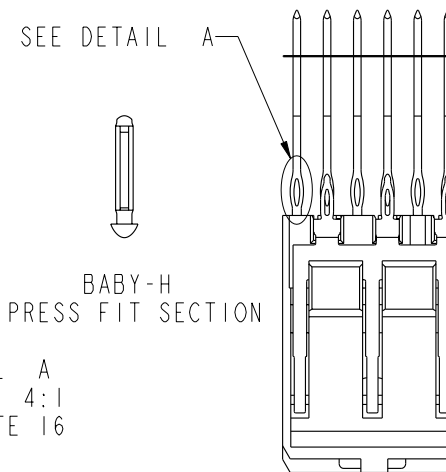
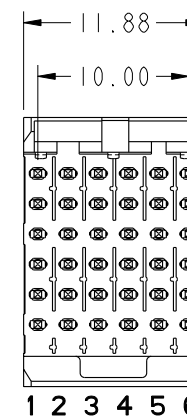


☐ EYE OF NEEDLE BABY-H
 PRESS FIT SECTION PRESS FIT SECTION



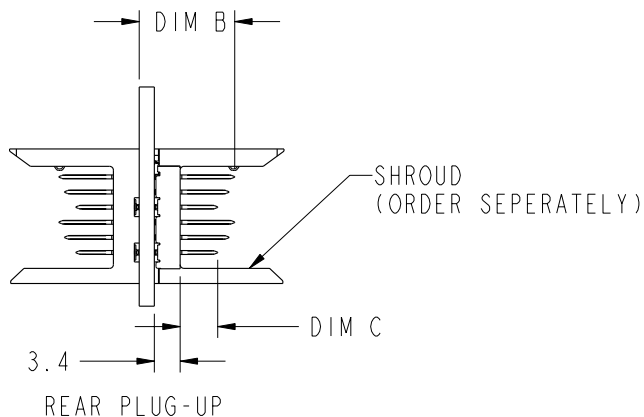
DETAIL A
SCALE 4:1
SEE NOTE 16

Pro/E

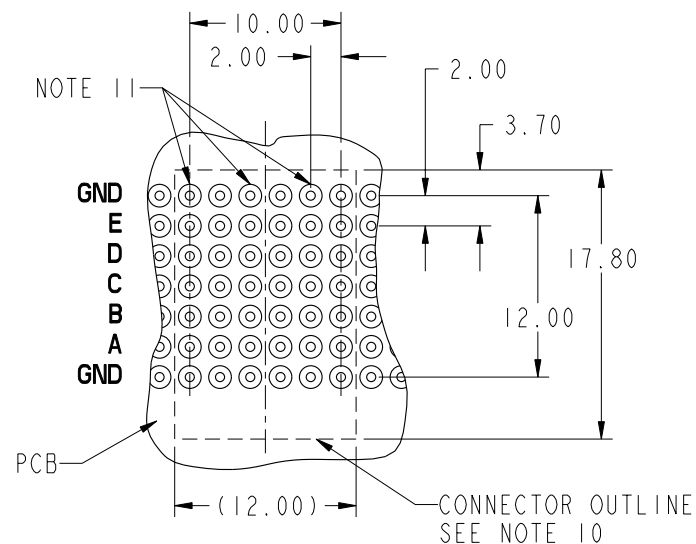


PRODUCT NUMBER
SEE SHEET 1

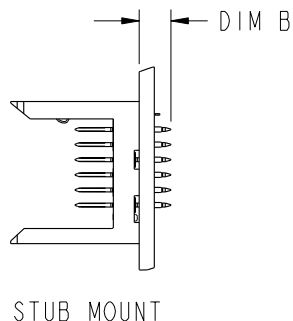
PRESS-FIT HOLES	OPTION 1
HOLE DIAMETER AFTER PLATING	0.65-0.80
DRILLED HOLE	0.81-0.86 (0.85 DRILL)
COPPER PLATING	0.025 MIN
SnPb PLATING	0.005-0.015



SEE PRINT 58351 FOR ADDITIONAL
PCB INFORMATION



RECOMMENDED PCB HOLE PATTERN
(COMPONENT SIDE)



mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCI www.fciconnect.com	
ltr	ecn no.	dr	date	linear	0.X ±0.3	projection	COPY	title	VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.
AW					0.XX ±0.13				
					.XXX ±.051				
				angles	0° ±2°	MM 2:1	scale	product family METRAL 1000	code 213
				dr	K. BELL 2000-03-29				
				engr	M. HAHN 2000-03-29				
				chr	M. HAHN 2000-03-29	A	size dwg no 74817	sheet 2	
				appd	M. HAHN 2000-03-29				
sheet index	revision sheet							cage code 22526	4



PIN CODE NO.	DIM A MATING LENGTH	DIM B TAIL LENGTH	PCB THICKNESS RANGE ACCOMMODATED BY PIN'S TAIL LENGTH				
			WHEN MATING TO A 73981 OR 84688 SERIES METRAL 1000 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
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.

mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCI www.fciconnect.com				
ltr	ecn no.	dr	date	linear	0.X ±0.3	projection						
AW					0.XX ±0.13							
					.XXX ±.051							
				angles	0° ±2°		title VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.					
				dr	K. BELL 2000-03-29							
				engr	M. HAHN 2000-03-29							
				chr	M. HAHN 2000-03-29							
				appd	M. HAHN 2000-03-29	scale	2:1	product family METRAL 1000				
sheet		revision									size A	
index		sheet										
								code 213				
								sheet 3				



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.

mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		www.fciconnect.com				
ltr	ecn no.	dr	date	linear	0.X ±0.3	projection		title VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.				
AW					0.XX ±0.13							
					.XXX ±.051							
				angles	0° ±2°	 MM scale 1:1		product family	METRAL 1000	code	213	
			dr	K. BELL	2000-03-29			size	dwg no	74817	sheet	4
			enrg	M. HAHN	2000-03-29							
			chr	M. HAHN	2000-03-29							
			appd	M. HAHN	2000-03-29							
sheet	revision											
index	sheet											

cage code 22526

Pro/E

PDM: Rev:AW

STATUS: Released Printed: May 13, 2011



METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X001 ** SEE NOTE 15 LEAD FREE OPTION	E	04	03	03	01	01	01
	D	04	03	03	01	01	01
	C	04	03	03	01	01	01
	B	04	03	03	01	01	01
	A	04	03	03	01	01	01
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X002 ** SEE NOTE 15 LEAD FREE OPTION	E	01	01	01	01	03	04
	D	01	01	01	01	03	04
	C	01	01	01	01	03	04
	B	01	01	01	01	03	04
	A	01	01	01	01	03	04
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X003 ** SEE NOTE 15 LEAD FREE OPTION	E	02	03	02	02	04	19
	D	02	03	02	02	04	19
	C	02	03	02	02	04	19
	B	02	03	02	02	04	19
	A	02	03	02	02	04	19
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X004 ** SEE NOTE 15 LEAD FREE OPTION	E	03	02	02	04	19	02
	D	03	02	02	04	19	02
	C	03	02	02	04	19	02
	B	03	02	02	04	19	02
	A	03	02	02	04	19	02
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X005 *RPU SEE NOTE 15 LEAD FREE OPTION	E	06	06	06	06	06	06
	D	06	06	06	06	06	06
	C	30	06	06	06	06	06
	B	06	06	06	06	06	06
	A	06	06	06	06	06	06
	GND	30	30	30	30	30	30

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
3.25 - 4.55

- * REAR PLUG-UP PART NUMBER WITH PIN ALIGNER
- ** CANNOT BE MATED TO A METRAL 4000
RECEPTACLE
- *** REAR PLUG-UP PART NUMBER WITHOUT PIN ALIGNER

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X006 ** SEE NOTE 15 LEAD FREE OPTION	E	19	03	03	03	02	01
	D	19	03	03	03	02	01
	C	19	03	03	03	02	01
	B	19	03	03	03	02	01
	A	19	03	03	03	02	01
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X007 *RPU ** SEE NOTE 15 LEAD FREE OPTION	E	20	07	07	07	06	05
	D	20	07	07	07	06	05
	C	20	07	07	07	06	05
	B	20	07	07	07	06	05
	A	20	07	07	07	06	05
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X008 ** SEE NOTE 15 LEAD FREE OPTION	E	19	03	03	03	03	03
	D	19	03	03	03	03	03
	C	19	03	03	03	03	03
	B	19	03	03	03	03	03
	A	19	03	03	03	03	03
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X009 *RPU ** SEE NOTE 15 LEAD FREE OPTION	E	20	07	07	07	07	07
	D	20	07	07	07	07	07
	C	20	07	07	07	07	07
	B	20	07	07	07	07	07
	A	20	07	07	07	07	07
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X010 SEE NOTE 15 LEAD FREE OPTION	E	03	03	03	03	03	03
	D	02	03	03	03	03	03
	C	03	03	03	03	03	03
	B	03	03	03	03	03	03
	A	03	03	03	03	03	03
	GND	01	01	01	01	01	01

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
2.30 (2.95) - 5.30
(NOT A STANDARD
METRAL 1000 APPL.).
CANNOT BE MATED
TO A METRAL 4000
RECEPTACLE

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
2.30 (2.95) - 5.30
(NOT A STANDARD
METRAL 1000 REAR
PLUG UP APPL.).
CANNOT BE MATED
TO A METRAL 4000.

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X011 *RPU SEE NOTE 15 LEAD FREE OPTION	E	05	05	05	05	05	05
	D	05	05	05	05	05	05
	C	05	05	05	05	05	05
	B	05	05	05	05	05	05
	A	05	05	05	05	05	05
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X012 *RPU SEE NOTE 15 LEAD FREE OPTION	E	02	02	06	06	06	06
	D	02	02	06	06	06	06
	C	02	02	06	06	06	06
	B	02	02	06	06	06	06
	A	02	02	06	06	06	06
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X013 *RPU SEE NOTE 15 LEAD FREE OPTION	E	06	06	06	06	02	02
	D	06	06	06	06	02	02
	C	06	06	06	06	02	02
	B	06	06	06	06	02	02
	A	06	06	06	06	02	02
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X014 *RPU SEE NOTE 15 LEAD FREE OPTION	E	10	10	10	10	10	10
	D	10	10	10	10	10	10
	C	10	10	10	10	10	10
	B	10	10	10	10	10	10
	A	10	10	10	10	10	10
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X015 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	04	04	04	04	04	04
	B	02	02	02	02	02	02
	A	02	02	02	02	02	02
	GND	02	02	02	02	02	02

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
2.30 (2.95) - 5.30
FOR METAL 1000
RECEPTACLE (NOT
A STANDARD METRAL
1000 APPL.) AND
2.30 (3.30) - 5.30 FOR
METRAL 4000 APPL.

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
2.30 (2.95) - 5.30
FOR METAL 1000
RECEPTACLE (NOT
A STANDARD METRAL
1000 APPL.) AND
2.30 (3.30) - 5.30 FOR
METRAL 4000 APPL.

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
2.30 (2.95) - 5.30
FOR METAL 1000
RECEPTACLE (NOT
A STANDARD METRAL
1000 APPL.) AND
2.30 (3.30) - 5.30 FOR
METRAL 4000 APPL.

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
5.70 - 8.70 FOR METAL
1000 APPL. (NOT A
STANDARD METRAL
1000 APPL.) AND
6.70 - 8.70 FOR A
METRAL 4000
APPLICATION.

mat'l code SEE NOTE 5				tolerances unless otherwise specified				CUSTOMER		FCi www.fciconnect.com	
ltr	ecr no.	dr	date	linear	0.X ±0.3			projection	COPY	title	VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.
AW					0.XX ±0.13						
					.XXX ±.051						
				angles	0° ±2°			 MM 2:1	product family	METRAL 1000	code
				dr	K. BELL	2000-03-29					
				enrg	M. HAHN	2000-03-29					
				chr	M. HAHN	2000-03-29					
				appd	M. HAHN	2000-03-29					
sheet index	revision sheet								size	dwg no	213
									A	74817	sheet 5
										cage code	22526



METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X016 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	04	04	04	04	04	04
	B	01	02	02	02	02	01
	A	02	02	02	02	02	02
	GND	02	02	02	02	02	02

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X017 SEE NOTE 15 LEAD FREE OPTION	E	01	01	01	01	01	01
	D	01	01	01	01	01	01
	C	03	03	03	03	03	03
	B	01	01	01	01	01	01
	A	01	01	01	01	01	01
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X018 SEE NOTE 15 LEAD FREE OPTION	E	03	02	02	01	01	01
	D	03	02	02	01	01	01
	C	03	02	02	03	03	03
	B	03	02	01	01	01	01
	A	03	02	02	01	01	01
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X019 SEE NOTE 15 LEAD FREE OPTION	E	01	01	01	02	02	03
	D	01	01	01	02	02	03
	C	03	03	03	02	02	03
	B	01	01	01	02	02	03
	A	01	01	01	02	02	03
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X023 ** SEE NOTE 15 LEAD FREE OPTION	E	01	03	03	03	01	01
	D	01	03	03	03	01	19
	C	01	01	01	01	01	19
	B	01	01	01	01	01	19
	A	01	01	01	19	19	19
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X024 *RPU SEE NOTE 15 LEAD FREE OPTION	E	05	05	05	05	05	05
	D	05	05	05	05	05	05
	C	05	05	05	05	05	05
	B	05	05	05	05	05	05
	A	05	05	05	05	05	05
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X025 ** SEE NOTE 15 LEAD FREE OPTION	E	01	19	01	01	01	01
	D	01	19	01	01	01	01
	C	01	19	01	01	01	01
	B	01	19	01	01	01	01
	A	01	19	01	01	01	01
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X026 *RPU SEE NOTE 15 LEAD FREE OPTION	E	02	02	49	49	49	49
	D	02	02	49	49	49	49
	C	02	02	49	49	49	49
	B	02	02	49	49	49	49
	A	02	02	49	49	49	49
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X027 *RPU SEE NOTE 15 LEAD FREE OPTION	E	49	49	49	49	02	02
	D	49	49	49	49	02	02
	C	49	49	49	49	02	02
	B	49	49	49	49	02	02
	A	49	49	49	49	02	02
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X028 *RPU SEE NOTE 15 LEAD FREE OPTION	E	49	49	49	49	49	49
	D	49	49	49	49	49	49
	C	49	49	49	49	49	49
	B	49	49	49	49	49	49
	A	49	49	49	49	49	49
	GND	01	01	01	01	01	01

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
2.30 (2.95) - 5.30 FOR
METRAL 1000 APPL.
(NOT A STANDARD
METRAL 1000 APPL.)
AND 2.30 (3.30) -
5.30 FOR METRAL
4000 RECEPTACLE
APPLICATION

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
3.80 - 6.80 FOR
METRAL 1000
RECEPTACLE APPL.
(NOT A STANDARD
METRAL 1000 APPL.)
AND 2.30 (4.80) -
6.80 FOR METRAL
4000 APPLICATIONS

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
3.80 - 6.80 FOR
METRAL 1000
RECEPTACLE APPL.
(NOT A STANDARD
METRAL 1000 APPL.)
AND 2.30 (4.80) -
6.80 FOR METRAL
4000 APPLICATIONS

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
3.80 - 6.80 FOR
METRAL 1000
APPLICATIONS,
AND 4.80 - 6.80
FOR METRAL 4000
APPLICATIONS

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X029 SEE NOTE 15 LEAD FREE OPTION	E	01	01	01	01	01	01
	D	01	01	01	01	01	02
	C	01	01	01	01	01	01
	B	01	01	01	01	01	01
	A	01	01	03	01	01	03
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X030 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	19	19	19	19	19	19
	B	02	02	02	02	02	02
	A	03	02	03	02	02	01
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X031 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	19	19	19	19	19	19
	B	02	02	02	02	02	02
	A	01	03	02	03	02	02
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X032 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	19	19	19	19	19	19
	B	02	02	02	02	02	02
	A	02	02	02	02	02	01
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X033 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	19	19	19	19	19	19
	B	02	02	02	02	02	02
	A	01	02	02	02	02	03
	GND	01	01	01	01	01	01

- * REAR PLUG-UP PART NUMBER WITH PIN ALIGNER
- ** CANNOT BE MATED TO A METRAL 4000 RECEPTACLE
- *** REAR PLUG-UP PART NUMBER WITHOUT PIN ALIGNER

mat'l code SEE NOTE 5				tolerances unless otherwise specified				CUSTOMER		FCi www.fciconnect.com	
ltr	ecn no.	dr	date	linear	0.X ±0.3			projection			
AW					0.XX ±0.13						
					.XXX ±.051						
				angles	0° ±2°				title VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.		
				dr	K. BELL	2000-03-29	product family METRAL 1000 code 213 size A 74817 sheet 6				
				enrg	M. HAHN	2000-03-29					
				chr	M. HAHN	2000-03-29					
				appd	M. HAHN	2000-03-29	scale 2:1				
sheet index	revision sheet										



A

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X034 *RPU ** SEE NOTE 15 LEAD FREE OPTION	E	05	20	05	05	05	05
	D	05	20	05	05	05	05
	C	05	20	05	05	05	05
	B	05	20	05	05	05	05
	A	05	20	05	05	05	05
GND	01	01	01	01	01	01	01

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
2.30 (2.95) - 5.30
(NOT A STANDARD
METRAL 1000
APPLICATION).
CANNOT BE MATED
TO A METRAL 4000
RECEPTACLE.

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X035 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	03	03	03	03	03	03
	B	01	02	02	02	02	02
	A	01	02	02	02	02	02
GND	01	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X036 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	01	01	01	01	03	02
	B	01	01	02	02	02	02
	A	02	02	02	02	02	02
GND	01	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X037 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	01	02	02	02	02	02
	B	01	01	01	01	01	01
	A	02	02	02	02	02	02
GND	01	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X038 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	02	02	02	02	02	02
	B	02	02	02	02	02	02
	A	02	02	02	03	02	02
GND	-	-	-	-	-	-	-

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X039 ** SEE NOTE 15 LEAD FREE OPTION	E	01	01	01	01	01	01
	D	01	01	01	01	01	01
	C	01	01	01	01	01	01
	B	01	01	01	01	01	01
	A	01	04	01	01	01	01
GND	01	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X040 *RPU ** SEE NOTE 15 LEAD FREE OPTION	E	08	06	06	06	06	06
	D	08	06	06	06	06	06
	C	06	06	06	06	06	06
	B	08	06	06	06	06	06
	A	08	06	06	06	06	06
GND	06	06	06	06	06	06	06

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
4.00 - 5.30.
CANNOT BE MATED
TO A METRAL 4000
RECEPTACLE.

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X041 ** SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	04	02
	D	02	02	02	02	02	02
	C	02	02	02	02	02	04
	B	02	02	02	02	02	02
	A	02	02	02	02	02	04
GND	01	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X042 *RPU ** SEE NOTE 15 LEAD FREE OPTION	E	08	06	06	06	06	06
	D	08	06	06	06	06	06
	C	08	06	06	06	06	06
	B	08	06	06	06	06	06
	A	08	06	06	06	06	06
GND	30	30	30	30	30	30	30

PCB THICKNESS
RANGE FOR REAR
PLUG UP
APPLICATIONS:
3.25 - 4.95 FOR
METRAL 1000
APPLICATIONS.
CANNOT BE MATED
TO A METRAL 4000
RECEPTACLE.

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X043 ** SEE NOTE 15 LEAD FREE OPTION	E	03	03	03	03	03	03
	D	03	03	03	03	01	03
	C	03	03	03	03	03	03
	B	03	03	03	03	03	03
	A	19	19	19	19	19	19
GND	01	01	01	01	01	01	01

3

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X044 *RPU ** SEE NOTE 15 LEAD FREE OPTION	E	45	45	45	45	45	45
	D	45	45	45	45	22	45
	C	45	45	45	45	45	45
	B	45	45	45	45	45	45
	A	47	47	47	47	47	47
GND	22	22	22	22	22	22	22

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
2.95 - 3.80 FOR
MATING TO
METRAL 1000
RECEPTACLE.
CANNOT BE MATED
TO METRAL 4000
RECEPTACLES.

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X045 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	02	02	02	02	02	2
	B	02	02	02	02	02	02
	A	02	01	02	02	02	02
GND	01	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X046 *RPU SEE NOTE 15 LEAD FREE OPTION	E	22	22	22	22	22	22
	D	22	22	22	22	22	22
	C	45	45	45	45	45	45
	B	22	22	22	22	22	22
	A	22	22	22	22	22	22
GND	01	22	22	22	22	01	01

PCB THICKNESS
RANGE FOR REAR
PLUG UP APPL.:
2.95 - 3.80 FOR
BOTH METRAL
1000 AND 4000
RECEPTACLE
MATING (NOT A
STANDARD METRAL
1000 APPLICATION)

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X047 SEE NOTE 15 LEAD FREE OPTION	E	02	01	02	02	02	02
	D	02	02	02	02	02	02
	C	02	02	02	02	02	02
	B	02	02	02	02	02	02
	A	02	02	02	02	02	02
GND	01	01	01	01	01	01	01

A

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X048 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	02	02	02	02	02	04
	B	02	02	02	02	02	02
	A	02	02	02	02	02	02
GND	02	02	02	02	02	02	02

B

- * REAR PLUG-UP PART NUMBER WITH
PIN ALIGNER
- ** CANNOT BE MATED TO A METRAL 4000
RECEPTACLE
- *** REAR PLUG-UP PART NUMBER WITHOUT
PIN ALIGNER

mat'l code SEE NOTE 5				tolerances unless otherwise specified				CUSTOMER		FCJ www.fciconnect.com	
ltr	ecr no.	dr	date	linear	0.X ±0.3			projection	COPY		
AW					0.XX ±0.13				title		
					.XXX ±.051				VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.		
				angles	0° ±2°			 MM 2:1	product family		METRAL 1000
				dr	K. BELL	2000-03-29	size		dwg no	213	
				enrg	M. HAHN	2000-03-29	A		74817	sheet	
				chr	M. HAHN	2000-03-29			7		
				appd	M. HAHN	2000-03-29					
sheet	revision										
index	sheet										

Pro/E

3

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4



METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X049 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	04	02	02	02	02	02
	B	02	02	02	02	02	02
	A	02	02	02	02	02	02
	GND	02	02	02	02	02	02

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X050 ** SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	04
	D	02	02	02	02	02	04
	C	02	02	02	02	02	04
	B	02	02	02	02	02	04
	A	02	01	02	02	02	04
	GND	02	02	02	02	02	02

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X051 ** SEE NOTE 15 LEAD FREE OPTION	E	04	02	02	02	02	02
	D	04	02	02	02	02	02
	C	04	02	02	02	02	02
	B	04	02	02	02	02	02
	A	04	01	02	02	02	02
	GND	02	02	02	02	02	02

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X052 ***RPU SEE NOTE 15 LEAD FREE OPTION	E	05	05	05	05	05	05
	D	05	05	05	05	05	05
	C	05	05	05	05	05	05
	B	05	05	05	05	05	05
	A	05	05	05	05	05	05
	GND	01	01	01	01	01	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X053 ***RPU SEE NOTE 15 LEAD FREE OPTION	E	05	20	05	05	05	05
	D	05	20	05	05	05	05
	C	05	20	05	05	05	05
	B	05	20	05	05	05	05
	A	05	20	05	05	05	05
	GND	01	01	01	01	01	01

- * REAR PLUG-UP PART NUMBER WITH
PIN ALIGNER
- ** CANNOT BE MATED TO A METRAL 4000
RECEPTACLE
- *** REAR PLUG-UP PART NUMBER WITHOUT
PIN ALIGNER

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X054 ***RPU SEE NOTE 15 LEAD FREE OPTION	E	22	22	22	22	22	22
	D	22	22	22	22	22	22
	C	45	45	45	45	45	45
	B	22	22	22	22	22	22
	A	22	22	22	22	22	22
	GND	01	22	22	22	22	01

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X055 ** SEE NOTE 15 LEAD FREE OPTION	E	04	02	02	02	02	02
	D	04	02	02	02	02	02
	C	04	02	02	02	02	02
	B	04	02	02	02	02	02
	A	04	02	02	02	02	02
	GND	-	02	02	02	02	-

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X056 SEE NOTE 15 LEAD FREE OPTION	E	02	02	02	02	02	02
	D	02	02	02	02	02	02
	C	04	02	02	02	02	02
	B	02	02	02	02	02	02
	A	02	02	02	02	02	02
	GND	-	02	02	02	02	-

METRAL P/N	ROW	CONTACT CODE					
		1	2	3	4	5	6
74817-X057 *RPU SEE NOTE 15 LEAD FREE OPTION	E	22	22	22	01	01	01
	D	22	22	22	01	01	01
	C	22	22	22	01	01	01
	B	22	22	22	01	01	01
	A	22	22	22	01	01	01
	GND	22	22	22	22	22	22

mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCI www.fciconnect.com	
ltr	ecn no.	dr	date	linear	0.X ± 0.3	COPY			
AW					0.XX ± 0.13	projection			
					.XXX ± .051				
				angles	0° ± 2°			title VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD.	
				dr	K. BELL 2000-03-29	MM		product family METRAL 1000	
				engr	J. VOLSTORF 2001-05-23			code 213	
				chr	M. HAHN 2000-03-29	scale 2:1		sheet 8	
				appd	M. HAHN 2000-03-29				
sheet index	revision sheet								



PRODUCT NUMBER
SEE SHEET 1

NOTES:

1. SEE APPLICATION SPECIFICATION GS-20-010 FOR INFORMATION ON AVAILABLE TOOLING, CIRCUIT BOARD DESIGN CONSIDERATIONS, REPAIR PROCEDURES AND PRODUCT OFFERINGS.
2. SEE FCI PUBLICATION 950511-028 FOR "ELECTRICAL PERFORMANCE DATA FOR DIFFERENTIAL APPLICATIONS."
3. SEE FCI PUBLICATION 950511-029 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.
PIN MATERIAL: PHOSPHOR BRONZE
GROUND SPRING MATERIAL: PHOSPHOR BRONZE
6. PLATING INFORMATION: PLATING ON CONTACT AREA MEETS THE PERFORMANCE LEVELS SHOWN IN TABLE ON SHEET 1. PLATING OF "LF" TAILS IS Sn. PLATING ON ALL OTHER TAILS IS SnPb.
7. DIMENSIONAL RESTRICTIONS OF PINS IN HEADERS.
FOR MATING WITH METRAL 1000 RECEPTACLES
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROWS A-E
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-E
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
DIM A : 5.00mm MIN, 8.00mm MAX FOR ROW C
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
DIM C : 5.00mm MIN, 8.00mm MAX FOR ROW C
DIM C : 4.60mm MIN, 6.30mm MAX FOR ROW GND NEXT TO ROW A

8. THE MIN PCB THICKNESS FOR REAR PLUG-UP APPLICATIONS IS 2.9mm SINCE THE COMPLAINT 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.
9. THESE HOLES ARE NEEDED FOR REAR PLUG-UP DESIGNS USING A SHROUD AND MAY BE OMITTED FOR FRONT PLUG-UP ONLY DESIGNS.
10. 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.
11. CURRENT RATING: 1 AMP PER PIN
12. TEMPERATURE RANGE: -55°C TO +105°C
13. P/N 74817-XZZLF
14. 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.
15. FOR LEAD FREE PART NUMBERS ADD 'LF' SUFFIX. EXAMPLE: 74817-XXXXLF
16. PIN TYPE IS AT THE MANUFACTURERS OPTION AND CAN BE EITHER BABY-H OR EYE OF THE NEEDLE STYLE



mat'l code SEE NOTE 5				tolerances unless otherwise specified		CUSTOMER		FCi www.fciconnect.com				
ltr	ecr no.	dr	date	linear	0. X ±0.3		COPY 	title	VERTICAL SIGNAL HDR 5 ROW P.F. 30 POS. SELECT LOAD STD			
AW					0. XX ±0.13							
					. XXX ±.051							
				angles	0° ±2°		 MM scale 1:1	product family	METRAL 1000		code	
				dr	K. BELL	2000-03-29			size	dwg no	74817	213 sheet 9
				enrg	M. HAHN	2000-03-29						
				chr	M. HAHN	2000-03-29						
				appd	M. HAHN	2000-03-29						
sheet index	revision sheet											

Pro/E

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