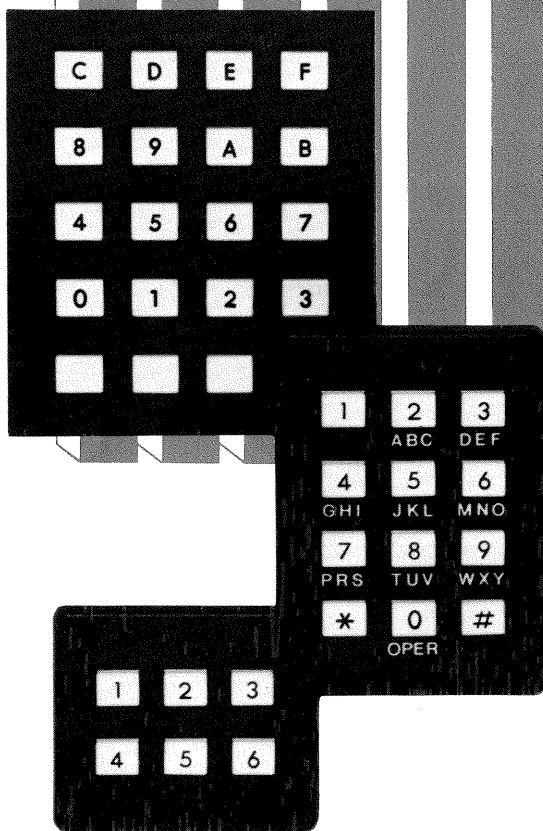


Series KL Minikey®



KEY ARRAYS

Minikey® keyboards are available in standard arrays of 6 keys (2 rows of 3), 12 keys (4 rows of 3), 16 keys (4 rows of 4) or 20 keys (4 rows of 5 or 5 rows of 4). In addition, these low-profile keyboards can be specially designed in an almost-unlimited variety of formats.

KEY AND FRAME CONFIGURATION

Minikey key tops are contoured to enhance tactile awareness and ensure operator comfort and ease in locating each key by "feel." Standard keys are two-color molded with black characters on white backgrounds. Standard frames are black, textured, non-glare-finished to accentuate the appearance of the keys. Special key legends, colors and configurations are available by special order. Contact your local Digitran sales representative or Digitran for information.

ENVIRONMENTAL PROTECTION

Standard Minikey keyboards are provided with a flexible barrier located under the keys to protect the contact area against contamination in normal operating environments. A flexible silastic boot is also available for some rear-mounted units to protect against moisture and contaminants when used in hostile environments. See Ordering information for specifics. Contact Digitran for detailed information on Silastic Boot enclosure.

MOUNTING CONFIGURATIONS

Minikeys are available for either rear or front mounting. Front-mounted units are normally provided with four plastic posts to be used for mounting. Rear-mounted units use a 4-hole mounting pattern.

ELECTRICAL CHARACTERISTICS

Minikey keyboards are designed to interface with all digital logic circuitry including TTL and CMOS. Contacts are made of

precious metal to ensure low contact resistance for the life of the keyboards. Contact bounce is less than 3 milliseconds.

Series KL Minikey keyboards are covered under U.S. Patent 3,800,104. Other Patents pending.

SPECIFICATIONS

MECHANICAL:

Terminations: .025" (.64 mm) square pins (tin plated), standard. (.027 max. sq. pins after soldering)

Keytops: 2 color molded ABS, satin finish white with black legends (standard).

Key actuation force: 90 ± 30 grams.

Key travel: .050" nominal.

Key overtravel: 30% of key travel.

Frame: Molded ABS, textured finish (standard color — black).

ELECTRICAL:

Contact rating: 50 milliamps @ 28 VDC resistive.

Contact resistance: 500 milliohms max @ .2 milliamps @ 17 VDC resistive.

Insulation resistance: 250 megohms (minimum).

Dielectric strength: 250 VAC (minimum) @ 60 Hz.

Contact bounce: 3 millisecond (Maximum).

Contact life: 1,000,000 operations per key (MTBF) @ maximum contact rating.

ENVIRONMENTAL:

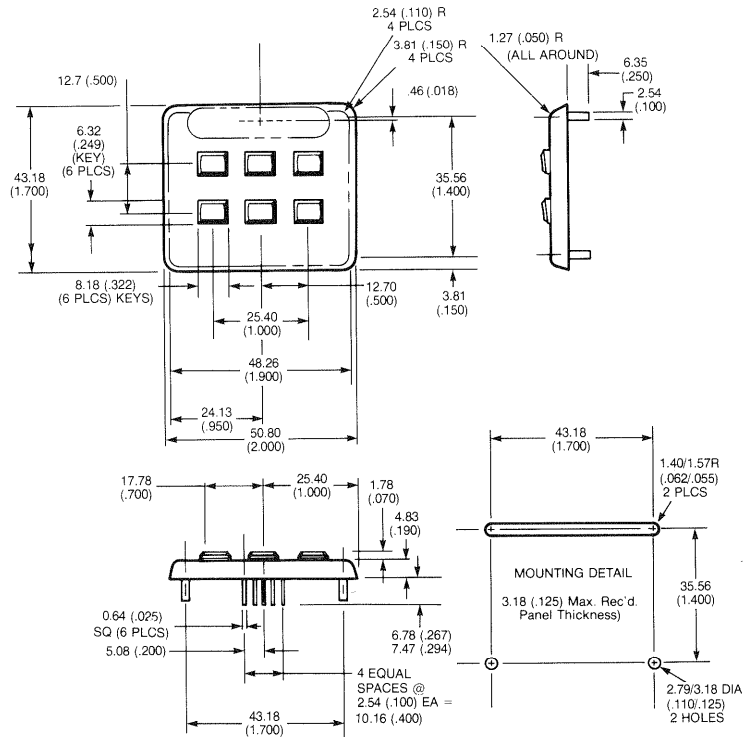
Operating temperature: 0 °C to 55 °C (32 °F to 131 °F) continuous —40 °C to 71 °C (–40 °F to 160 °F) limited operation in a frost-free environment.

Storage temperature: –65 °C to 85 °C (–85 °F to 185 °F).

Relative humidity: 0-95% (non-condensing).

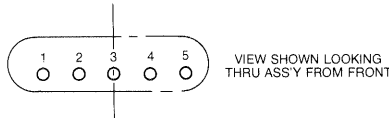
OUTLINE DRAWINGS

6 KEY MINIKEY

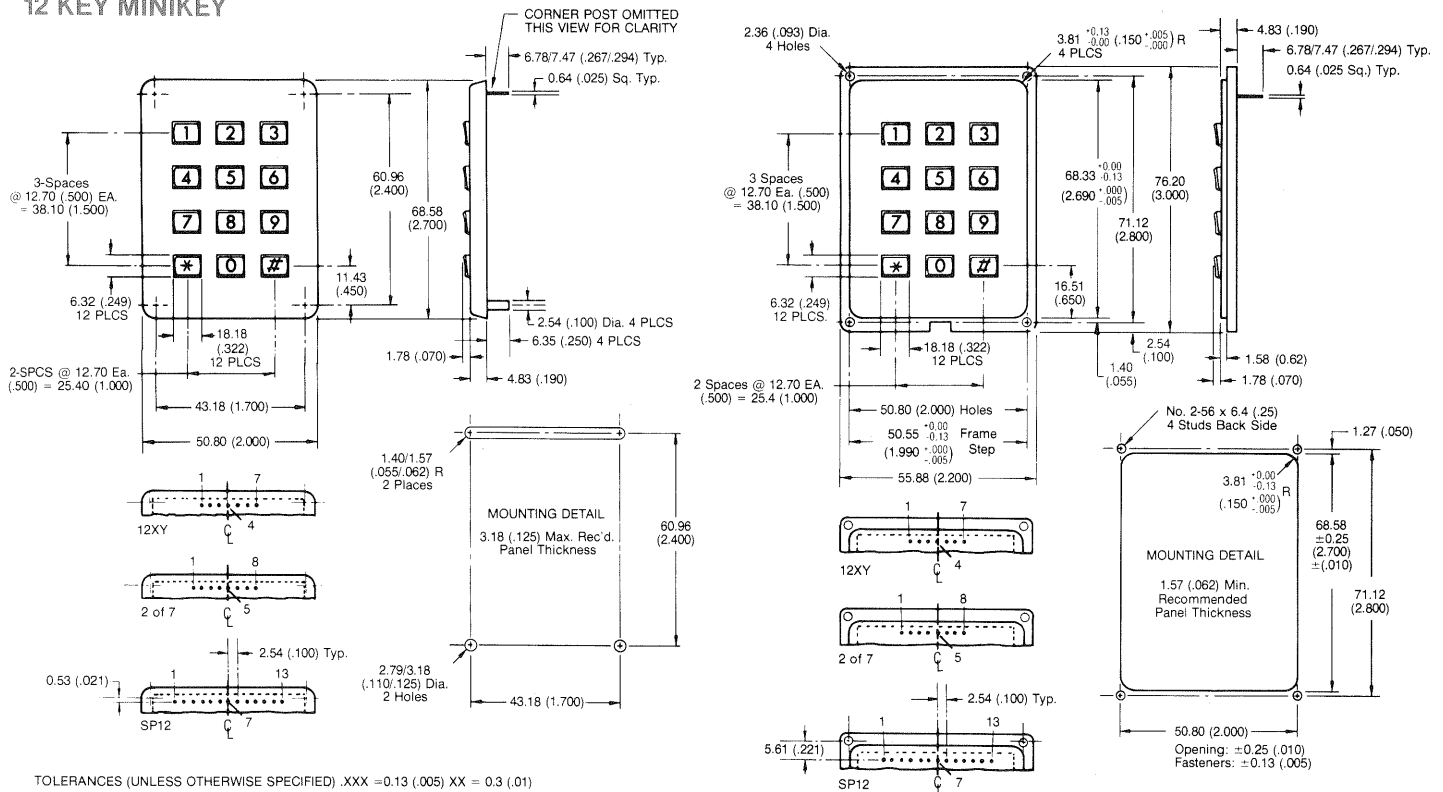


TOLERANCES (UNLESS OTHERWISE SPECIFIED) .XXX = 0.13 (.005)

Prime dimensions are metric.

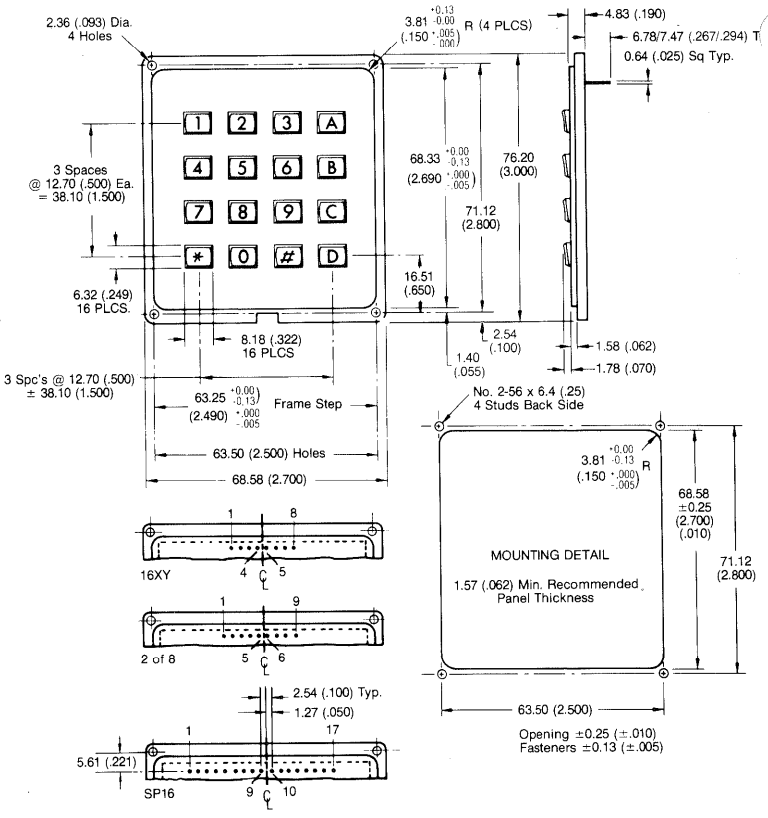
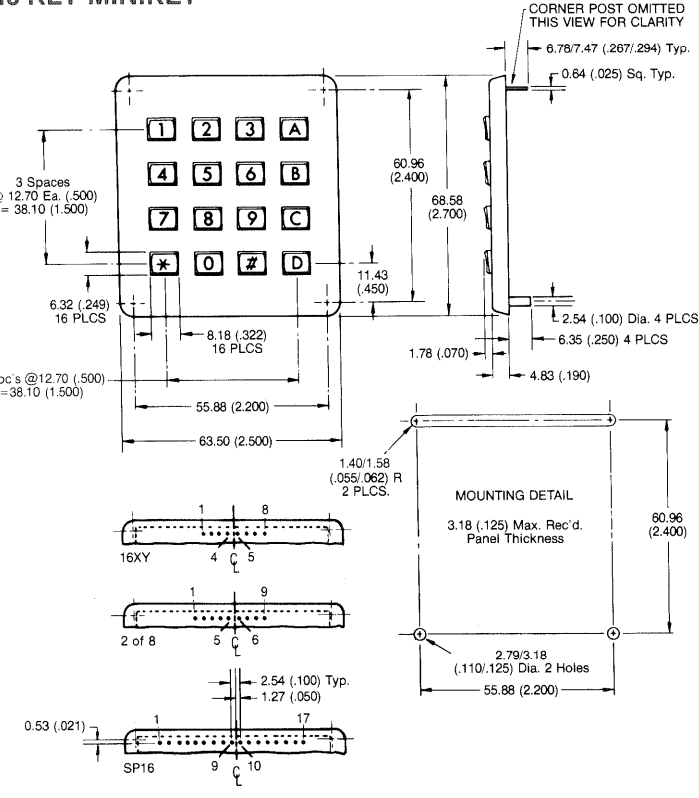


12 KEY MINIKEY



TOLERANCES (UNLESS OTHERWISE SPECIFIED) .XXX = 0.13 (.005) XX = 0.3 (.01)

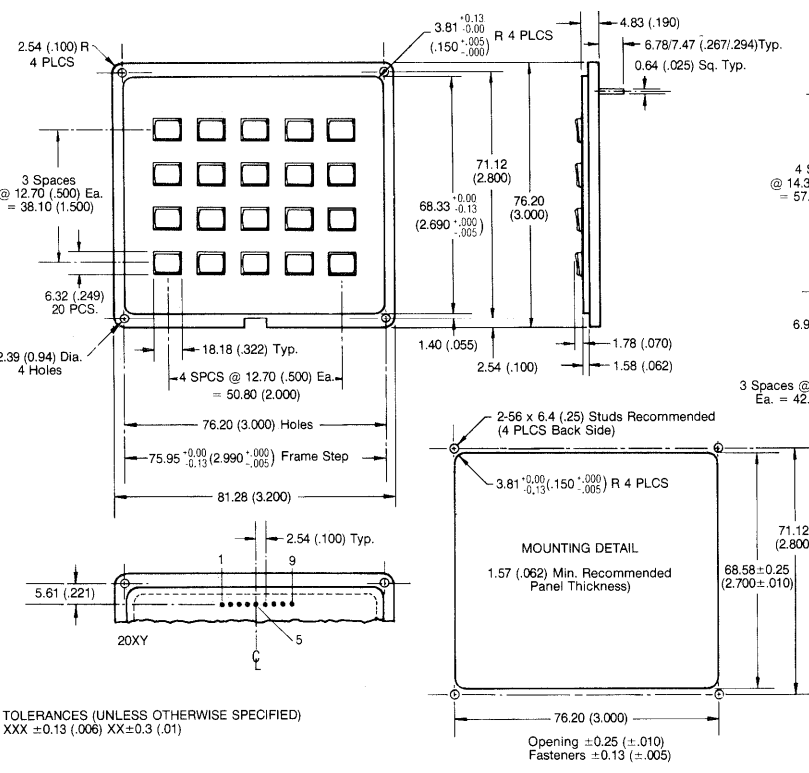
16 KEY MINIKEY



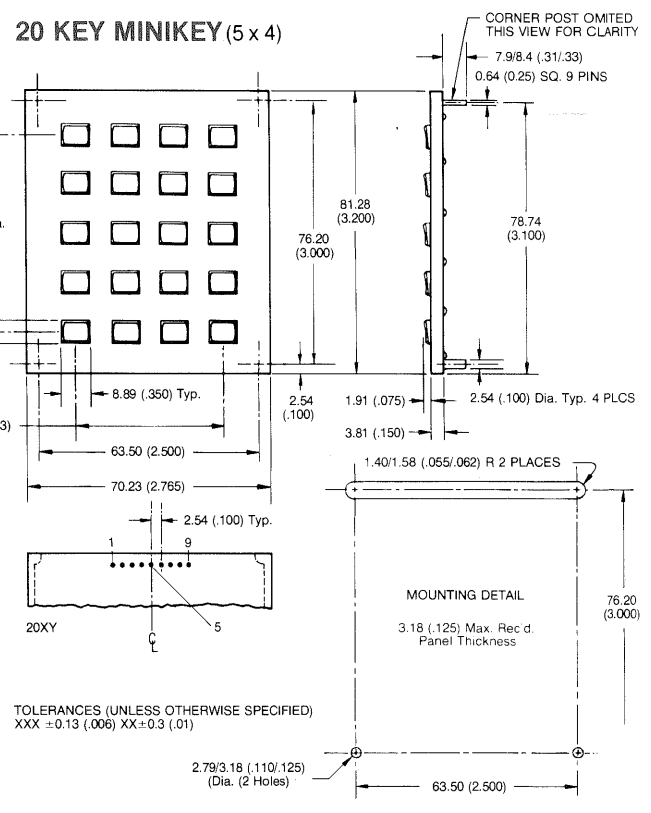
TOLERANCES (UNLESS OTHERWISE SPECIFIED) XXX ± 0.13 (.005) XX ± 0.3 (.01)

Prime dimensions are metric.

20 KEY MINIKEY (4 x 5)



20 KEY MINIKEY (5 x 4)



TOLERANCES (UNLESS OTHERWISE SPECIFIED) XXX ± 0.13 (.006) XX ± 0.3 (.01)

TOLERANCES (UNLESS OTHERWISE SPECIFIED) XXX ± 0.13 (.006) XX ± 0.3 (.01)

OUTPUT CODES

Encoding capabilities include: Form "A" contact, single pole 12 (SP12) and single pole 16 (SP16) for typical momentary closure applications.

2 of 7 and 2 of 8 dual-tone-multi-frequency switching for communications applications.

6XY, 12XY, 16XY and 20XY row and column for microprocessor use.

OUTPUT CODE DIAGRAMS

		SP12		2 of 7		12XY	
KEY STA.	Common (No. 1) connected to	KEY STA.	Common (No. 1) connected to	KEY STA.	Common (No. 8) connected to	KEY STA.	Terminals connected as follows
R1 C1	5	R1 C1	5	R1 C1	1 & 5	R1 C1	1 to 5
C2	9	C2	9	C2	1 & 6	C2	1 to 6
C3	13	C3	13	C3	1 & 7	C3	1 to 7
R2 C1	4	R2 C1	4	R2 C1	2 & 5	R2 C1	2 to 5
C2	8	C2	8	C2	2 & 6	C2	2 to 6
C3	12	C3	12	C3	2 & 7	C3	2 to 7
R3 C1	3	R3 C1	3	R3 C1	3 & 5	R3 C1	3 to 5
C2	7	C2	7	C2	3 & 6	C2	3 to 6
C3	11	C3	11	C3	3 & 7	C3	3 to 7
R4 C1	2	R4 C1	2	R4 C1	4 & 5	R4 C1	4 to 5
C2	6	C2	6	C2	4 & 6	C2	4 to 6
C3	10	C3	10	C3	4 & 7	C3	4 to 7

6XY		SP12		2 of 7		12XY	
KEY STA.	Terminals connected as follows	KEY STA.	Common (No. 1) connected to	KEY STA.	Common (No. 8) connected to	KEY STA.	Terminals connected as follows
R1 C1	1 to 3	R1 C1	5	R1 C1	1 & 5	R1 C1	1 to 5
C2	1 to 4	C2	9	C2	1 & 6	C2	1 to 6
C3	1 to 5	C3	13	C3	1 & 7	C3	1 to 7
R2 C1	2 to 3	R2 C1	4	R2 C1	2 & 5	R2 C1	2 to 5
C2	2 to 4	C2	8	C2	2 & 6	C2	2 to 6
C3	2 to 5	C3	12	C3	2 & 7	C3	2 to 7
R3 C1	3 to 5	R3 C1	3	R3 C1	3 & 5	R3 C1	3 to 5
C2	3 to 6	C2	7	C2	3 & 6	C2	3 to 6
C3	3 to 7	C3	11	C3	3 & 7	C3	3 to 7
R4 C1	4 to 5	R4 C1	2	R4 C1	4 & 5	R4 C1	4 to 5
C2	4 to 6	C2	6	C2	4 & 6	C2	4 to 6
C3	4 to 7	C3	10	C3	4 & 7	C3	4 to 7

SP16		2 of 8		16XY		20XY (4 x 5)		20XY (5 x 4)	
KEY STA.	Common (No. 8) connected to	KEY STA.	Common (No. 9) connected to	KEY STA.	Terminals connected as follows	KEY STA.	Terminals connected as follows	KEY STA.	Terminals connected as follows
R1 C1	4	R1 C1	1 & 5	R1 C1	1 to 5	R1 C1	1 to 5	R1 C1	1 to 9
C2	9	C2	1 & 6	C2	1 to 6	C2	1 to 6	C2	1 to 8
C3	13	C3	1 & 7	C3	1 to 7	C3	1 to 7	C3	1 to 7
C4	17	C4	1 & 8	C4	1 to 8	C4	1 to 8	C4	1 to 6
R2 C1	3	R2 C1	2 & 5	R2 C1	2 to 5	C5	1 to 9	R2 C1	2 to 9
C2	7	C2	2 & 6	C2	2 to 6	R2 C1	2 to 5	C2	2 to 8
C3	12	C3	2 & 7	C3	2 to 7	C2	2 to 6	C3	2 to 7
C4	16	C4	2 & 8	C4	2 to 8	C3	2 to 7	C4	2 to 6
R3 C1	2	R3 C1	3 & 5	R3 C1	3 to 5	C4	2 to 8	R3 C1	3 to 9
C2	6	C2	3 & 6	C2	3 to 6	C5	2 to 9	C2	3 to 8
C3	10	C3	3 & 7	C3	3 to 7	R3 C1	3 to 5	C3	3 to 7
C4	15	C4	3 & 8	C4	3 to 8	C2	3 to 6	C4	3 to 6
R4 C1	1	R4 C1	4 & 5	R4 C1	4 to 5	C3	3 to 7	R4 C1	4 to 9
C2	5	C2	4 & 6	C2	4 to 6	C4	3 to 8	C2	4 to 8
C3	11	C3	4 & 7	C3	4 to 7	C5	3 to 9	C3	4 to 7
C4	14	C4	4 & 8	C4	4 to 8	R4 C1	4 to 5	C4	4 to 6
						C2	4 to 6	R5 C1	5 to 9
						C3	4 to 7	C2	5 to 8
						C4	4 to 8	C3	5 to 7
						C5	4 to 9	C4	5 to 6

ORDERING INFORMATION

Minikey® keyboards are available from your local Digitran distributor. Special requirements and large quantities may be arranged through a local Digitran technical representative or directly with the factory.

The Parts List below lists the standard Minikeys currently available. For information concerning these and other configurations not listed, contact your local Digitran technical representative or the factory.

USE OF THE PARTS LIST

First, scan the left column of the Parts List for the desired key arrangement.

Then, in the second column, find the mounting configuration. Find the part number in the third, fourth or fifth column under the desired contact arrangement or output code designation.

For pricing information, refer to the current Digitran Minikey Price List.

PARTS LIST

6 KEY																
KEY MATRIX	ASSY.	OUTPUT CODE														
				6XY												
<table border="1"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>.</td><td>0</td><td>#</td></tr> </table>	1	2	3	4	5	6	7	8	9	.	0	#	F			KL0544
	1	2	3													
4	5	6														
7	8	9														
.	0	#														
R																

12 KEY																
KEY MATRIX	ASSY.	SP12	2 of 7	12XY												
		<table border="1"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>.</td><td>0</td><td>#</td></tr> </table>	1	2	3	4	5	6	7	8	9	.	0	#	F	KL0025
1	2		3													
4	5	6														
7	8	9														
.	0	#														
R	KL0026	KL0055	KL0044													
<table border="1"> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>.</td><td>0</td><td>#</td></tr> </table>	1	2	3	4	5	6	7	8	9	.	0	#	F	KL0060	KL0067	KL0069
	1	2	3													
4	5	6														
7	8	9														
.	0	#														
R	KL0065	KL0068	KL0070													
<table border="1"> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>4</td><td>5</td><td>6</td></tr> <tr><td>1</td><td>2</td><td>3</td></tr> <tr><td>C</td><td>O</td><td>*</td></tr> </table>	7	8	9	4	5	6	1	2	3	C	O	*	F	KL0061	KL0071	KL0073
	7	8	9													
4	5	6														
1	2	3														
C	O	*														
R	KL0092	KL0072	KL0074													

16 KEY																				
KEY MATRIX	ASSY.	OUTPUT CODE																		
		SP16	2 of 8	16XY																
<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>A</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>B</td></tr> <tr><td>7</td><td>8</td><td>9</td><td>C</td></tr> <tr><td>.</td><td>0</td><td>#</td><td>D</td></tr> </table>	1	2	3	A	4	5	6	B	7	8	9	C	.	0	#	D	F	KL0027	KL0049	KL0075
	1	2	3	A																
4	5	6	B																	
7	8	9	C																	
.	0	#	D																	
R	KL0028	KL0050	KL0076																	
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	0	1	2	3																
4	5	6	7																	
8	9	A	B																	
C	D	E	F																	
R	KL0064	KL0078	KL0042																	
<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>A</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>B</td></tr> <tr><td>7</td><td>8</td><td>9</td><td>C</td></tr> <tr><td>O</td><td>F</td><td>E</td><td>D</td></tr> </table>	1	2	3	A	4	5	6	B	7	8	9	C	O	F	E	D	F	KL0037	KL0034	KL0079
	1	2	3	A																
4	5	6	B																	
7	8	9	C																	
O	F	E	D																	
R	KL0036	KL0035	KL0080																	
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	1	2	3																	
4	5	6																		
7	8	9																		
C	O	*																		
R	KL0030	KL0082	KL0084																	
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R	KL0051	KL0086	KL0088																	
<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>*</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>*</td></tr> <tr><td>7</td><td>8</td><td>9</td><td>*</td></tr> <tr><td>C</td><td>O</td><td>*</td><td>*</td></tr> </table>	1	2	3	*	4	5	6	*	7	8	9	*	C	O	*	*	F	KL0046		KL0090
	1	2	3	*																
4	5	6	*																	
7	8	9	*																	
C	O	*	*																	
R	KL0089		KL0091																	

20 KEY																													
KEY MATRIX	ASSY.	OUTPUT CODE																											
				20XY																									
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R				KL0201																									
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R																													

Flexible silastic boots
(for back mounted units only)

Part No.	Size
100448	12 Key
100449	16 Key

Enclosures
(for front mounted units only)

Part No.	Size
101250	12 Key