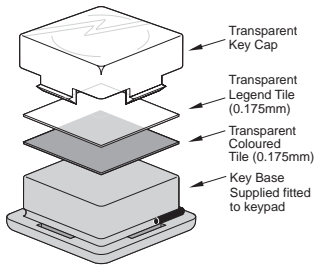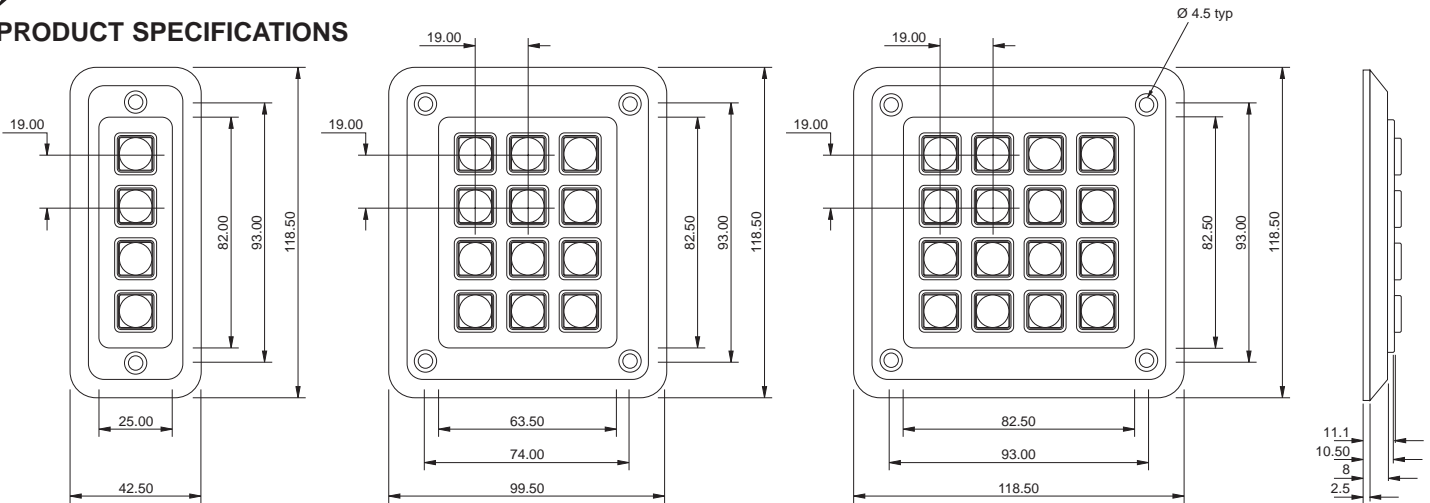# Storm
VR & GFX ILLUMINATOR KEY PADS

PRODUCT SPECIFICATIONS

GFX-Illuminator SERIES
Keytop Assembly Instructions

Illuminated Series keypads are supplied with the key bases fitted. Each key position can be customised without dismantling the keypad. Keytop options can be selected from a library of standard symbols, characters or background colours. Alternatively, customised keytop 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.

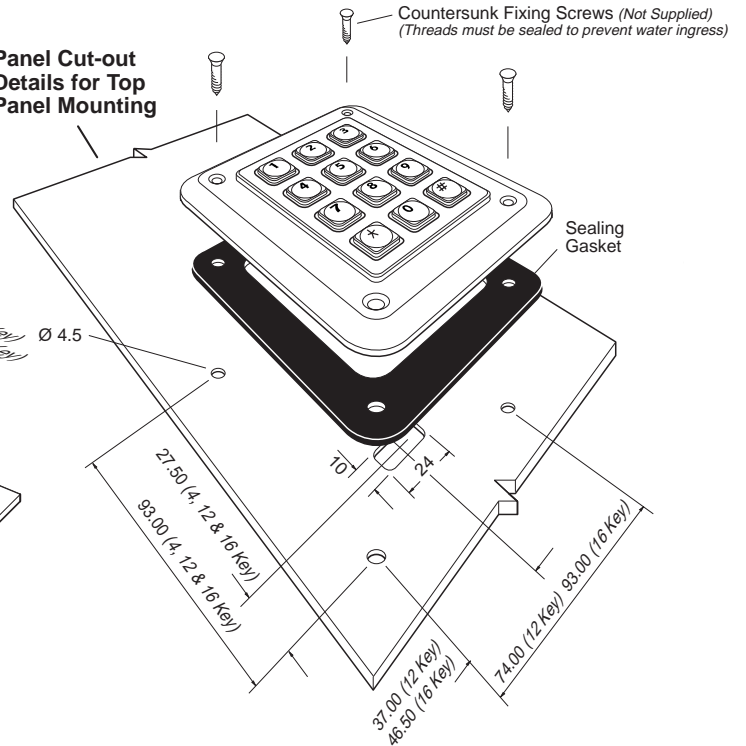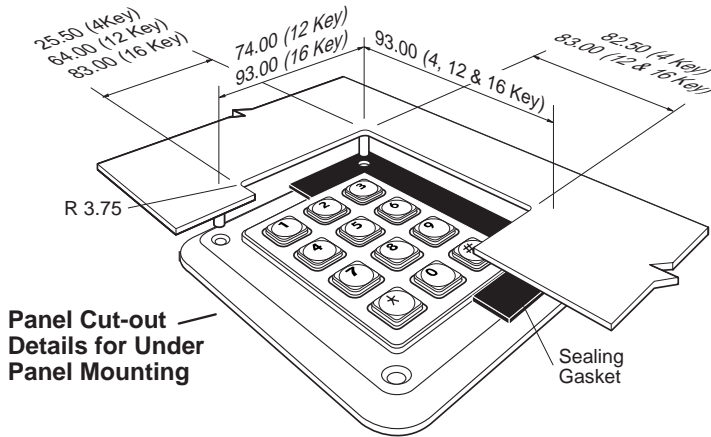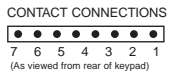|	VR	GFX
Vandal Resistant	Yes	No
Impact Resistant	Yes	No
IP Rating	Up to IP67	Up to IP54
Key Life (cycles)	4 Million	2 Million
Service Temp. (non condensing)	-40^{0}C to +100^{0}C	-10^{0}C to +75^{0}C
Case Material	Chromed zinc	Super impact polymer
Case Colour	Silver	Black
Contact Materials	Carbon/Gold	Carbon/Gold
Contact Bounce	5ms	5ms
Contact Resistance	100 ohms (max)	100 ohms (max)
Insulation Resistance	50 Mohms (min)	50 Mohms (min)
Breakdown Voltage	500 V (60 secs)	500 V (60 secs)
Operating Voltage (contacts)	24V dc (max)	24V dc (max)
Operating Current (contacts)	50 mA (max)	50 mA (max)
Keytop Travel	1.4mm (nominal)	1.4mm (nominal)
Actuating Force	180gm (nominal)	180gm (nominal)
Connector	0.1" Pitch, gold plated square pin, male with locking ramp	0.1" Pitch, gold plated square pin, male with locking ramp
White Back Light Power Requirement		Current limited to nx10mA @ Vf n = Number of keys V_f = 3.5V (typical) 4.2V (max) Reverse voltage, V_r = 5V max
Red Back Light Power Requirement	Current limited to nx20mA @ Vf n = Number of keys V_f = 1.8V (typical) 2.6V (max)f	Current limited to nx20mA @ Vf n = Number of keys V_f = 1.8V (typical) 2.6V (max)
Green Back Light Power Requirement	Current limited to nx20mA @ Vf n = Number of keys V_f = 2.2V (typical) 2.6V (max)	Current limited to nx20mA @ Vf n = Number of keys V_f = 2.2V (typical) 2.6V (max)

Storm
VR & GFX ILLUMINATOR KEY PADS

Panel Cut-out Details for Top Panel Mounting

Countersunk Fixing Screws *(Not Supplied)*
(Threads must be sealed to prevent water ingress)

MOUNTING & CONNECTION DETAILS

Sealing Gasket

25.50 (4 Key)
64.00 (12 Key)
83.00 (16 Key)
74.00 (12 Key)
93.00 (16 Key)
93.00 (4, 12 & 16 Key)
82.50 (4 Key)
83.00 (12 & 16 Key)
Ø 4.5

R 3.75

Panel Cut-out Details for Under Panel Mounting

Sealing Gasket

27.50 (4, 12 & 16 Key)
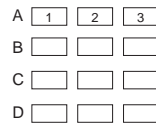93.00 (4, 12 & 16 key)
37.00 (12 Key)
46.50 (16 Key)
74.00 (12 Key) 93.00 (16 Key)
10
24

Connection Details for 4 Key Keypad

CONTACT CONNECTIONS

7 6 5 4 3 2 1
(As viewed from rear of keypad)

A 1
B
C
D

KEY LOCATION
(As viewed from front of keypad)

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

Connection Details for 12 Key Keypad

CONTACT CONNECTIONS

10 9 7 6 5 4 3 2 1
(As viewed from rear of keypad)

A 1 2 3
B
C
D

KEY LOCATION
(As viewed from front of keypad)
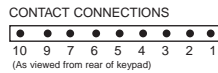
CONTACT MATRIX	
CONNECT PIN	ROW/ COLUMN
1	R-Anode W/G-Cathode
2	A
3	B
4	1
5	2
6	3
7	-
8	D
9	C
10	R-Cathode W/G-Anode

Connection Details for 16 Key Keypad

CONTACT CONNECTIONS

10 9 7 6 5 4 3 2 1
(As viewed from rear of keypad)

A 1 2 3 4
B
C
D

KEY LOCATION
(As viewed from front of keypad)
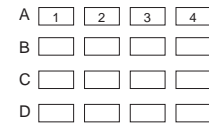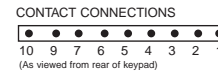
CONTACT MATRIX	
CONNECT PIN	ROW/ COLUMN
1	R-Anode W/G-Cathode
2	A
3	B
4	1
5	2
6	3
7	4
8	D
9	C
10	R-Cathode W/G-Anode

ACCESSORIES FOR USE WITH STORM *ILLUMINATOR* RANGE KEYPADS

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

Graphic Keytop Accessories
Enables custom configuration of keytop 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, ⇑, ↦, ⇑, \$£, :, ;, ', ↵ , SP.
Set D: FI TO F12, £, \$, ?, !, (,), @, <, >, Fn, ", ', %, &, SP.
Set F: 0 - 9, →, A - F, CE/C, ENT, OFF, *, #, +, -, ., blank, 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.

Storm
data entry technology

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

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February 2000

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FM 39602

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