

# storm 6000 Series Keypads



## Numeric data entry in exposed public environments

- Rugged, reliable and responsive data entry
- Vandal resistant (20J BS EN 60068-2-75: 1997)
- Weather resistant (IP65)
- Large buttons for clarity and ease of use
- Permanent, high contrast, laser engraved keytop graphics
- Raised tactile symbols on coloured function keys
- Raised "home pip" on the "5" key
- 4 row x 4 column matrix circuit format
- Optional USB or PS2 encoded interface circuit (enclosed in water resistant pod)
- Optional PS2 or USB connection cable (supplied separately)
- Suitable for use by those with mobility or sensory impairment
- Overall dimensions: 124.0 mm x 118.5 mm x 17.5 mm (excluding interface pod on back face)



[www.storm-interface.com](http://www.storm-interface.com)

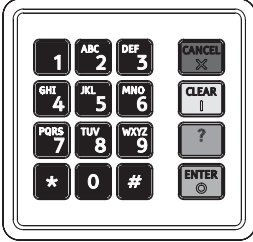
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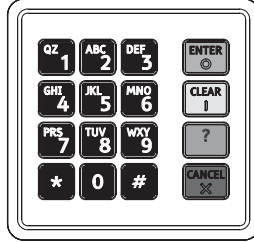
# 6000 Series keypad for public environments



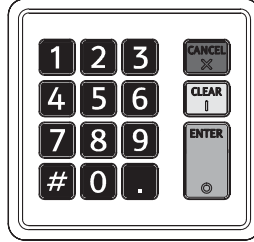
## UK Keypad Layout



## USA Keypad Layout

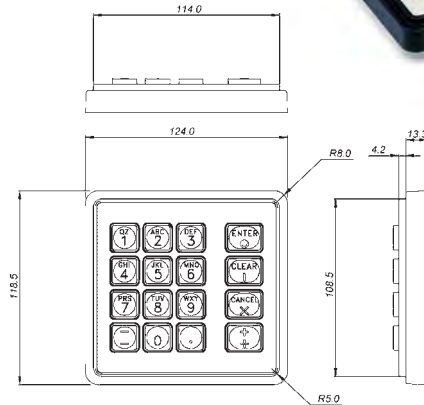
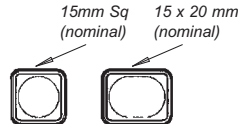


## Alternative Layout

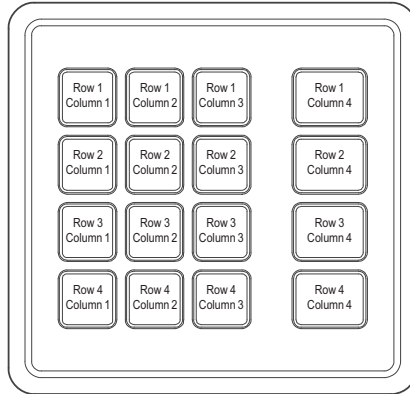


## Function Key Colours

CANCEL	Red	?	Blue
CLEAR	Yellow	ENTER	Green



## Matrix Keypad Connections



## Contact Matrix

PINS	ROW / COLUMN
1	Not used
2	Tamper
3	R1
4	R2
5	C1
6	C2
7	C3
8	C4
9	R4
10	R3
11	NC
12	Tamper
13	Not used

## CONTACT CIRCUIT SPECIFICATION

Contact	
Operating Voltage	24V dc (max)
Operating Current	50 mA (max)
Circuit Resistance (when contact closed)	<500 Ohms

## PS2 / USB Keypad Code Tables

Row / Column	UK Layout		USA layout	
	PC / AT Code (Code Set 2)	USB Key Code	PC / AT Code (Code Set 2)	USB Key Code
R1C1	69	59	69	59
R1C2	72	5A	72	5A
R1C3	7A	5B	7A	5B
R1C4	76	29	5A	28
R2C1	6B	5C	6B	5C
R2C2	73	5D	73	5D
R2C3	74	5E	74	5E
R2C4	66	2A	66	2A
R3C1	6C	5F	6C	5F
R3C2	75	60	75	60
R3C3	7D	61	7D	61
R3C4	05	3A	05	3A
R4C1	7C	55	7C	55
R4C2	70	62	70	62
R4C3	5D	31	12, 26	E1, 20
R4C4	5A	28	76	29
Anti-Tamper Open Circuit	Not used			

## Contact Connections (viewed from rear of keypad)

PINS	• • • • • • • • • • • • • • • •
PIN NO.	13 12 11 10 9 8 7 6 5 4 3 2 1

## Specifications

Vandal Resistant	20J BS EN 60068-2-75:1997
Weather Resistant	IP65
Large Buttons for clarity and ease of use	15mm square
Function Key Buttons	15mm x 20mm
Responsive key action	travel 1.5mm, actuation force 130gm
High contrast laser engraved graphics	designed to meet with current ADA and DDA recommendations
Raised tactile symbols on function keys	designed to meet with current ADA and DDA recommendations.
Panel Cutout	109.5 x 115.0 x R 5mm corners (tols ± 0.2mm)
Operating Temp	-20°C to +60°C
Matrix Output or user selectable PS2/USB	(Order cables separately)

Meets CE and UL requirements for Product Safety  
 Meets CE and FCC requirements for EMC  
 Plug compatible with 420 Series RS232 Encoder  
 Panel Mount Gasket included

Stock No.	Item
6000-21001[x]	Keypad 6000 Series 16 way Matrix Output, UK layout
6000-21002[x]	Keypad 6000 Series 16 way Matrix Output, USA layout
6000-22001[x]	Keypad 6000 Series 16 way PS2 / USB Output, UK layout
6000-22002[x]	Keypad 6000 Series 16 way PS2 / USB Output, USA layout

## Accessories [x] denotes packaging variant

Stock No.	Item
6000-MK00[x]	Mounting Clips Underpanel for 6000 Series
1200-00100[x]	Cable, 2.5m, PS/2 to 5 way Molex
1200-00200[x]	Cable, 2.5m, USB to 5 way Molex
4200-00[x]	Encoder 420 Series, RS232, No Cable, Plug-in

6000 Series Application/Engineering Manual – free download from [www.keymat.com](http://www.keymat.com)

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# **storm** SF6000 Series Keypad



## **Compact numeric data entry for use where panel space is limited**

- *Impact resistant*  
20J BS EN 60068-2-75: 1997)
- *Weather resistant (IP65)*
- *Suitable for use by those with mobility or sensory impairment*
- *Permanent, high contrast, laser engraved keytop graphics (engraved and infilled metal keys)*
- *Raised tactile symbols on coloured function keys and 'home pip' on the 5 key*
- *Rugged, reliable and responsive data entry featuring Storm's patented switch technology*
- *Available with black polymer keys, illuminated polymer keys or metal keys*
- *Small footprint – overall dimensions: 106.5 x 88.5 x 31 mm (including contact connections)*
- *Can be sanitised using most commonly used cleaning agents*



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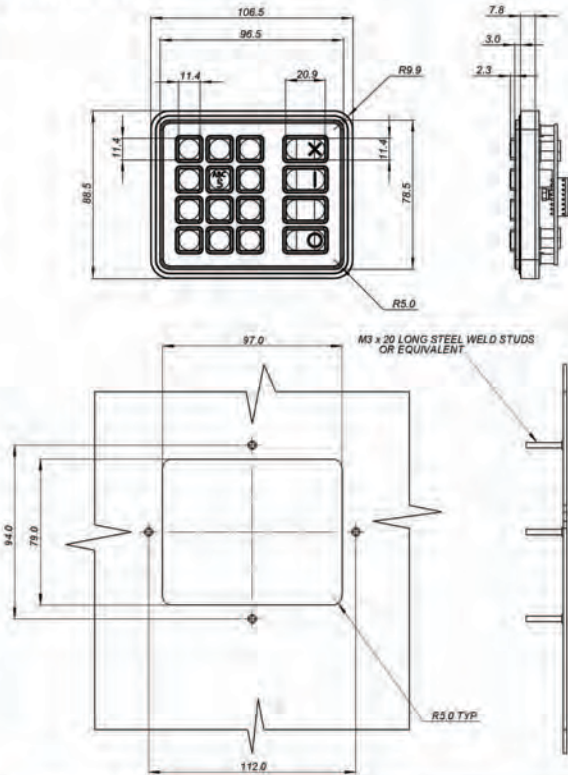
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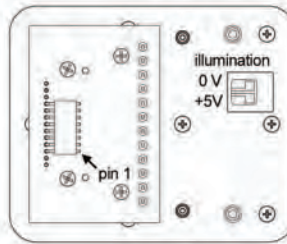
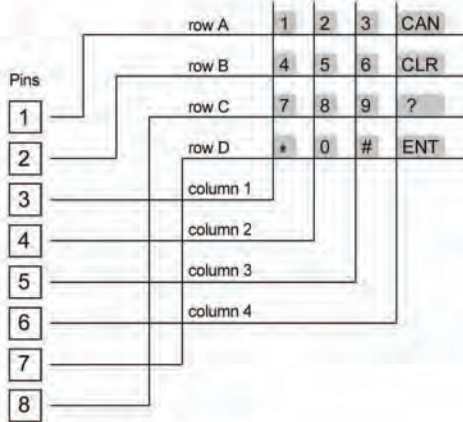
# storm

## Small Footprint – SF6000 Series Keypad

### Dimensions



### Connection Details



#### Keypad connector

8-position, 0.1" pitch, gold plated right angle pins w/friction lock mates with: **Molex 22013087**

#### Illumination connector

2-position, disconnectable mates with: **JST PHR-2**



### Keypad Layouts



All other keys are black polymer, laser marked white.



All other keys are metal, engraved and infilled black

**Red Polymer Key**  
with raised cross  
**Yellow Polymer Key**  
with raised vertical bar  
**Blue Polymer Key**  
no raised feature  
**Green Polymer Key**  
with raised circle



5 Key has central homepip

All keys are translucent white marked with black characters

**Red Illumination**  
with raised cross  
**Yellow Illumination**  
with raised vertical bar  
**Blue Illumination**  
no raised feature  
**Green Illumination**  
with raised circle

### Electrical

Keypad Operating Voltage	24V DC (max)
Keypad Operating Current	50mA (max)
Contact Resistance	100 ohms (max)
Illumination Voltage	5V DC (separate connector)

### Mechanical

Minimum Operational Life	4 million cycles/key
Keytop Travel	1.5 mm
Actuation Force	150 gm

### Environmental

Operating Temperature	-20°C to 60°C
Vandal Resistant	20J BS EN 60068-2-75: 1997
Weather Resistant	IP65 (where mounted to a suitable enclosure – panel mount gasket included)

### Ordering Details

Stock No.	Description
8616-21002[x]	Laser Engraved polymer Keys
8616-31002[x]	Engraved Metal Keys
8616-41002[x]	Illuminated Polymer Keys
8600-MK000[x]	Under Panel Mount Kit
4200-003	RS-232 Encoder

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UL File reference: E230121  
Designed & produced by  
NIK Design  
www.nikdesign.co.uk



860-LIT-01 Rev 2  
Dec 2007



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# storm SF8000 Series Keypads



## Compact PIN entry keypad for use where panel space is limited

- Impact resistant  
(20J BS EN 60068-2-75: 1997)
- Responsive numeric keypad  
featuring patented Storm switching  
technology
- Certified tamper-responsive and  
attack resistant counter-measures  
are an integral feature of all Storm  
8000 Series products
- Fire resistant and petrochemical  
resistant versions available
- High contrast, high visibility keytop  
graphics with raised tactile symbols  
improve accessibility for those with  
sensory impairment
- PIN encryption technology is not  
included or supplied by Storm. A  
version of this product, as an EPP  
(encrypted PINpad), with secure data  
transmission, is available from Storm  
approved technology partners
- Can be sanitised using most  
commonly used cleaning agents



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# Small Footprint SF8000 Series Keypad - Installation Instructions

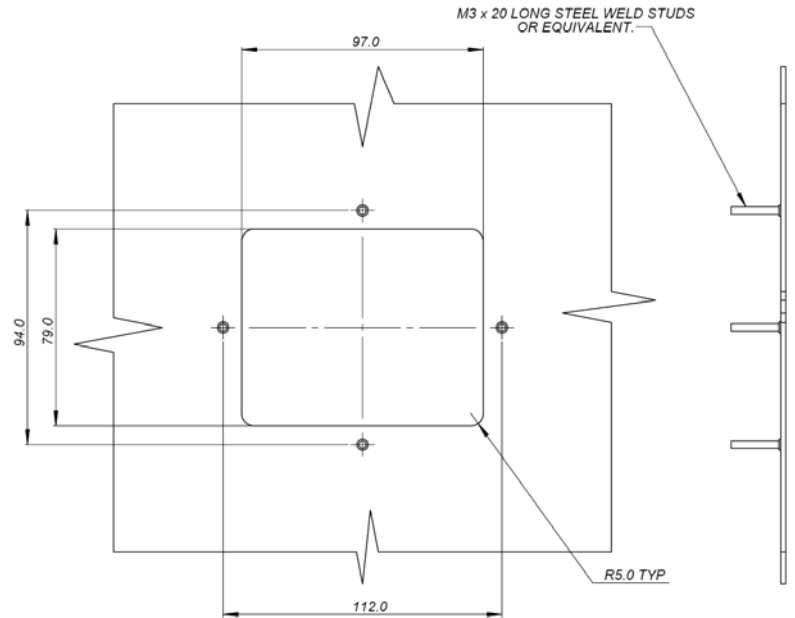
## SPECIFICATIONS

Vandal Resistant .....	20J BS EN 60068-2-75:1997	Panel Cutout .....	97mm x 79mm
Weather Resistant .....	IP65	Underpanel Depth .....	10.8 mm
Operating Temp .....	-20°C to +60°C	Matrix Output .....	For elastomer connection (elastomer & support included)
Standard Keypad Size Buttons .....	11 mm square,	Contact Resistance .....	100 ohms (max)
Compact Layout .....	16 mm pitch	Switch Rating .....	24V d.c. (max), 50 mA (max)
DDA Compatibility .....	Raised Symbols on Keys	Illumination .....	Separate connector (+5V DC)
Responsive key action .....	Travel 1.5 mm, Actuation force 150 gm, Life 4 million cycles	Fixing Bracket not included	
Housing .....	Flame Retardant & Petrochem. Resistant	Panel Mount Gasket Included	
Keypad Material .....	Laser Marked Polymer or Illuminated	Electrical Safety .....	UL Approved (EN60950)

### KEYPAD FRONT VIEW

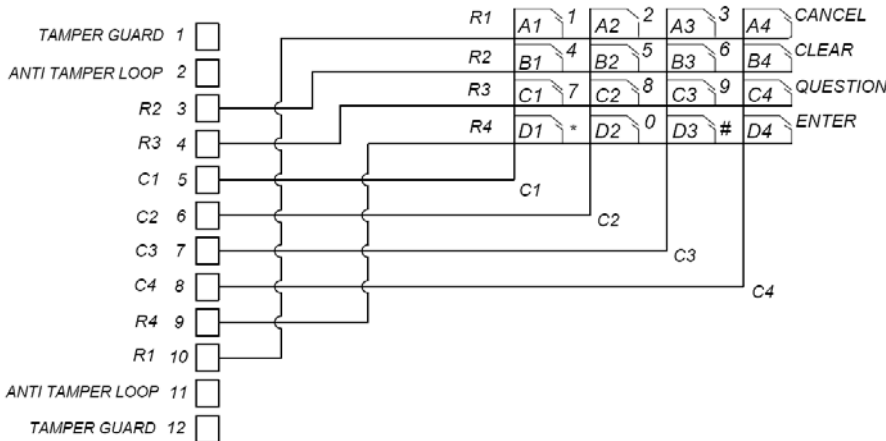


### HOST PANEL CUTOUT



Suitable panel thickness 1.6mm to 2.0mm steel. For device removal sensor applications one stud must be longer.

### Contact Connections



### ORDERING DETAILS

Stock No	Item
8616 - 2 [xx]	SF8000 16 KEY, MATRIX PAD O/P, *(V-0), UK LAYOUT
8615 - 2 [xx]	SF8000 15 KEY, MATRIX PAD O/P, (V-0), UK LAYOUT
8616 - 4 [xx]	SF8000 16 KEY, MATRIX PAD O/P, (V-0), BACKLIT, UK LAYOUT
8615 - 4 [xx]	SF8000 15 KEY, MATRIX PAD O/P, (V-0), BACKLIT, UK LAYOUT

[xx] - denotes additional digits to be added for OEM backplate and customisation options - contact your Storm Distributor for details.

\*(V-0) denotes keypad housing meets UL94 V-0 flammability specification.

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