

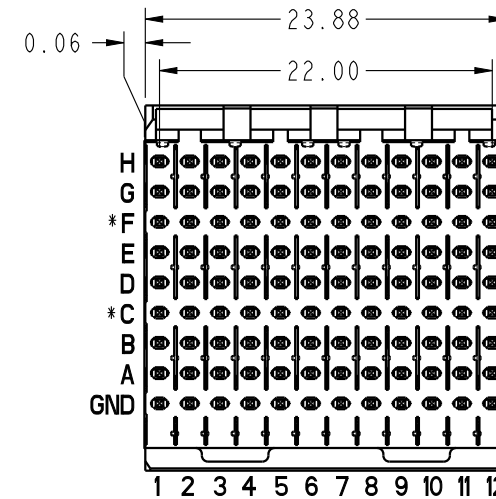
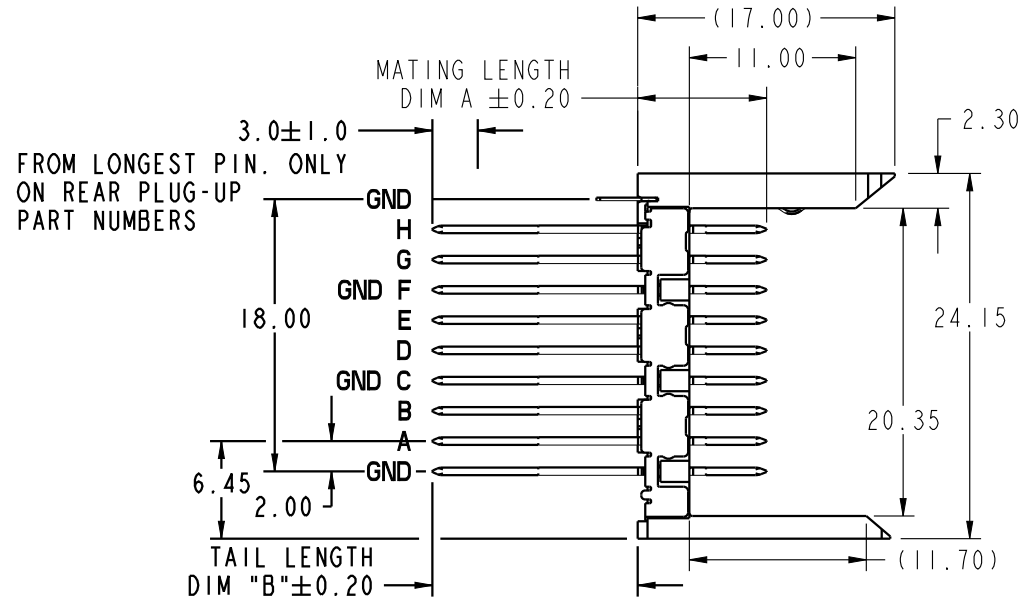
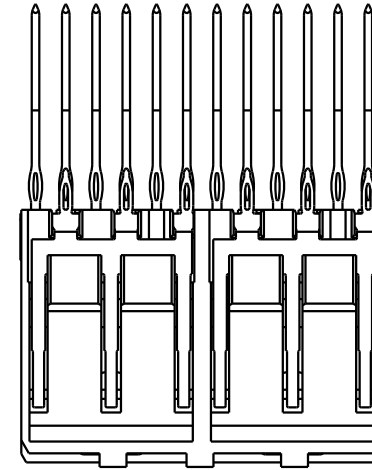
PRODUCT NUMBER	SHROUD TO USE FOR REAR PLUG-UP APPLICATIONS
74978-X02ZZZ(L)LF	84625-X02LF

X REFER PLATING PERFORMANCE $\triangle$
SEE NOTE 6

L REFER LUBRICATED (OPTIONAL) $\triangle$
SEE NOTE 6

X REFER PLATING PERFORMANCE $\triangle$
SEE NOTE 6

*ROW C AND F INFORMATION
ODD NUMBER COLUMNS WITHIN ROW C & F ARE COMMONED TO GROUND INTERNALLY WITHIN THE HOUSING. THE EVEN NUMBER COLUMNS WITHIN ROW C & F ARE NOT. FOR MAXIMUM PERFORMANCE IT IS RECOMMENDED THESE EVEN COLUMNS BE GROUND COMMONED WITHIN PCB. SEE NOTE 11



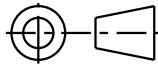
spec ref				dr	P-Mathew Nebu	2011/05/20	projection	MM	size	A4	scale	2:1		
tolerance std	TOLERANCES UNLESS OTHERWISE SPECIFIED			eng	Kartha, Aravin	2021/06/29			ecn no	ELX-I-41387-1				
				chr	-	-			rel level			Released		
				appr	Kuriakose, San	2021/08/26			product family		METRAL 2000			
surface	linear	0.X	±0.3	Amphenol FCI	title				VERTICAL SIGNAL HDR 8 ROW	dwg no	74978		rev	V
		0.XX	±0.13											
		0.XXX	±0.050		P.F. 96 POS. SPECIAL LOAD EXT.									
	ISO 1302	angular	0°	±2°					amphenol-icc.com	cat. no.		Product - Customer Drw		

Creo File: ELX-MC-AAC, REV F, 2020-12-21

PIN CODE NO.	DIM A MATING LENGTH	DIM B TAIL LENGTH	PCB THICKNESS RANGE ACCOMMODATED BY PIN'S TAIL LENGTH				
			WHEN MATING TO A 74981 METRAL 1000 SERIES RECEPTACLE		WHEN MATING TO A 52066 SERIES METRAL 4000 RECEPTACLE		
			ROWS A,B,C, D,E,F,G & H	GROUND ROW	ROWS:A,B, D,E,G & H	ROW C&F	GROUND ROW
01*	5.00	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
22		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
30		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
05		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
35		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
48		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
40		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
65		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
09		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10
02*	5.75	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
44		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
31		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
06		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
36		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
49		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
25		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
66		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
10		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10
03*	6.50	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
45		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
32		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
07		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
37		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
50		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
41		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
24		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
11		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10

* STUB PINS - NO REAR PLUG-UP

** THE GREATEST RANGE OCCURS WHEN THE B
DIMENSION OF PIN 'GND' IS ONE SIZE
SHORTER THEN THE OTHER PINS.

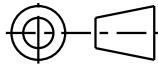
spec ref		dr		P-Mathew Nebu	2011/05/20	projection 	MM 	size	A4	scale	2:1	
tolerance std	TOLERANCES UNLESS OTHERWISE SPECIFIED		eng	Kartha, Aravin	2021/06/29			ecn no	ELX-I-41387-1			
			chr	-	-			rel level	Released			
ISO 406 ISO 1101		appr		Kuriakose, San	2021/08/26	product family		METRAL 2000				
surface ✓ ISO 1302	linear	0.X	±0.3	Amphenol FCi	title		VERTICAL SIGNAL HDR 8 ROW	dwg no	74978		rev	V
		0.XX	±0.13									
		0.XXX	±0.050									
angular		0°	±2°	amphenol-icc.com		cat. no.		Product - Customer Drw		sheet 2 of 6		

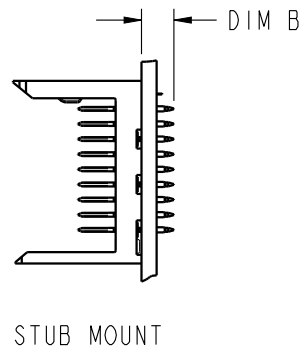
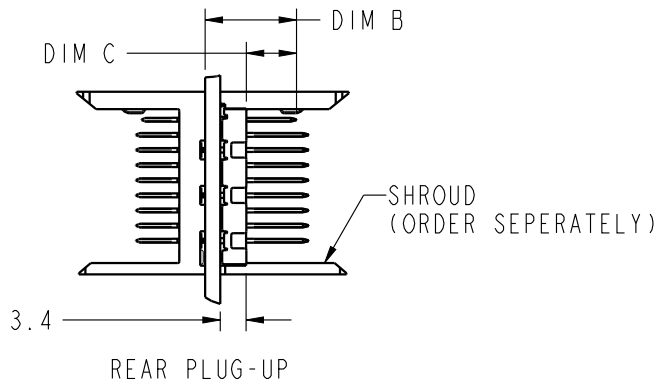
Crea File:ELX-MC-AAC,REV F,2020-12-21

PIN CODE NO.	DIM A MATING LENGTH	DIM B TAIL LENGTH	PCB THICKNESS RANGE ACCOMMODATED BY PIN LENGTH				
			WHEN MATING TO A 73981 OR 84688 SERIES RECEPTACLE		WHEN MATING TO A 52057 SERIES METRAL 4000 RECEPTACLE		
			ROWS A,B,C,D,E	GROUND ROW	ROWS:A,B,D,E	ROW C	GROUND ROW
04*	7.25	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
46		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
33		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
08		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
38		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
51		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
42		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
67		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
12		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10
19*	8.00	4.30	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN	1.60 MIN
47		12.20	2.95 - 3.80	2.95 - 4.20	2.95 - 3.80	2.95 - 3.80	2.95 - 4.20
34		12.95	2.95 - 4.55	3.25 - 4.95	2.95 - 4.55	2.95 - 4.55	3.25 - 4.95
20		13.70	2.95 - 5.30	4.00 - 5.70	3.30 - 5.30	2.95 - 5.30	4.00 - 5.70
39		14.45	3.05 - 6.05	4.75 - 6.45	4.05 - 6.05	3.05 - 6.05	4.75 - 6.45
52		15.20	3.80 - 6.80	5.50 - 7.20	4.80 - 6.80	3.80 - 6.80	5.50 - 7.20
43		15.70	4.30 - 7.30	6.00 - 7.70	5.30 - 7.30	4.30 - 7.30	6.00 - 7.70
68		16.40	5.00 - 8.00	6.70 - 8.40	6.00 - 8.00	5.00 - 8.00	6.70 - 8.40
21		17.10	5.70 - 8.70	7.40 - 9.10	6.70 - 8.70	5.70 - 8.70	7.40 - 9.10

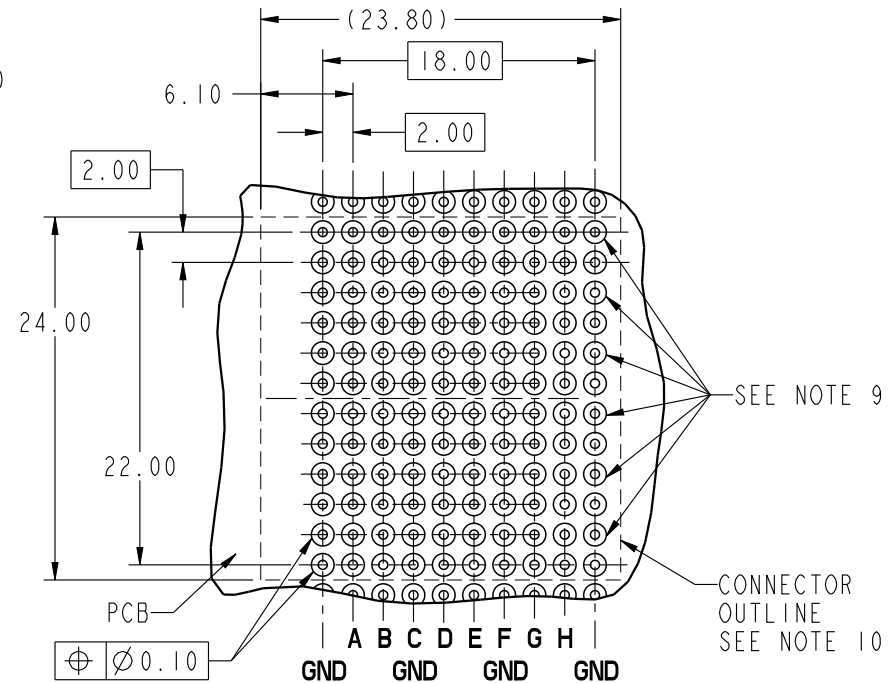
* STUB PINS - NO REAR PLUG-UP

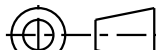
** THE GREATEST RANGE OCCURS WHEN THE B
DIMENSION OF PIN 'GND' IS ONE SIZE
SHORTER THEN THE OTHER PINS.

spec ref		dr		P-Mathew Nebu	2011/05/20			size	A4	scale	2:1						
tolerance std ISO 406 ISO 1101	TOLERANCES UNLESS OTHERWISE SPECIFIED			eng	Kartha, Aravin			2021/06/29	ecn no				ELX-I-41387-1				
				chr	-			-	rel level				Released				
				appr				Kuriakose, San	2021/08/26	product family		METRAL 2000					
surface ISO 1302	linear	0.X	±0.3		title				VERTICAL SIGNAL HDR 8 ROW				dwg no	74978		rev	V
		0.XX	±0.13														
		0.XXX	±0.050														
	angular	0°	±2°	amphenol-icc.com		cat. no.		Product - Customer Drw				sheet 3 of 6					



RECOMMENDED PCB HOLE PATTERN
(COMPONENT SIDE)
SEE PRINT 58351 FOR ADDITIONAL PCB
INFORMATION.



spec ref				dr	P-Mathew Nebu	2011/05/20			size	A4	scale	2:1
tolerance std ISO 406 ISO 1101	TOLERANCES UNLESS OTHERWISE SPECIFIED			eng	Kartha, Aravin	2021/06/29			ecn no	ELX-I-41387-1		
				chr	-	-			rel level Released			
				appr	Kuriakose, San	2021/08/26						product family
surface ISO 1302	linear	0.X	±0.3		title VERTICAL SIGNAL HDR 8 ROW P.F. 96 POS. SPECIAL LOAD EXT.				dwg no	74978		rev V
		0.XX	±0.13									
		0.XXX	±0.050									
	angular	0°	±2°	amphenol-icc.com	cat. no.			Product - Customer Drw			sheet 4 of 6	

SPECIAL LOAD PATTERNS

PRODUCT #	ROW	PIN CODES
74978-X02001LF	H	01
	G	
	F	
	E	
	D	
	C	
	B	
	A	
	GND	
74978-X02006LF *RPU	H	48
	G	
	F	
	E	
	D	
	C	
	B	
	A	
	GND	
74978-X02011LF	H	02
	G	
	F	
	E	
	D	
	C	
	B	
	A	
	GND	
74978-X02012LF *RPU	H	44
	G	
	F	
	E	
	D	
	C	
	B	
	A	
	GND	

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
5.50 - 6.80

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
2.95 - 3.80

74978-X02013LF
*RPU

H	06
G	30
F	
E	
D	
C	
B	
A	
GND	

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
3.30 - 4.95 FOR
METRAL 1000
(RECEPTACLE)
APPLICATIONS,
AND 3.30-4.95
FOR METRAL 4000
APPLICATIONS

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
5.70 - 7.20 FOR
METRAL 1000
(RECEPTACLE)
APPLICATIONS,
AND 6.00-7.20
FOR METRAL 4000
APPLICATIONS

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
2.95 - 5.30 FOR
METRAL 1000
(RECEPTACLE)
APPLICATIONS,
AND 3.30-5.30
FOR METRAL 4000
APPLICATIONS

74978-X02050LF

H	02
G	03
F	04
E	02
D	03
C	04
B	02
A	03
GND	02

74978-X02051LF
*RPU

H	25
G	24
F	12
E	25
D	24
C	12
B	25
A	24
GND	49

74978-X02052LF
*RPU

H	06
G	01
F	
E	
D	
C	
B	
A	
GND	

74978-X02053LF

H	37
G	06
F	
E	
D	
C	
B	
A	
GND	

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
4.00 - 5.70 FOR
METRAL 1000
(RECEPTACLE)
APPLICATIONS,
AND 4.05 - 5.70
FOR METRAL 4000
APPLICATIONS

SPECIAL LOAD PATTERNS

PRODUCT #	ROW	PIN CODES
74978-X02054LF	H	03
	G	
	F	
	E	
	D	
	C	
	B	
	A	
	GND	
*REAR PLUG-UP PART NUMBER		

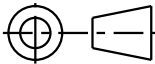
*REAR PLUG-UP PART NUMBER

spec ref				dr	P-Mathew Nebu	2011/05/20	projection	MM	size	A4	scale	2:1			
tolerance std				eng	Kartha, Aravin	2021/06/29			ecn no	ELX-I-41387-1					
ISO 406 ISO 1101				chr	-	-			rel level	Released					
				appr	Kuriakose, San	2021/08/26	product family								
surface ISO 1302				linear	0.X	±0.3	Amphenol FCI VERTICAL SIGNAL HDR 8 ROW P.F. 96 POS. SPECIAL LOAD EXT.				dwg no	74978		rev	V
					0.XX	±0.13									
					0.XXX	±0.050									
				angular	0°	±2°	amphenol-icc.com				cat. no.		Product - Customer Drw		sheet 5 of 6

Crea File:ELX-MC-AAC,REV F,2020-12-21

NOTES:

- SEE APPLICATION SPECIFICATION GS-20-010 FOR INFORMATION ON AVAILABLE TOOLING, CIRCUIT BOARD DESIGN CONSIDERATIONS, REPAIR PROCEDURES AND PRODUCT OFFERINGS.
- SEE FCI PUBLICATION 950511-028 FOR "ELECTRICAL PERFORMANCE DATA FOR DIFFERENTIAL APPLICATIONS."
- SEE FCI PUBLICATION 950511-028 FOR "ELECTRICAL PERFORMANCE DATA FOR SINGLE-ENDED APPLICATION."
- UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5M, 1994
- MATERIAL : BODY : THERMOPLASTIC UL94-V0.
: CONTACT : COPPER ALLOY.
- FOR PLATING PERFORMANCE REFER DRAWING # 10159408.
- DIMENSIONAL RESTRICTIONS OF PINS IN HEADERS.
FOR MATING WITH METRAL 1000 RECEPTACLES
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROWS A-H
DIM A : 5.00mm MIN, 5.75mm MAX FOR ROW GND NEXT TO ROW A
DIM C : 5.00mm MIN, 8.00mm MAX FOR ROWS A-H
DIM C : 4.60mm MIN, 6.30mm MAX FOR ROW GND NEXT TO ROW A
FOR MATING WITH METRAL 4000 RECEPTACLES
DIM A : 5.00mm MIN, 6.50mm MAX FOR ROWS A, B, D, E, G & H
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROWS C & F
DIM A : 5.00mm MIN, 5.75mm MAX FOR ROW GND NEXT TO ROW A
DIM C : 5.00mm MIN, 7.00mm MAX FOR ROWS A, B, D, E, G & H
DIM C : 5.00mm MIN, 8.00mm MAX FOR ROWS C & F
DIM C : 4.60mm MIN, 6.30mm MAX FOR ROW GND NEXT TO ROW A
- THE MIN PCB THICKNESS FOR REAR PLUG-UP APPLICATIONS IS 2.9mm SINCE THE COMPLIANT SECTIONS OF THE GROUND SPRING OF THE HEADER DIRECTLY OPPOSE THE GROUND SPRING OF THE SHROUD. THE MIN PCB THICKNESS FOR FRONT PLUG-UP ONLY APPLICATIONS IS 1.6mm.
- THESE HOLES ARE NEEDED FOR REAR PLUG-UP DESIGNS USING A SHROUD AND MAY BE OMITTED FOR FRONT PLUG-UP ONLY DESIGNS.
- THE 'CONNECTOR OUTLINE' IS THE MIN OUTLINE REQUIRED. TO DETERMINE THE OUTLINE NECESSARY TO PERMIT THE VARIOUS TYPES OF REPAIR OPERATIONS, SEE APPLICATION SPECIFICATION GS-20-010.
- FOR FRONT PLUG-UP APPLICATIONS, THE EVEN NUMBERED PINS IN ROW 'C' AND 'F' CAN BE USED FOR POWER AS WELL AS FOR GROUND. IF THE SURROUNDING PINS ARE NOT USED FOR POWER, THEN EACH PIN CAN CARRY 3 AMPS. IF THE SURROUNDING PINS ARE USED FOR POWER, THEN EACH PIN CAN CARRY 1 AMP. WHEN THE SURROUNDING PINS ARE USED ONLY FOR LOW SPEED SIGNALS, THEN THE EVEN NUMBERED 'C' AND 'F' ROW PINS CAN ALSO BE USED FOR LOW SPEED SIGNALS. THIS IS NOT TRUE FOR REAR PLUG-UP APPLICATIONS USING METRAL 2000 SHROUD AS IN THIS CASE ALL 'C' AND 'F' ROW PINS ARE COMMON TO GROUND.
- PRODUCTS MEET EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS-47-0004.
- ALL PRODUCTS WILL WITHSTAND EXPOSURE TO 260°C FOR 60 SECONDS IN A CONVECTION, INFRA-RED OR VAPOR PHASE REFLOW OVEN.
- A  SYMBOL WILL BE NEXT TO ANY DIMENSION, VIEW, OR NOTE WHICH HAS BEEN MODIFIED WITH THE DRAWING CURRENT REVISION

spec ref		dr		P-Mathew Nebu	2011/05/20	projection 	MM 	size	A4	scale	2:1				
tolerance std	TOLERANCES UNLESS OTHERWISE SPECIFIED			eng	Kartha, Aravin			2021/06/29	ecn no				ELX-I-41387-1		
				chr	-			-							
				appr	Kuriakose, San			2021/08/26	product family		METRAL 2000	rel level		Released	
surface	linear	0.X	±0.3	Amphenol FCI	title				VERTICAL SIGNAL HDR 8 ROW		dwg no	74978		rev	V
		0.XX	±0.13												
		0.XXX	±0.050		P.F. 96 POS. SPECIAL LOAD EXT.		Product - Customer Drw		sheet 6 of 6						
	ISO 1302	angular	0°	±2°							amphenol-icc.com	cat. no.			

Crea File:ELX-MC-AAC,REV F,2020-12-21