

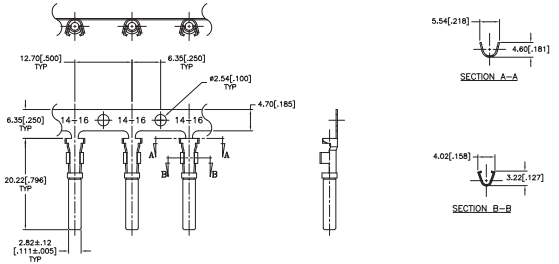
STAMPED AND FORMED CONTACTS, PG 1 of 2

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

OPTIONS

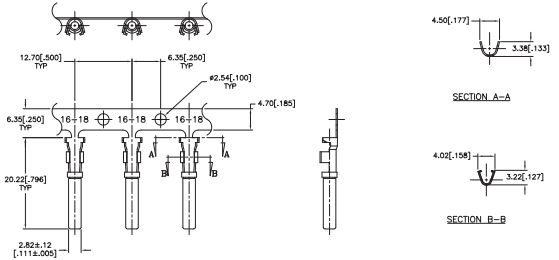
PART NUMBER: [AT62-14-01XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

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)



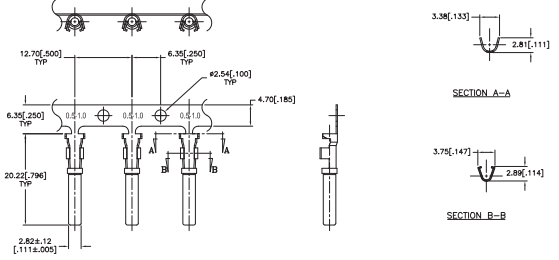
PART NUMBER: [AT62-16-01XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

MATERIAL:
 CONTACT BODY: COPPER ALLOY
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CRIMP INFORMATION DRAWING: S2-15221 & S2-15222
CONTACTS PER REEL: APPROX. 4000 (PARTIAL REELS AVAILABLE)



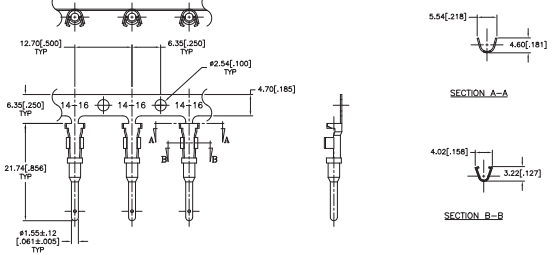
PART NUMBER: [AT62-16-06XX](#)
DESCRIPTION: CONTACT, SOCKET, STAMPED, SIZE 16

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)

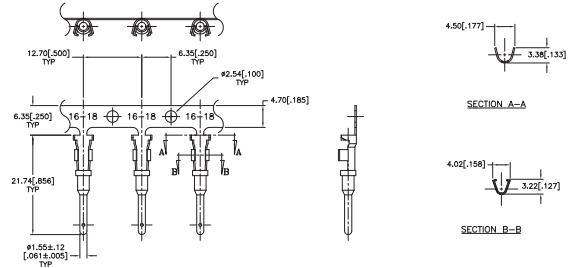


STAMPED AND FORMED CONTACTS, PG 2 of 2

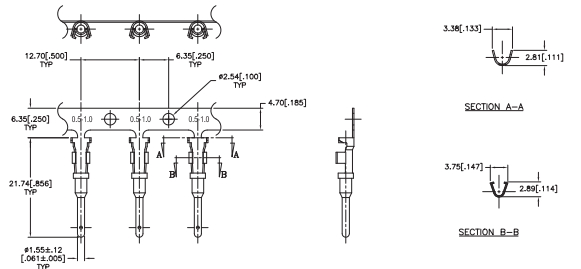
Click on [blue underlined part numbers](#) to be taken to their spec sheets.

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:
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 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)



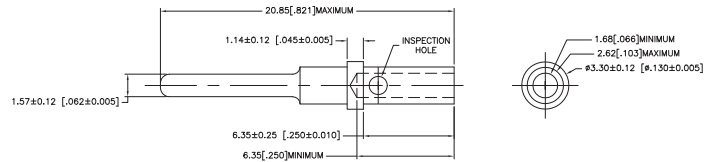
SOLID/MACHINED CONTACTS

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

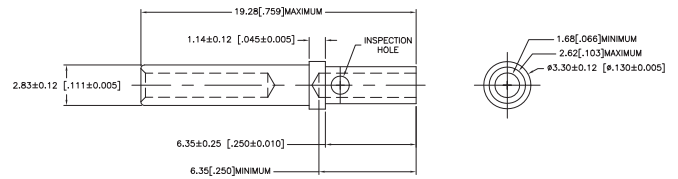
OPTIONS

MILITARY-STYLE

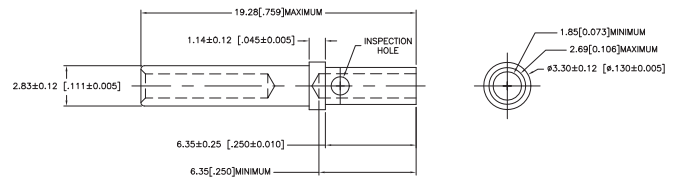
PART NUMBER: [AT60-202-16XX](#)
DESCRIPTION: CONTACT, PIN, SOLID MACHINED, SIZE 16
MATERIAL: COPPER ALLOY
PLATING SUFFIX CODE:
 XX=141 NICKEL PLATING
 XX=31 GOLD PLATING
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP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

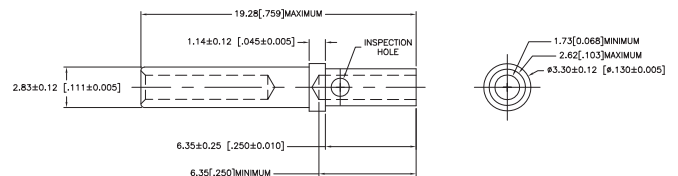


PART NUMBER: [65-54942-14](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 14AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218

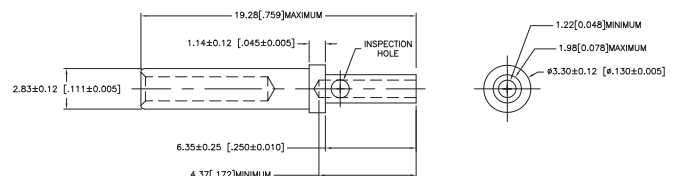


ROCKSOLID™ CONTACTS

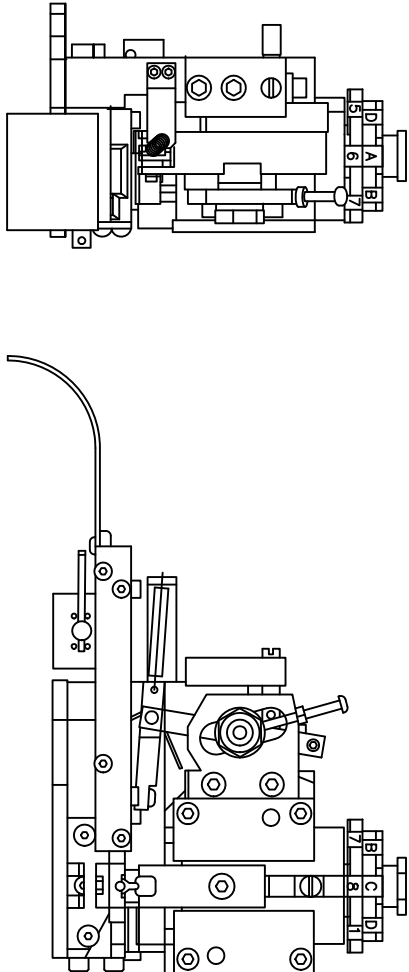
PART NUMBER: [65-54942-16](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 16AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



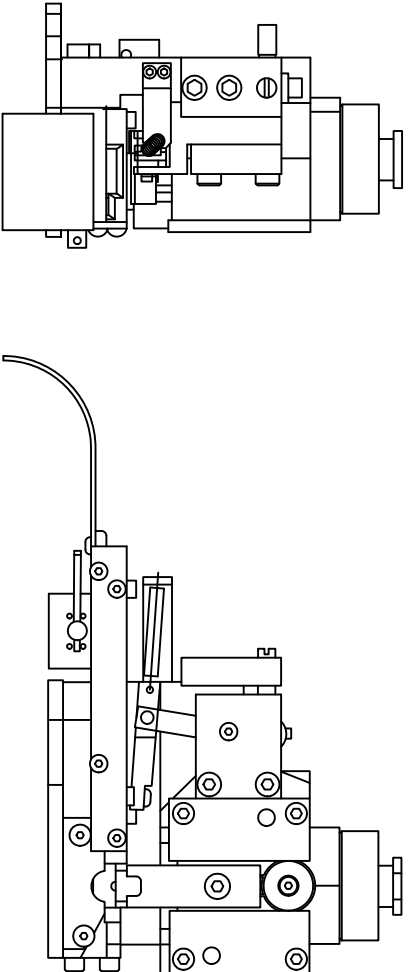
PART NUMBER: [65-54942-20](#)
DESCRIPTION: CONTACT, SOCKET, ROCKSOLID, SIZE 16
AWG RANGE: 20AWG
MATERIAL: COPPER ALLOY
PLATING: GOLD
CONTACT GENERAL DATA SPECIFICATION: S2-15217
AVAILABLE CRIMPERS: CA-5D12 & CA-5E12
CRIMPER SPECIFICATIONS: S2-15219 & S2-15220
CRIMP INFORMATION DRAWING: S2-15218



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) Tolerances are as follows:			
1. HOLE ±0.005			
2. PL. DIM. ±0.015			
3. PL. DIM. ±0.015			
4) Finish: Standard Per: A			
5) Heat: SS-20020			
6) Heat: A			
7) Heat: U			
8) Heat: BERNUM			
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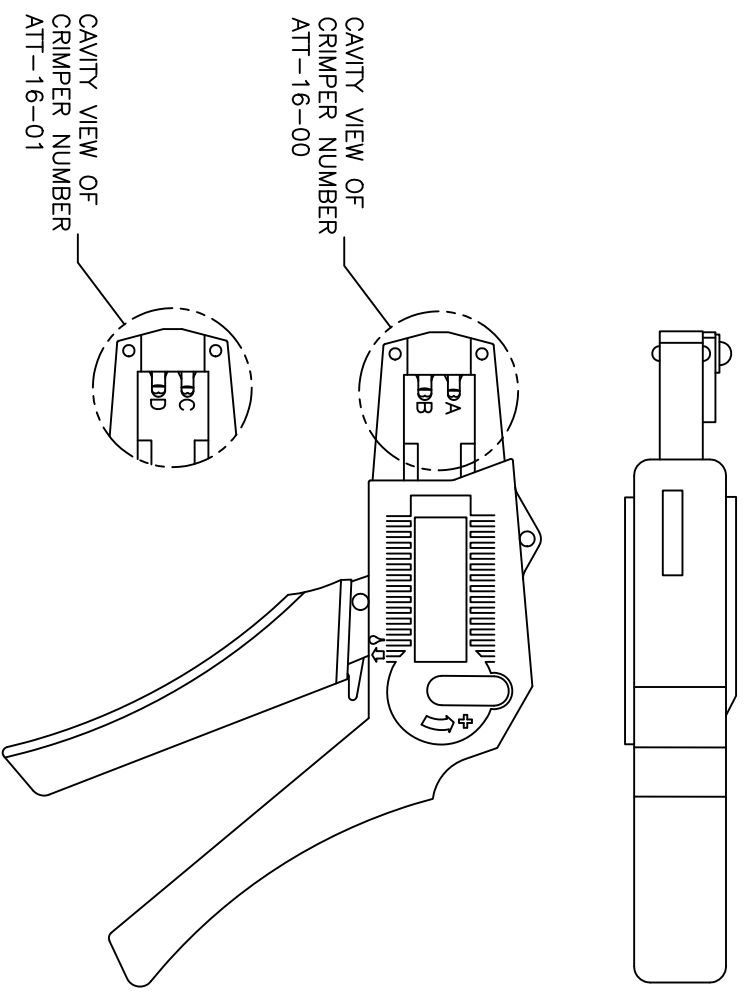
REVISIONS					
REV	ECO	DESCRIPTION	DATE	BY	APPR
A1	-	RELEASE NUMBER 016571	6/12/09	B.D.B.	M.R.F.

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



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- 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: PCD# N01DWS NC#	REVISION
		B 16K44	A1
		S2-15223	
		S2-15223	
		SHEET 1 OF 1	

REV ZONE		ECO	DESCRIPTION	DATE	BY	APP
AT	-	-	RELEASE NUMBER 016871	6/12/09	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 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	28(111)
AT60-16-011x AT62-16-011x INSULATION RANGE 0.075-0.140(1.91-3.56)	16	14 AWG 2.00mm ² 1.50mm ² 16 AWG 1.00mm ² 18 AWG 0.75mm ²	0.055(1.40) 0.055(1.40) 0.051(1.29) 0.050(1.27) 0.049(1.24) 0.048(1.22)	±0.003 NCH ±0.08 mm	AT17-003-0200	AT17-103-0200	28(111)
AT60-16-066x INSULATION RANGE 0.055-0.100(1.40-2.54)	16	16 AWG 1.00mm ² 20 AWG 0.50mm ²	0.050(1.27) 0.049(1.24) 0.048(1.22) 0.045(1.14)	±0.003 NCH ±0.08 mm	AT17-103-0200	28(111)	15(67)

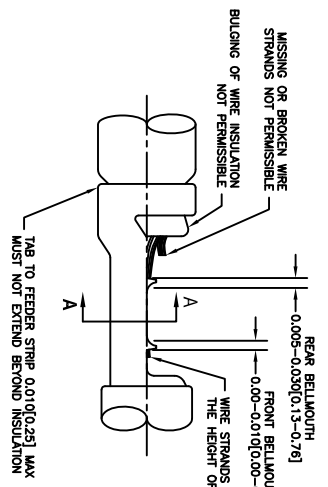
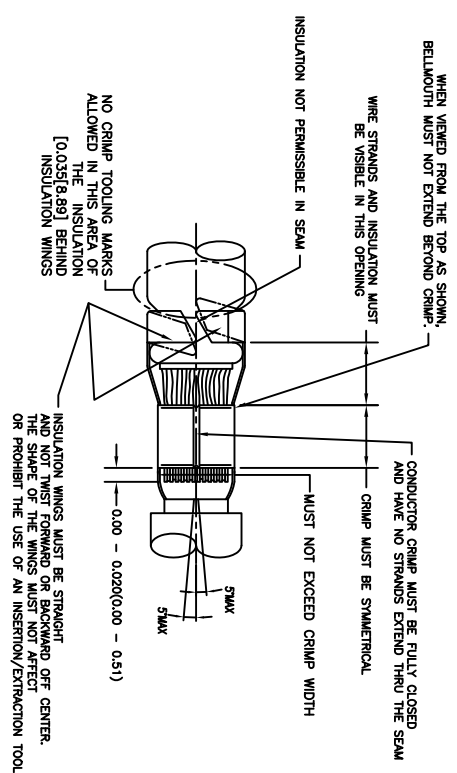
CROSS REFERENCE

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
0.065-0.094 [1.62-2.39]	AT17-217-0200	AT17-317-0200
0.050-0.075 [1.27-1.91]	AT17-218-0200	AT17-318-0200

NOTES: UNLESS OTHERWISE SPECIFIED

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



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QUANTITY	PART NUMBER	MATERIALS LIST	DESCRIPTION	ITEM
UNLESS OTHERWISE SPECIFIED				
1) All dimensions are in inches.				
2) Plating is standard unless otherwise specified.				
3) Plating is standard unless otherwise specified.				
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5) Production Standard Part				
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90) Plating is standard unless otherwise specified.				
91) Plating is standard unless otherwise specified.				
92) Plating is standard unless otherwise specified.				
93) Plating is standard unless otherwise specified.				
94) Plating is standard unless otherwise specified.				
95) Plating is standard unless otherwise specified.				
96) Plating is standard unless otherwise specified.				
97) Plating is standard unless otherwise specified.				
98) Plating is standard unless otherwise specified.				
99) Plating is standard unless otherwise specified.				
100) Plating is standard unless otherwise specified.				

DATE	BY	APP
4/7/09	ROT	
6/8/09	ROT	
6/8/09	BER	
6/8/09	BER	

SIZE	SCALE	DATE	BY	APP
10K44	1:1	6/8/09	ROT	
S2-15222	1:1	6/8/09	ROT	
S2-15222	1:1	6/8/09	ROT	

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

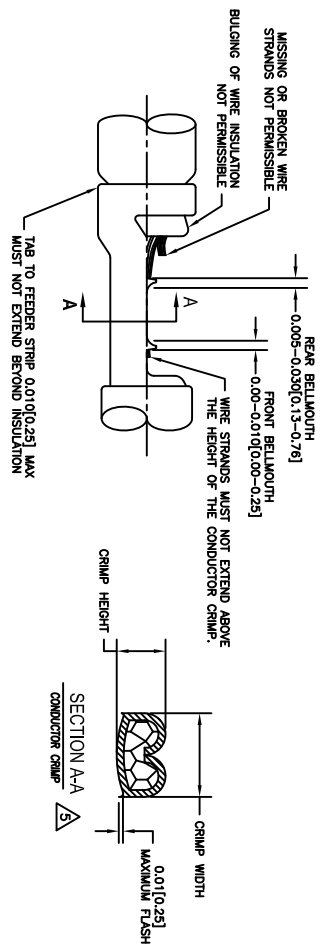
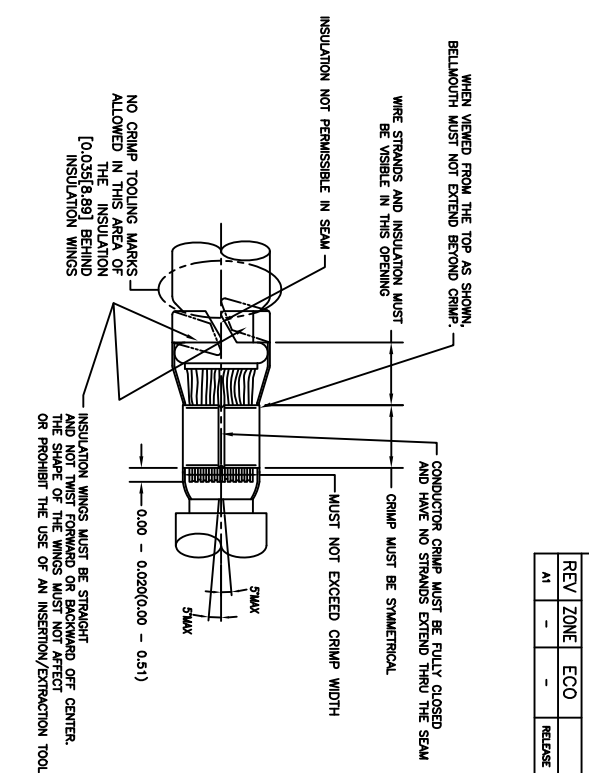
STAMPED CONTACT PART NUMBER (1000=PIN, 1000=SOCKET)	SIZE	CONDUCTOR WIRE SIZE	CRIMP HEIGHT		CRIMP WIDTH		CONDUCTOR PUNCH NUMBER	CONDUCTOR ANVIL NUMBER	CRIMP TENSILE REFERENCE (LBS/IN)
			+0.001/-0.002 INCH (+0.025/-0.05 mm)	-0.001 INCH (-0.025 mm)	±0.003 INCH (±0.08 mm)	±0.003 INCH (±0.08 mm)			
AT160-14-011X AT162-14-011X INSULATION RANGE 0.095-0.150(2.41-3.81)	16	14 AWG	0.055(1.40)	0.094(2.39)					
		2.00mm ²	0.055(1.40)	0.094(2.39)					
		1.50mm ²	0.053(1.33)	0.094(2.39)					
		16 AWG	0.050(1.27)	0.094(2.39)	AT17-083-0200	AT17-183-0200	29(111)		
AT160-16-011X AT162-16-011X INSULATION RANGE 0.075-0.140(1.91-3.56)	16	14 AWG	0.055(1.40)	0.094(2.39)					
		2.00mm ²	0.055(1.40)	0.094(2.39)					
		1.50mm ²	0.053(1.33)	0.094(2.39)					
		16 AWG	0.050(1.27)	0.094(2.39)	AT17-083-0200	AT17-183-0200	29(111)		
AT160-18-066X AT162-18-066X INSULATION RANGE 0.055-0.100(1.40-2.54)	16	16 AWG	0.050(1.27)	0.079(2.01)					
		1.00mm ²	0.050(1.27)	0.079(2.01)					
		20 AWG	0.048(1.22)	0.079(2.01)					
		0.50mm ²	0.046(1.14)	0.079(2.01)	AT17-082-0200	AT17-182-0200	29(111)		

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]	AT17-225-0200	AT17-325-0200	MPX-3953	DCT1620-02-00
0.105-0.125 [2.67-3.18]	AT17-226-0200	AT17-326-0200	AT17-083-0200	1017-083-0200
0.085-0.111 [2.16-2.82]	AT17-227-0200	AT17-327-0200	AT17-082-0200	1017-082-0200
0.075-0.105 [1.91-2.67]	AT17-228-0200	AT17-328-0200	AT17-183-0200	1017-183-0200
0.063-0.094 [1.62-2.39]	AT17-229-0200	AT17-329-0200	AT17-182-0200	1017-182-0200
0.050-0.075 [1.27-1.91]	AT17-230-0200	AT17-330-0200	AT17-225-0200	1017-225-0200
			AT17-226-0200	1017-226-0200
			AT17-227-0200	1017-227-0200
			AT17-228-0200	1017-228-0200
			AT17-229-0200	1017-229-0200
			AT17-230-0200	1017-230-0200
			AT17-325-0200	1017-325-0200
			AT17-326-0200	1017-326-0200
			AT17-327-0200	1017-327-0200
			AT17-328-0200	1017-328-0200
			AT17-329-0200	1017-329-0200
			AT17-330-0200	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(4.43±0.54). BROKEN OR MISSING CONDUCTOR STRANDS ARE NOT ACCEPTABLE. USE A BLADE MICROMETER (0.100[2.54] MIN SPINDLE AND 0.060[0.010][1.50][0.040] ANVIL) TO MEASURE THE CONDUCTOR CRIMP. SEE SECTION AA.
5. CRIMP TENSILE STRENGTH IS DETERMINED AT A PULL RATE SPEED OF 1.00 INCH(2.54) PER MINUTE. INSULATION WINGS ARE REMOVED FOR TEST. ACTUAL CRIMP TENSILE STRENGTH DEPENDS ON WIRE/CONDUCTOR SIZE. VALUES ON THIS SPECIFICATION ARE FOR REFERENCE ONLY.
6. INSULATION DIAMETER RANGE IS DETERMINED BY CONNECTOR AND ITS WIRE SEAL SIZE. SEE CONNECTOR DRAWING FOR INSULATION RANGE.
7. INSULATION CRIMP DIAMETER SHOULD BE THE EQUAL OR LESS THAN THE DIAMETER OF THE WIRE INSULATION (HARD OR 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.

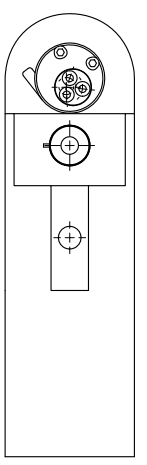


ALL REFERENCES TO DEUTSCH PRODUCTS OR SPECIFICATIONS ARE FOR COMPARISON PURPOSES ONLY, AND REFER TO DEUTSCH INDUSTRIAL PRODUCTS.

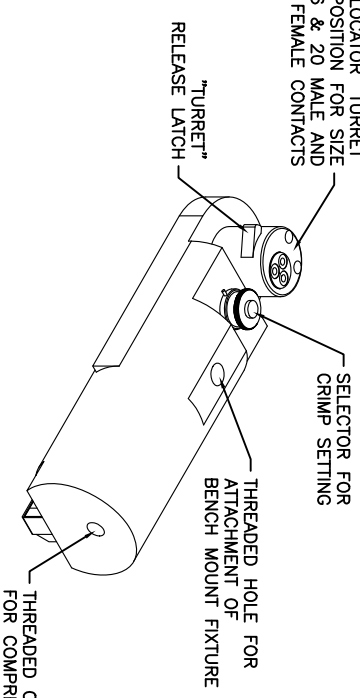
QUANTITY	PART NUMBER	DESCRIPTION	ITEM

MATERIALS LIST		SIGNATURES		DATE	
UNLESS OTHERWISE SPECIFIED		DATE		DATE	
1) All dimensions are in inches.		DATE		DATE	
2) 1 lb. = 453.6 gms		DATE		DATE	
3) 1 in. = 25.4 mm		DATE		DATE	
4) 1 mm = 0.03937 in.		DATE		DATE	
5) Reduction Standard Per:		DATE		DATE	
6) 1 mm = 0.03937 in.		DATE		DATE	
7) 1 mm = 0.03937 in.		DATE		DATE	
8) 1 mm = 0.03937 in.		DATE		DATE	
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72) 1 mm = 0.03937 in.		DATE		DATE	
73) 1 mm = 0.03937 in.		DATE		DATE	
74) 1 mm = 0.03937 in.		DATE		DATE	
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81) 1 mm = 0.03937 in.		DATE		DATE	
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87) 1 mm = 0.03937 in.		DATE		DATE	
88) 1 mm = 0.03937 in.		DATE		DATE	
89) 1 mm = 0.03937 in.		DATE		DATE	
90) 1 mm = 0.03937 in.		DATE		DATE	
91) 1 mm = 0.03937 in.		DATE		DATE	
92) 1 mm = 0.03937 in.		DATE		DATE	
93) 1 mm = 0.03937 in.		DATE		DATE	
94) 1 mm = 0.03937 in.		DATE		DATE	
95) 1 mm = 0.03937 in.		DATE		DATE	
96) 1 mm = 0.03937 in.		DATE		DATE	
97) 1 mm = 0.03937 in.		DATE		DATE	
98) 1 mm = 0.03937 in.		DATE		DATE	
99) 1 mm = 0.03937 in.		DATE		DATE	
100) 1 mm = 0.03937 in.		DATE		DATE	

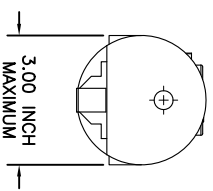
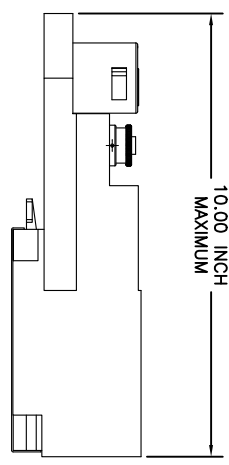
REVISIONS						
REV	ZONE	ECO	DESCRIPTION	DATE	BY	APPR
A1	-	-	RELEASE NUMBER 016571	6/12/09	B.D.B.	M.R.F.



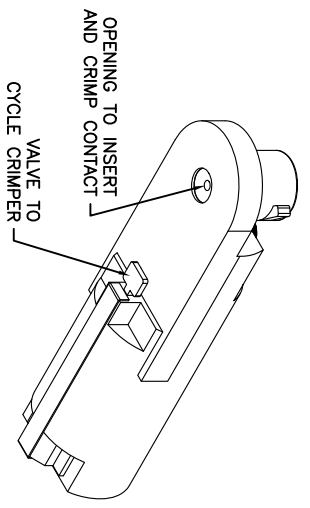
CONTACT LOCATOR "TURRET"
THREE POSITION FOR SIZE
12, 16 & 20 MALE AND
FEMALE CONTACTS



THREADED OPENING
FOR COMPRESSED
AIR FITTING



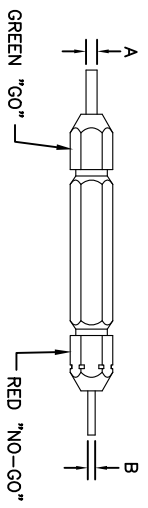
- NOTES:
1. THE CA-5E12 IS A COMPRESSED AIR OPERATED HAND CRIMPER FOR ELECTRICAL CONTACTS. IT IS ADJUSTABLE TO 3 CONTACT SIZES (12, 16 & 20) AND 8 INDENTER CRIMP POSITIONS FOR DIFFERENT WIRE SIZES (12AWG THRU 26 AWG).
 2. 80-120 PSI COMPRESSED AIR.
 3. WEIGHT: 3.1 LBS
 4. SELECTING CONTACT SIZE: PRESS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

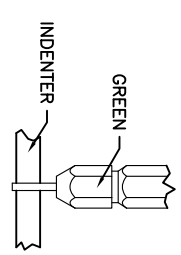
GAGING INSTRUCTIONS

CAUTION!
DO NOT CRIMP GAGE!

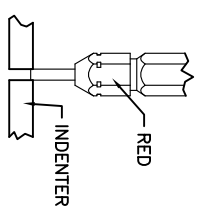


"GO" GAGING: OPERATE TOOL TO FULLY CLOSED POSITION. INSERT "GO" GAGE END AS SHOWN. GAGE MUST PASS FREELY BETWEEN INDENTER TIPS.

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

MATERIALS LIST

QUANTITY	PART NUMBER	DESCRIPTION	ITEM

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

INSTRUCTIONS FOR CA-5E12 CRIMPER, PNEUMATIC

UNLESS OTHERWISE SPECIFIED
1. All dimensions are in inches.
2. Pl. DEC 2000
3. Pl. DEC 2000
4. Revision Standard Per: AS-20020
5. Rev. 01/09
6. Rev. 03/09
7. Rev. 06/09
8. Rev. 06/09
9. Rev. 06/09

APPROVAL: **BERNIM** 6/3/09

DATE: 6/2/09

DESIGNED BY: **BERNIM**

CHECKED BY: **BERNIM**

DATE: 6/3/09

SCALE: NONE

SIZE: 10K/44

PROCESS SPECIFICATIONS:

THE USER OF THIS DRAWING IS RESPONSIBLE FOR THE PROPER INTERPRETATION OF THIS DRAWING. ALL DIMENSIONS ARE SUBJECT TO NORMAL MANUFACTURING VARIATIONS. DRAWINGS RETAINED HEREON MAY CONTAIN UNLAWFUL RIGHTS DATA.

REVISION: **A1**

SHEET: 1 OF 1

REVISIONS			
REV ZONE	ECO	DESCRIPTION	DATE
A1	-	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

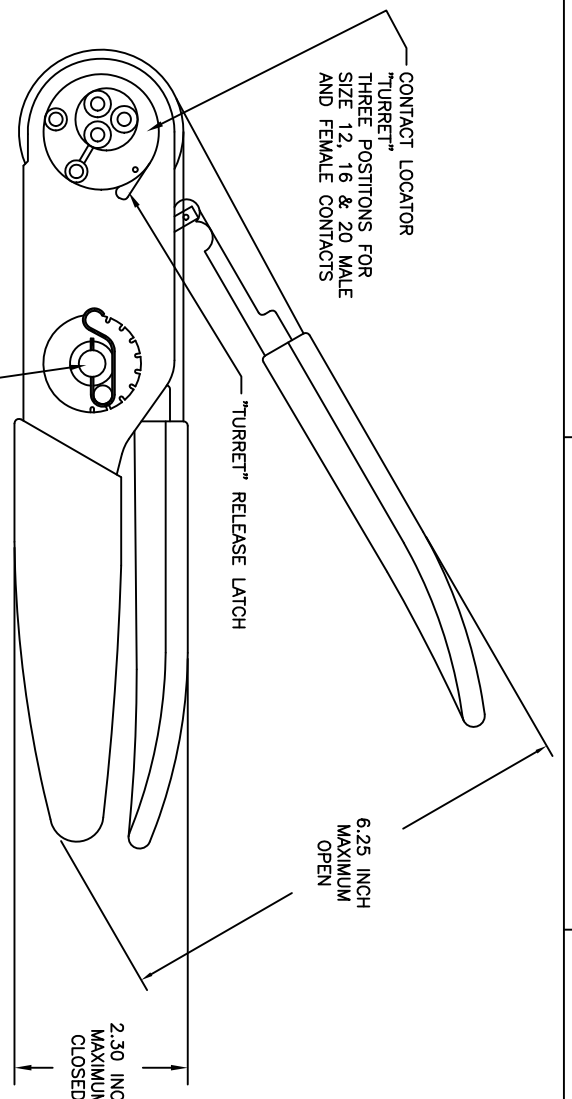
2.30 INCH
MAXIMUM
CLOSED

SELECTOR FOR CRIMP
SETTING

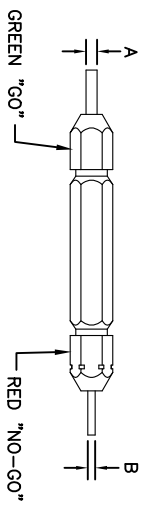
1.125 INCH MAX.

9.75 INCH MAXIMUM

1.00 INCH MAX.



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

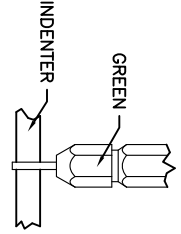


GAGING INSTRUCTIONS

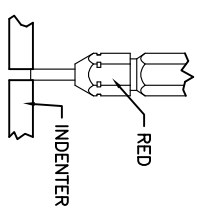
CAUTION!
DO NOT CRIMP GAGE!

"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 "TURRET" POSITION COLOR	WIRE	AWG	WIRE	AWG	WIRE	AWG	WIRE	AWG	WIRE	AWG
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			

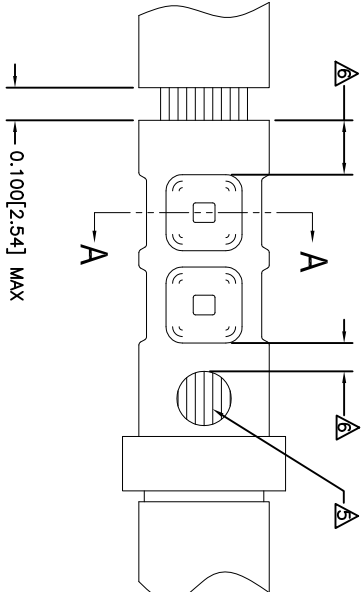
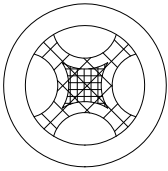
QUANTITY	PART NUMBER	DESCRIPTION	ITEM
MATERIALS LIST			
UNLESS OTHERWISE SPECIFIED			
1) All dimensions are in inches.			
2) Pl. DEC 2000 1 Position 31/14			
3) Pl. DEC 2000 1 Position 31/14			
4) Pl. DEC 2000 1 Position 31/14			
5) Production Standard Per: S2-20020			
6) Pl. S2-20020			
APPROVAL SIGNATURES			
DESIGNED: BERNIM	DATE: 6/3/09	SINE Systems Corporation	
CHECKED: NONE	DATE: 6/3/09	A Subsidiary of Amphenol Corporation	
ENGINEER: BERNIM	DATE: 6/3/09	44724 Moley Drive	
APPROVAL: BERNIM	DATE: 6/3/09	Canton Township, MI 48036	
CUSTOMER: _____			
THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFICATIONS AND PERFORMANCE DATA SHOWN HEREON. ANY OTHER USE WITHOUT THE WRITTEN PERMISSION OF AMPHENOL CORP. IS PROHIBITED. ALL DIMENSIONS REFERENCED HEREON UNLESS OTHERWISE SPECIFIED ARE IN INCHES.			
PROCESS SPECIFICATIONS: _____			
NEXT ASSY: _____			
INSTRUCTIONS FOR CA-5D12 CRIMPER, HAND, MACHINED CONTACTS			
SIZE: 10K44	SCALE: NONE	S2-15219	SHEET 1 OF 1
REV: A1	REV: A1	REV: A1	REV: A1

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

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 0.75mm ² 20AWG	25[111]
		0.50mm ²	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	

SIGNATURES	DATE	DATE	DATE
DESIGN: BERNUIM	6/3/09	6/3/09	6/3/09
CHECKED: RONE	6/3/09		
ENGINEER: BERNUIM			
APPROVAL: BERNUIM	6/3/09		

UNLESS OTHERWISE SPECIFIED	PROCESS SPECIFICATIONS	MATERIAL SPECIFICATIONS	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 DOCUMENT REVISION HEREON UNLESS OTHERWISE NOTED.
1) All dimensions are in inches. 2) Holes are to be drilled. 3) Holes are to be reamed. 4) Holes are to be finished. 5) Fabrication Standards Per: a) ASME Y14.5-2002 b) ASME Y14.37-2002	MA	MA	CRIMP INFORMATION SOLID MACHINED CONTACTS

A

B

C

D

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

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

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

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

NOTES: UNLESS OTHERWISE SPECIFIED

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

- Δ MAXIMUM RATED CURRENT IN CHART DEPENDS ON CONTACT SIZE. ACTUAL RATED CURRENT DEPENDS ON WIRE SIZE.
- Δ CONTACT FACTORY FOR ALL AVAILABLE PLATING ON SPECIFIC CONTACTS.
- Δ 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		DRAWN: POKR 4/5/09	
3) Pl. SEE 30.00		ORDERED: KOCX 6/3/09	
4) Pl. SEE 30.00		ENGINEER: BERNIM 6/3/09	
5) Fabrication Standards Per: SS-20020		APPROVAL: BERNIM 6/3/09	
6) Material: SS-20020		CUSTOMER: AMPHENOL	
7) Material Specifications: N/A		APPROVAL: BERNIM 6/3/09	
PROCESS SPECIFICATIONS:		THE USE OF THIS DRAWING IS LIMITED TO THE SPECIFIC PARTS, MATERIALS, AND PERFORMANCE SPECIFICATIONS AND REQUIREMENTS PRESENT ON THIS DRAWING. ALL DIMENSIONS ARE SUBJECT TO NORMAL TOLERANCES UNLESS OTHERWISE SPECIFIED. DOCUMENTS REFERENCED HEREON MAY CONTAIN LIMITED RIGHTS DATA.	
NEXT ASSY:		SIZE: Pcs/Kit 10K/44	
		SCALE: NONE	
		S2-15217	
		SHEET 1 OF 1	

SINE Systems Corporation
A Subsidiary of Amphenol Corporation
441724 Moley Drive
Clinton Township, MI 48036

GENERAL DATA, CONTACTS STAMPED AND FORMED / MACHINED