

## 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)

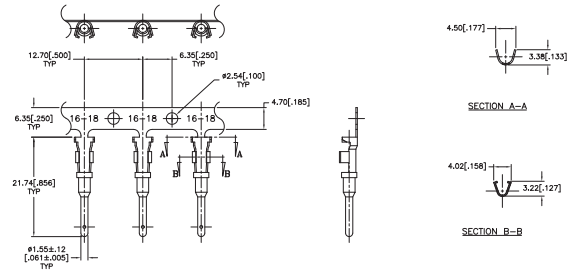


## STAMPED AND FORMED CONTACTS, PG 2 of 2

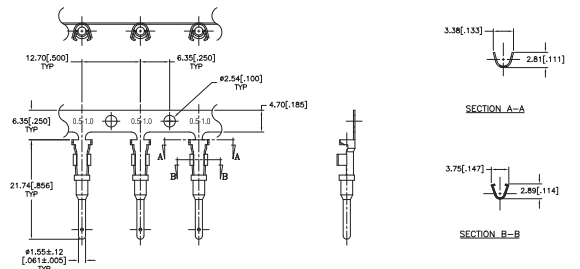
Click on [blue underlined part numbers](#) to be taken to their spec sheets.

### 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

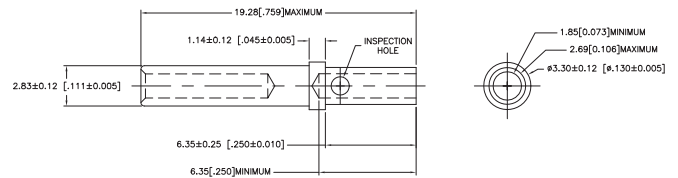
**PART NUMBER:** [AT60-202-16XX](#)  
**DESCRIPTION:** CONTACT, PIN, SOLID MACHINED, SIZE 16  
**MATERIAL:** COPPER ALLOY  
**PLATING SUFFIX CODE:**  
 XX=141 NICKEL PLATING  
 XX=31 GOLD PLATING  
**CONTACT GENERAL DATA SPECIFICATION:** S2-15217  
**AVAILABLE CRIMPERS:** CA-5D12 & CA-5E12  
**CRIMPER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



**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

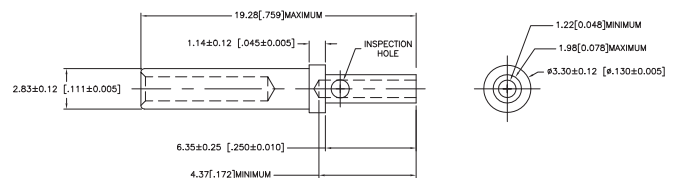


ROCKSOLID™ CONTACTS

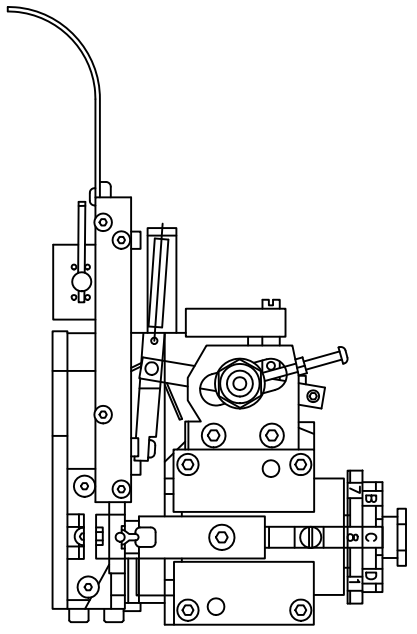
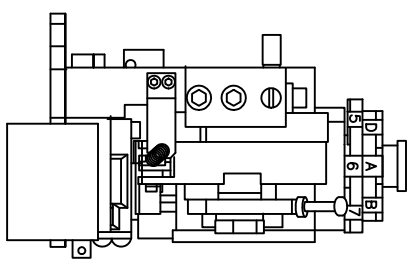
**PART NUMBER:** [65-54942-16](#)  
**DESCRIPTION:** CONTACT, SOCKET, ROCKSOLID, SIZE 16  
**AWG RANGE:** 16AWG  
**MATERIAL:** COPPER ALLOY  
**PLATING:** GOLD  
**CONTACT GENERAL DATA SPECIFICATION:** S2-15217  
**AVAILABLE CRIMPERS:** CA-5D12 & CA-5E12  
**CRIMPER SPECIFICATIONS:** S2-15219 & S2-15220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



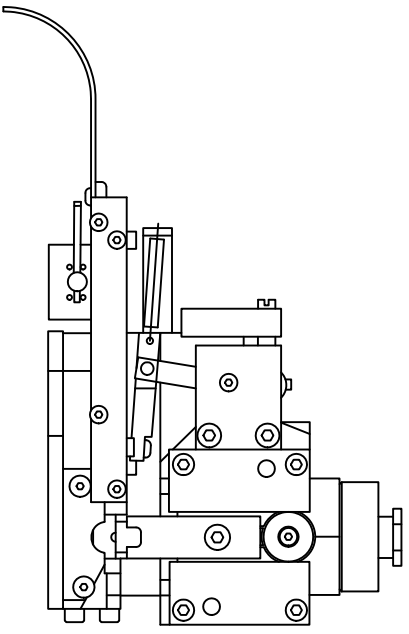
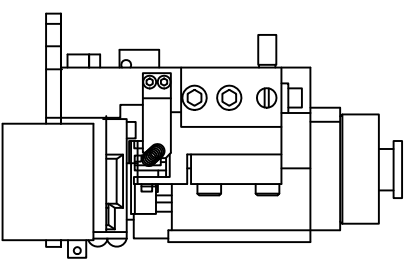
**PART NUMBER:** [65-54942-20](#)  
**DESCRIPTION:** CONTACT, SOCKET, ROCKSOLID, SIZE 16  
**AWG RANGE:** 20AWG  
**MATERIAL:** COPPER ALLOY  
**PLATING:** GOLD  
**CONTACT GENERAL DATA SPECIFICATION:** S2-15217  
**AVAILABLE CRIMPERS:** CA-5D12 & CA-5E12  
**CRIMPER SPECIFICATIONS:** S2-15219 & S2-15220  
**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) Pl. DEC 30.00			
3) Pl. DEC 30.00			
4) Pl. DEC 30.00			
5) Pl. DEC 30.00			
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97) Pl. DEC 30.00			
98) Pl. DEC 30.00			
99) Pl. DEC 30.00			
100) Pl. DEC 30.00			

CRIMPER INFORMATION  
 A Subsidiary of Amphenol Corporation  
 44724 Mowley Drive  
 Clinton Township, MI 48036

CRIMPER INFORMATION  
 MFX-3950 & MFX-3953  
 SIZE: 1/2" x 1/2" x 1/2"  
 SCALE: NONE  
 SHEET: 1 OF 1

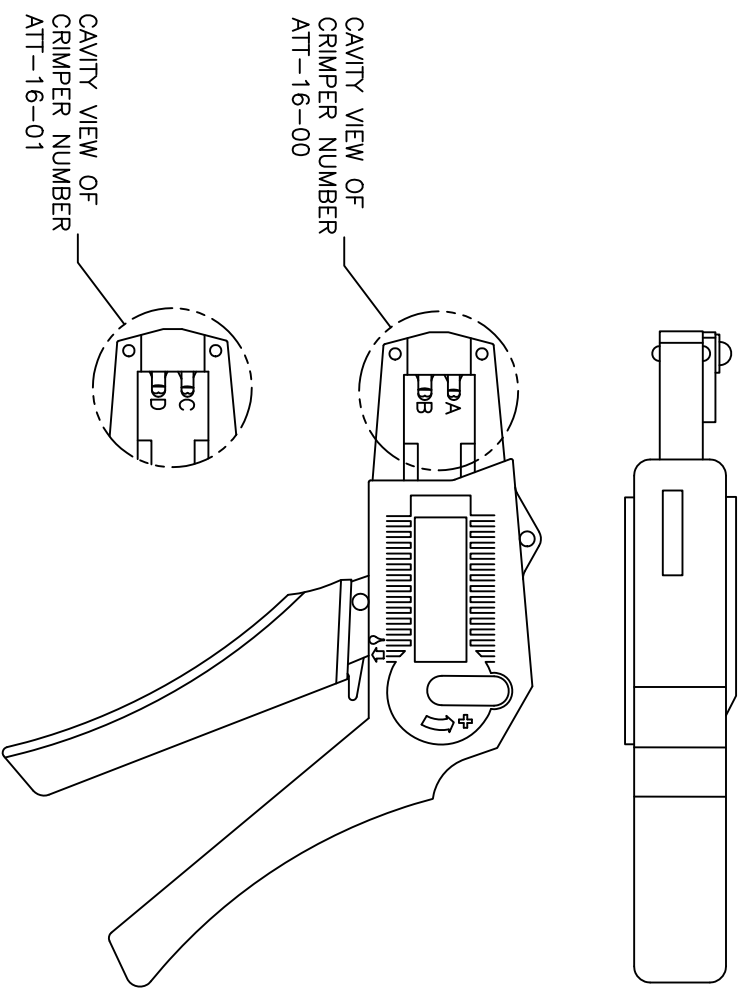
REVISIONS					
REV	ECO	DESCRIPTION	DATE	BY	APPR
A1	-	RELEASE NUMBER 016571	6/12/09	B.D.B.	M.R.F.

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	ITEM
		<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: FCSD NO/DWG NO:	REVISION
		B 16K44	A1
		S2-15223	
		S2-15223	
		SHEET 1 OF 1	

UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE
1) All dimensions are in inches.	DRAWN: BERNUW	6/8/09
2) Tolerances are as follows:	CHECKED: FORCE	6/8/09
3) 1/16 DEC .0006	ENGINEER: BERNUW	
3) 1/32 DEC .0003	APPROVAL: BERNUW	6/8/09
4) Hole Reference = A	CUSTOMER:	
MINIMUM SPECIFICATIONS:		
M/A		
PROCESS SPECIFICATIONS:		
NOT ASY:		

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

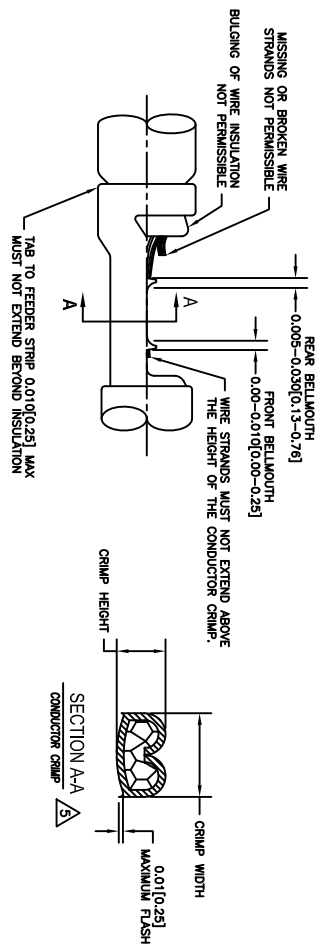
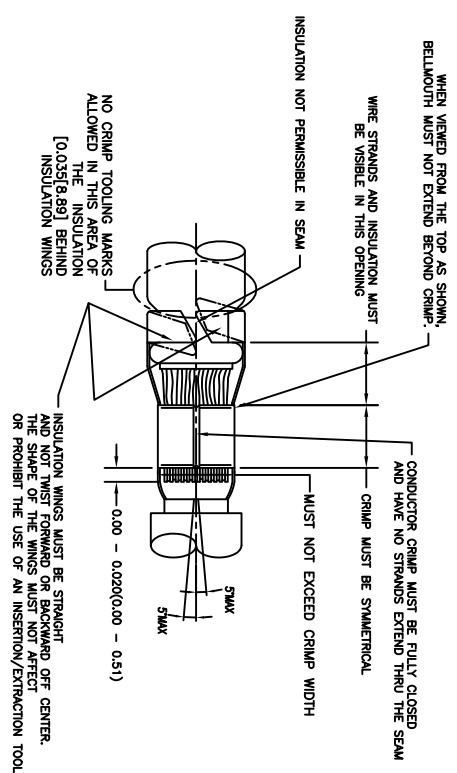
STAMPED CONTACT PART NUMBER 1008=PIN 1008=SOCKET	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT	CRIMP WIDTH	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE
AT80-14-011x AT82-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	16	14 AWG 2.00mm <sup>2</sup> 1.50mm <sup>2</sup> 16 AWG 1.00mm <sup>2</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 INCH [±0.08 mm]	AT17-002-0200	AT17-101-0200	28(111)
AT60-16-011x AT62-16-011x 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) 0.050(1.27) 0.049(1.24)	0.094(2.39) 0.094(2.39) 0.094(2.39) 0.094(2.39)	AT17-002-0200	AT17-101-0200	28(111)
AT60-16-066x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	16 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)	0.079(2.01) 0.079(2.01) 0.079(2.01) 0.079(2.01)	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

**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(4.43±0.74). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
5. USE A BLADE MICROMEETER (0.100(2.54) MIN SPACING 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(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.
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 TEFION 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	SIGNATURES	DATE		
1) All dimensions are in inches.	DRAWN: POTER	4/7/09		
2) All tolerances are per ASME Y14.5-2001.	CHECKED: RONE	6/8/09		
3) Plating standards per ASME Y14.5-2001.	ENGINEER: BERLIN	6/8/09		
4) Plating: SS-20020	APPROVAL: BERLIN	6/8/09		
5) Reduction Standards Per: U	CUSTOMER:			
6) Material Specifications:				
7) Material: NA				
PROCESS SPECIFICATIONS:				
THE USE OF THIS DRAWING IS SPECIFIC TO THE PART AND ANY CHANGES TO THE PART OR DIMENSIONS ARE SUBJECT TO REMOVAL WITHOUT NOTICE. ALL DOCUMENTS REFERENCED HEREON MAY CONTAIN UNITED STATES PATENT RIGHTS DATA.				
SIZE: (P) (S) (M) (L) (H) (W) (D)	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 MFX-3950**

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

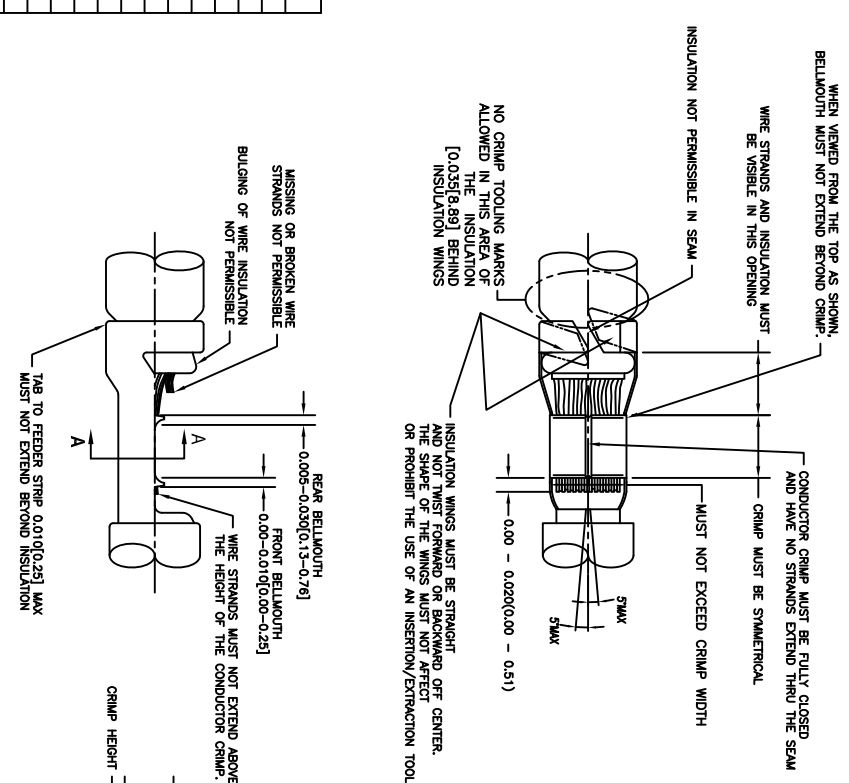
STAMPED CONTACT PART NUMBER (1009=PIN 1009=SOCKET)	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT +0.001/-0.002 INCH (+0.025/-0.05 mm)	CRIMP WIDTH ±0.003 INCH (±0.08 mm)	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE (LBS/IN)
A160-14-011x A162-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	16	14 AWG 2.00mm <sup>2</sup> 1.50mm <sup>2</sup> 16 AWG 1.00mm <sup>2</sup> 18 AWG	0.0591(1.40) 0.0591(1.40) 0.0591(1.40) 0.0501(1.27) 0.0491(1.24)	0.094(2.39) 0.094(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 <sup>2</sup> 1.50mm <sup>2</sup> 16 AWG 1.00mm <sup>2</sup> 18 AWG	0.0591(1.40) 0.0591(1.40) 0.0591(1.40) 0.0501(1.27) 0.0491(1.24)	0.094(2.39) 0.094(2.39) 0.094(2.39) 0.084(2.39) 0.084(2.39)		A117-4083-0200 A117-183-0200	29(111)
A160-16-069x A162-16-069x INSULATION RANGE 0.059-0.100(1.49-2.54)	16	16 AWG 1.00mm <sup>2</sup> 0.75mm <sup>2</sup> 20 AWG 0.50mm <sup>2</sup>	0.0501(1.27) 0.0501(1.27) 0.0491(1.24) 0.0491(1.24)	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
0.120-0.150 [3.05-3.81]	A117-225-0200	A117-326-0200
0.105-0.125 [2.67-3.18]	A117-226-0200	A117-326-0200
0.085-0.111 [2.16-2.82]	A117-227-0200	A117-327-0200
0.075-0.105 [1.91-2.67]	A117-228-0200	A117-328-0200
0.063-0.094 [1.62-2.39]	A117-229-0200	A117-329-0200
0.050-0.075 [1.27-1.91]	A117-230-0200	A117-330-0200

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±0.02(4.43±0.54). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
5. 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.
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 TEFION 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 6122(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.



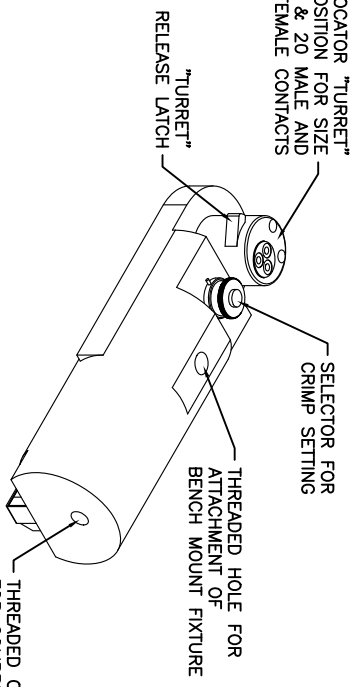
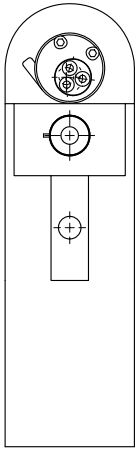
SINE PART NUMBER	DEUTSCH PART NUMBER
MPX-3953	DCT1620-02-00
A117-083-0200	1017-083-0200
A117-082-0200	1017-082-0200
A117-183-0200	1017-183-0200
A117-182-0200	1017-182-0200
A117-225-0200	1017-225-0200
A117-226-0200	1017-226-0200
A117-227-0200	1017-227-0200
A117-228-0200	1017-228-0200
A117-229-0200	1017-229-0200
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

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

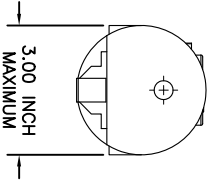
QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
SINE Systems Corporation A Subsidiary of Amphenol Corporation 44724 Moley Drive Clinton Township, MI 48036			
CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MPX-3953			
SIZE	FRSD NO	SCALE	REVISION
C	10K44	S2-15221	A1
DATE	BY	SHEET	TOTAL
4/7/09	PTOR	1 OF	1
6/8/09	BERNIE		
6/8/09	BERNIE		

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

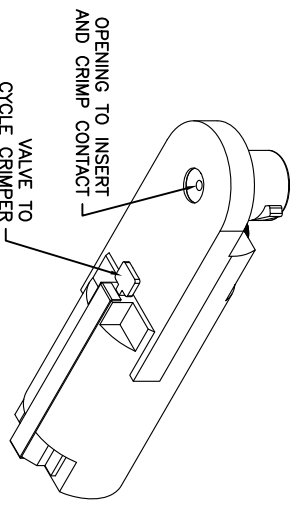
CONTACT LOCATOR "TURRET"  
THREE POSITION FOR SIZE  
12, 16 & 20 MALE AND  
FEMALE CONTACTS



THREADED OPENING  
FOR COMPRESSED  
AIR FITTING



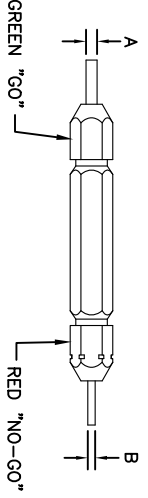
- NOTES:
1. THE CA-5E12 IS A COMPRESSED AIR OPERATED HAND CRIMPER FOR ELECTRICAL CONTACTS. IT IS ADJUSTABLE TO 3 CONTACT SIZES (12, 16 & 20) AND 8 INDENTER CRIMP POSITIONS FOR DIFFERENT WIRE SIZES (12AWG THRU 26 AWG).
  2. 80-120 PSI COMPRESSED AIR.
  3. WEIGHT: 3.1 LBS
  4. SELECTING CONTACT SIZE: PRESS 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

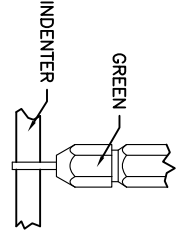
GAGING INSTRUCTIONS

CAUTION!  
DO NOT CRIMP GAGE!

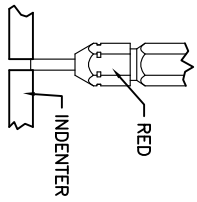


"GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "GO" GAGE END AS SHOWN. GAGE MUST PASS FREELY BETWEEN INDENTER TIPS.

"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	.0680	.0730



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

UNLESS OTHERWISE SPECIFIED

1) All dimensions are in inches.

2) Pl. SEC 34.00

3) Pl. SEC 34.01

4) Pl. SEC 34.02

5) Pl. SEC 34.03

6) Pl. SEC 34.04

7) Pl. SEC 34.05

8) Pl. SEC 34.06

9) Pl. SEC 34.07

10) Pl. SEC 34.08

11) Pl. SEC 34.09

12) Pl. SEC 34.10

13) Pl. SEC 34.11

14) Pl. SEC 34.12

15) Pl. SEC 34.13

16) Pl. SEC 34.14

17) Pl. SEC 34.15

18) Pl. SEC 34.16

19) Pl. SEC 34.17

20) Pl. SEC 34.18

21) Pl. SEC 34.19

22) Pl. SEC 34.20

23) Pl. SEC 34.21

24) Pl. SEC 34.22

25) Pl. SEC 34.23

26) Pl. SEC 34.24

27) Pl. SEC 34.25

28) Pl. SEC 34.26

29) Pl. SEC 34.27

30) Pl. SEC 34.28

31) Pl. SEC 34.29

32) Pl. SEC 34.30

33) Pl. SEC 34.31

34) Pl. SEC 34.32

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37) Pl. SEC 34.35

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42) Pl. SEC 34.40

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44) Pl. SEC 34.42

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64) Pl. SEC 34.62

65) Pl. SEC 34.63

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98) Pl. SEC 34.96

99) Pl. SEC 34.97

100) Pl. SEC 34.98

101) Pl. SEC 34.99

102) Pl. SEC 34.100

THE USE OF THIS DRAWING IS SPECIFIC TO THE PART AND SPECIFICATIONS AND PERFORMANCE THEREOF. ANY REUSE OF THIS DRAWING FOR ANY OTHER PURPOSE IS STRICTLY PROHIBITED. ALL DIMENSIONS ARE IN UNLESS OTHERWISE SPECIFIED. DRAWING RETAINED HERON LAM COMPANY LIMITED RIGHTS DATA.

PROCESS SPECIFICATIONS:

MA

SIZE: 1/8" DIA. (1/8" DIA. SCALE)

SCALE: NONE

SHEET: 1 OF 1

REV: A1

DWG NO: S2-15220

CRIMPER, PNEUMATIC, CA-5E12

DATE: 6/12/09

BY: B.D.B.

APPR: M.R.F.

DESCRIPTION: SINE Systems Corporation

A Subsidiary of Amphenol Corporation

44724 Mowley Drive

Carlton Township, MI 48036

INSTRUCTIONS FOR CA-5E12 CRIMPER, PNEUMATIC



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

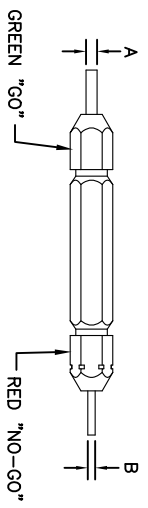
1.00 INCH MAX.

- 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

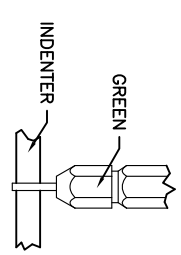
GAGING INSTRUCTIONS

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 "TURRET" POSITION	WIRE COLOR	SELECTOR NUMBER		
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 MATERIALS LIST DESCRIPTION ITEM

UNLESS OTHERWISE SPECIFIED:  
 1) All dimensions are in inches.  
 2) Pl. DEC 30/00  
 3) Pl. DEC 30/00  
 4) Pl. DEC 30/00  
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 100) Pl. DEC 30/00

INSTRUCTIONS FOR CA-5D12  
 CRIMPER, HAND, MACHINED CONTACTS  
 SIZE: 10K44  
 SCALE: NONE  
 S2-15219  
 SHEET: 1 OF 1

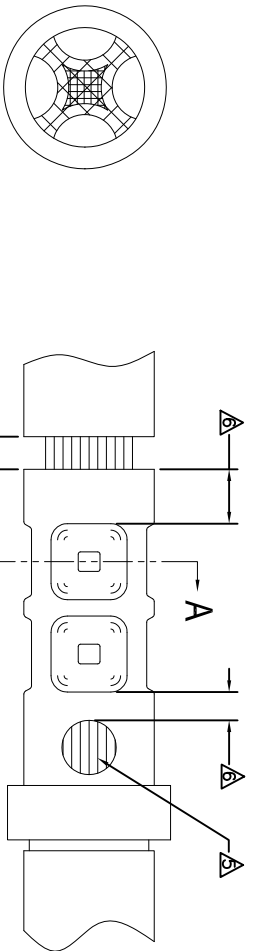
REVISIONS			DATE	BY	APPR
REV	ZONE	ECO	DESCRIPTION	B.D.B.	M.R.F.
A1	-	-	RELEASE NUMBER 016571	6/12/09	

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]
		0.50mm <sup>2</sup>	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
- MINIMUM +/-0.0005 [0.013] TOLERANCE STEEL GAGE PINS. DO NOT CRIMP GAGE PINS. CLOSE DIE, THEN USE GAGE PINS.
  - WHEN XX=31, CONTACT PLATING IS GOLD WHEN XX=141, CONTACT PLATING IS NICKEL
  - PULL RATE OF 1.0 IN [25.4] PER MINUTE. ACTUAL STRENGTH DEPENDS ON WIRE SIZE.
  - FOR CONTACT PERFORMANCE, MATERIAL SPECIFICATIONS AND APPLICATION DETAILS, SEE DRAWING S2-15217. CONDUCTOR STRANDS MUST BE VISIBLE THRU THE INSPECTION HOLE PRIOR TO CRIMP.
  - PROPER CRIMP TOOLING WILL PRODUCE A CRIMP CENTERED BETWEEN THE INSPECTION HOLE AND CRIMP BARREL END.
  - 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.
  - THE CRIMP HEIGHT DIMENSION AFTER CRIMPING MAY VARY FROM THE VALUES LISTED FOR THE "GO-NOGO" PINS.



QUANTITY	PART NUMBER	DESCRIPTION	ITEM
	MATERIALS LIST		
	SINE Systems Corporation A Subsidiary of Amphenol Corporation 44724 Moley Drive Clinton Township, MI 48036		

UNLESS OTHERWISE SPECIFIED		SIGNATURES		DATE	
1) All dimensions are in inches.	2) All dimensions are in millimeters.	DATE:	DATE:	DATE:	DATE:
1) Pl. SEC 34.00	1) Precision 31/64	ENGINEER:	ENGINEER:	6/3/09	6/3/09
2) Pl. SEC 34.01	1) Angles 31°	APPROVER:	APPROVER:	6/3/09	6/3/09
3) Fabrication Standards Per:		CUSTOMER:			
4) Pl. SEC 34.02					
5) Pl. SEC 34.03					
6) Pl. SEC 34.04					
7) Pl. SEC 34.05					
8) Pl. SEC 34.06					
9) Pl. SEC 34.07					
10) Pl. SEC 34.08					
11) Pl. SEC 34.09					
12) Pl. SEC 34.10					
13) Pl. SEC 34.11					
14) Pl. SEC 34.12					
15) Pl. SEC 34.13					
16) Pl. SEC 34.14					
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61) Pl. SEC 34.59					
62) Pl. SEC 34.60					
63) Pl. SEC 34.61					
64) Pl. SEC 34.62					
65) Pl. SEC 34.63					
66) Pl. SEC 34.64					
67) Pl. SEC 34.65					
68) Pl. SEC 34.66					
69) Pl. SEC 34.67					
70) Pl. SEC 34.68					
71) Pl. SEC 34.69					
72) Pl. SEC 34.70					
73) Pl. SEC 34.71					
74) Pl. SEC 34.72					
75) Pl. SEC 34.73					
76) Pl. SEC 34.74					
77) Pl. SEC 34.75					
78) Pl. SEC 34.76					
79) Pl. SEC 34.77					
80) Pl. SEC 34.78					
81) Pl. SEC 34.79					
82) Pl. SEC 34.80					
83) Pl. SEC 34.81					
84) Pl. SEC 34.82					
85) Pl. SEC 34.83					
86) Pl. SEC 34.84					
87) Pl. SEC 34.85					
88) Pl. SEC 34.86					
89) Pl. SEC 34.87					
90) Pl. SEC 34.88					
91) Pl. SEC 34.89					
92) Pl. SEC 34.90					
93) Pl. SEC 34.91					
94) Pl. SEC 34.92					
95) Pl. SEC 34.93					
96) Pl. SEC 34.94					
97) Pl. SEC 34.95					
98) Pl. SEC 34.96					
99) Pl. SEC 34.97					
100) Pl. SEC 34.98					
101) Pl. SEC 34.99					
102) Pl. SEC 34.100					

PROCESS SPECIFICATIONS		THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFIC APPLICATIONS AND PERFORMANCE SPECIFICATIONS AND PERFORMANCE INDICATED THEREON. ANY OTHER USE IS UNAUTHORIZED. ALL DIMENSIONS ARE SUBJECT TO NORMAL MANUFACTURING VARIATIONS. DOCUMENTS REFERENCED HEREON MAY CONTAIN LIMITED RIGHTS DATA.	
PROCESS SPECIFICATIONS:	MA	SIZE [P/N] (SCALE)	S2-15218
NEXT ASSY:		SCALE	NONE
		CRIMP INFORMATION	SOLID MACHINED CONTACTS
		REVISION	A1

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

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

WIRE AWG	CONTACT RESISTANCE STRENGTH (LESS DROP THROUGH WIRE)		
	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**

- ALL DIMENSIONS ARE INCHES(MM).
- ALL FORCES ARE IN LBS(POUNDS) AND "N" (NEWTONS).
- 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.
- 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

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

QUANTITY		PART NUMBER		DESCRIPTION		ITEM
UNLESS OTHERWISE SPECIFIED						
1) All dimensions are in inches.	SIGNATURES	DATE	MATERIALS LIST			
2) Pl. SEE 30.00	DATE	4/5/09	SINE Systems Corporation			
3) Pl. SEE 30.00	ORDERED	6/3/09	A Subsidiary of Amphenol Corporation			
4) Fabrication Standards Per:	ENGINEER	BERNIE	44724 Moley Drive			
5) Pl. SEE 30.00	APPROVAL	6/3/09	Carlton Township, MI 48036			
6) Pl. SEE 30.00	CUSTOMER		GENERAL DATA, CONTACTS			
7) Pl. SEE 30.00	APPROVAL		STAMPED AND FORMED / MACHINED			
8) Pl. SEE 30.00	CUSTOMER		SIZE (PICK NUMBER) S2-15217			
9) Pl. SEE 30.00	CUSTOMER		SCALE NONE			
10) Pl. SEE 30.00	CUSTOMER		SHEET 1 OF 1			
11) Pl. SEE 30.00	CUSTOMER		REVISION A1			

PROCESS SPECIFICATIONS		THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND PERFORMANCE PRESENTED HEREON. ALL DIMENSIONS ARE SUBJECT TO NORMAL MANUFACTURING VARIATIONS UNLESS OTHERWISE SPECIFIED. AMPHENOL SINE PERFORMANCE SPECIFICATIONS REQUIRE THE USE OF AMPHENOL SINE APPROVED TOOLING.	
NEXT ASSY:		DRAWING REVISED HEREON MAY CONTAIN UNLTD RIGHTS DATA.	

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

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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