AND
FEMALE CONTACTS



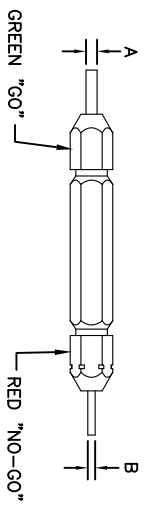
THREADED OPENING
FOR COMPRESSED
AIR FITTING



10.00 INCH
MAXIMUM



GAGE PART NO.	A GO DIA.	B NO-GO DIA.	SELECTOR NUMBER
G125	.0390	.0440	4

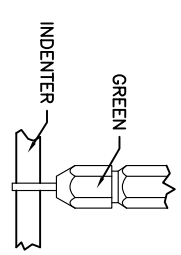


GAGING INSTRUCTIONS

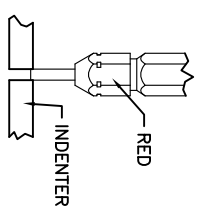
CAUTION!
DO NOT CRIMP GAGE!

"GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "GO" GAGE END AS SHOWN. GAGE MUST PASS FREELY BETWEEN INDENTER TIPS.

"NO-GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "NO-GO" GAGE END AS SHOWN. THE "NO-GO" MAY PARTIALLY ENTER THE INDENTER OPENING, BUT MUST NOT PASS COMPLETELY THROUGH THE OPENING.



SELECTOR NUMBER	A GO DIA.	B NO-GO DIA.
1	.0280	.0330
2	.0320	.0370
3	.0360	.0410
4	.0390	.0440
5	.0450	.0500
6	.0520	.0570
7	.0590	.0640
8	.0680	.0730



- THE CA-5E12 IS A COMPRESSED AIR OPERATED HAND CRIMPER FOR ELECTRICAL CONTACTS. IT IS ADJUSTABLE TO 3 CONTACT SIZES (12, 16 & 20) AND 8 INDENTER CRIMP POSITIONS FOR DIFFERENT WIRE SIZES (12AWG THRU 26 AWG).
- 80-120 PSI COMPRESSED AIR.
- WEIGHT: 3.1 LBS
- SELECTING CONTACT SIZE: PRESS THE RELEASE LATCH ON SIDE OF THE CONTACT LOCATOR "TURRET". ROTATE TO THE DESIRED CONTACT SIZE. THE TOP OF THE "TURRET" IS EMBOSSED WITH THE CONTACT SIZES.
- SELECTING WIRE SIZE: GRASP THE SELECTOR AND ROTATE TO THE DESIRED NUMBER.

CONTACT SIZE	LOCATOR "TURRET" POSITION	WIRE COLOR	SELECTOR NUMBER
20-20	RED	1	2
16-22	BLUE	4	5
16-20	BLUE	1	2
16-16	BLUE	4	5
12-16	YELLOW	4	5
12-12	YELLOW		7
			8

MATERIALS LIST

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
1	S2-15220	CRIMPER, PNEUMATIC, CA-5E12	9

SINE Systems Corporation
A Subsidiary of Amphenol Corporation
44724 Mowley Drive
Canton Township, MI 48036

INSTRUCTIONS FOR CA-5E12 CRIMPER, PNEUMATIC

SIZE: 10K44
SCALE: NONE
S2-15220

UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE
1. All dimensions are in inches.	DESIGN: BERNUIM	6/2/09
2. Pl. SEC 30.00	CHECK: RONE	6/3/09
3. Pl. SEC 30.01	APPROVAL: BERNUIM	6/3/09
4) Rev. SS-20020	CUSTOMER: BERNUIM	6/3/09
5) Revision Standard Per: A		
6) Rev. SS-20020		
7) Rev. SS-20020		
8) Rev. SS-20020		
9) Rev. SS-20020		
10) Rev. SS-20020		
11) Rev. SS-20020		
12) Rev. SS-20020		
13) Rev. SS-20020		
14) Rev. SS-20020		
15) Rev. SS-20020		
16) Rev. SS-20020		
17) Rev. SS-20020		
18) Rev. SS-20020		
19) Rev. SS-20020		
20) Rev. SS-20020		
21) Rev. SS-20020		
22) Rev. SS-20020		
23) Rev. SS-20020		
24) Rev. SS-20020		
25) Rev. SS-20020		
26) Rev. SS-20020		
27) Rev. SS-20020		
28) Rev. SS-20020		
29) Rev. SS-20020		
30) Rev. SS-20020		
31) Rev. SS-20020		
32) Rev. SS-20020		
33) Rev. SS-20020		
34) Rev. SS-20020		
35) Rev. SS-20020		
36) Rev. SS-20020		
37) Rev. SS-20020		
38) Rev. SS-20020		
39) Rev. SS-20020		
40) Rev. SS-20020		
41) Rev. SS-20020		
42) Rev. SS-20020		
43) Rev. SS-20020		
44) Rev. SS-20020		
45) Rev. SS-20020		
46) Rev. SS-20020		
47) Rev. SS-20020		
48) Rev. SS-20020		
49) Rev. SS-20020		
50) Rev. SS-20020		
51) Rev. SS-20020		
52) Rev. SS-20020		
53) Rev. SS-20020		
54) Rev. SS-20020		
55) Rev. SS-20020		
56) Rev. SS-20020		
57) Rev. SS-20020		
58) Rev. SS-20020		
59) Rev. SS-20020		
60) Rev. SS-20020		
61) Rev. SS-20020		
62) Rev. SS-20020		
63) Rev. SS-20020		
64) Rev. SS-20020		
65) Rev. SS-20020		
66) Rev. SS-20020		
67) Rev. SS-20020		
68) Rev. SS-20020		
69) Rev. SS-20020		
70) Rev. SS-20020		
71) Rev. SS-20020		
72) Rev. SS-20020		
73) Rev. SS-20020		
74) Rev. SS-20020		
75) Rev. SS-20020		
76) Rev. SS-20020		
77) Rev. SS-20020		
78) Rev. SS-20020		
79) Rev. SS-20020		
80) Rev. SS-20020		
81) Rev. SS-20020		
82) Rev. SS-20020		
83) Rev. SS-20020		
84) Rev. SS-20020		
85) Rev. SS-20020		
86) Rev. SS-20020		
87) Rev. SS-20020		
88) Rev. SS-20020		
89) Rev. SS-20020		
90) Rev. SS-20020		
91) Rev. SS-20020		
92) Rev. SS-20020		
93) Rev. SS-20020		
94) Rev. SS-20020		
95) Rev. SS-20020		
96) Rev. SS-20020		
97) Rev. SS-20020		
98) Rev. SS-20020		
99) Rev. SS-20020		
100) Rev. SS-20020		

REV ZONE		ECO		REVISIONS		DESCRIPTION	DATE	BY	APPR
AI	-	-	-	RELEASE NUMBER	016571		6/12/09	B.D.B.	M.R.F.

CONTACT LOCATOR
"TURRET"
THREE POSITIONS FOR
SIZE 12, 16 & 20 MALE
AND FEMALE CONTACTS

"TURRET" RELEASE LATCH

6.25 INCH
MAXIMUM
OPEN

2.30 INCH
MAXIMUM
CLOSED

SELECTOR FOR CRIMP
SETTING

1.125 INCH MAX.

9.75 INCH MAXIMUM

1.00 INCH MAX.

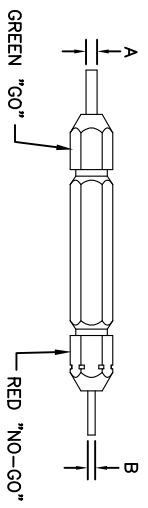
- NOTES:
- THE CA-5D12 IS A HAND OPERATED CRIMPER FOR ELECTRICAL CONTACTS. IT IS ADJUSTABLE TO 3 CONTACT SIZES (12, 16 & 20) AND 8 INDENTER CRIMP POSITIONS FOR DIFFERENT WIRE SIZES (12AWG THRU 26 AWG).
 - WEIGHT: 1.64 LBS
 - SELECTING CONTACT SIZE: PRESS THE RELEASE LATCH ON SIDE OF THE CONTACT LOCATOR "TURRET". ROTATE TO THE DESIRED CONTACT SIZE. THE TOP OF THE "TURRET" IS EMBOSSED WITH THE CONTACT SIZES.
 - SELECTING WIRE SIZE: REMOVE THE LOCKING CLIP. GRASP THE SELECTOR AND ROTATE TO THE DESIRED NUMBER.

CONTACT SIZE	LOCATOR "TURRET" POSITION COLOR	SELECTOR NUMBER								
		1	2	3	4	5	6	7	8	
20-20	RED	1	2	3	4					
16-22	BLUE	4	5	6						
16-20	BLUE	1	2	3	4					
16-16	BLUE				4	5	6			
12-16	YELLOW				4	5	6			
12-12	YELLOW							7		8

GAGING INSTRUCTIONS

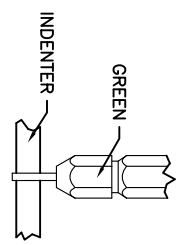
CAUTION!
DO NOT CRIMP GAGE!

GAGE PART NO.	A GO DIA.	B NO-GO DIA.	SELECTOR NUMBER
G125	.0390	.0440	4

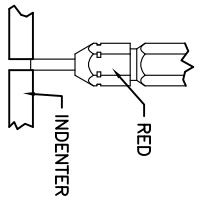


"GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "GO" GAGE END AS SHOWN. GAGE MUST PASS FREELY BETWEEN INDENTER TIPS.

"NO-GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "NO-GO" GAGE END AS SHOWN. THE "NO-GO" MAY PARTIALLY ENTER THE INDENTER OPENING, BUT MUST NOT PASS COMPLETELY THROUGH THE OPENING.



SELECTOR NUMBER	A $\pm .0001$ GO DIA.	B $\pm .0001$ NO-GO DIA.
1	.0280	.0330
2	.0320	.0370
3	.0360	.0410
4	.0390	.0440
5	.0450	.0500
6	.0520	.0570
7	.0590	.0640
8	.0880	.0730



QUANTITY	PART NUMBER	DESCRIPTION	ITEM

MATERIALS LIST		SIGNATURES		DATE
UNLESS OTHERWISE SPECIFIED				
1) All dimensions are in inches.				
2) Pl. SEC. 30.00				
3) Pl. SEC. 30.00				
4) Pl. SEC. 30.00				
5) Pl. SEC. 30.00				
6) Pl. SEC. 30.00				
7) Pl. SEC. 30.00				
8) Pl. SEC. 30.00				
9) Pl. SEC. 30.00				
10) Pl. SEC. 30.00				
11) Pl. SEC. 30.00				
12) Pl. SEC. 30.00				
13) Pl. SEC. 30.00				
14) Pl. SEC. 30.00				
15) Pl. SEC. 30.00				
16) Pl. SEC. 30.00				
17) Pl. SEC. 30.00				
18) Pl. SEC. 30.00				
19) Pl. SEC. 30.00				
20) Pl. SEC. 30.00				
21) Pl. SEC. 30.00				
22) Pl. SEC. 30.00				
23) Pl. SEC. 30.00				
24) Pl. SEC. 30.00				
25) Pl. SEC. 30.00				
26) Pl. SEC. 30.00				
27) Pl. SEC. 30.00				
28) Pl. SEC. 30.00				
29) Pl. SEC. 30.00				
30) Pl. SEC. 30.00				
31) Pl. SEC. 30.00				
32) Pl. SEC. 30.00				
33) Pl. SEC. 30.00				
34) Pl. SEC. 30.00				
35) Pl. SEC. 30.00				
36) Pl. SEC. 30.00				
37) Pl. SEC. 30.00				
38) Pl. SEC. 30.00				
39) Pl. SEC. 30.00				
40) Pl. SEC. 30.00				
41) Pl. SEC. 30.00				
42) Pl. SEC. 30.00				
43) Pl. SEC. 30.00				
44) Pl. SEC. 30.00				
45) Pl. SEC. 30.00				
46) Pl. SEC. 30.00				
47) Pl. SEC. 30.00				
48) Pl. SEC. 30.00				
49) Pl. SEC. 30.00				
50) Pl. SEC. 30.00				
51) Pl. SEC. 30.00				
52) Pl. SEC. 30.00				
53) Pl. SEC. 30.00				
54) Pl. SEC. 30.00				
55) Pl. SEC. 30.00				
56) Pl. SEC. 30.00				
57) Pl. SEC. 30.00				
58) Pl. SEC. 30.00				
59) Pl. SEC. 30.00				
60) Pl. SEC. 30.00				
61) Pl. SEC. 30.00				
62) Pl. SEC. 30.00				
63) Pl. SEC. 30.00				
64) Pl. SEC. 30.00				
65) Pl. SEC. 30.00				
66) Pl. SEC. 30.00				
67) Pl. SEC. 30.00				
68) Pl. SEC. 30.00				
69) Pl. SEC. 30.00				
70) Pl. SEC. 30.00				
71) Pl. SEC. 30.00				
72) Pl. SEC. 30.00				
73) Pl. SEC. 30.00				
74) Pl. SEC. 30.00				
75) Pl. SEC. 30.00				
76) Pl. SEC. 30.00				
77) Pl. SEC. 30.00				
78) Pl. SEC. 30.00				
79) Pl. SEC. 30.00				
80) Pl. SEC. 30.00				
81) Pl. SEC. 30.00				
82) Pl. SEC. 30.00				
83) Pl. SEC. 30.00				
84) Pl. SEC. 30.00				
85) Pl. SEC. 30.00				
86) Pl. SEC. 30.00				
87) Pl. SEC. 30.00				
88) Pl. SEC. 30.00				
89) Pl. SEC. 30.00				
90) Pl. SEC. 30.00				
91) Pl. SEC. 30.00				
92) Pl. SEC. 30.00				
93) Pl. SEC. 30.00				
94) Pl. SEC. 30.00				
95) Pl. SEC. 30.00				
96) Pl. SEC. 30.00				
97) Pl. SEC. 30.00				
98) Pl. SEC. 30.00				
99) Pl. SEC. 30.00				
100) Pl. SEC. 30.00				

INSTRUCTIONS FOR CA-5D12
CRIMPER, HAND, MACHINED CONTACTS

SIZE: 10K44
SCALE: NONE
S2-15219
SHEET 1 OF 1

REVISION A1

REVOLUTIONS		DESCRIPTION	DATE	BY	APPR
REV	ZONE	ECO	6/12/08	B.D.B.	M.R.F.
AT	-	-	RELEASE NUMBER 016871		

SOLID CONTACT SIZE	SOLID CONTACT PART NUMBERS		WIRE SIZE AVG (mm ²)	RECOMMENDED STRIP LENGTH INCH (mm)	MIN CONTACT RETENTION LBS (N)	REF CRIMP TENSILE LBS (N)	MAX RATED AMPS @ 125°C CONTINUOUS
	PIN	SOCKET					
16	AT60-202-16**	AT62-201-16**	16-20 [1.5-0.5]	0.25-0.31 [6.35-7.92]	25 [1111]	35-20 [156-89]	13

S&P CONTACT SIZE	STAMPED CONTACT PART NUMBERS		WIRE SIZE AVG (mm ²)	WIRE INSULATION O.D. RANGE	RECOMMENDED STRIP LENGTH INCH (mm)	MIN CONTACT RETENTION LBS (N)	REF CRIMP TENSILE LBS (N)	MAX RATED AMPS @ 125°C CONTINUOUS
	PIN	SOCKET						
16	AT60-14-01**	AT62-14-01**	14-16 [2.0-1.0]	.100 - .150 [2.54 - 3.81]	0.150-0.200 [3.81-5.08]	25 [1111]	25 [1111]	13
16	AT60-16-01**	AT62-16-01**	16-18 [1.0-0.75]	.075 - .100 [1.90 - 2.54]	0.150-0.200 [3.81-5.08]	25 [1111]	25 [1111]	13
16	AT60-16-06**	AT62-16-06**	18-20 [0.75-0.50]	.055 - .095 [1.40 - 2.41]	0.150-0.200 [3.81-5.08]	25 [1111]	25-15 [111+67]	13

CONTACT RESISTANCE STRENGTH (LESS DROP THROUGH WIRE)			
WIRE AWG	TEST CURRENT	MILLIVOLT DROP SOLID	MILLIVOLT DROP S&P
14	18	60	100
16	13	60	100
18	10	60	100
20	7.5	60	100

MATERIAL SPECIFICATION AND PLATING ** CODES	
PIN: COPPER ALLOY	SOCKET: COPPER ALLOY WITH STAINLESS STEEL SLEEVE
SOLID MACHINED CONTACT PLATING OPTIONS: Δ 31= GOLD* 141= NICKEL	
STAMPED CONTACT PLATING OPTIONS: Δ 22= NICKEL 44= GOLD* 89= SELECTIVE GOLD*	
GOLD* PLATING IS AVAILABLE (RECOMMENDED) FOR ONLY (<5V) CIRCUIT APPLICATIONS MATERIALS AND PLATINGS ARE ROHS COMPLIANT	

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE INCHES(MM).
2. ALL FORCES ARE IN LBS(POUNDS) AND "N" (NEWTONS).
3. CONTACT RETENTION TEST PULL RATE SHALL BE 1.0 INCH(25.4) PER MINUTE MAXIMUM. WIRE SIZE WILL AFFECT THE TRUE STRENGTH OF THE CRIMP.
4. WIRE SIZES AND INSULATION RANGES ARE FOR REFERENCE ONLY. THE ACTUAL INSULATION RANGE DEPENDS ON CONNECTOR GROMMET SEALING SIZE.

SEE SPECIFICATIONS LISTED BELOW FOR INDIVIDUAL CRIMP INFORMATION:

"SOLID" CONTACTS	SIZE	"STAMPED" CONTACTS	SIZE
	S2-15218	S2-15222	16
		S2-15221	16/20

1. MAXIMUM RATED CURRENT IN CHART DEPENDS ON CONTACT SIZE. ACTUAL RATED CURRENT DEPENDS ON WIRE SIZE.
2. CONTACT FACTORY FOR ALL AVAILABLE PLATING ON SPECIFIC CONTACTS.
3. AMPHENOL SINE PERFORMANCE SPECIFICATIONS REQUIRE THE USE OF AMPHENOL SINE APPROVED TOOLING.

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE	
1) All dimensions are in inches.	DATE	4/5/09	
2) Pl. SEE 30.00	ORDERED	6/3/09	
3) Pl. SEE 30.00	ENGINEER	BERNIM	
4) Pl. SEE 30.00	APPROVAL	BERNIM	
5) Fabrication Standards Per: SS-20020	CUSTOMER	6/3/09	
6) Pl. SEE 30.00	APPROVAL		
7) Pl. SEE 30.00	CUSTOMER		
8) Pl. SEE 30.00	APPROVAL		
9) Pl. SEE 30.00	CUSTOMER		
10) Pl. SEE 30.00	APPROVAL		
11) Pl. SEE 30.00	CUSTOMER		
12) Pl. SEE 30.00	APPROVAL		
13) Pl. SEE 30.00	CUSTOMER		
14) Pl. SEE 30.00	APPROVAL		
15) Pl. SEE 30.00	CUSTOMER		
16) Pl. SEE 30.00	APPROVAL		
17) Pl. SEE 30.00	CUSTOMER		
18) Pl. SEE 30.00	APPROVAL		
19) Pl. SEE 30.00	CUSTOMER		
20) Pl. SEE 30.00	APPROVAL		
21) Pl. SEE 30.00	CUSTOMER		
22) Pl. SEE 30.00	APPROVAL		
23) Pl. SEE 30.00	CUSTOMER		
24) Pl. SEE 30.00	APPROVAL		
25) Pl. SEE 30.00	CUSTOMER		
26) Pl. SEE 30.00	APPROVAL		
27) Pl. SEE 30.00	CUSTOMER		
28) Pl. SEE 30.00	APPROVAL		
29) Pl. SEE 30.00	CUSTOMER		
30) Pl. SEE 30.00	APPROVAL		
31) Pl. SEE 30.00	CUSTOMER		
32) Pl. SEE 30.00	APPROVAL		
33) Pl. SEE 30.00	CUSTOMER		
34) Pl. SEE 30.00	APPROVAL		
35) Pl. SEE 30.00	CUSTOMER		
36) Pl. SEE 30.00	APPROVAL		
37) Pl. SEE 30.00	CUSTOMER		
38) Pl. SEE 30.00	APPROVAL		
39) Pl. SEE 30.00	CUSTOMER		
40) Pl. SEE 30.00	APPROVAL		
41) Pl. SEE 30.00	CUSTOMER		
42) Pl. SEE 30.00	APPROVAL		
43) Pl. SEE 30.00	CUSTOMER		
44) Pl. SEE 30.00	APPROVAL		
45) Pl. SEE 30.00	CUSTOMER		
46) Pl. SEE 30.00	APPROVAL		
47) Pl. SEE 30.00	CUSTOMER		
48) Pl. SEE 30.00	APPROVAL		
49) Pl. SEE 30.00	CUSTOMER		
50) Pl. SEE 30.00	APPROVAL		
51) Pl. SEE 30.00	CUSTOMER		
52) Pl. SEE 30.00	APPROVAL		
53) Pl. SEE 30.00	CUSTOMER		
54) Pl. SEE 30.00	APPROVAL		
55) Pl. SEE 30.00	CUSTOMER		
56) Pl. SEE 30.00	APPROVAL		
57) Pl. SEE 30.00	CUSTOMER		
58) Pl. SEE 30.00	APPROVAL		
59) Pl. SEE 30.00	CUSTOMER		
60) Pl. SEE 30.00	APPROVAL		
61) Pl. SEE 30.00	CUSTOMER		
62) Pl. SEE 30.00	APPROVAL		
63) Pl. SEE 30.00	CUSTOMER		
64) Pl. SEE 30.00	APPROVAL		
65) Pl. SEE 30.00	CUSTOMER		
66) Pl. SEE 30.00	APPROVAL		
67) Pl. SEE 30.00	CUSTOMER		
68) Pl. SEE 30.00	APPROVAL		
69) Pl. SEE 30.00	CUSTOMER		
70) Pl. SEE 30.00	APPROVAL		
71) Pl. SEE 30.00	CUSTOMER		
72) Pl. SEE 30.00	APPROVAL		
73) Pl. SEE 30.00	CUSTOMER		
74) Pl. SEE 30.00	APPROVAL		
75) Pl. SEE 30.00	CUSTOMER		
76) Pl. SEE 30.00	APPROVAL		
77) Pl. SEE 30.00	CUSTOMER		
78) Pl. SEE 30.00	APPROVAL		
79) Pl. SEE 30.00	CUSTOMER		
80) Pl. SEE 30.00	APPROVAL		
81) Pl. SEE 30.00	CUSTOMER		
82) Pl. SEE 30.00	APPROVAL		
83) Pl. SEE 30.00	CUSTOMER		
84) Pl. SEE 30.00	APPROVAL		
85) Pl. SEE 30.00	CUSTOMER		
86) Pl. SEE 30.00	APPROVAL		
87) Pl. SEE 30.00	CUSTOMER		
88) Pl. SEE 30.00	APPROVAL		
89) Pl. SEE 30.00	CUSTOMER		
90) Pl. SEE 30.00	APPROVAL		
91) Pl. SEE 30.00	CUSTOMER		
92) Pl. SEE 30.00	APPROVAL		
93) Pl. SEE 30.00	CUSTOMER		
94) Pl. SEE 30.00	APPROVAL		
95) Pl. SEE 30.00	CUSTOMER		
96) Pl. SEE 30.00	APPROVAL		
97) Pl. SEE 30.00	CUSTOMER		
98) Pl. SEE 30.00	APPROVAL		
99) Pl. SEE 30.00	CUSTOMER		
100) Pl. SEE 30.00	APPROVAL		

SINE Systems Corporation
A Subsidiary of Amphenol Corporation
44724 Moley Drive
Clinton Township, MI 48036

GENERAL DATA, CONTACTS STAMPED AND FORMED / MACHINED

SIZE: Pcs/lot 10000
SCALE: NONE
S2-15217
SHEET 1 OF 1