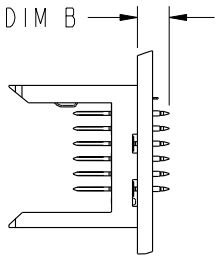
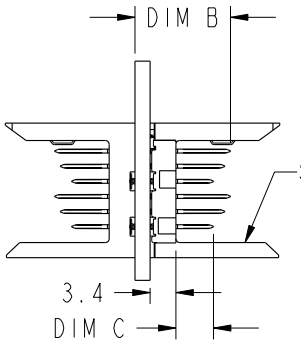
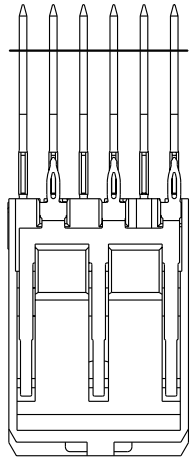
PRODUCT NUMBER	DIM C	DIM D
74977-X01ZZZ	10.00	11.88
74977-X02ZZZ	22.00	23.88
74977-X03ZZZ	34.00	35.88
74977-X04ZZZ	46.00	47.88



STUB MOUNT

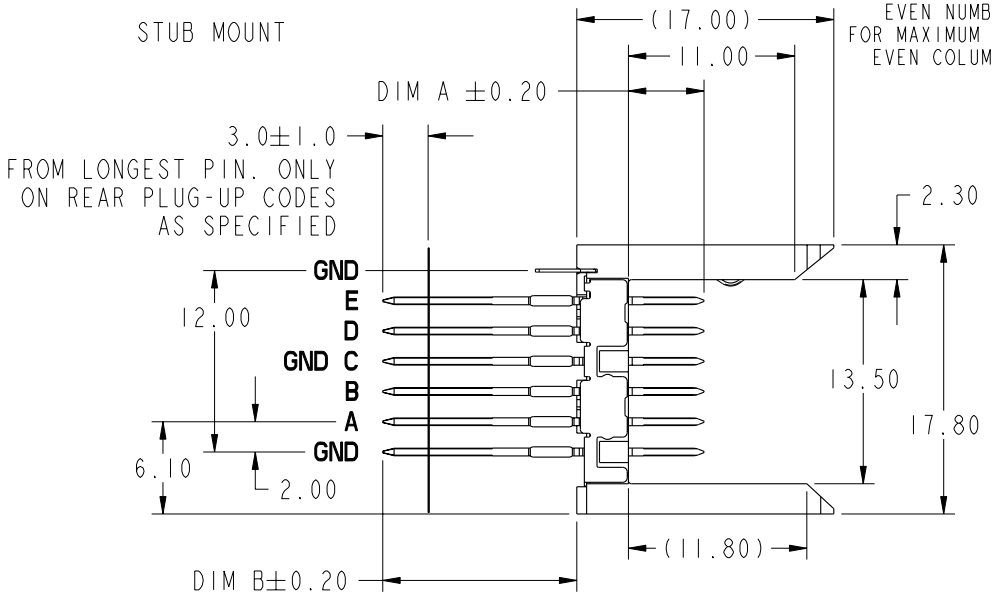


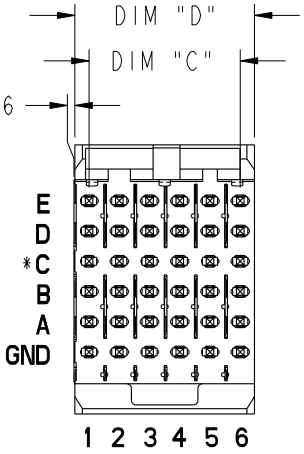
REAR PLUG-UP



*ROW C INFORMATION

ODD NUMBER COLUMNS WITHIN ROW C ARE COMMONED TO GROUND INTERNALLY WITHIN THE HOUSING. THE EVEN NUMBER COLUMNS WITHIN ROW C ARE NOT. FOR MAXIMUM PERFORMANCE IT IS RECOMMENDED THESE EVEN COLUMNS BE GROUND COMMONED WITHIN PCB. SEE NOTE 18





PRODUCT NUMBER	DIM C	DIM D
74977-X01ZZZLF	10.00	11.88
74977-X02ZZZLF	22.00	23.88
74977-X03ZZZLF	34.00	35.88
74977-X04ZZZLF	46.00	47.88

mat'l code	--			tolerances unless otherwise specified			
ltr	ecn no.	dr	date	linear	0.X ±0.1		
Y	V06-0544	DCH	2006-06-09		0.XX ±.05		
-	-	-	-		.XXX ±.020		
T	V04-0243	LP	3/18/04	angles	0° ±2°		
U	V04-0195	LP	4/12/04	dr	K.BELL	3/29/00	
V	V04-0716	TAB	07/13/04	engr	M.HAHN	3/29/00	
W	V05-0814	VS	09/19/05	chr	M.HAHN	3/29/00	
X	V06-0048	DAI	02/08/06	appd	M.HAHN	3/29/00	
sheet index	revision	Y	Y	Y	Y	Y	Y
	sheet	1	2	3	4	5	6

CUSTOMER COPY

projection

MM

scale 1:1

FCI www.fciconnect.com

title: HEADER ASS'Y STR. P.F. STD. 5-ROW

product family: METRAL 2000 | code: 213

size: A | dwg no: 74977 | sheet: 1 of 6

cage code: 22526

Pro/E

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PDM: Rev:Y STATUS:Released Printed: Jun 20, 2006

PIN CODES										
		DIM B								
		4.30	12.20	12.95	13.70	14.45	15.20	15.70	16.40	17.10
DIM A	5.00	1*	22	30	5	35	48	40	65	9
	5.75	2*	44	31	6	36	49	25	66	10
	6.50	3*	45	32	7	37	50	41	24	11
	7.25	4*	46	33	8	38	51	42	67	12
	8.00	19*	47	34	20	39	52	43	68	21

RESTRICTION ON CURCUIT BOARD THICKNESS RANGE FOR PIN POSITIONS A, B, C, D & E									
	DIM B								
	4.30	12.20	12.95	13.70	14.45	15.20	15.70	16.40	17.10
MIN THICKNESS	1.60	2.95	2.95	2.95	3.05	3.80	4.30	5.00	5.70
MAX THICKNESS	NONE	3.80	4.55	5.30	6.05	6.80	7.30	8.00	8.70

RESTRICTION ON CURCUIT BOARD THICKNESS RANGE FOR PIN POSITION 'GND' **									
	DIM B								
	4.30	12.20	12.95	13.70	14.45	15.20	15.70	16.40	17.10
MIN THICKNESS	1.60	2.95	3.25	4.00	4.75	5.50	6.00	6.70	7.40
MAX THICKNESS	NONE	4.20	4.95	5.70	6.45	7.20	7.70	8.40	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.

SEE NOTE 20 LEAD FREE OPTION	CIRCUIT BOARD THICKNESS RANGE FOR REAR PLUG-UP CODES	
PRODUCT NUMBER	MIN	MAX
74977-XYY002	2.95mm	3.80mm
74977-XYY003	3.25mm	4.55mm
74977-XYY012	2.95mm	3.80mm
74977-XYY013	3.25mm	4.95mm
74977-XYY051	5.50mm	7.20mm
74977-XYY054	* 4.30mm	7.30mm
74977-XYY056	2.95mm	3.80mm
74977-XYY055	* 2.95mm	5.30mm

* NOT A STANDARD METRAL 2000 REAR PLUG-UP APPLICATION.

mat'l code					tolerances unless otherwise specified			CUSTOMER	
ltr	ecn no.	dr	date			0.X ±0.1		COPY	www.fciconnect.com
Y	-	-	-		linear	0.XX ±0.05		projection	title: HEADER ASS'Y STR. P.F. STD. 5-ROW
						.XXX ±.020			
					angles	0° ±2°			
					dr	K.BELL	3/29/00	MM	product family: METRAL 2000 / code: 213
					engr	M.HAHN	3/29/00		size: A / dwg no: 74977 / sheet: 2
					chr	M.HAHN	3/29/00	scale	
					appd	M.HAHN	3/29/00	1:1	
sheet index	revision sheet								cage code: 22526

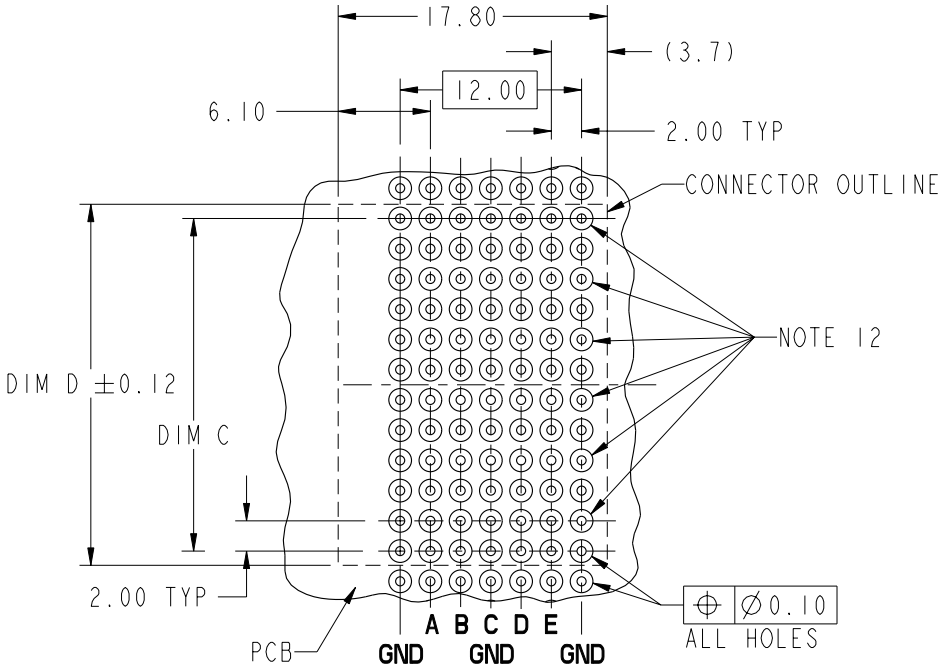
REV E - 2006-04-18

Pro/E

PDM: Rev:Y STATUS:Released Printed: Jun 20, 2006

PRESS-FIT HOLES	OPTION 1
HOLE DIAMETER AFTER PLATING	0.65-0.80
DRILLED HOLE	0.81-0.86 (0.85 DRILL)
COPPER PLATING	0.025 MIN
SnPb PLATING	0.005-0.015

SEE PRINT 58351 FOR ADDITIONAL PCB INFORMATION



RECOMMENDED PCB HOLE PATTERN
(COMPONENT SIDE)
SEE NOTE 13

mat'l code	--	tolerances unless otherwise specified			CUSTOMER COPY	www.fciconnect.com
ltr	ecn no. / dr / date	linear	0.X ±0.1		projection	title: HEADER ASS'Y STR. P.F. STD. 5-ROW
Y	- / - / -		0.XX ±0.05			
			.XXX ±.020			
		angles	0° ±2°			
		dr	K.BELL	3/29/00	MM	product family: METRAL 2000 / code: 213
		engr	M.HAHN	3/29/00		size: A / dwg no: 74977 / sheet: 3
		chr	M.HAHN	3/29/00	scale: 1:1	
		appd	M.HAHN	3/29/00		
sheet index	revision sheet					cage code: 22526

REV E - 2006-04-18

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SIGNAL PIN TABLES		
PRODUCT #	ROW	PIN CODES
74977-XYY001 SEE NOTE 20 LEAD FREE OPTION	E	1
	D	
	C	
	B	
	A	
	GND	
74977-XYY002 *RPU SEE NOTE 20 LEAD FREE OPTION	E	22
	D	
	C	
	B	
	A	
	GND	
74977-XYY003 *RPU SEE NOTE 20 LEAD FREE OPTION	E	30
	D	
	C	
	B	
	A	
	GND	
74977-XYY011 SEE NOTE 20 LEAD FREE OPTION	E	2
	D	
	C	
	B	
	A	
	GND	1
74977-XYY012 *RPU SEE NOTE 20 LEAD FREE OPTION	E	44
	D	
	C	
	B	
	A	
	GND	22

SIGNAL PIN TABLES		
PRODUCT #	ROW	PIN CODES
74977-XYY013 *RPU SEE NOTE 20 LEAD FREE OPTION	E	6
	D	
	C	
	B	
	A	
	GND	30
74977-XYY021 SEE NOTE 20 LEAD FREE OPTION	E	3
	D	
	C	
	B	
	A	
	GND	2
74977-XYY050 SEE NOTE 20 LEAD FREE OPTION	E	2
	D	
	C	4
	B	
	A	2
	GND	
74977-XYY051 *RPU SEE NOTE 20 LEAD FREE OPTION	E	25
	D	
	C	
	B	
	A	
	GND	49

SIGNAL PIN TABLES		
PRODUCT #	ROW	PIN CODES
74977-XYY052 SEE NOTE 20 LEAD FREE OPTION	E	1
	D	
	C	3
	B	
	A	1
	GND	
74977-XYY053 SEE NOTE 20 LEAD FREE OPTION	E	2
	D	
	C	
	B	
	A	
	GND	-
74977-XYY054 *RPU SEE NOTE 20 LEAD FREE OPTION	E	25
	D	
	C	
	B	
	A	
	GND	-
74977-XYY055 *RPU SEE NOTE 20 LEAD FREE OPTION	E	6
	D	
	C	
	B	
	A	
	GND	2

* REAR PLUG-UP CODE

mat'l code	--			tolerances unless otherwise specified			CUSTOMER COPY
ltr	ecn no.	dr	date	linear	0.X ±0.1		
Y	-	-	-		0.XX ±0.05		projection
					.XXX ±.020		
				angles	0° ±2°		MM
				dr	K.BELL	3/29/00	
				engr	M.HAHN	3/29/00	scale 1:1
				chr	M.HAHN	3/29/00	
				appd	M.HAHN	3/29/00	
sheet index	revision sheet						

www.fciconnect.com

title: HEADER ASS'Y STR. P.F. STD. 5-ROW

product family: METRAL 2000 | code: 213

size: A | dwg no: 74977 | sheet: 4

cage code: 22526

REV E - 2006-04-18

Pro/E

PDM: Rev:Y STATUS:Released Printed: Jun 20, 2006

SIGNAL PIN TABLES

PRODUCT #	ROW	PIN CODES
74977-XYY056 *RPU SEE NOTE 20 LEAD FREE OPTION	E	22
	D	
	C	45
	B	22
	A	
	GND	
74977-XYY057 SEE NOTE 20 LEAD FREE OPTION	E	2
	D	
	C	
	B	
	A	1
	GND	2
74977-XYY058 ***RPU SEE NOTE 20 LEAD FREE OPTION	E	22
	D	
	C	45
	B	22
	A	
	GND	
74977-XYY059 SEE NOTE 20 LEAD FREE OPTION	E	3
	D	
	C	19
	B	3
	A	
	GND	2

*REAR PLUG-UP CODE WITH PIN ALIGNER
***REAR PLUG-UP CODE WITHOUT PIN ALIGNER

NOTES:
1. SEE APPLICATION SPECIFICATION GS-20-010 FOR INFORMATION ON AVAILABLE TOOLING, CURCUIT BOARD DESIGN CONSIDERATIONS, REPAIR PROCEDURES AND PRODUCT OFFERINGS.
2. SEE FCI PUBLICATION 95051I-028 FOR "ELECTRICAL PERFORMANCE DATA FOR DIFFERENTIAL APPLICATIONS."
3. SEE FCI PUBLICATION 95051I-029 FOR "ELECTRICAL PERFORMANCE DATA FOR SINGLE-ENDED APPLICATION."
4. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5, 1994
5. HOUSING MATERIAL: LIQUID CRYSTAL POLYMER, 30% GLASS FILLED, FLAME RETARDANT PER UL 94-V0.
6. PIN MATERIAL: PHOSPHER BRONZE
7. GROUND SPRING MATERIAL: PHOSPHER BRONZE
8. STRIPLINE SHIELD MATERIAL: PHOSPHER BRONZE
9. PLATING INFORMATION: SEE TABLE
10. DIMENSIONAL RESTRICTIONS OF PINS IN HEADERS.
    DIM A : 5.0mm MIN, 8.0mm MAX FOR ROWS A-E
    DIM A : 5.0mm MIN, 6.3mm MAX FOR ROW GND NEXT TO ROW A
    DIM C : 5.0mm MIN, 8.0mm MAX FOR ROWS A-E
    DIM C : 4.6mm MIN, 6.3mm MAX FOR ROW GND NEXT TO ROW A
11. THE MIN PCB THICKNESS FOR REAR PLUG-UP APPLICATIONS IS 2.9mm SINCE THE COMPLAINT SECTIONS OF THE GROUNG SPRING OF THE HEADER DIRECTLY OPOSE THE GROUND SPRING OF THE SHROUD. THE MIN PCB THICKNESS FOR FRONT PLUG-UP ONLY APPLICATIONS IS 1.6mm.
12. THESE HOLES ARE NEEDED FOR REAR PLUG-UP DESIGNS USING A SHROUD AND MAY BE OMITTED FOR FRONT PLUG-UP ONLY DESIGNS.
13. 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.
14. CURRENT RATING : 1 AMP PER PIN
15. TEMPERATURE RANGE : -55°C TO +105°C
16. P/N 74977-X YY ZZZ
    - ZZZ — PIN POSITIONS
    - YY — NUMBER MODULES
    - X — PLATING CODE
17. P/N 74977-X01ZZZ SHOWN.
18. FOR FRONT PLUG-UP APPLICATIONS, THE EVEN NUMBERED PINS IN ROW 'C' 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' 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' ROW PINS ARE COMMON TO GROUNG.

mat'l code	--			tolerances unless otherwise specified			CUSTOMER	FCI www.fciconnect.com
ltr	ecn no.	dr	date	linear	0.X ±0.1		COPY	
Y	-	-	-		0.XX ±0.05		projection	title: HEADER ASS'Y STR. P.F. STD. 5-ROW
					.XXX ±.020			
				angles	0° ±2°			
				dr	K.BELL	3/29/00	MM	product family: METRAL 2000 code: 213
				engr	M.HAHN	3/29/00		size: A dwg no: 74977 sheet: 5
				chr	M.HAHN	3/29/00	scale: 1:1	
				appd	M.HAHN	3/29/00		
sheet index	revision sheet							cage code: 22526

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PDM: Rev:Y STATUS:Released Printed: Jun 20, 2006

PRODUCT NUMBER	PIN CONTACT AREAS TO RECEPTACLE	PRESS FIT PIN TO PCB	GROUND SPRING CONTACT FINGERS	GROUND SPRING EON PRESS FIT TO PCB	FOR REAR PLUG-UP APPLICATIONS USE SHROUD
74977-1YYZZZ	0.8µm Au OVER Ni	SnPb OVER Ni	0.8µm Au OVER Ni	SnPb OVER Ni	84621-1YY
74977-2YYZZZ	2.0µm Au OVER Ni	SnPb OVER Ni	1.3µm Au OVER Ni	SnPb OVER Ni	84621-3YY
74977-3YYZZZ	1.3µm Au OVER Ni	SnPb OVER Ni	1.3µm Au OVER Ni	SnPb OVER Ni	84621-3YY
74977-5YYZZZ	1.3µm GXT OVER Ni	SnPb OVER Ni	1.3µm GXT OVER Ni	SnPb OVER Ni	84621-5YY
74977-9YYZZZ	0.8µm GXT OVER Ni	SnPb OVER Ni	0.8µm Au OVER Ni	SnPb OVER Ni	84621-1YY
74977-AYYZZZ	0.8µm Au OVER Ni	0.08µm Au OVER Ni	0.8µm Au OVER Ni	SnPb OVER Ni	84621-1YY
74977-1YYZZZLF	0.8µm Au OVER Ni	Sn OVER Ni	0.8µm Au OVER Ni	Sn OVER Ni	84621-1YYLF
74977-2YYZZZLF	2.0µm Au OVER Ni	Sn OVER Ni	1.3µm Au OVER Ni	Sn OVER Ni	84621-3YYLF
74977-3YYZZZLF	1.3µm Au OVER Ni	Sn OVER Ni	1.3µm Au OVER Ni	Sn OVER Ni	84621-3YYLF
74977-5YYZZZLF	1.3µm GXT OVER Ni	Sn OVER Ni	1.3µm GXT OVER Ni	Sn OVER Ni	84621-5YYLF
74977-9YYZZZLF	0.8µm GXT OVER Ni	Sn OVER Ni	0.8µm Au OVER Ni	Sn OVER Ni	84621-1YYLF
74977-AYYZZZLF	0.8µm Au OVER Ni	0.08µm Au OVER Ni	0.8µm Au OVER Ni	Sn OVER Ni	84621-1YYLF

NOTES CONTINUED

19. THE PRODUCTS WHERE THE PART NUMBERS ENDS IN LF MEET EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS-22-008.
ALL PRODUCTS WILL WITHSTAND EXPOSURE TO 260°C FOR 60 SECONDS IN A CONVECTION, INFRA-RED OR VAPOR PHASE REFLOW OVEN
(20). FOR LEAD FREE PART NUMBERS ADD 'LF' SUFFIX. EXAMPLE: 74977-XYYZZZLF

mat'l code							
ltr	ecn no.	dr	date				
Y	-	-	-				
sheet index	revision sheet						

tolerances unless otherwise specified		
linear	0.X ±0.1	
	0.XX ±0.05	
	.XXX ±.020	
angles	0° ±2°	
dr	K.BELL	3/29/00
engr	M.HAHN	3/29/00
chr	M.HAHN	3/29/00
appd	M.HAHN	3/29/00

CUSTOMER COPY

projection

MM

scale 2:1

www.fciconnect.com

title: HEADER ASS'Y STR. P.F. STD. 5-ROW

product family: METRAL 2000

code: 213

size: A

dwg no: 74977

sheet: 6

cage code: 22526

Pro/E

REV E - 2006-04-18

PDM: Rev:Y STATUS:Released Printed: Jun 20, 2006