

## 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)

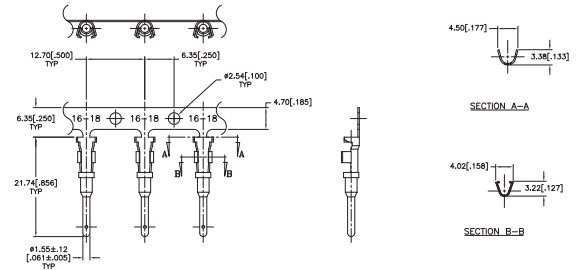


## STAMPED AND FORMED CONTACTS, PG 2 of 2

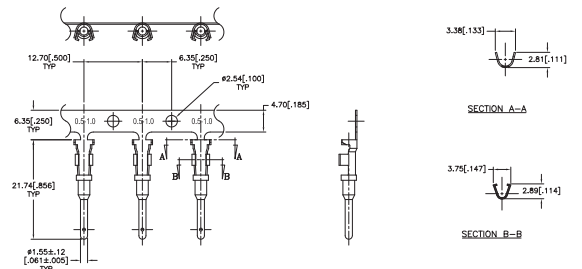
Click on [blue underlined part numbers](#) to be taken to their spec sheets.

### 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

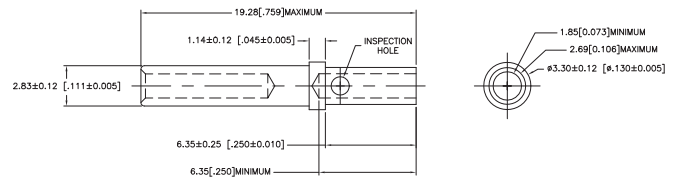


**PART NUMBER:** [AT62-201-16XX](#)  
**DESCRIPTION:** CONTACT, SOCKET, SOLID MACHINED, SIZE 16  
**MATERIAL:**  
 CONTACT BODY: COPPER ALLOY  
 HOOD: STAINLESS STEEL  
**PLATING SUFFIX CODE:**  
 XX=141 NICKEL PLATING  
 XX=31 GOLD PLATING  
**CONTACT GENERAL DATA SPECIFICATION:** S2-15217  
**AVAILABLE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



ROCKSOLID™ CONTACTS

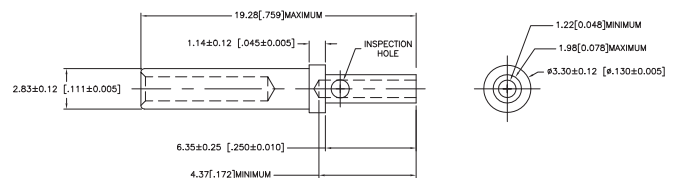
**PART NUMBER:** [65-54942-14](#)  
**DESCRIPTION:** CONTACT, SOCKET, ROCKSOLID, SIZE 16  
**AWG RANGE:** 14AWG  
**MATERIAL:** COPPER ALLOY  
**PLATING:** GOLD  
**CONTACT GENERAL DATA SPECIFICATION:** S2-15217  
**AVAILABLE CRIMPERS:** CA-5D12 & CA-5E12  
**CRIMPER SPECIFICATIONS:** S2-15219 & S2-15220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





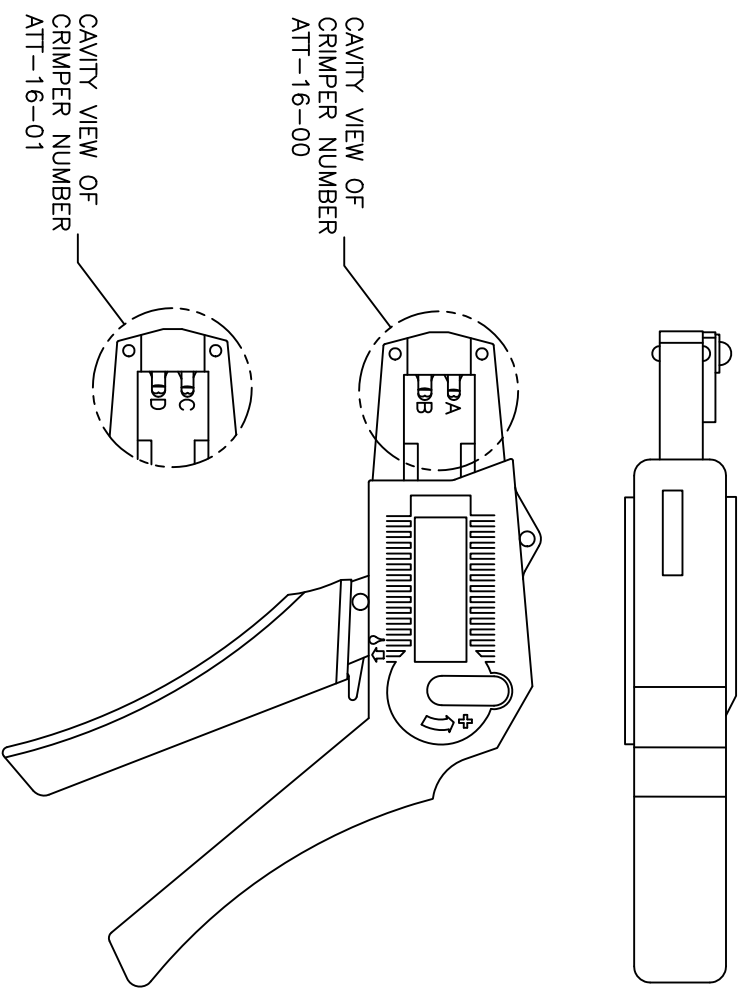
REVISIONS					
REV	ECO	DESCRIPTION	DATE	BY	APPR
A1	-	RELEASE NUMBER 016571	6/12/09	B.D.B.	M.R.F.

USE CRIMPER NUMBER:  
ATT-16-00 WITH CAVITY A & B

CONTACT P/N:	INSULATION $\phi$	CAVITY	WIRE SIZE
AT60-16-01**	.075 - .140	B	1.5mm <sup>2</sup>
AT62-16-01**	[1.91 - 3.56]	A	16AWG
		A	1.0mm <sup>2</sup>
AT60-14-01**	.095 - .150	B	14AWG
AT62-14-01**	[2.41 - 3.81]	B	2.0mm <sup>2</sup>
		B	1.5mm <sup>2</sup>
		A	1.5mm <sup>2</sup>
		A	16AWG
		A	1.0mm <sup>2</sup>
AT60-16-06**	.055 - .100	A	16AWG
AT62-16-06**	[1.40 - 2.54]	A	1.0mm <sup>2</sup>

USE CRIMPER NUMBER:  
ATT-16-01 WITH CAVITY C & D

CONTACT P/N:	INSULATION $\phi$	CAVITY	WIRE SIZE
AT60-16-01**	.075 - .140	D	18AWG
AT62-16-01**	[1.91 - 3.56]	D	.75mm <sup>2</sup>
AT60-16-06**	.055 - .100	D	18AWG
AT62-16-06**	[1.40 - 2.54]	D	.75mm <sup>2</sup>
		C	.50mm <sup>2</sup>



CAVITY VIEW OF  
CRIMPER NUMBER  
ATT-16-00

CAVITY VIEW OF  
CRIMPER NUMBER  
ATT-16-01

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

- NOTES (UNLESS OTHERWISE SPECIFIED):
- ALL DIMENSIONS IN INCHES [MILLIMETERS]
  - FOR PLATING CODES \*\* SEE CONTACT DATA DRAWINGS.
  - THIS TOOL IS FOR CRIMPING SIZE 16 CONTACTS ONLY TO WIRES LISTED IN THE CHARTS.
  - DEUTSCH IPD CROSS REFERENCE PART NUMBERS ARE DTT-16-00 AND DTT-16-01.

QUANTITY	PART NUMBER	DESCRIPTION	ITER#
		<b>MATERIALS LIST</b>	
		<b>SINE Systems Corporation</b>	
		A Subsidiary of Amphenol Corporation 44724 Morley Drive Clifton Township, NJ 08036	
		INSTRUCTIONS, ATT-16-00 & 01 CRIMPER, HAND, STAMPED CONTACTS	
		SIZE: PCD# NONE	REVISION: A1
		SCALE: NONE	REV: S2-15223
			SHEET 1 OF 1

SIGNATURES	DATE
DESIGNED: BERNUW	6/8/09
CHECKED: FORCE	6/8/09
ENGINEER: BERNUW	
APPROVAL: BERNUW	6/8/09

UNLESS OTHERWISE SPECIFIED
1) All dimensions are in inches.
2) Tolerances are as follows:
3) For DEC 3000
4) Hole Reference = A

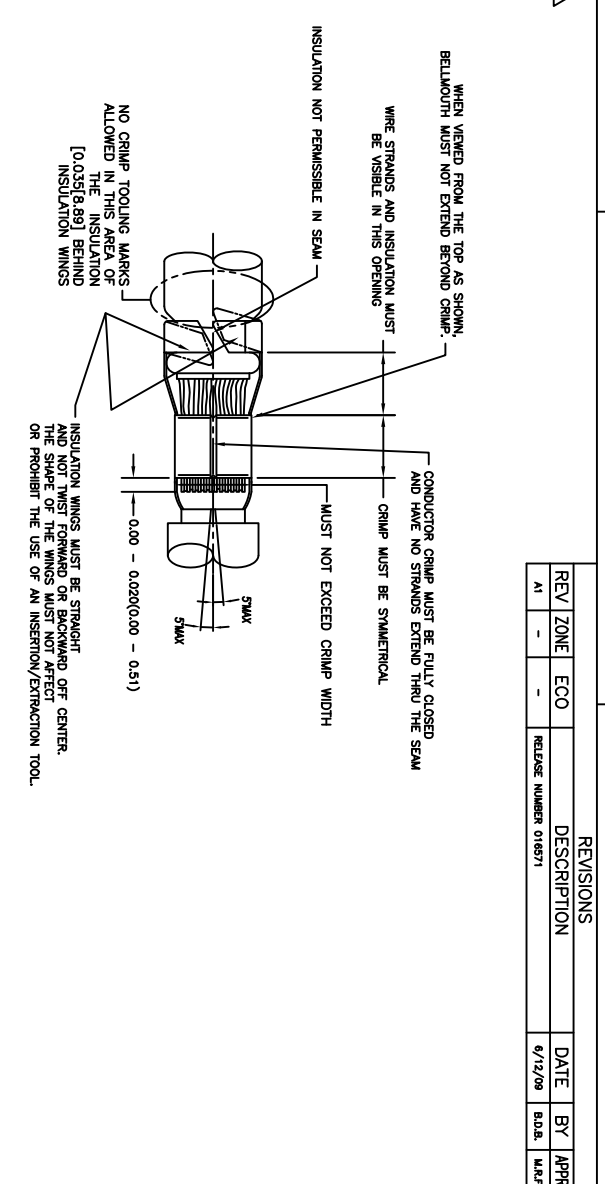
PROCESS SPECIFICATIONS
N/A

THE USE OF THIS DOCUMENT IS UNLIMITED. DESIGN FEATURES, SPECIFIC DATA SHOWN, METHOD AND THE PROPERTY OF AMPHENOL CORP. ALL DIMENSIONS AND TOLERANCES ARE THE PROPERTY OF AMPHENOL CORPORATION. DOCUMENTS REFERENCED HEREON MAY CONTAIN UNLIMITED VARIATIONS.
AMPHENOL LIMITED RIGHTS DATA

REV: S2-15223	DWG NO:	INSTRUCTIONS, CRIMPER, HAND	TITLE:
1			

REVISONS		DESCRIPTION	DATE	BY	APP
REV	ZONE	ECO	RELEASE NUMBER	B.D.B.	M.F.F.
1	-	-	016871	6/12/08	

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
A780-14-011x A782-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	16	14 AWG 2.00mm <sup>2</sup> 1.50mm <sup>2</sup> 16 AWG 1.00mm <sup>2</sup> 18 AWG 0.75mm <sup>2</sup>	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		28(111) 28(111)
A780-16-011x A782-16-011x INSULATION RANGE 0.075-0.140(1.91-3.56)	16	16 AWG 1.00mm <sup>2</sup> 18 AWG 0.75mm <sup>2</sup>	0.050(1.27) 0.051(1.30) 0.049(1.24) 0.048(1.22)	±0.003 NCH ±0.08 mm	AT17-003-0200 AT17-103-0200		28(111) 28(111)
A780-18-011x A782-18-011x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	18 AWG 1.00mm <sup>2</sup> 20 AWG 0.50mm <sup>2</sup>	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		28(111) 15(67)



**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
0.063-0.094 [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**

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±0.02(4.45±0.54). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
5. USE A BLADE MICROMETER (0.100(2.54) MIN SPREAD AND 0.060(0.010(1.50)(0.040) ANVIL) TO MEASURE THE CONDUCTOR CRIMP. SEE SECTION AA.
6. 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.
7. INSULATION DIAMETER RANGE IS DETERMINED BY CONNECTOR AND ITS WIRE SEAL SIZE. SEE CONNECTOR DRAWING FOR INSULATION RANGE.
8. INSULATION CRIMP DIAMETER SHOULD BE THE EQUAL OR LESS THAN THE DIAMETER OF THE WIRE INSULATION (HARD OR TEFLON INSULATION MAY BE AN EXCEPTION). INSULATION CRIMP SHALL NOT AFFECT REMOVAL TOOL PERFORMANCE AND SHALL NOT DAMAGE CONNECTOR GROMMET SEAL.
9. CONDUCTOR TYPE ARE PER SAE J1128(AWG) AND ISO 6722(METRIC)
10. FOR CONTACT MATERIAL AND PERFORMANCE DATA, SEE DRAWING S2-15217.
11. 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) Plating is as shown on drawing.				
3) Plating is as shown on drawing.				
4) Plating is as shown on drawing.				
5) Production Standards Per:				
a) MIL-STD-20020				
b) MIL-STD-20020				
c) MIL-STD-20020				
d) MIL-STD-20020				
APPROVALS:				
DESIGNED BY:	ROTOR	DATE:	4/7/09	
CHECKED BY:	ROTOR	DATE:	6/8/09	
ENGINEER:	BERNIM	DATE:	6/8/09	
APPROVAL:	BERNIM	DATE:	6/8/09	
CUSTOMER: NA				
PROCESS SPECIFICATIONS:				
THE USE OF THIS DRAWING IS SPECIFIC TO THE PART AND PERFORMANCE DATA. ANY CHANGES TO THIS DRAWING MUST BE APPROVED BY THE ORIGINAL DESIGNER. ALL DIMENSIONS ARE SUBJECT TO REMOVAL DOCUMENTS REFERENCED HEREON UNLESS OTHERWISE SPECIFIED.				
SIZE: (P) (S) (M) (L) (H) (W) (D) (T) (R) (C) (K) (A) (4)				
SCALE: NONE				
S2-15222				
SHEET 1 OF 1				

CRIMP DATA, STAMPED CONTACTS  
 A Subsidiary of Amphenol Corporation  
 44724 Moley Drive  
 Clinton Township, MI 48036

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

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

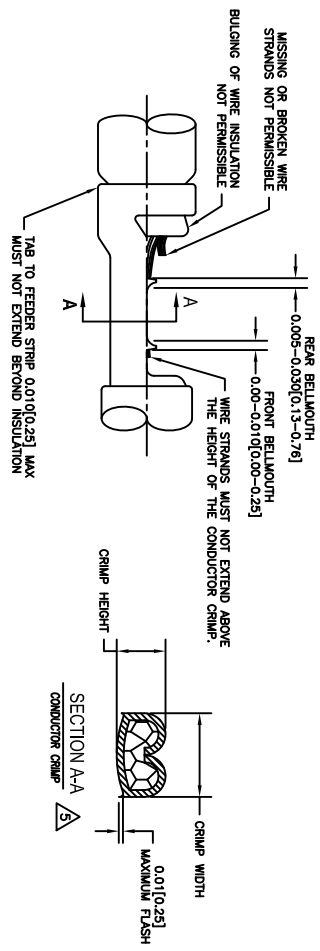
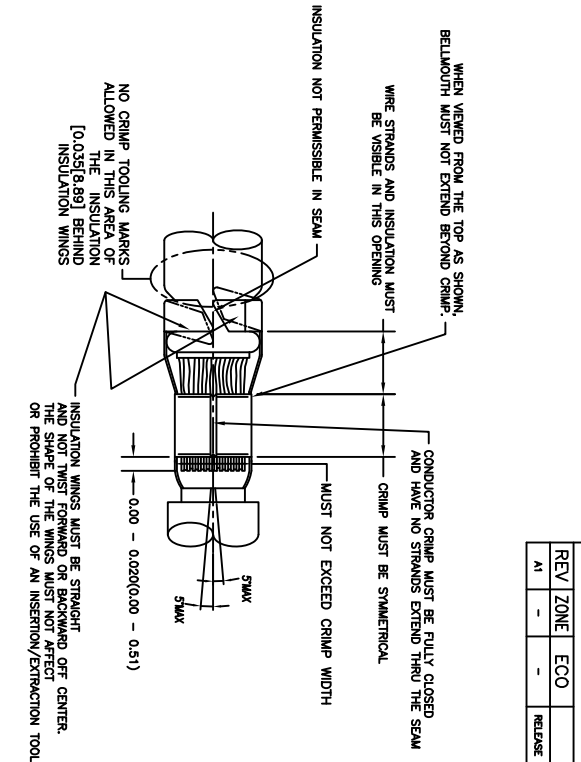
STAMPED CONTACT PART NUMBER (1009=PIN 1009=SOCKET)	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT +0.001/-0.002 INCH (+0.025/-0.05 mm)	CRIMP WIDTH ±0.013 INCH (±0.08 mm)	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE (LBS/IN)
A160-14-011x	16	14 AWG	0.0591(4.0)	0.094(2.39)			
A162-14-011x	16	2.00mm <sup>2</sup>	0.0591(4.0)	0.094(2.39)			
A162-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	16	1.50mm <sup>2</sup>	0.0591(4.0)	0.094(2.39)			
		16 AWG	0.0501(2.7)	0.084(2.39)	A117-4083-0200	A117-183-0200	29(111)
		1.00mm <sup>2</sup>	0.0501(2.7)	0.084(2.39)			
		18 AWG	0.0491(2.4)	0.084(2.39)			
		0.75mm <sup>2</sup>	0.0491(2.4)	0.084(2.39)			
		14 AWG	0.0591(4.0)	0.094(2.39)			
		2.00mm <sup>2</sup>	0.0591(4.0)	0.094(2.39)			
		1.50mm <sup>2</sup>	0.0591(4.0)	0.094(2.39)			
A162-16-011x	16	16 AWG	0.0501(2.7)	0.094(2.39)	A117-4083-0200	A117-183-0200	29(111)
A162-16-011x INSULATION RANGE 0.075-0.140(1.91-3.59)	16	1.00mm <sup>2</sup>	0.0501(2.7)	0.094(2.39)			
		18 AWG	0.0491(2.4)	0.094(2.39)			
		0.75mm <sup>2</sup>	0.0491(2.4)	0.094(2.39)			
A160-16-069x	16	16 AWG	0.0501(2.7)	0.094(2.39)			
A162-16-069x	16	1.00mm <sup>2</sup>	0.0501(2.7)	0.094(2.39)			
INSULATION RANGE 0.059-0.100(1.49-2.54)	16	0.75mm <sup>2</sup>	0.0491(2.4)	0.094(2.39)	A117-4082-0200	A117-182-0200	29(111)
		20 AWG	0.0491(2.4)	0.094(2.39)			
		0.50mm <sup>2</sup>	0.0491(2.4)	0.094(2.39)			19(67)

**CROSS REFERENCE**

SINE PART NUMBER	DEUTSCH PART NUMBER
MPX-3953	DCT1620-02-00
A117-083-0200	1017-083-0200
A117-082-0200	1017-082-0200
A117-183-0200	1017-183-0200
A117-182-0200	1017-182-0200
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(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.
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 TEFLON 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.



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QUANTITY	PART NUMBER	DESCRIPTION	ITEM

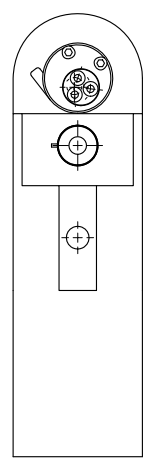
UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE
1) All dimensions are in inches.	DATE	4/7/09
2) Force is in pounds (lbs) and Newtons (N).	ENGINEER	6/8/09
3) Reduction Standard Per: ASME Y14.5	APPROVAL	6/8/09
4) Form: S2-20020	CUSTOMER	
5) Material Specification: NA		

PROCESS SPECIFICATIONS	THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND PERFORMANCE DATA OF THE PARTS IDENTIFIED HEREIN. ANY OTHER USE IS PROHIBITED. ALL DIMENSIONS ARE SUBJECT TO NORMAL DIMENSIONAL VARIATION UNLESS OTHERWISE SPECIFIED.	SIZE	SCALE	NO.	REV	DATE	BY	APP
		C	10X/4	S2-15221	A1	6/12/09	B.D.B.	M.F.F.

CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MPX-3953
CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MPX-3953
CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MPX-3953

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

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

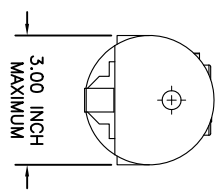
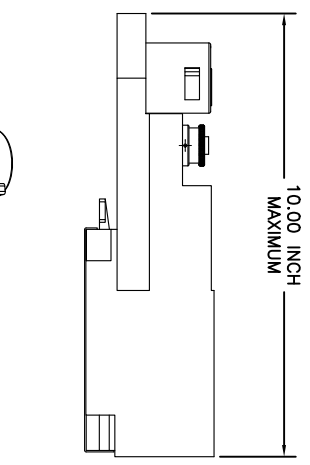
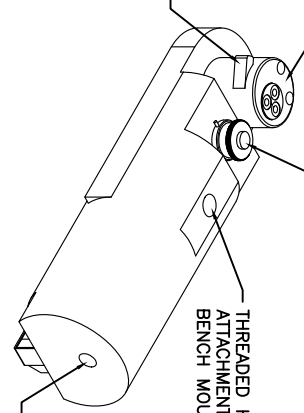


"TURRET"  
RELEASE LATCH

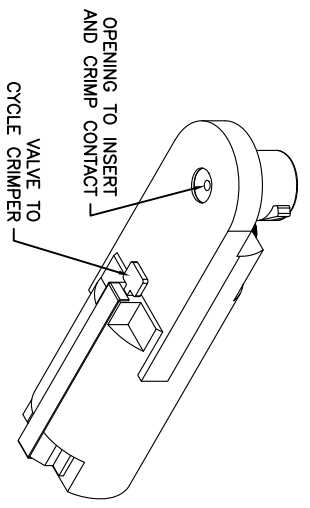
SELECTOR FOR  
CRIMP SETTING

THREADED HOLE FOR  
ATTACHMENT OF  
BENCH MOUNT FIXTURE

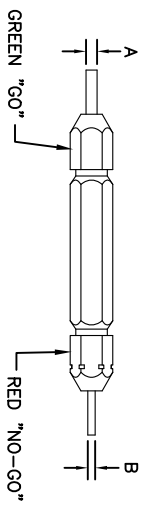
THREADED OPENING  
FOR COMPRESSED  
AIR FITTING



- NOTES:
1. 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).
  2. 80-120 PSI COMPRESSED AIR.
  3. WEIGHT: 3.1 LBS
  4. 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.
  5. SELECTING WIRE SIZE: GRASP THE SELECTOR AND ROTATE TO THE DESIRED NUMBER.



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

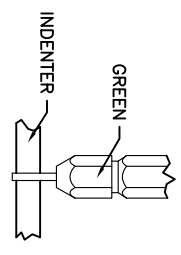


GAGING INSTRUCTIONS

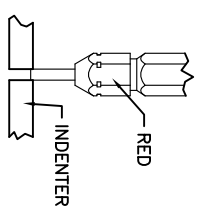
CAUTION!  
DO NOT CRIMP GAGE!

"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	.0880	.0730



CONTACT SIZE	LOCATOR "TURRET" POSITION COLOR	26 AWG WIRE	24 AWG WIRE	22 AWG WIRE	20 AWG WIRE	18 AWG WIRE	16 AWG WIRE	14 AWG WIRE	12 AWG WIRE
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

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
		MATERIALS LIST	

UNLESS OTHERWISE SPECIFIED

1) All dimensions are in inches.

2) Pl. SEC 34.00 1 Position 31/14

3) Pl. SEC 34.00 1 Position 31/14

4) Pl. SEC 34.00 1 Position 31/14

5) Revision Standard Per: A

6) Rev. SS-20020

APPROVAL SIGNATURES

DESIGNED: BERNIM	DATE: 6/2/09
CHECKED: NONE	DATE: 6/3/09
ENGINEER: BERNIM	
APPROVAL: BERNIM	6/3/09

THE USE OF THIS DRAWING IS SPECIFIC TO THE DESIGN AND PERFORMANCE OF THE PART IDENTIFIED HEREIN. ANY REUSE OF THIS DRAWING FOR OTHER PARTS WITHOUT THE WRITTEN PERMISSION OF AMPHENOL CORPORATION IS PROHIBITED. ALL DIMENSIONS REFERENCED HEREON UNLESS OTHERWISE SPECIFIED ARE IN INCHES.

AMPHENOL CORPORATION  
44724 Mowley Drive  
Carlton Township, MI 48036

INSTRUCTIONS FOR CA-5E12 CRIMPER, PNEUMATIC

SIZE: 10K44  
SCALE: NONE

REV: A1  
SHEET: 1 OF 1



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

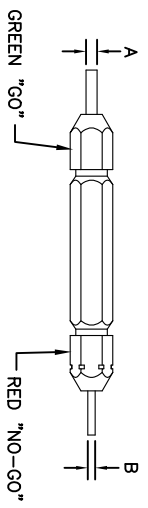
1.00 INCH MAX.

- 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.

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

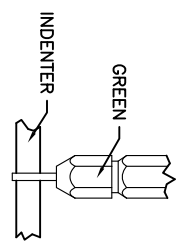
GAGING INSTRUCTIONS

CAUTION!  
DO NOT CRIMP GAGE!

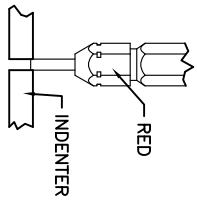


"GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "GO" GAGE END AS SHOWN. GAGE MUST PASS FREELY BETWEEN INDENTER TIPS.

"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	.0880	.0730



CONTACT SIZE	LOCATOR POSITION	WIRE COLOR	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									8

QUANTITY	PART NUMBER	DESCRIPTION	ITEM

MATERIALS LIST		DESCRIPTION	

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

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

UNLESS OTHERWISE SPECIFIED	1) All dimensions are in inches.
	2) All tolerances are per ASME Y14.5-2001.
	3) Pl. SEC. 34.001 1 Position 3.1/4
	4) Pl. SEC. 34.001 1 Position 3.1/4
	5) Fabrication Standard Per: ASME Y14.5-2001
	6) Pl. SEC. 34.001 1 Position 3.1/4
	7) Pl. SEC. 34.001 1 Position 3.1/4
	8) Pl. SEC. 34.001 1 Position 3.1/4
	9) Pl. SEC. 34.001 1 Position 3.1/4
	10) Pl. SEC. 34.001 1 Position 3.1/4
	11) Pl. SEC. 34.001 1 Position 3.1/4
	12) Pl. SEC. 34.001 1 Position 3.1/4
	13) Pl. SEC. 34.001 1 Position 3.1/4
	14) Pl. SEC. 34.001 1 Position 3.1/4
	15) Pl. SEC. 34.001 1 Position 3.1/4
	16) Pl. SEC. 34.001 1 Position 3.1/4
	17) Pl. SEC. 34.001 1 Position 3.1/4
	18) Pl. SEC. 34.001 1 Position 3.1/4
	19) Pl. SEC. 34.001 1 Position 3.1/4
	20) Pl. SEC. 34.001 1 Position 3.1/4
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	24) Pl. SEC. 34.001 1 Position 3.1/4
	25) Pl. SEC. 34.001 1 Position 3.1/4
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	27) Pl. SEC. 34.001 1 Position 3.1/4
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	94) Pl. SEC. 34.001 1 Position 3.1/4
	95) Pl. SEC. 34.001 1 Position 3.1/4
	96) Pl. SEC. 34.001 1 Position 3.1/4
	97) Pl. SEC. 34.001 1 Position 3.1/4
	98) Pl. SEC. 34.001 1 Position 3.1/4
	99) Pl. SEC. 34.001 1 Position 3.1/4
	100) Pl. SEC. 34.001 1 Position 3.1/4

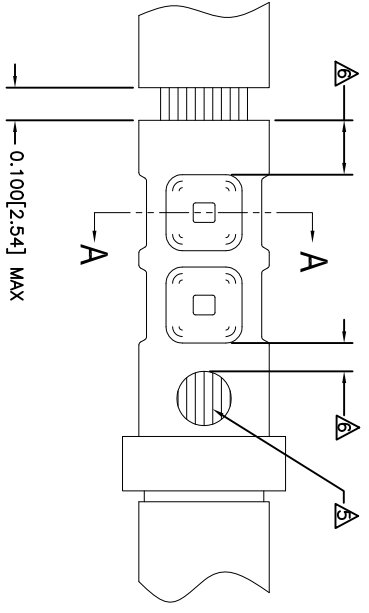
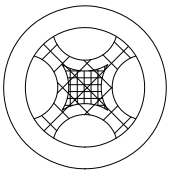
REVOLUTIONS		DESCRIPTION	DATE	BY	APPR
REV	ZONE	ECO	RELEASE NUMBER 016571	B.D.B.	M.R.F.
A1	-	-	6/12/09		

CONTACT P/N	SIZE TYPE	WIRE SIZE	REF. ONLY TENSILE LBS[N]
AT60-202-16XX	16PIN	1.5mm <sup>2</sup> 16AWG	35[156]
AT62-201-16XX	16SOC	1.0mm <sup>2</sup> 18AWG 0.75mm <sup>2</sup> 20AWG	25[111] 20[89]

RECOMMENDED STRIP LENGTH	
CONTACT SIZE	STRIP LENGTH INCH[MM]
16	0.250-0.312[6.35-7.92]

CRIMP TOOLING						
CONTACT SIZE	CRIMP TOOL PART NUMBER	CONTACT LOCATOR "TURRET" POSITION	WIRE SELECTOR NUMBER	GO GAGE INCH[MM]	"NOGO" GAGE INCH[MM]	REMARKS
16	CA-5D12 CA-5E12	BLUE	6	0.052[1.32]	0.057[1.45]	
16	CA-5D12 CA-5E12	BLUE	4	0.039[.991]	0.044[1.12]	SIZE 16 WITH 20 AWG WIRE

- NOTES: UNLESS OTHERWISE SPECIFIED
- 1. MINIMUM +/-0.0005 [0.013] TOLERANCE STEEL GAGE PINS. DO NOT CRIMP GAGE PINS. CLOSE DIE, THEN USE GAGE PINS.
  - 2. WHEN XX=31, CONTACT PLATING IS GOLD WHEN XX=141, CONTACT PLATING IS NICKEL
  - 3. PULL RATE OF 1.0 IN [25.4] PER MINUTE. ACTUAL STRENGTH DEPENDS ON WIRE SIZE.
  - 4. FOR CONTACT PERFORMANCE, MATERIAL SPECIFICATIONS AND APPLICATION DETAILS, SEE DRAWING S2-15217.
  - 5. CONDUCTOR STRANDS MUST BE VISIBLE THRU THE INSPECTION HOLE PRIOR TO CRIMP.
  - 6. PROPER CRIMP TOOLING WILL PRODUCE A CRIMP CENTERED BETWEEN THE INSPECTION HOLE AND CRIMP BARREL END.
  - 7. WIRE SIZES PER SAE J1128 AND J1560 [DIN 72551-6] REFERENCE INSTRUCTION MANUALS S2-15219 AND S2-15220 FOR CA-5D12 AND CA-5E12 HAND AND PNEUMATIC CRIMPER.
  - 8. THE CRIMP HEIGHT DIMENSION AFTER CRIMPING MAY VARY FROM THE VALUES LISTED FOR THE "GO-NOGO" PINS.



SECTION A-A  
CRIMP CROSS-SECTION

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
UNLESS OTHERWISE SPECIFIED			
1) All dimensions are in inches.			
2) For tolerances see ASME Y14.5-2009			
3) Pl. SEE 30.00 [Angles 31/64]			
4) Pl. SEE 30.01 [Angles 31/64]			
5) Fabrication Standards Per: <input type="checkbox"/> U <input type="checkbox"/> B			
6) Pl. SEE 30.02 [Angles 31/64]			
7) Pl. SEE 30.03 [Angles 31/64]			
8) Pl. SEE 30.04 [Angles 31/64]			
9) Pl. SEE 30.05 [Angles 31/64]			
10) Pl. SEE 30.06 [Angles 31/64]			
11) Pl. SEE 30.07 [Angles 31/64]			
12) Pl. SEE 30.08 [Angles 31/64]			
13) Pl. SEE 30.09 [Angles 31/64]			
14) Pl. SEE 30.10 [Angles 31/64]			
15) Pl. SEE 30.11 [Angles 31/64]			
16) Pl. SEE 30.12 [Angles 31/64]			
17) Pl. SEE 30.13 [Angles 31/64]			
18) Pl. SEE 30.14 [Angles 31/64]			
19) Pl. SEE 30.15 [Angles 31/64]			
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98) Pl. SEE 30.94 [Angles 31/64]			
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100) Pl. SEE 30.96 [Angles 31/64]			
101) Pl. SEE 30.97 [Angles 31/64]			
102) Pl. SEE 30.98 [Angles 31/64]			
103) Pl. SEE 30.99 [Angles 31/64]			
104) Pl. SEE 30.100 [Angles 31/64]			

MATERIALS LIST		SIGNATURES		DATE	
DRWING	BERNIM	6/3/09	ENGINEER	BERNIM	6/3/09
CHECKED	BERNIM	6/3/09	APPROVAL	BERNIM	6/3/09
DESIGNED	BERNIM	6/3/09	CUSTOMER	BERNIM	6/3/09
APPROVED	BERNIM	6/3/09	THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND PERFORMANCE PRESENTED HEREON. ANY OTHER USE IS AT THE USER'S RISK. ALL DIMENSIONS ARE SUBJECT TO NORMAL DOCUMENTS REFERENCED HEREON UNLESS OTHERWISE SPECIFIED.		
CRIMP INFORMATION					
SOLID MACHINED CONTACTS					
SIZE [PSID NOTING] S2-15218					
SCALE NONE					
SHEET 1 OF 1					

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
1	S2-15218	CRIMP INFORMATION SOLID MACHINED CONTACTS	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 <sup>2</sup> )	RECOMMENDED STRIP LENGTH INCH (mm)	MIN CONTACT RETENTION LBS (N)	REF CRIMP TENSILE LBS (N)	MAX RATED AMPS @ 125°C CONTINUOUS
	PN	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 <sup>2</sup> )	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
	PN	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	
PN: COPPER ALLOY	
SOCKET: COPPER ALLOY WITH STAINLESS STEEL SLEEVE	
SOLID MACHINED CONTACT PLATING OPTIONS: $\Delta$	31= GOLD*
	141= NICKEL
STAMPED CONTACT PLATING OPTIONS: $\Delta$	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).
- $\Delta$  CONTACT RETENTION TEST PULL RATE SHALL BE 1.0 INCH/2S. 4) PER MINUTE MAXIMUM. WIRE SIZE WILL AFFECT THE TRUE STRENGTH OF THE CRIMP.
- $\Delta$  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

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

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
UNLESS OTHERWISE SPECIFIED		SIGNATURES	
1) All dimensions are in inches.		DATE	
2) Pl. See 30.00		ORDERED	4/5/09
3) Pl. See 30.01		ORDERED	6/3/09
4) Pl. See 30.02		ENGINEER	BERNIM
5) Fabrication Standards Per:		APPROVAL	BERNIM
6) Inks: SS-20020		CUSTOMER	6/3/09
7) Material Specifications:		APPROVAL	
8) Inks: NA		CUSTOMER	
PROCESS SPECIFICATIONS:		THE USE OF THIS PERFORMANCE SPECIFICATIONS AND PERFORMANCE DATA IS THE SOLE RESPONSIBILITY OF THE USER. THE USER SHALL BE RESPONSIBLE FOR THE PROPER USE OF THE PRODUCT. ALL DIMENSIONS ARE SUBJECT TO NORMAL MANUFACTURING VARIATIONS. AMPHENOL SYSTEMS CORPORATION IS NOT RESPONSIBLE FOR ANY DAMAGE TO PROPERTY OR PERSONS ARISING FROM THE USE OF AMPHENOL SYSTEMS CORPORATION PRODUCTS REFERENCED HEREIN UNLESS SUCH DAMAGE IS CAUSED BY A DEFECTIVE PRODUCT.	
NEXT ASSY:		SIZE (Pcs) (Lot) (Mfg) (Mfg)	SCALE: NONE
		C 10K44	S2-15217
			SHEET 1 OF 1

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

**GENERAL DATA, CONTACTS STAMPED AND FORMED / MACHINED**

REVISION A1



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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