

## CONFIGURATION STRING OVERVIEW

TYPE	FRONT PROPORTIONALITY	OUTPUT SPAN	OUTPUT RAMP	FRONT <sup>1</sup> SWITCHES	FUTURE OPTION	REAR <sup>2</sup> SWITCHES	PERSON PRESENT	SIDE <sup>3</sup> SWITCHES	MECHANICAL INTERFACE	ELECTRICAL INTERFACE	GAITER	
HE	XXXX	XX	XX	XXXXXX	X	XXX	X	XXX	X	XXX	XX	
	<b>R***</b>	<b>40</b>	<b>PO</b>	<b>K*****</b>	<b>N</b>	<b>*T*</b> <b>TR*</b>	<b>M</b>	<b>LL*</b> <b>UL*</b> <b>BL*</b> <b>LR*</b> <b>UR*</b> <b>BR*</b> <b>2U*</b>	<b>2L*</b> <b>3A*</b> <b>3B*</b> <b>3C*</b> <b>3D*</b> <b>BB*</b>	<b>S</b>	<b>STD</b>	<b>G1</b>

<sup>1</sup>If Dual Rollers or a Single Roller with either a Rocker or Slide switch are chosen then the 'K' switch is the only front switch option available.

<sup>2</sup>The rear trigger switch cannot be selected when a rocker switch is selected as a front switch option.

<sup>3</sup>Side Switches cannot be selected on the same side as a roller or rocker switch. When a trigger switch is selected only the upper side switches can be chosen.

## MECHANICAL DATA

Mechanical Strength	Maximum Overload (Static)	600N
NOTE: ENSURE THE HANDLE IS ADEQUATELY MOUNTED TO ENSURE OPTIMUM STRENGTH PERFORMANCE	Maximum Overload (Impact)	10 Joules
	Lever & Trigger Overload	500N
	Maximum Torque	40Nm

Switches (Momentary)	Mechanical Life	1,000,000 Cycles
	Operating Force (K Switch)	5N
	Operating Force (I Switch)	3N
	Operating Force (O Switch)	7.5N
	Operating Force (Top & Side Switches)	3N
	Operating Force (Trigger)	7.5N
	Operating Force (Lever)	5N

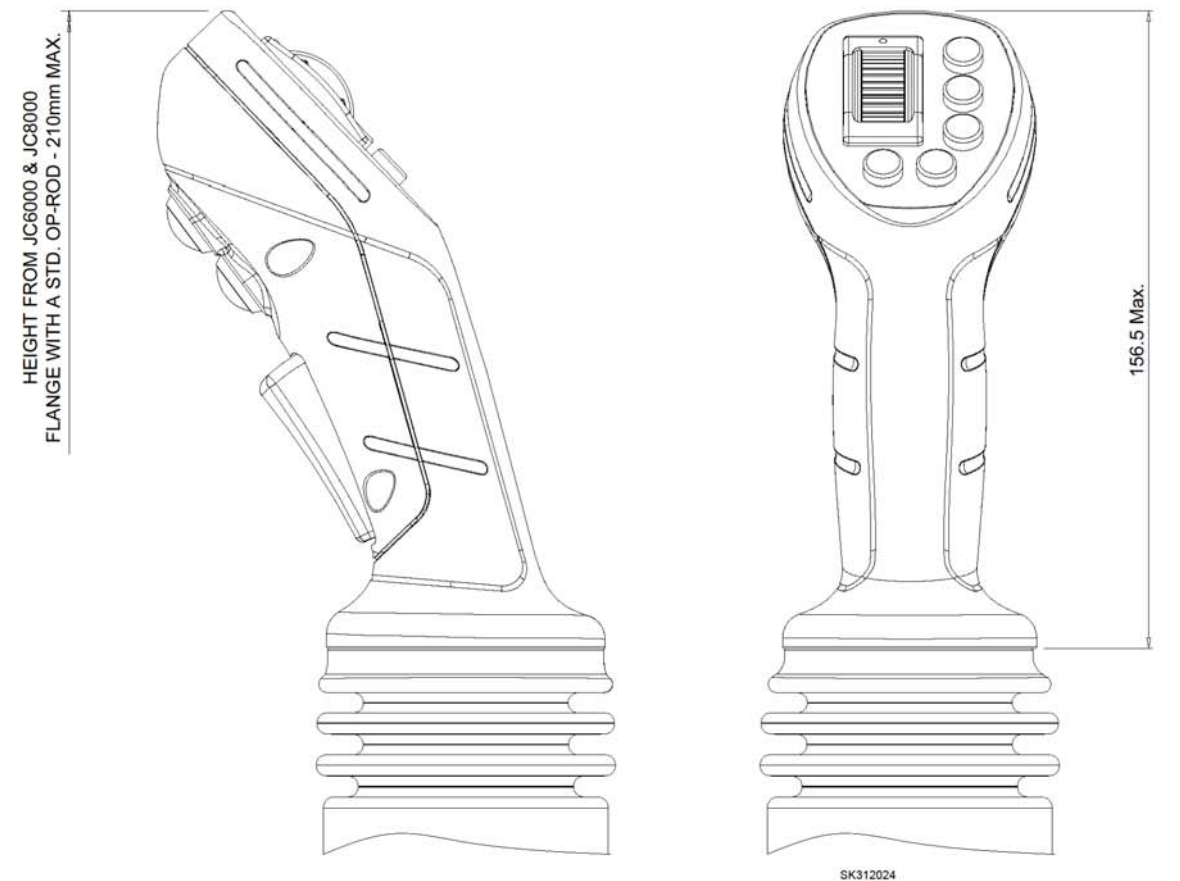
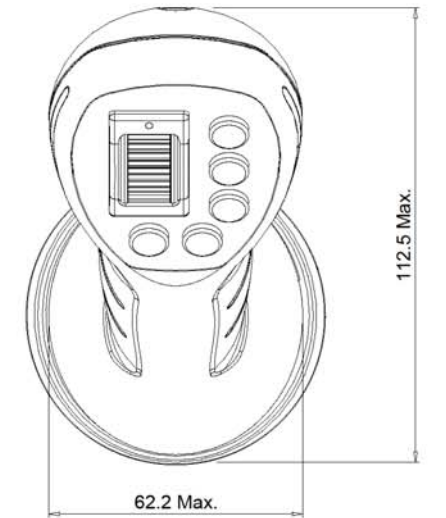
Slide & Rocker Switches (Latching)	Life	100,000 Cycles

Thumb Roller	Life	3,000,000 Cycles
	Operating Force	3.3N Breakout/130N Max.

Materials	Gaiter	Silicone
	Main Grip	Zytel 70G30HSL (Nylon66)
	Closing Plate	Zytel 70G33L (Nylon66)
	Switch Plate	Zytel 70G33L (Nylon66)
	K Switch Actuator	Delrin 500P (Acetal)
	Lever & Trigger	Delrin 500P (Acetal)
	Mass	300g (Configuration HE-NNNN-***-KRNN11-N-TR*-M-NNN-S-STD-G1)
	Refer to the data sheets of the handles functional components for their material information.	

## INSTALLATION DIAGRAM

CONFIGURATION SHOWN – HE-RWLR-\*\*\*-KRNN17-N-2TR-M-NNN-S-STD-G1



A3	<b>Penny + Giles</b> © COPYRIGHT RESERVED.	<b>METRIC</b> NOT TO SCALE: DO NOT SCALE. IF IN DOUBT, ASK.	ALL SCREW THREADS TO BS 3643 PT. 2 EXTERNAL CLASS: 6g INTERNAL CLASS: 6H TOLERANCES IN LINE WITH PENNY & GILES STANDARDS 56-301	RoHS COMPLIANCE			TITLE			SPECIFICATION NUMBER		
ACAD				YES	X	NO	HE HANDLE					
SHT 1 OF 9 SHTS	THIS DOCUMENT CONTAINS CONFIDENTIAL AND/OR PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED IN ANY FORM WHATSOEVER. NOR MAY ITS CONTENTS BE DIVULGED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE OWNER. ALL RIGHTS RESERVED.	THIRD ANGLE PROJECTION TO BS 8888 CHANGES TO THIS BORDER MUST BE ACTIONED ON SK309927	LINEAR (MACHINING) 0. mm +/- 0.5mm 0.0 mm +/- 0.2mm 0.00 mm +/- 0.1mm 0.000 mm +/- 0.01mm	ANGULAR +/-1° UNLESS OTHERWISE STATED	3	10/08/16	GC	MH	DA	ECR17803	HE-GEN-XXX	
					ISSUE	DATE	DRAWN	ENG' APPROVAL	QUAL' APPROVAL	CHANGES		

# ELECTRICAL DATA

<b>Operating/Switching Voltage &amp; Current</b>	Operating Voltage (Roller)	5VDC ±0.5V
	Operating Current (Roller)	10mA (max)
	Switching Voltages	28VDC ±0.5V
	Switching Currents	100mA (max)

<b>I Switch, Rear &amp; Side Switches</b>	Contact Resistance	50mΩ (max)
	Electrical Life	500,000 Cycles @ max. power
	Manufacturer No.	ITW / 59 Series
	Contact Type	N.O.

<b>O Switch</b>	Contact Resistance	-
	Electrical Life	25,000 Cycles (min)
	Manufacturer No.	OTTO / P9 Series
	Contact Type	N.O.

<b>K Switch &amp; "Person Present" Lever switch</b>	Contact Resistance	50mΩ (max)
	Electrical Life	1,000,000 Cycles @ max. power
	Manufacturer No.	K12C Series
	Contact Type	N.O.

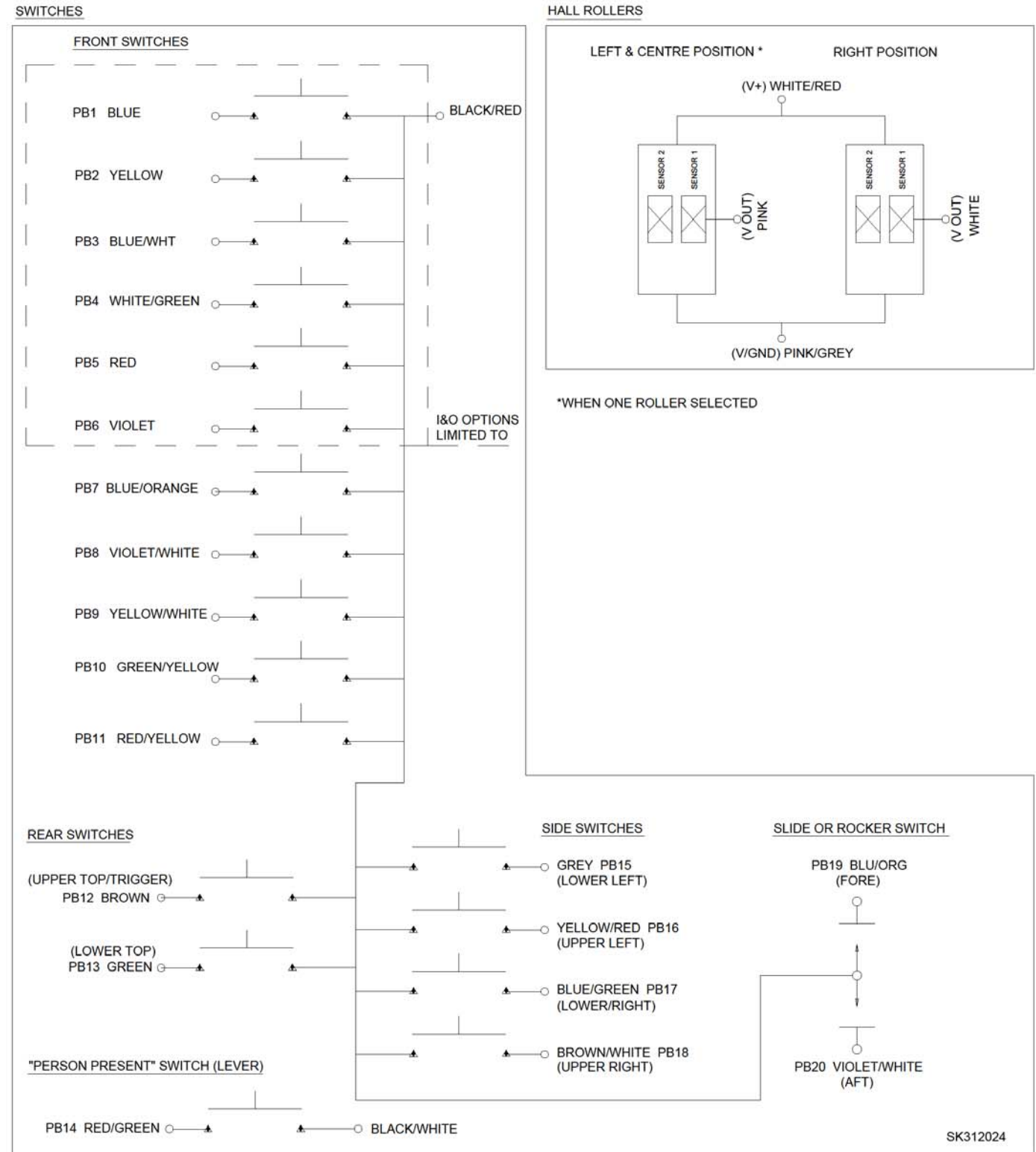
<b>Rocker Switch</b>	Contact Resistance	-
	Electrical Life	25,000 Cycles
	Manufacturer No.	OTTO / K1 series

<b>Slide Switch</b>	Contact Resistance	10mΩ (max)
	Electrical Life	100,000 Cycles
	Manufacturer No.	APEM / MT Series

<b>Thumb Roller</b>	Electrical Life	3,000,000 cycles
	Manufacturer	OTTO / HTW Series

<b>Cable Type</b>	PTFE Cable 30AWG (19/0.06mm) Nominal Conductor Dia. – 0.32mm / Insulation Dia. 0.60-0.65mm 300mm Flying Leads (from exit point of adaptor)	
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# CONNECTION DATA



NOTE: WHEN MOUNTED TO A P&G JOYSTICK CONTROLLER, CONNECTION DETAIL WILL BE SUPPLIED IN ADDITION TO THE GENERIC SPECIFICATION.

A3	<b>Penny + Giles</b>	<b>METRIC</b>	ALL SCREW THREADS TO BS 3643 PT. 2	RoHS COMPLIANCE			TITLE	SPECIFICATION NUMBER	
	ACAD	© COPYRIGHT RESERVED.	NOT TO SCALE: DO NOT SCALE. IF IN DOUBT, ASK.	EXTERNAL CLASS: 6g INTERNAL CLASS: 6H	YES	X	NO	HE HANDLE	
SHT 2 OF 9 SHTS	THIS DOCUMENT CONTAINS CONFIDENTIAL AND/OR PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED IN ANY FORM WHATSOEVER. NOR MAY ITS CONTENTS BE DIVULGED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE OWNER. ALL RIGHTS RESERVED.	THIRD ANGLE PROJECTION TO BS 8888	PENNY & GILES STANDARDS 56-301	3	10/08/16	GC	MH	DA	ECR17803
	CHANGES TO THIS BORDER MUST BE ACTIONED ON SK309927		UNLESS OTHERWISE STATED	ISSUE	DATE	DRAWN	ENG APPROVAL	QUAL APPROVAL	CHANGES

## ENVIRONMENTAL DATA

<b>Sealing</b> <small>NOTE: THE HANDLE HAS A FLOW IN FLOW OUT DESIGN AND THE INTERNAL COMPONENTS ARE SEALED TO MEET THE STATED RATINGS.</small>	BS EN 60529	IP66 / IP67 / IP69K*
<b>Dry Heat</b>	BS EN 60068-2-2	+85°C
<b>Cold</b>	BS EN 60068-2-1	-40°C
<b>Operating Temperature (Cycling)</b> <small>NOTE: THE HANDLES FUNCTIONAL PARTS WILL NOT OPERATE IN AN ICED CONDITION</small>	BS EN 60068-2-14	-40°C to +85°C**
<b>Temperature &amp; Humidity</b>	BS EN 60068-2-38	Pt2.1 Z/AD 65°C for 10 Cycles
<b>Salt Mist</b>	BS EN 60068-2-11	96 hours
<b>Vibration</b>		
<b>Sinusoidal</b>	BS EN 60068-2-6	10-200Hz; 3gn; 1hr per axis
<b>Random</b>	BS EN 60068-2-64	10-200Hz; 3.6gn; 2hr per axis
<b>Bump</b>	BS EN 60068-2-27	40gn; ½ Sine 6ms; 1350 each axis
<b>Shock</b>	BS EN 60068-2-27	25gn; 10ms; 500 in 6 directions

\*When the Rocker Switch, Slide Switch or 'O' switch are selected the sealing performance will be limited to IP68S (Dust-tight and protected against continuous water immersion, 1 meter > 30 minutes)

\*\*When the Rocker switch is selected the operating temperature will be limited to -30 °C

## LABELLING DETAIL

<b>Label to Contain:</b>	<b>P&amp;G Controls Ltd. U.K.</b>	
	Specification Type:	HE-GEN-XXXX
	Description:	XXXX-XX-XX-XXXXXX-XX-XXX-X-XXX-X-XXX-XX
	Batch No.:	XXXXXXX
	Issue Status:	X
Reference:	XXXXXXMMYYYY	

### IMPORTANT INFORMATION

#### Servicing:


In the event of the gaiter rupturing, or being removed, it is recommended that immediate replacement of the gaiter is carried out to minimise the effects of particle and water ingress from the surrounding environment.

The flow in, flow out design is achieved by bleed holes and gaps situated at the rear of the handle. Therefore it is recommended that the handle be regularly cleaned to prevent particle buildup so the normal function of the handle is maintained.

PENNY & GILES CONTROLS LTD MAKES NO WARRANTY OR REPRESENTATION IN RESPECT OF PRODUCT FITNESS OR SUITABILITY FOR ANY PARTICULAR DESIGN APPLICATION, ENVIRONMENT, OR OTHERWISE, EXCEPT AS MAY SUBSEQUENTLY BE AGREED IN A CONTRACT FOR THE SALE AND PURCHASE OF PRODUCTS. CUSTOMERS SHOULD THEREFORE SATISFY THEMSELVES OF THE ACTUAL PERFORMANCE REQUIREMENTS AND SUBSEQUENTLY THE PRODUCT'S SUITABILITY FOR ANY PARTICULAR DESIGN APPLICATION AND THE ENVIRONMENT IN WHICH THE PRODUCT IS TO BE USED.

CONTINUAL RESEARCH AND DEVELOPMENT MAY REQUIRE CHANGE TO PRODUCTS AND SPECIFICATION WITHOUT PRIOR NOTIFICATION.

ALL TRADEMARKS ACKNOWLEDGED.

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				YES	X	NO	HE HANDLE			
SHT 3 OF 9 SHTS	<small>THIS DOCUMENT CONTAINS CONFIDENTIAL AND/OR PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED IN ANY FORM WHATSOEVER. NOR MAY ITS CONTENTS BE DIVULGED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE OWNER. ALL RIGHTS RESERVED.</small>	 <small>THIRD ANGLE PROJECTION TO BS 8888</small> CHANGES TO THIS BORDER MUST BE ACTIONED ON SK309927	LINEAR (MACHINING) 0. mm +/- 0.5mm 0.0 mm +/- 0.2mm 0.00 mm +/- 0.1mm 0.000 mm +/- 0.01mm	ANGULAR +/-1° UNLESS OTHERWISE STATED	3	10/08/16	GC	MH	DA	ECR17803
							ISSUE	DATE	DRAWN	ENG APPROVAL

**OPTIONS**

HE-GEN-**XXXX**-XX-XX-XXXXXX-X-XXX-X-XXX-X-XXX-XX

FRONT PROPORTIONALITY	
<b>CONTROLLER</b>	
<b>R</b>	THUMB ROLLER*
<b>N</b>	NOT SELECTED
<b>STYLE</b>	
<b>W</b>	WIDE
<b>N</b>	NOT SELECTED
<b>POSITION</b>	
<b>L</b>	LEFT
<b>R</b>	RIGHT
<b>C</b>	CENTRE
<b>2</b>	LEFT & RIGHT
<b>N</b>	NOT SELECTED
<b>ACTUATOR</b>	
<b>R</b>	KNURLED WHEEL
<b>N</b>	NOT SELECTED



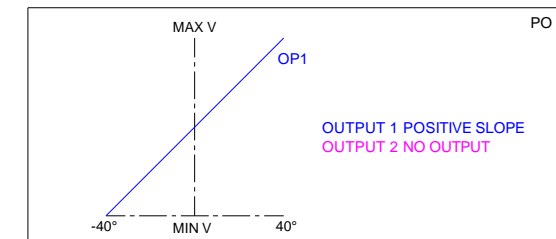
THUMB ROLLER – WIDE

HE-GEN-XXXX-**XX**-XX-XXXXXX-X-XXX-X-XXX-X-XXX-XX

OUTPUT SPAN	
<b>40</b>	10% - 50% - 90% (±5%)
<b>NN</b>	NOT SELECTED

HE-GEN-XXXX-XX-**XX**-XXXXXX-X-XXX-X-XXX-X-XXX-XX

OUTPUT RAMP	
<b>PO</b>	OUTPUT 1 + SLOPE / NO OUTPUT 2
<b>NN</b>	NOT SELECTED



\*REFER TO THE OTTO HTW PRODUCT SPECIFICATION FOR MORE DETAILS

NOTE: WHEN A DUAL ROLLER, or SLIDE/ROCKER SWITCH WITH ROLLER COMBINATION IS CHOSEN WITH PUSHBUTTON SWITCHES THE K SWITCH WILL BECOME THE DEFAULT OPTION.

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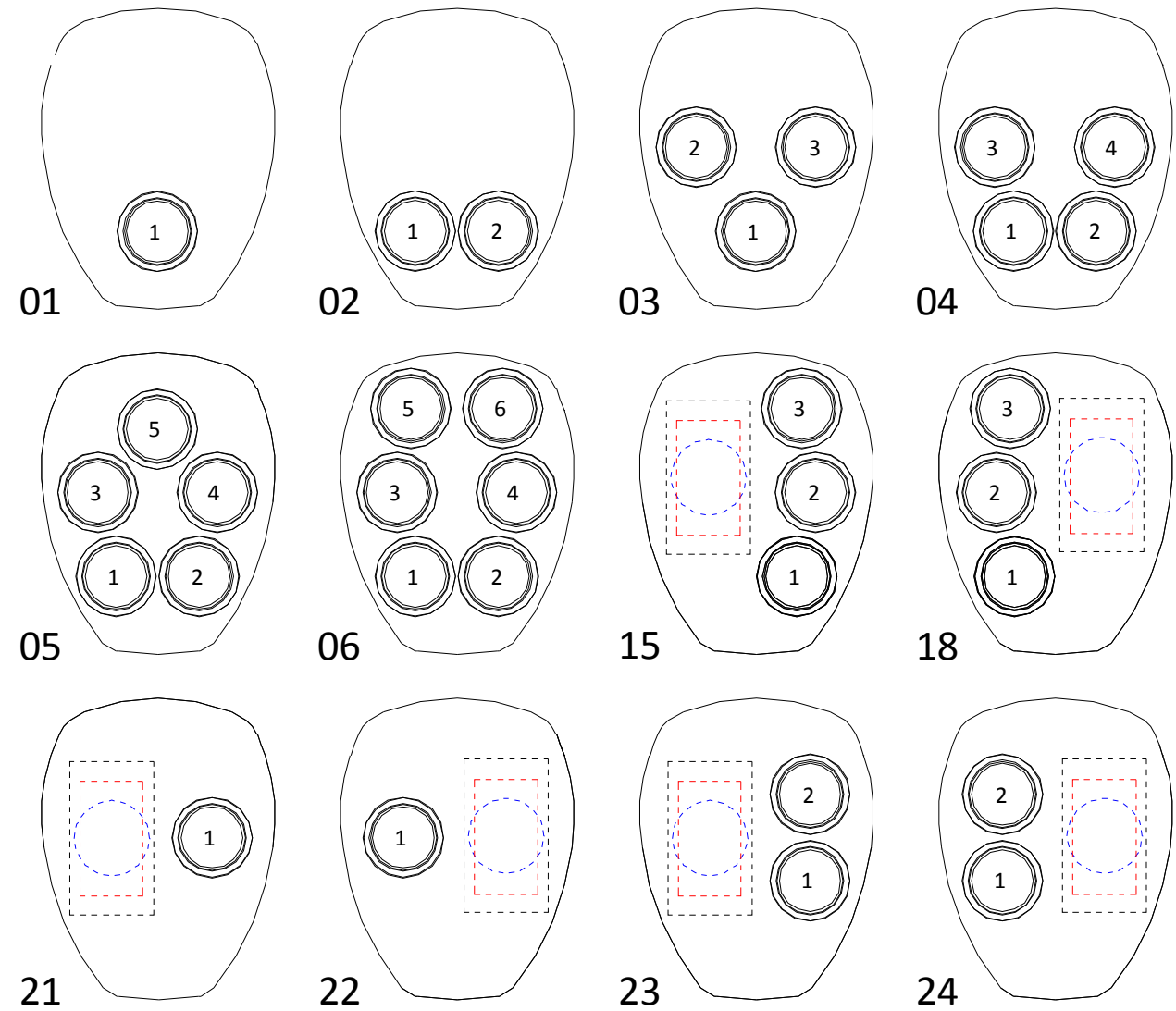


HE-GEN-XXXX-XX-XX-XXXXXX-X-XXX-X-XXX-X-XXX-XX

I & O SWITCH LAYOUT OPTIONS

SK312024

FRONT SWITCHES	
<b>PUSHBUTTON SWITCH</b>	
<b>I</b>	ITW / 59 SERIES
<b>O</b>	OTTO / P9 SERIES
<b>K</b>	K12 SERIES
<b>N</b>	NOT SELECTED
<b>SWITCH ACTUATOR COLOUR</b>	
<b>R</b>	RED
<b>G</b>	GREEN
<b>Y</b>	YELLOW
<b>B</b>	BLACK
<b>L</b>	BLUE
<b>W</b>	WHITE
<b>N</b>	NOT SELECTED
<b>SLIDE OR ROCKER SWITCH</b>	
<b>SL</b>	SLIDE SWITCH (LEFT POSITION) PB19&20
<b>SR</b>	SLIDE SWITCH (RIGHT POSITION) PB19&20
<b>SC</b>	SLIDE SWITCH (CENTRE POSITION) PB19&20
<b>RL</b>	ROCKER SWITCH (LEFT POSITION) PB19&20
<b>RR</b>	ROCKER SWITCH (RIGHT POSITION) PB19&20
<b>RC</b>	ROCKER SWITCH (CENTRE POSITION) PB19&20
<b>NN</b>	NOT SELECTED
<b>LAYOUT</b>	
<b>01</b>	POSITION 1 – APPLICABLE FOR ALL SWITCH TYPES
<b>02</b>	POSITION 2 – APPLICABLE FOR ALL SWITCH TYPES
<b>03</b>	POSITION 3 – APPLICABLE FOR ALL SWITCH TYPES
<b>04</b>	POSITION 4 – APPLICABLE FOR ALL SWITCH TYPES
<b>05</b>	POSITION 5 – APPLICABLE FOR ALL SWITCH TYPES
<b>06</b>	POSITION 6 – APPLICABLE FOR ALL SWITCH TYPES
<b>07</b>	POSITION 7 – K SWITCH TYPE ONLY
<b>08</b>	POSITION 8 – K SWITCH TYPE ONLY
<b>09</b>	POSITION 9 – K SWITCH TYPE ONLY
<b>10</b>	POSITION 10 – K SWITCH TYPE ONLY
<b>11</b>	POSITION 11 – K SWITCH TYPE ONLY
<b>12</b>	POSITION 12 – K SWITCH TYPE ONLY
<b>13</b>	POSITION 13 – K SWITCH TYPE ONLY
<b>14</b>	POSITION 14 – K SWITCH TYPE ONLY
<b>15</b>	POSITION 15 – APPLICABLE FOR ALL SWITCH TYPES
<b>16</b>	POSITION 16 – K SWITCH TYPE ONLY
<b>17</b>	POSITION 17 – K SWITCH TYPE ONLY
<b>18</b>	POSITION 18 – APPLICABLE FOR ALL SWITCH TYPES
<b>19</b>	POSITION 19 – K SWITCH TYPE ONLY
<b>20</b>	POSITION 20 – K SWITCH TYPE ONLY
<b>21</b>	POSITION 21 – I&O SWITCH TYPE ONLY
<b>22</b>	POSITION 22 – I&O SWITCH TYPE ONLY
<b>23</b>	POSITION 23 – I&O SWITCH TYPE ONLY
<b>24</b>	POSITION 24 – I&O SWITCH TYPE ONLY
<b>NN</b>	NOT SELECTED



NOTE: WHERE MULTIPLE COLOURS ARE REQUIRED IN VARIOUS SWITCH POSITIONS PLEASE CONTACT THE SALES TEAM

K SWITCH TYPE

I&O SWITCH TYPE

SLIDE SWITCH TYPE

ROCKER SWITCH TYPE

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				YES	X	NO	HE HANDLE			HE-GEN-XXX		
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1

2

3

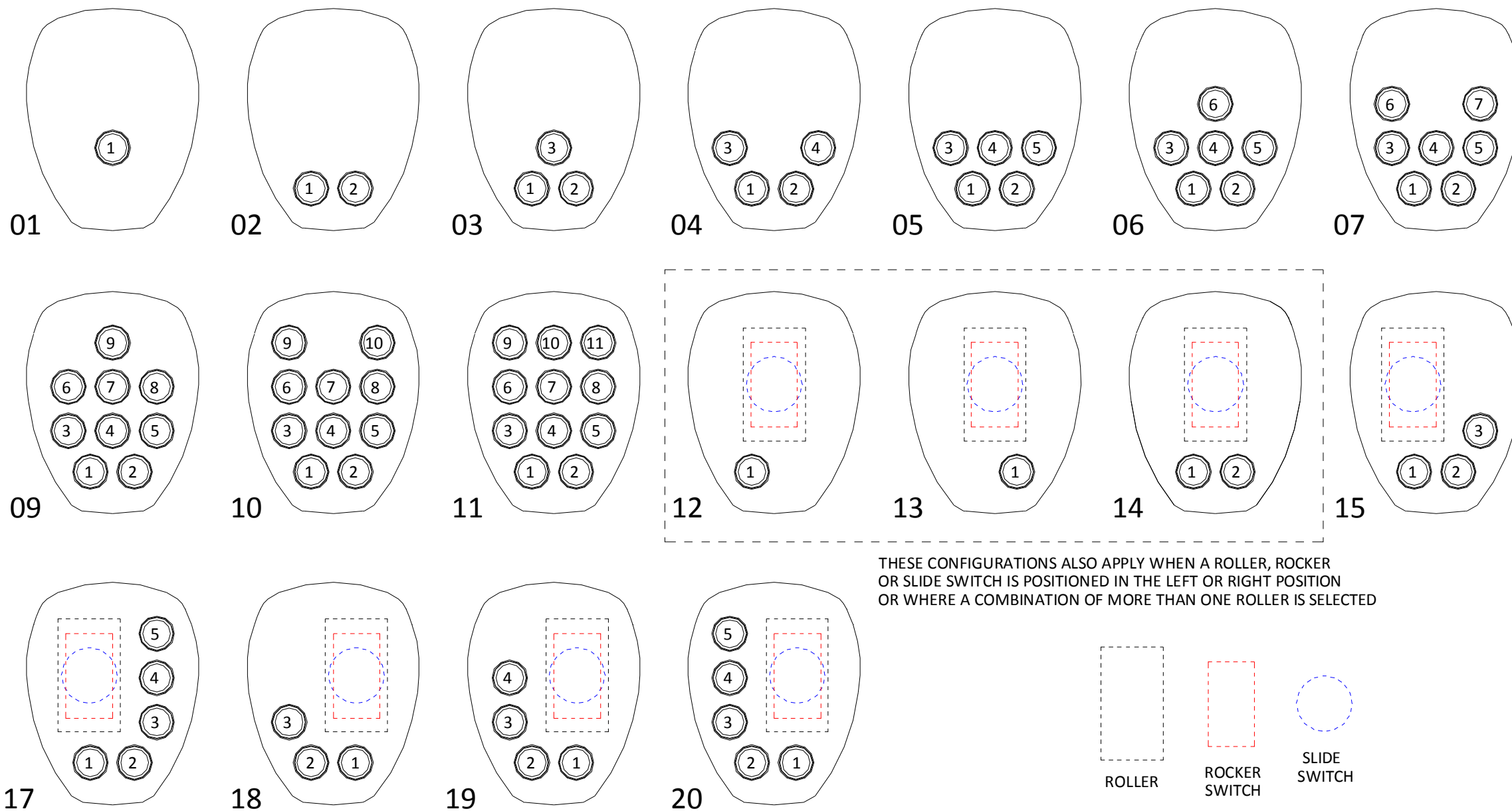
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5

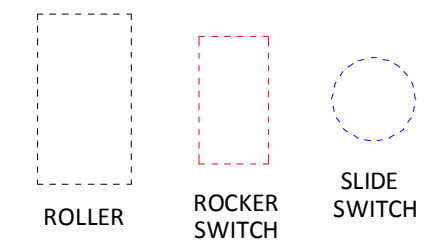
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**K SWITCH LAYOUT  
OPTIONS**

SK312024



THESE CONFIGURATIONS ALSO APPLY WHEN A ROLLER, ROCKER OR SLIDE SWITCH IS POSITIONED IN THE LEFT OR RIGHT POSITION OR WHERE A COMBINATION OF MORE THAN ONE ROLLER IS SELECTED



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SHT 6 OF 9 SHTS			0.0 mm +/- 0.2mm	+/- 1°	3	10/08/16	GC	MH				DA	ECR17803
			0.00 mm +/- 0.1mm		ISSUE	DATE	DRAWN	ENG' APPROVAL				QUAL' APPROVAL	CHANGES

HE-GEN-XXXX-XX-XX-XXXXXX-X-~~XXX~~-X-XXX-X-XXX-XX

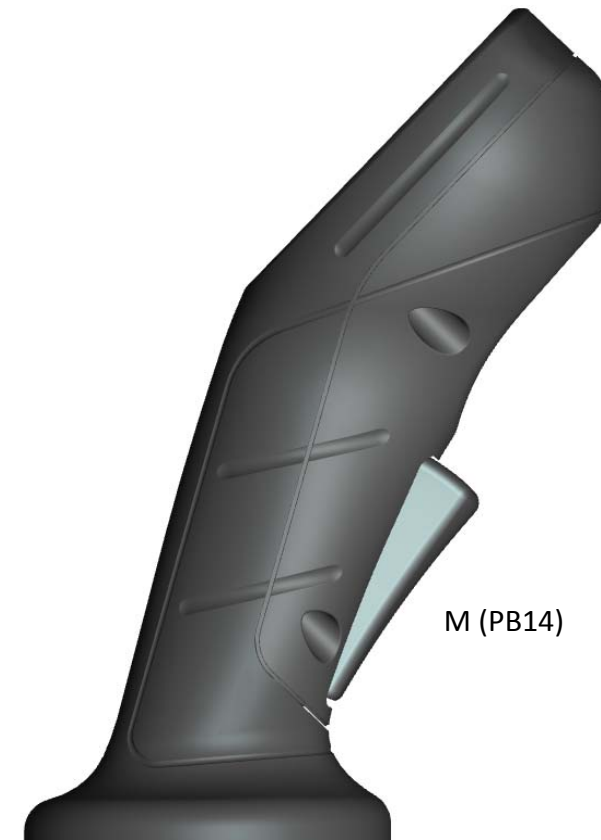
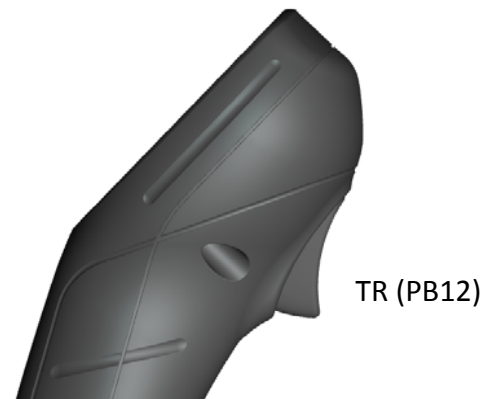
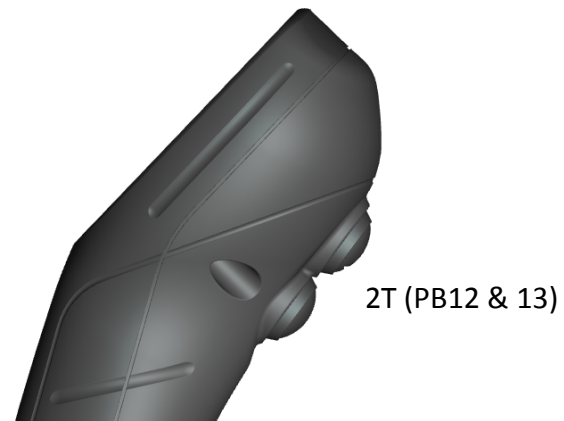
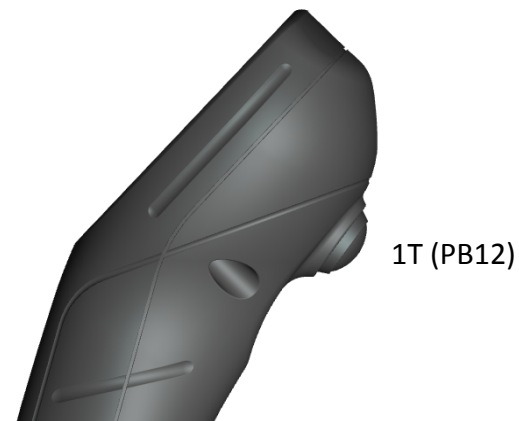
REAR SWITCHES	
<b>1T</b>	1 TOP SWITCH (PB12)
<b>2T</b>	2 TOP SWITCHES (PB12 & PB13)
<b>TR</b>	TRIGGER (PB12)
<b>NN</b>	NOT SELECTED
SWITCH ACTUATOR COLOUR	
<b>R</b>	RED
<b>G</b>	GREEN
<b>Y</b>	YELLOW
<b>B</b>	BLACK
<b>L</b>	BLUE
<b>W</b>	WHITE
<b>N</b>	NOT SELECTED

HE-GEN-XXXX-XX-XX-XXXXXX-X-XXX-~~X~~-XXX-X-XXX-XX

PERSON PRESENT	
<b>M</b>	MECHANICAL "PERSON PRESENT" LEVER (PB14)
<b>N</b>	NOT SELECTED

NOTE: -THE TRIGGER IS ONLY AVAILABLE IN BLACK.

- ALL REAR SWITCHES ARE OF THE ITW (I) 59 SERIES RANGE WITH THE EXCEPTION OF THE TRIGGER WHICH ACTUATES A (K) K12C SWITCH.
- THE TRIGGER IS NOT SELECTABLE WITH THE ROCKER SWITCH FROM THE FRONT SWITCH OPTIONS
- NO REAR SWITCHES CAN BE SELECTED WITH A CENTRAL ROCKER SWITCH FROM THE SWITCH OPTIONS



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ISSUE					DATE	DRAWN	ENG' APPROVAL	QUAL' APPROVAL	CHANGES	

HE-GEN-XXXX-XX-XX-XXXXXX-X-XXX-X-~~XXX~~-X-XXX-XX

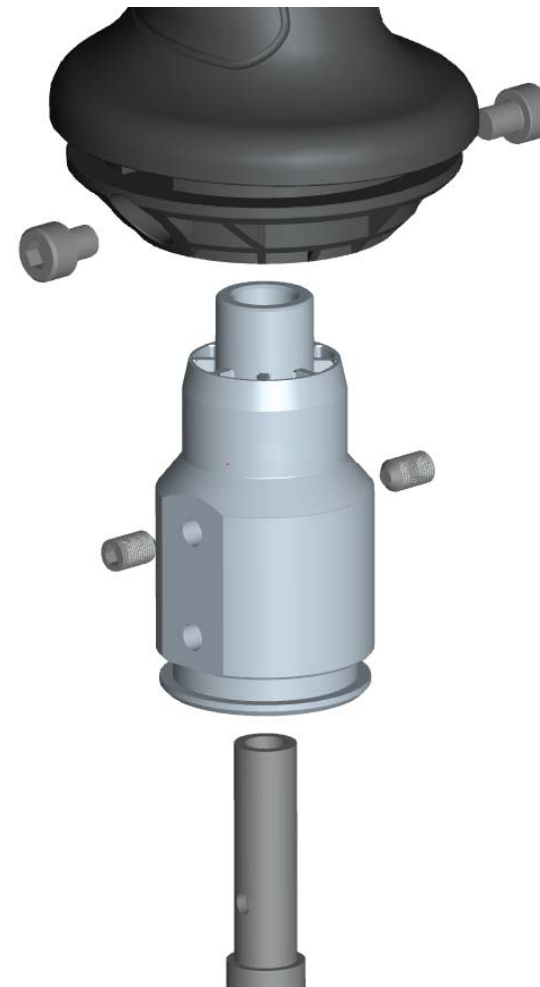
HE-GEN-XXXX-XX-XX-XXXXXX-X-XXX-X-XXX-~~X~~-XXX-XX

SIDE SWITCHES	
LL	LOWER LEFT SIDE (PB15)
UL	UPPER LEFT SIDE (PB16)
BL	BOTH UPPER & LOWER LEFT SIDE (PB15&16)
LR	LOWER RIGHT SIDE (PB17)
UR	UPPER RIGHT SIDE (PB18)
BR	BOTH UPPER & LOWER RIGHT SIDE (PB17&18)
2U	BOTH UPPER LEFT & RIGHT (PB16&PB18)
2L	BOTH LOWER LEFT & RIGHT (PB15&PB17)
3A	3 SWITCH COMBINATION (PB15,16,18)
3B	3 SWITCH COMBINATION (PB15,17,18)
3C	3 SWITCH COMBINATION (PB16,17,18)
3D	3 SWITCH COMBINATION (PB15,16,17)
BB	ALL SIDE SWITCHES (PB15-18)
NN	NOT SELECTED
SWITCH ACTUATOR COLOUR	
R	RED
G	GREEN
Y	YELLOW
B	BLACK
L	BLUE
W	WHITE
N	NOT SELECTED

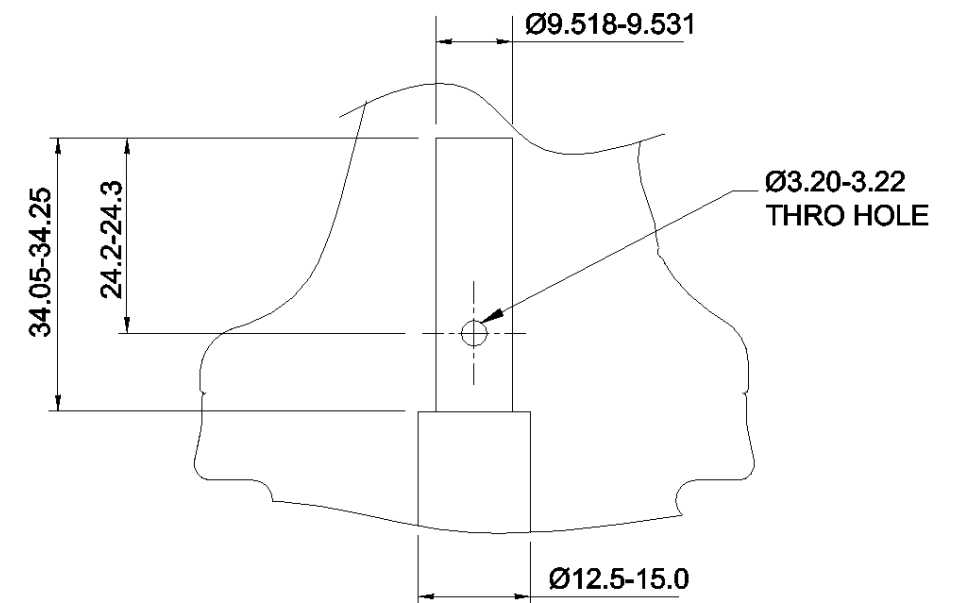
MECHANICAL INTERFACE	
S	SHAFT MOUNTED - UNIT WILL BE SUPPLIED WITH M5 GRUBSCREWS AND CAP HEADS
N	NOT SELECTED

NOTE:  
-WHEN SELECTED WITH A JOYSTICK CONTROLLER THE MECHANICAL INTERFACE REQUIRED FOR THE JOYSTICK BECOMES THE DEFAULT INTERFACE. THIS SECTION OF THE CODE WILL NOT APPEAR IN THE MERGED STRING

NOTE:  
-ALL REAR SWITCHES ARE THE ITW (I) 59 SERIES VERSION  
-SIDE SWITCHES ARE NOT AVAILABLE WHEN DUAL ROLLERS or ROLLERS IN COMBINATION WITH ROCKER/SLIDE SWITCHES ARE CHOSEN IN THE FRONT PLATE. WHEN A SINGLE ROLLER or SINGLE ROCKER ARE CHOSEN, SIDE SWITCHES ARE ONLY SELECTABLE ON THE OPPOSITE SIDE.  
-WHEN SELECTED WITH A TRIGGER THE UPPER SWITCH POSITION/S ARE THE ONLY OPTIONAL SIDE SWITCHES



NOTE: THREAD LOCKING ADHESIVE/COMPOUND TO BE APPLIED  
FIXING TORQUE – 1.3Nm



A3	<b>Penny + Giles</b> © COPYRIGHT RESERVED.	<b>METRIC</b> NOT TO SCALE: DO NOT SCALE. IF IN DOUBT, ASK.	ALL SCREW THREADS TO BS 3643 PT. 2 EXTERNAL CLASS: 6g INTERNAL CLASS: 6H TOLERANCES IN LINE WITH PENNY & GILES STANDARDS 56-301	RoHS COMPLIANCE			TITLE			SPECIFICATION NUMBER
				YES	X	NO	HE HANDLE			
8 OF 9 SHTS	THIS DOCUMENT CONTAINS CONFIDENTIAL AND/OR PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED IN ANY FORM WHATSOEVER. NOR MAY ITS CONTENTS BE DIVULGED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE OWNER. ALL RIGHTS RESERVED.	THIRD ANGLE PROJECTION TO BS 8888 CHANGES TO THIS BORDER MUST BE ACTIONED ON SK309927	LINEAR (MACHINING) 0. mm +/- 0.5mm 0.0 mm +/- 0.2mm 0.00 mm +/- 0.1mm 0.000 mm +/- 0.01mm	ANGULAR +/-1° UNLESS OTHERWISE STATED	3	10/08/16	GC	MH	DA	ECR17803
ISSUE					DATE	DRAWN	ENG APPROVAL	QUAL APPROVAL	CHANGES	



HE-GEN-XXXX-XX-XX-XXXXXX-X-XXX-X-XXX-X-XXX-XX

ELECTRICAL INTERFACE	
STD	DIRECT OUPUT FROM INTERNAL COMPONENTS / FLYING LEADS +
NNN	NO INTERFACE

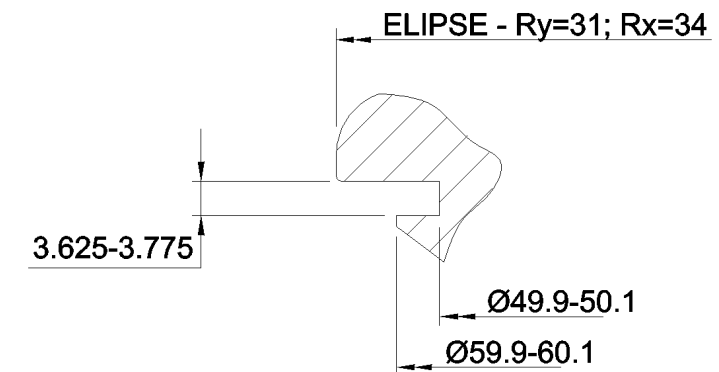
NOTE:  
 -THE MAXIMUM NUMBER OF WIRES THAT CAN PASS THROUGH THE HANDLE IS 17. WHEN MOUNTED TO A JOYSTICK CONTROLLER THE NUMBER OF WIRES WILL BE LIMITED BY THE JOYSTICKS OPERATING ROD DIAMETER. REFER TO THE 'CONNECTION DATA' SECTION TO DETERMINE THE NUMBER OF WIRES FOR ANY GIVEN CONFIGURATION.  
 -WHEN SELECTED WITH A JOYSTICK CONTROLLER THE ELECTRICALINTERFACE REQUIRED FOR THE JOYSTICK BECOMES THE DEFAULT INTERFACE. THIS SECTION OF THE CODE WILL NOT APPEAR IN THE MERGED STRING

HE-GEN-XXXX-XX-XX-XXXXXX-X-XXX-X-XXX-X-XXX-XX

GAITER	
NN	NO GAITER
G1	OUTER GAITER

NOTE:  
 -WHEN SELECTED WITH A JOYSTICK CONTROLLER THE GAITER REQUIRED FOR THE JOYSTICK BECOMES THE DEFAULT GAITER. THIS SECTION OF THE CODE WILL NOT APPEAR IN THE MERGED STRING

GAITER INTERFACE



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				YES	X	NO	HE HANDLE						
ACAD	THIS DOCUMENT CONTAINS CONFIDENTIAL AND/OR PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED IN ANY FORM WHATSOEVER. NOR MAY ITS CONTENTS BE DIVULGED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE OWNER. ALL RIGHTS RESERVED.	THIRD ANGLE PROJECTION TO BS 8888 CHANGES TO THIS BORDER MUST BE ACTIONED ON SK309927	LINEAR (MACHINING)	0. mm +/- 0.5mm	ANGULAR	+/-1°	3	10/08/16	GC	MH	DA	ECR17803	HE-GEN-XXX
0.0 mm +/- 0.2mm			0.00 mm +/- 0.1mm	0.000 mm +/- 0.01mm	UNLESS OTHERWISE STATED	ISSUE	DATE	DRAWN	ENG' APPROVAL	QUAL' APPROVAL	CHANGES		
SHT 9 OF 9 SHTS													