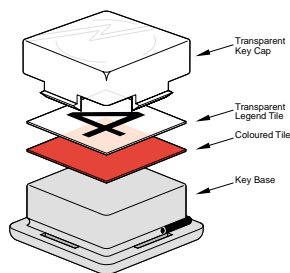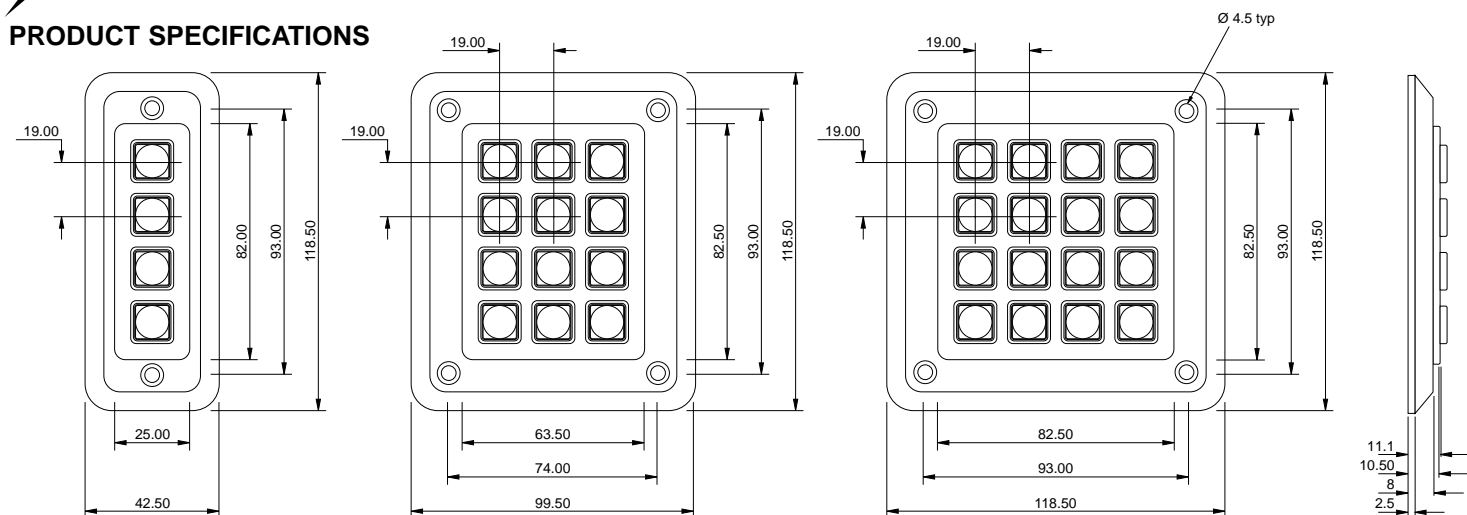# Storm
VR & GFX ILLUMINATOR KEY PADS

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 coloured 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°C to +100°C	-10°C to +75°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
White Back Light Power Requirement	N/A	Current limited to n x 10mA @ Vf n = Number of keys Vf = 3.5V (typical) 4.2V (max) Reverse voltage, Vr = 5V max
Red Back Light Power Requirement	Current limited to n x 20mA @ Vf n = Number of keys Vf = 1.8V (typical) 2.6V (max)	Current limited to n x 20mA @ Vf n = Number of keys Vf = 1.8V (typical) 2.6V (max)
Green Back Light Power Requirement	Current limited to n x 20mA @ Vf n = Number of keys Vf = 2.2V (typical) 2.6V (max)	Current limited to n x 20mA @ Vf n = Number of keys Vf = 2.2V (typical) 2.6V (max)

⚡torm
VR & GFX ILLUMINATOR KEY PADS

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

MOUNTING & CONNECTION DETAILS

Panel Cut-out Details for Top Panel Mounting

25.50 *(4Key)*
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

Sealing Gasket

R 3.75

27.50 *(4, 12 & 16 key)*
93.00 *(4, 12 & 16 key)*

10 24

37.00 *(12 Key)*
46.50 *(16 Key)*

74.00 *(12 Key)* 93.00 *(16 Key)*

Panel Cut-out Details for Under Panel Mounting

Sealing Gasket

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	
CONNECTOR 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 8 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	
CONNECTOR 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 8 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	
CONNECTOR 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

Stock No.	DESCRIPTION
400000	**Universal Encoder** Keypad Interface. PC/RS232/RS423
RC1202	**Rear Casing** Providing space for additional components or circuitry (12 key formats only) Supplied complete with fixing hardware, sealing gaskets and fixing instructions
1KFS02	**Privacy Shroud** Provides PIN/Entry Code security (12 Key format only). Supplied complete with fixing hardware, sealing gaskets and fixing instructions
GS000	**Spare transparent keytops (set of 4)** Fit once only

GFX Keytop Accessories
Enables custom configuration of keytop graphics and colour

GSA0T2	**Set A:** 0 - 9, ←, →, ↑, ↓,*, #, +, , ÷, =, , X, AC, I/O, ENT, CE/C.
GSB0T2	**Set B:** ←, →, ↑, ↓, ENT, PRINT, DEL, INS, CAP, ESC, CTRL, ALT, ON, OFF, \, /, LOCK, ⇑, ↦, ⇑, $£, :, ,, ;, ', .↵ , .
GSC0T2	**Set C:** "A TO Z"
GSD0T2	**Set D:** FI TO F12, £, $, ?, !, (,), @, <, >, Fn, ", ', %, &.
GSE0T2	**Set E:** Blank
GSF0T2	**Set F:** 0 - 9, →,A - F, CE/C, ENT, OFF, *, #, +, -, ., blank.
GS0001	**White colour tile set**
GS0002	**Grey colour tile set**
GS0003	**Red colour tile set**
GS0004	**Green colour tile set**
GS0005	**Blue colour tile set**
GS0006	**Yellow colour tile set**

VR-Illuminator Keypads - Red, Green Lights

Description	Order Code	Description	Order Code
4 Keypad - Cursor	1KL0411	12 Keypad - Standard	1KL12T1
4 Keypad - Function	1KL0421	16 Keypad - Calculator	1KL1601
12 Keypad - Calculator	1KL1201	16 Keypad - Standard	1KL16T1

GFX-Illuminator Keypads

White Lights		Red, Green Lights	
Description	Order Code	Description	Order Code
4 Keypad	GSLW04	4 Keypad	GSRG04
12 Keypad	GSLW12	12 Keypad	GSRG12
16 Keypad	GSLW16	16 Keypad	GSRG16

⚡torm
data entry technology

All dimensions in millimetres (mm). Full product specifications are available on request from your local Storm stockist. 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

BSI REGISTERED

UKAS QUALITY MANAGEMENT 003

CE

FM 39602

May 2000

Storm is a trademark of Keymat Technology Ltd