

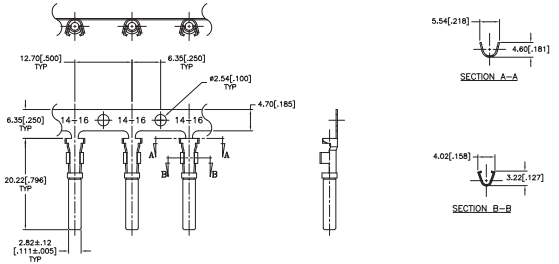
STAMPED AND FORMED CONTACTS, PG 1 of 2

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

OPTIONS

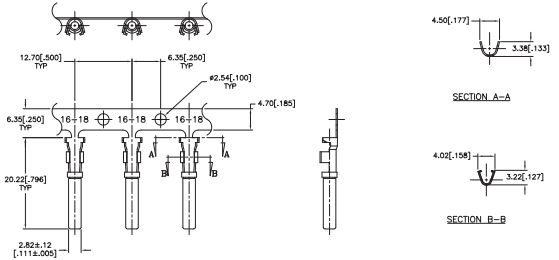
PART NUMBER: [AT62-14-01XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

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)



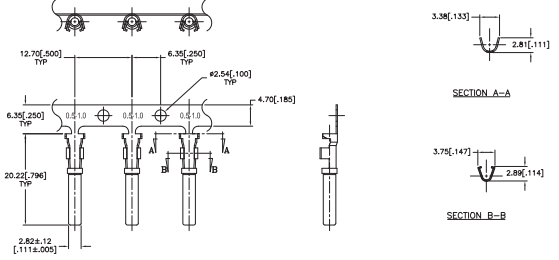
PART NUMBER: [AT62-16-01XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

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)



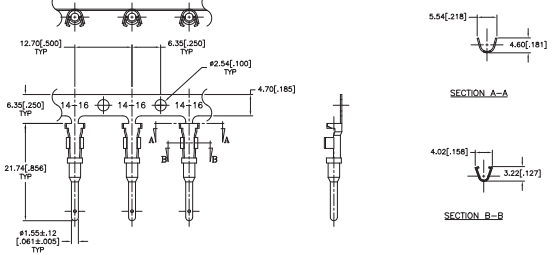
PART NUMBER: [AT62-16-06XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

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)

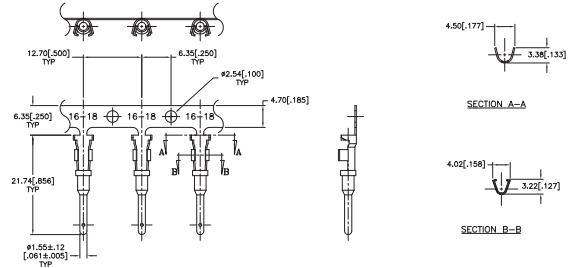


STAMPED AND FORMED CONTACTS, PG 2 of 2

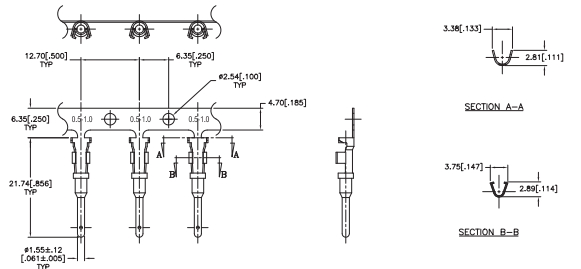
Click on [blue underlined part numbers](#) to be taken to their spec sheets.

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)



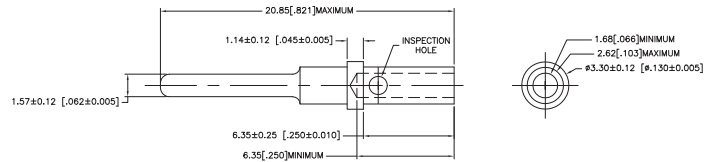
SOLID/MACHINED CONTACTS

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

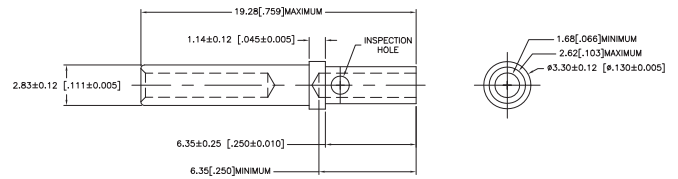
OPTIONS

MILITARY-STYLE

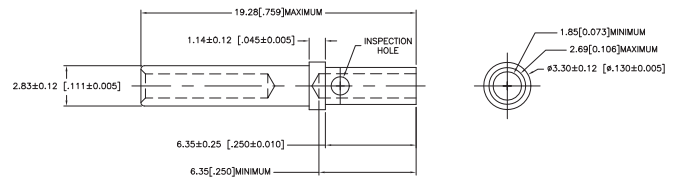
PART NUMBER: [AT60-202-16XX](#)
DESCRIPTION: CONTACT, PIN, SOLID MACHINED, SIZE 16
MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=141 NICKEL PLATING
 XX=31 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP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

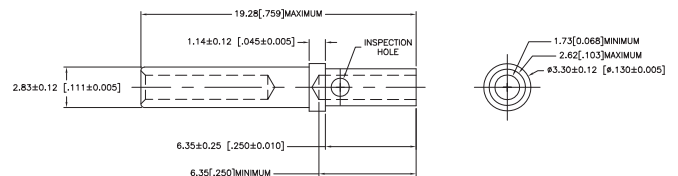


PART NUMBER: [65-54942-14](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 14AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218

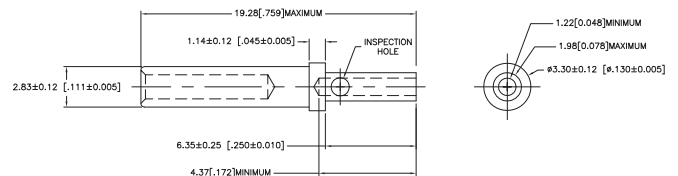


ROCKSOLID™ CONTACTS

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



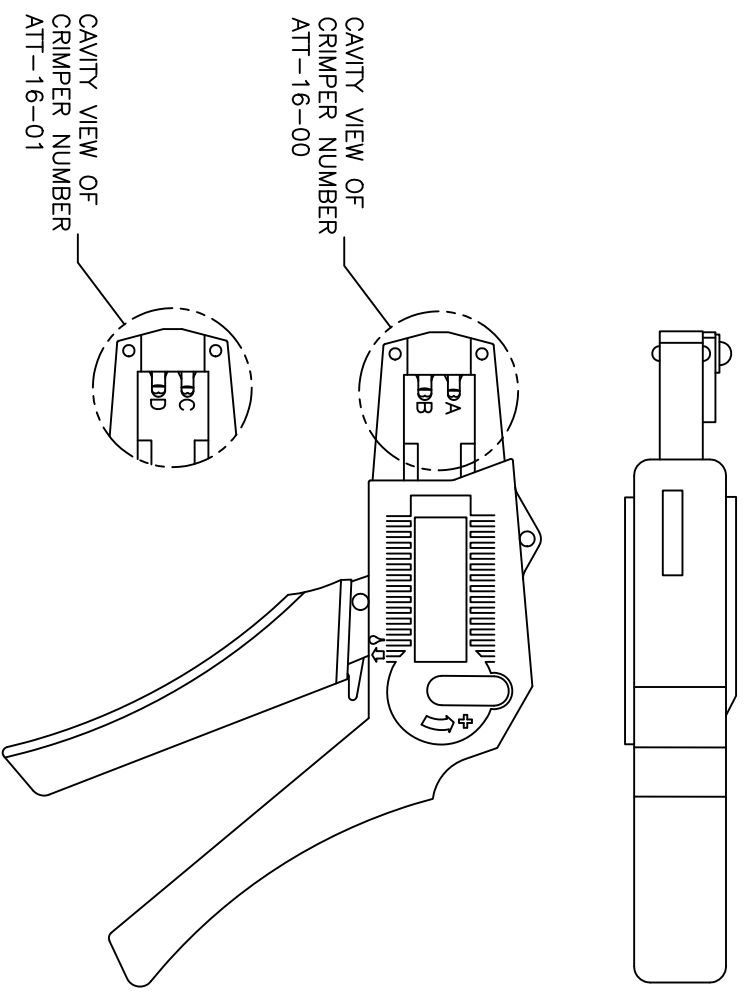
REVISIONS					
REV	ECO	DESCRIPTION	DATE	BY	APPR
A1	-	RELEASE NUMBER 016571	6/12/09	B.D.B.	M.R.F.

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

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

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

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



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.

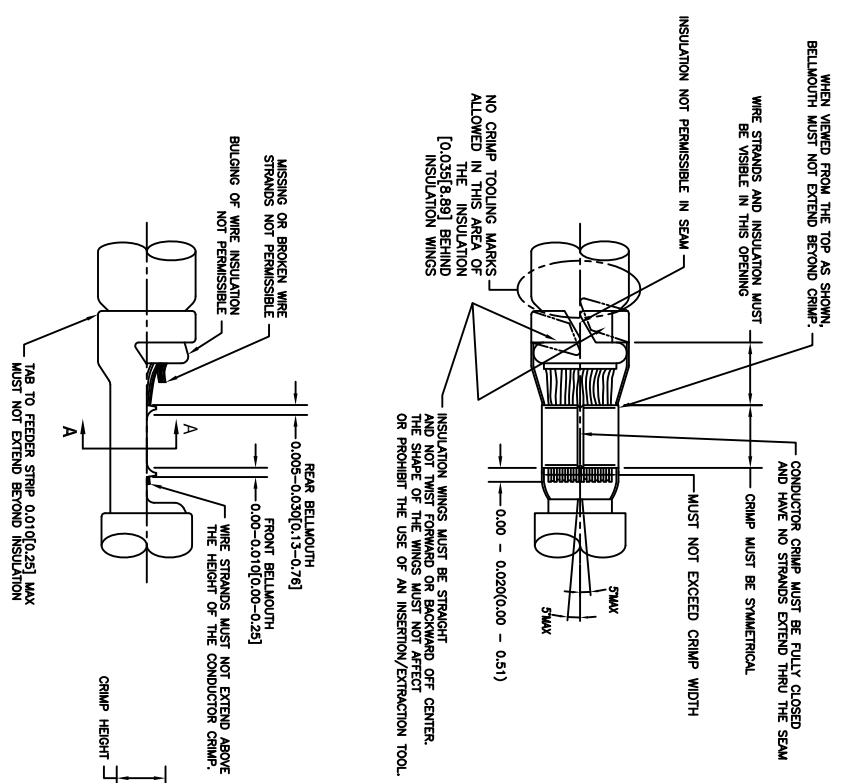
QUANTITY	PART NUMBER	DESCRIPTION	ITER#
		MATERIALS LIST	
		SINE Systems Corporation	
		A Subsidiary of Amphenol Corporation	
		44724 Morley Drive	
		Clifton Township, NJ 08036	
		INSTRUCTIONS, ATT-16-00 & 01	
		CRIMPER, HAND, STAMPED CONTACTS	
		SIZE: FCSD NO/DWG NO:	REVISION
		B 16K44	A1
		SCALE: NONE	
		S2-15223	
		SHEET 1 OF 1	

REV ZONE		ECO		REVISIONS		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
A780-14-011x A782-14-011x 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)
A780-16-011x A782-16-011x 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(1.35) 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)
A780-18-011x A782-18-011x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	16 AWG 1.00mm ² 18 AWG 0.75mm 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) 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
0.065-0.094 [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

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: 0.775±0.029(4.45±0.54). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
5. USE A BLADE MICROMEETER (0.100(2.54) MIN APERTURE 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 BROWNIE 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.	SIGNATURES			
2) Plating is standard unless otherwise noted.	DATE	DATE		
3) Plating is standard unless otherwise noted.	4/7/09	4/7/09		
4) Plating is standard unless otherwise noted.	6/8/09	6/8/09		
5) Production Standard Per: <input type="checkbox"/> ENGINEER: <input type="checkbox"/> DESIGNER: <input type="checkbox"/> APPROVAL: <input type="checkbox"/>	6/8/09	6/8/09		
6) Material Specification: <input type="checkbox"/> MATERIAL SPECIFICATION: <input type="checkbox"/>	6/8/09	6/8/09		
7) Process Specifications: <input type="checkbox"/> PROCESS SPECIFICATIONS: <input type="checkbox"/>	6/8/09	6/8/09		
8) Next Ass't: <input type="checkbox"/> NEXT ASS'T: <input type="checkbox"/>	6/8/09	6/8/09		
THE USE OF THIS DRAWING IS SPECIFIC TO THE PART AND PERFORMANCE DATA. ANY REVISIONS OR AMENDMENTS ARE SUBJECT TO REMOVAL OF THIS DRAWING FROM THE DRAWING ARCHIVE. ALL DOCUMENTS REFERENCED HEREON MAY CONTAIN UNLAWFUL RIGHTS DATA.				
CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MFX-3950				
SIZE	SCALE	SCALE	SCALE	SCALE
10K44	10K44	10K44	10K44	10K44
S2-15222	S2-15222	S2-15222	S2-15222	S2-15222
SHEET 1	SHEET 1	SHEET 1	SHEET 1	SHEET 1
1	1	1	1	1

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

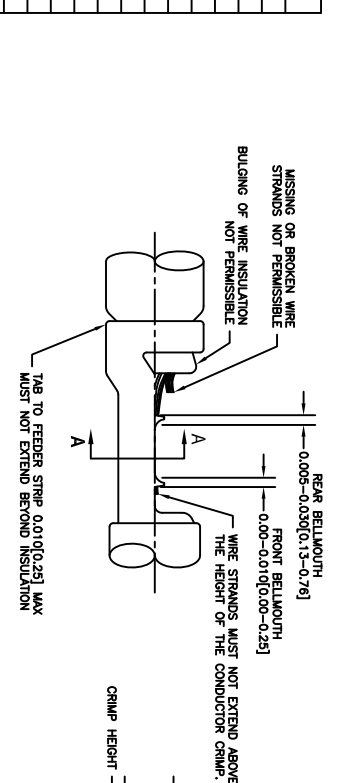
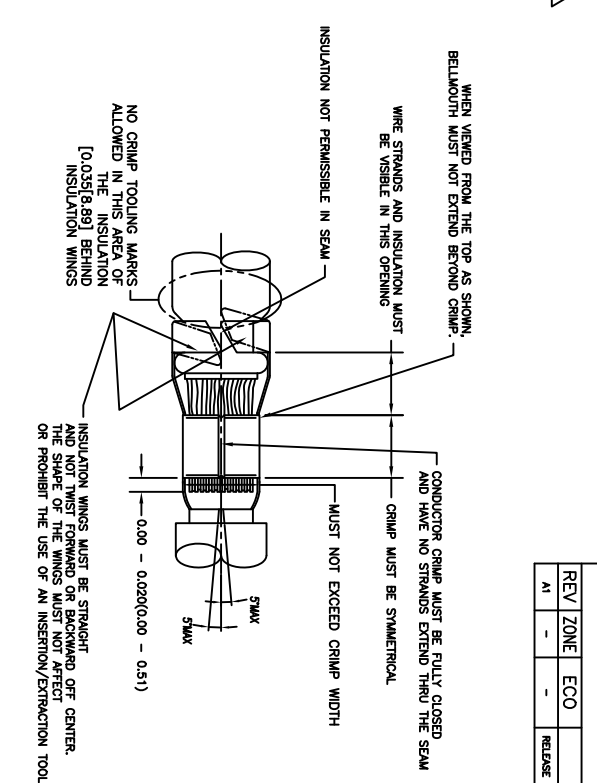
STAMPED CONTACT PART NUMBER (1009=PIN 1009=SOCKET)	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT +0.001/-0.002 INCH (+0.025/-0.05 mm)	CRIMP WIDTH ±0.013 INCH (±0.08 mm)	CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE (LBS/IN)
A160-14-011x A162-14-011x INSULATION RANGE 0.095-0.150(2.41-3.81)	16	14 AWG 2.00mm ² 1.50mm ² 16 AWG 1.00mm ² 18 AWG 0.75mm ²	0.0591(1.40) 0.0551(1.40) 0.0531(1.39) 0.0501(1.27) 0.0481(1.24) 0.0461(1.21)	0.094(2.39) 0.084(2.39) 0.094(2.39) 0.084(2.39) 0.084(2.39) 0.084(2.39)		A117-4083-0200 A117-183-0200	291(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 0.75mm ²	0.0591(1.40) 0.0551(1.40) 0.0531(1.39) 0.0501(1.27) 0.0481(1.24) 0.0461(1.21)	0.094(2.39) 0.084(2.39) 0.094(2.39) 0.084(2.39) 0.084(2.39) 0.084(2.39)		A117-4083-0200 A117-183-0200	291(111)
A160-16-063x A162-16-063x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	16 AWG 1.00mm ² 0.75mm ² 20 AWG 0.50mm ²	0.0591(1.27) 0.0591(1.27) 0.0481(1.22) 0.0481(1.22) 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	291(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

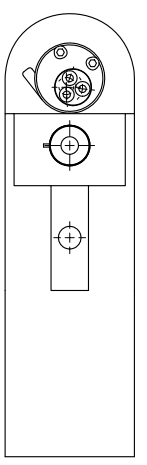
1. ALL DIMENSIONS ARE IN INCHES(mm).
2. FORCES ARE IN POUNDS(LBS) AND NEWTONS(N).
3. "X"= PLATING SUFFIX. SEE INDIVIDUAL CONTACT DRAWING.
4. WIRE STRIP LENGTH: 0.175±0.029(4.45±0.54). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE.
5. USE A BLADE MICROMETER (0.100[2.54] MIN SPINDLE AND 0.060[0.010][1.50][0.040] 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.



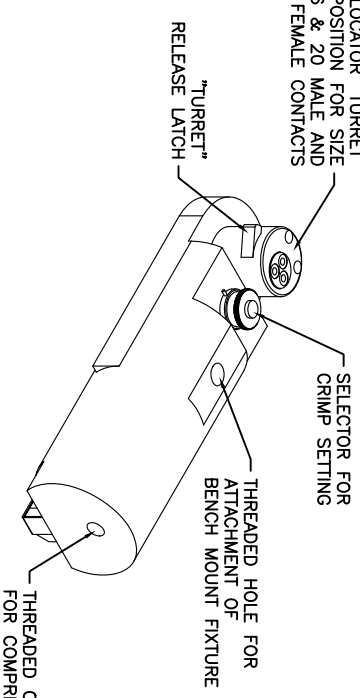
ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.

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 Y14.5-1994			
6) Form: S2-20020			
7) Material Specification: A			
8) Material Specification: NA			
PROCESS SPECIFICATIONS:			
THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND PERFORMANCE DATA OF THE PARTS IDENTIFIED HEREIN. ALL DIMENSIONS ARE SUBJECT TO NORMAL DIMENSIONAL VARIATION UNLESS OTHERWISE SPECIFIED. DRAWING REVISED HEREIN MAY CHANGE UNLESS OTHERWISE SPECIFIED.			
SIZE: TYPICAL DIMENSIONS: 10K/44			
SCALE: NONE			
CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MPX-3953			
REVISION: A1			
REV: A1			
DWG NO: S2-15221			
DATE: 6/8/09			
DESIGNER: BERNI			
CHECKER: RORR			
DATE: 4/7/09			
SIGNATURES:			
DATE: 6/8/09			
APPROVAL: BERNI			
APPROVAL: BERNI			
DATE: 6/8/09			
CUSTOMER:			
CRIMP DATA, STAMPED CONTACTS FOR CRIMPER MPX-3953			
A Subsidiary of Amphenol Corporation			
44724 Moley Drive			
Clinton Township, MI 48036			
SHEET 1 OF 1			

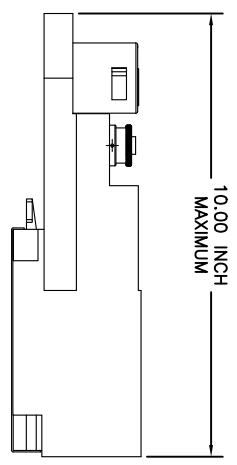
REV ZONE		ECO	REVISIONS		DESCRIPTION	DATE	BY	APPR
AI	-	-	RELEASE NUMBER	016571		6/12/09	B.D.B.	M.R.F.



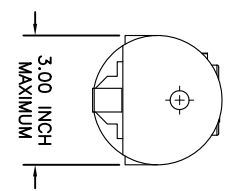
CONTACT LOCATOR "TURRET"
THREE POSITION FOR SIZE
12, 16 & 20 MALE AND
FEMALE CONTACTS



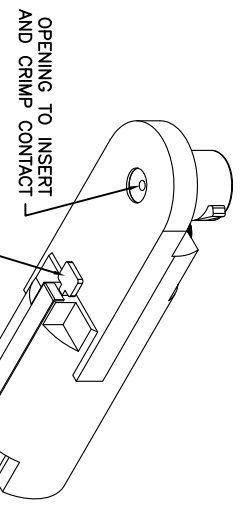
THREADED OPENING
FOR COMPRESSED
AIR FITTING



10.00 INCH
MAXIMUM



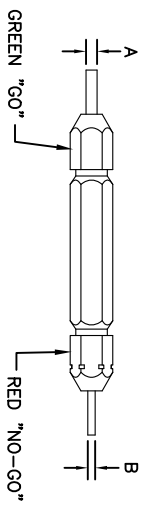
3.00 INCH
MAXIMUM



OPENING TO INSERT
AND CRIMP CONTACT

VALVE TO
CYCLE CRIMPING

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



GREEN "GO"

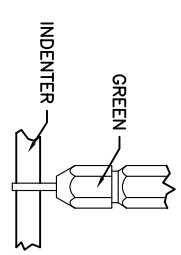
RED "NO-GO"

GAGING INSTRUCTIONS

CAUTION!
DO NOT CRIMP GAGE!

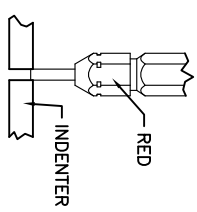
"GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "GO" GAGE END AS SHOWN. GAGE MUST PASS FREELY BETWEEN INDENTER TIPS.

"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.



GREEN

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



RED

- 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 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

QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
SINE Systems Corporation A Subsidiary of Amphenol Corporation 44724 Mowley Drive Carlton Township, MI 48036			
THE USE OF THIS DRAWING IS SPECIFIC TO THE DESIGN AND PERFORMANCE OF THE PART IDENTIFIED HEREIN. ALL DIMENSIONS ARE SUBJECT TO NORMAL MANUFACTURING VARIATIONS UNLESS OTHERWISE SPECIFIED.		SIZE: 1/8" DIA. (1/16" DIA. SCALE) 10X/4X S2-15220 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

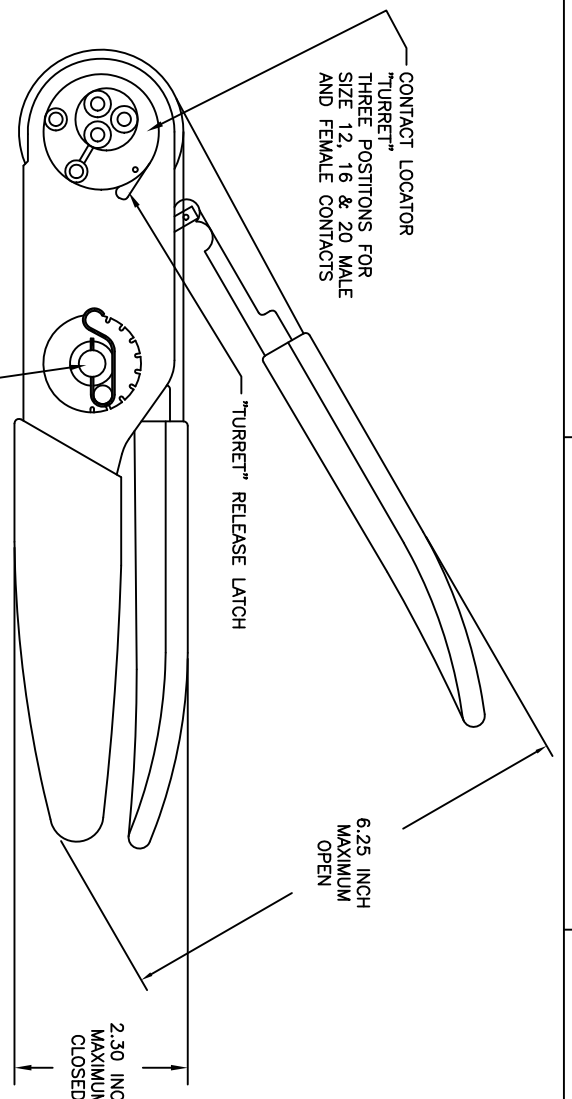
2.30 INCH
MAXIMUM
CLOSED

SELECTOR FOR CRIMP
SETTING

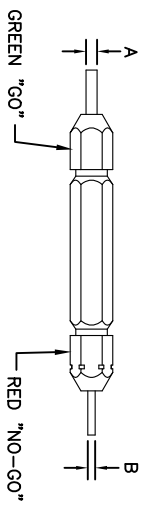
1.125 INCH MAX.

9.75 INCH MAXIMUM

1.00 INCH MAX.



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

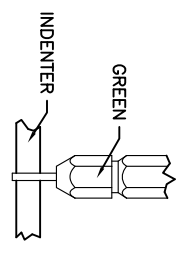


GAGING INSTRUCTIONS

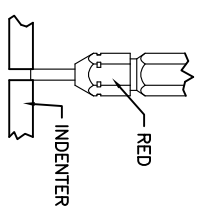
CAUTION!
DO NOT CRIMP GAGE!

"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



- 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 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	DESCRIPTION	ITEM

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

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

SIZE: 10K44
SCALE: NONE
REV: A1

UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE
1) All dimensions are in inches.	DESIGN: BERNIM	6/3/09
2) HOLE DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.	CHECKER: NONE	6/3/09
3) PREDOMINANT DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.	ENGINEER: BERNIM	
4) HOLE DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.	APPROVAL: BERNIM	6/3/09

PROCESS SPECIFICATIONS:	CUSTOMER:	THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND REQUIREMENTS OF THE PARTS LISTED HEREON. ALL DIMENSIONS ARE SUBJECT TO REVISION. DRAWINGS REFERENCED HEREON MAY CONTAIN UNRESOLVED REVISION DATA.
MA: N/A		

A

B

C

D

4

3

2

1

4

3

2

1

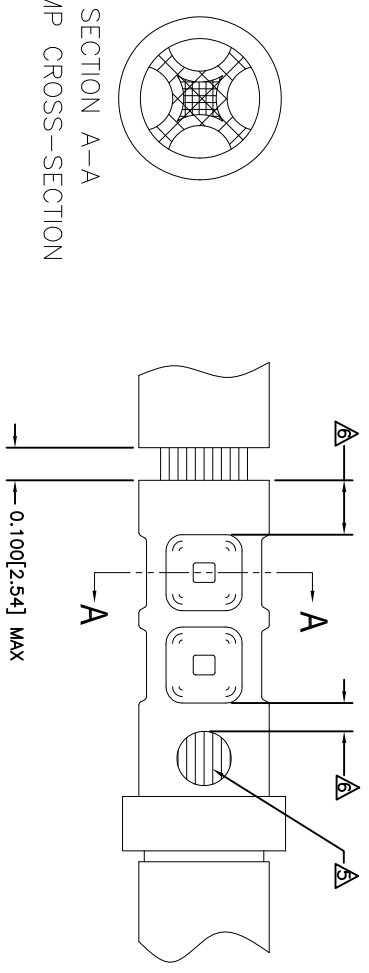
REVOLUTIONS		DESCRIPTION	DATE	BY	APPR
REV	ZONE	ECO	RELEASE NUMBER 016571	B.D.B.	M.R.F.
A1	-	-	6/12/09		

CONTACT P/N	SIZE TYPE	WIRE SIZE	REF. ONLY TENSILE LBS[N]
AT60-202-16XX	16PIN	1.5mm ² 16AWG	35[156]
AT62-201-16XX	16SOC	1.0mm ² 18AWG	25[111]
		0.75mm ² 20AWG	20[89]
		0.50mm ²	

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.



QUANTITY	PART NUMBER	DESCRIPTION	ITEM
UNLESS OTHERWISE SPECIFIED			
1) All dimensions are in inches.			
2) For dimensions in millimeters, see drawing.			
3) Pl. SEE 30.00 [Angles 31/4]			
4) Pl. SEE 30.01 [Angles 31/4]			
5) Fabrication Standards Per:			
a) MIL-STD-20020			
b) MIL-STD-20020			
c) MIL-STD-20020			
d) MIL-STD-20020			
MATERIAL SPECIFICATIONS:			
MA			
PROCESS SPECIFICATIONS:			
THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFIC APPLICATIONS AND PERFORMANCE SPECIFICATIONS AND PERFORMANCE PRESENTED ON THIS DRAWING. ALL DIMENSIONS ARE SUBJECT TO NORMAL DOCUMENTS REFERENCED HEREON UNLESS OTHERWISE NOTED.			
DRAWN: BERNIM DATE: 6/3/09			
CHECKED: RONCE DATE: 6/3/09			
ENGINEER: BERNIM			
APPROVAL: BERNIM DATE: 6/3/09			
CUSTOMER: MA			
SCALE: NONE			
SIZE: 10K44			
S2-15218			
SHEET 1 OF 1			

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

CRIMP INFORMATION
 SOLID MACHINED CONTACTS

REVISONS			
REV ZONE	ECO	DESCRIPTION	DATE
A1	-	RELEASE NUMBER 016571	6/12/09
			B.D.B.
			M.F.F.

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
	PN	SOCKET					
16	AT60-202-16**	AT62-201-16**	16-20 [1.5-0.5]	0.25-0.31 [6.35-7.92]	25 [111]	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
	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 [111]	25 [111]	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 [111]	25 [111]	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 [111]	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
<p>PN: COPPER ALLOY</p> <p>SOCKET: COPPER ALLOY WITH STAINLESS STEEL SLEEVE</p> <p>SOLID MACHINED CONTACT PLATING OPTIONS: A</p> <p>31= GOLD*</p> <p>141= NICKEL</p> <p>STAMPED CONTACT PLATING OPTIONS: A</p> <p>22= NICKEL</p> <p>44= GOLD*</p> <p>89= SELECTIVE GOLD*</p> <p>GOLD* = PLATING IS AVAILABLE (RECOMMENDED) FOR ONLY (<5V) CIRCUIT APPLICATIONS</p> <p>MATERIALS AND PLATINGS ARE ROHS COMPLIANT</p>

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 | | 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.

PART NUMBER		DESCRIPTION		ITEM
S2-15217		SINE SYSTEMS CORPORATION		A1
QUANTITY	MATERIALS LIST	SINE SYSTEMS CORPORATION		REVISION
UNLESS OTHERWISE SPECIFIED	SIGNATURES	A Subsidiary of Amphenol Corporation		A1
1) All dimensions are in inches.	DATE	44724 Moley Drive		
2) Pl. DEC 2000	ORDER: ROTR	Clinton Township, MI 48036		
3) Pl. DEC 2001	ORDER: RNC			
4) Revision Standard Per:	ENGINEER: BERNU			
5) Revision Standard Per:	APPROVAL: BERNU			
6) Part: SS-20020	DATE: 6/3/09			
7) Part: SS-20020	CUSTOMER:			
8) Part: SS-20020	APPROVAL:			
9) Part: SS-20020	DATE:			
10) Part: SS-20020				
11) Part: SS-20020				
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