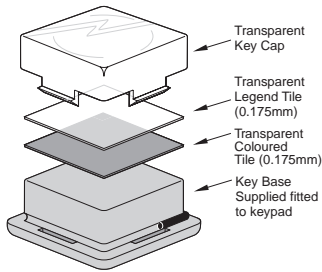
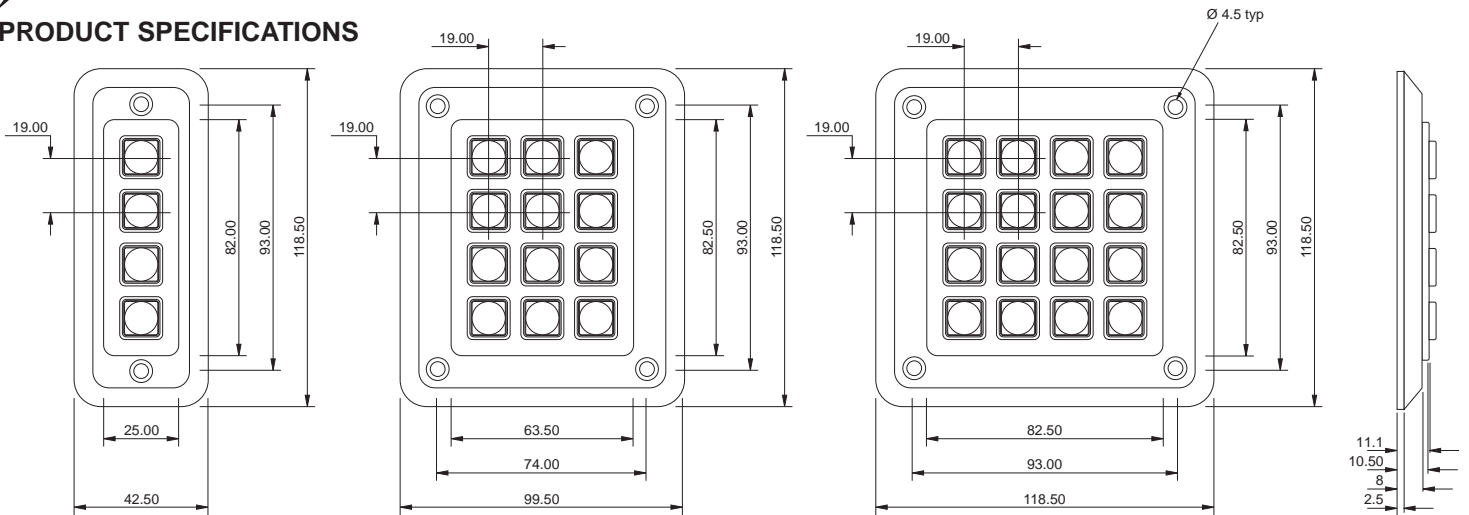


## PRODUCT SPECIFICATIONS



### GFX-Illuminator SERIES Keypad Assembly Instructions

Illuminated Series keypads are supplied with the key bases fitted. Each key position can be customised without dismantling the keypad. Keypad options can be selected from a library of standard symbols, characters or background colours. Alternatively, customised keypad graphics can be created using laser printed acetate film or screen printed polymer film. The total thickness of the coloured tile and legend tile should not

exceed 0.4mm. *(Please note, paper is not recommended as the printed graphics may degrade if exposed to moisture / condensation.)*

- 1 Orientate the keypad correctly by checking the connector position on the underside of the keypad.
- 2 Load each key position in turn. First locate the legend tile into the transparent key cap, then locate the transparent coloured tile (see diagram). **Before snapping the**

**transparent key cap, including legend and customer tile, into position ensure that the legend tile's position, orientation and alignment are correct.**

Please note, if it is necessary to remove the transparent key cap a suitable tool or pliers should be used. Once removed the key cap should not be re-used; spare key caps and bases are available in sets of 4, part number GS0000.

<b>Vandal Resistant</b>	Yes
<b>Impact Resistant</b>	Yes
<b>IP Rating</b>	Up to IP67
<b>Key Life (cycles)</b>	4 Million
<b>Service Temp. (non condensing)</b>	-40°C to +100°C
<b>Case Material</b>	Chromed zinc
<b>Case Colour</b>	Silver
<b>Contact Materials</b>	Carbon/Gold
<b>Contact Bounce</b>	5ms
<b>Contact Resistance</b>	100 ohms (max)
<b>Insulation Resistance</b>	50 Mohms (min)
<b>Breakdown Voltage</b>	500 V (60 secs)
<b>Operating Voltage (contacts)</b>	24V dc (max)
<b>Operating Current (contacts)</b>	50 mA (max)
<b>Keypad Travel</b>	1.4mm (nominal)
<b>Actuating Force</b>	180gm (nominal)
<b>Connector</b>	0.1" Pitch, gold plated square pin, male with locking ramp

<b>VR</b>	Yes
<b>Impact Resistant</b>	Yes
<b>IP Rating</b>	Up to IP67
<b>Key Life (cycles)</b>	4 Million
<b>Service Temp. (non condensing)</b>	-40°C to +100°C
<b>Case Material</b>	Chromed zinc
<b>Case Colour</b>	Silver
<b>Contact Materials</b>	Carbon/Gold
<b>Contact Bounce</b>	5ms
<b>Contact Resistance</b>	100 ohms (max)
<b>Insulation Resistance</b>	50 Mohms (min)
<b>Breakdown Voltage</b>	500 V (60 secs)
<b>Operating Voltage (contacts)</b>	24V dc (max)
<b>Operating Current (contacts)</b>	50 mA (max)
<b>Keypad Travel</b>	1.4mm (nominal)
<b>Actuating Force</b>	180gm (nominal)
<b>Connector</b>	0.1" Pitch, gold plated square pin, male with locking ramp

<b>GFX</b>	No
<b>Impact Resistant</b>	No
<b>IP Rating</b>	Up to IP54
<b>Key Life (cycles)</b>	2 Million
<b>Service Temp. (non condensing)</b>	-10°C to +75°C
<b>Case Material</b>	Super impact polymer
<b>Case Colour</b>	Black
<b>Contact Materials</b>	Carbon/Gold
<b>Contact Bounce</b>	5ms
<b>Contact Resistance</b>	100 ohms (max)
<b>Insulation Resistance</b>	50 Mohms (min)
<b>Breakdown Voltage</b>	500 V (60 secs)
<b>Operating Voltage (contacts)</b>	24V dc (max)
<b>Operating Current (contacts)</b>	50 mA (max)
<b>Keypad Travel</b>	1.4mm (nominal)
<b>Actuating Force</b>	180gm (nominal)
<b>Connector</b>	0.1" Pitch, gold plated square pin, male with locking ramp

<b>White Back Light Power Requirement</b>	
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Current limited to $n \times 10\text{mA}$ @ $V_f$ $n$ = Number of keys $V_f = 3.5\text{V}$ (typical) 4.2V (max) Reverse voltage, $V_r = 5\text{V}$ max
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<b>Red Back Light Power Requirement</b>	
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Current limited to $n \times 20\text{mA}$ @ $V_f$ $n$ = Number of keys $V_f = 1.8\text{V}$ (typical) 2.6V (max)f
---------------------------------------------------------------------------------------------------------------------------

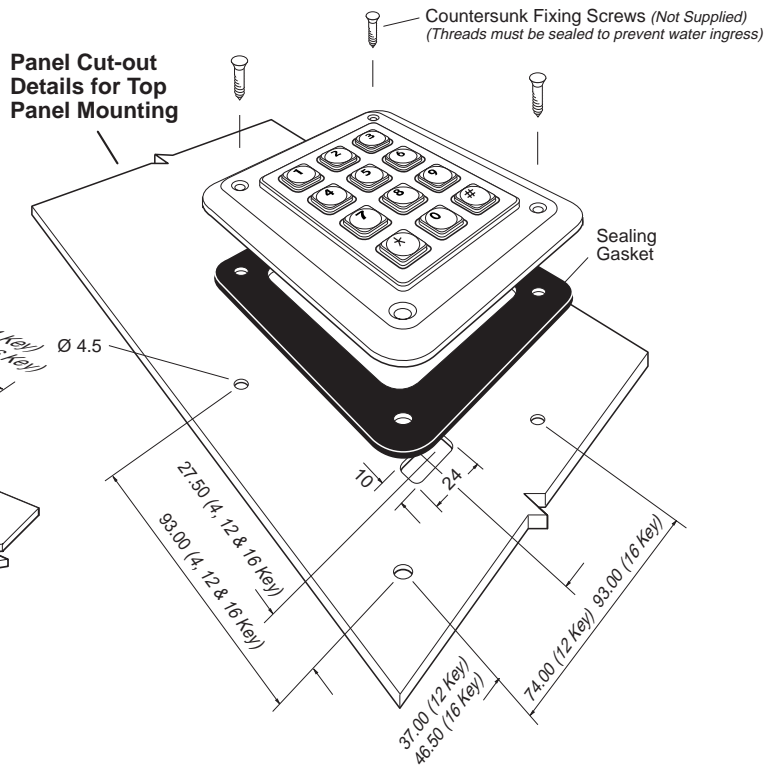
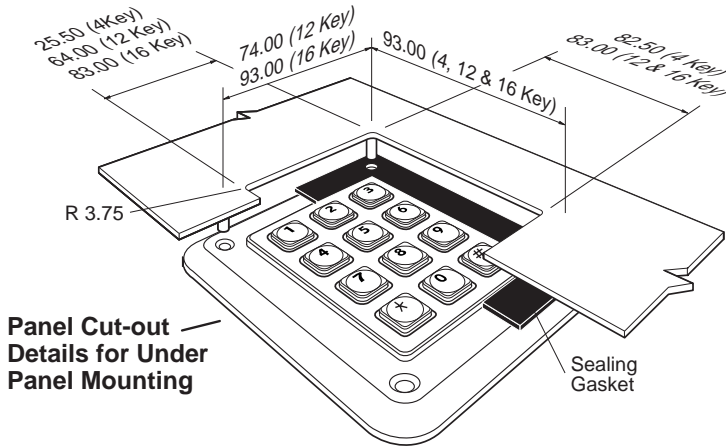
Current limited to $n \times 20\text{mA}$ @ $V_f$ $n$ = Number of keys $V_f = 1.8\text{V}$ (typical) 2.6V (max)
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<b>Green Back Light Power Requirement</b>	
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Current limited to $n \times 20\text{mA}$ @ $V_f$ $n$ = Number of keys $V_f = 2.2\text{V}$ (typical) 2.6V (max)
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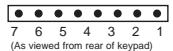
Current limited to $n \times 20\text{mA}$ @ $V_f$ $n$ = Number of keys $V_f = 2.2\text{V}$ (typical) 2.6V (max)
--------------------------------------------------------------------------------------------------------------------------

## MOUNTING & CONNECTION DETAILS



### Connection Details for 4 Key Keypad

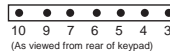
#### CONTACT CONNECTIONS



CONNECT PIN	ROW/COLUMN
1	R-Anode
2	W/G-Cathode
3	common
4	C
5	B
6	A
7	R-Cathode
	W/G-Anode

### Connection Details for 12 Key Keypad

#### CONTACT CONNECTIONS

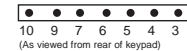


CONNECT PIN	ROW/COLUMN
1	R-Anode
2	W/G-Cathode
3	common
4	C
5	B
6	A
7	R-Cathode
	W/G-Anode

CONNECT PIN	ROW/COLUMN
1	R-Anode
2	A
3	B
4	1
5	2
6	3
7	-
8	D
9	C
10	R-Cathode
	W/G-Anode

### Connection Details for 16 Key Keypad

#### CONTACT CONNECTIONS



CONNECT PIN	ROW/COLUMN
1	R-Anode
2	A
3	B
4	1
5	2
6	3
7	-
8	D
9	C
10	R-Cathode
	W/G-Anode

CONNECT PIN	ROW/COLUMN
1	R-Anode
2	A
3	B
4	1
5	2
6	3
7	-
8	D
9	C
10	R-Cathode
	W/G-Anode

## ACCESSORIES FOR USE WITH STORM ILLUMINATOR RANGE KEYPADS

Item	Stock No.	Notes
Universal Encoder	400000	Keypad Interface. PC/RS232
Rear Casing	RC1202	Providing space for additional components or circuitry (12 key formats only) Supplied complete with fixing hardware, sealing gaskets and fixing instructions
Blank Keypads (Storm 1000 Series) set of four	1K0000	Supplied without keypad graphics. Suitable for engraving
Privacy Shroud	1KFS02	Provides PIN / Entry Code security (12 Key format only) Supplied complete with fixing hardware, sealing gaskets and fixing instructions

### Graphic Keypad Accessories

Enables custom configuration of keypad graphics and colour

**Set A:** 0 - 9, ←, →, ↑, ↓, \*, #, +, -, =, ,, X, AC, I/O, ENT, CE/C, SP.

**Set B:** ←, →, ↑, ↓, ENT, PRINT, DEL, INS, CAP, ESC, CTRL, ALT, ON, OFF, \, /, LOCK, f1, f2, f3, f4, \$, %, &, ' , \* , # , + , - , = , > , < , < , > , F n , " , ' , % , & , SP.

**Set C:** "A TO Z"

**Set E:** Blank

**Set J:** French symbols

**Set K:** German symbols

1 pair for 4 key keypad, 2 pairs for 12/16 key keypads & 3 pairs for 36 key keypad.

### VR-Illuminator Keypads

Description	Order Code	Description	Order Code
4 Keypad - cursor	IKL041101	12 Keypad - Standard	IKL12T101
4 Keypad - cursor	IKL041103	12 Keypad - Standard	IKL12T103
4 Keypad - Function	IKL042101	16 Keypad - Calculator	IKL160101
4 Keypad - Function	IKL042103	16 Keypad - Calculator	IKL160101
12 Keypad - Calculator	IKL120101	16 Keypad - Standard	IKL16T101
12 Keypad - Calculator	IKL120103	16 Keypad - Standard	IKL16T103

### GFX-Illuminator Keypads

White Lights		Red, Green Lights	
Description	Order Code	Description	Order Code
4 Keypad	GSLW040201	4 Keypad	GSRG040201
4 Keypad	GSLW040203	4 Keypad	GSRG040203
12 Keypad	GSLW120201	12 Keypad	GSRG120201
12 Keypad	GSLW120203	12 Keypad	GSRG120203
16 Keypad	GSLW160201	16 Keypad	GSRG160201
16 Keypad	GSLW160203	16 Keypad	GSRG160203

All dimensions in millimetres (mm).

Full product specifications are available on request from your local Storm supplier.

Storm keypads incorporate key switch technology protected by International Patents.

Whilst every effort is made to ensure details are correct at time of print, specifications are subject to change without notice.

102-XX-08KT - Iss2



February 2000



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