



CUSTOMER: _____ **DATE:** _____

CONTACT: _____ **PHONE:** _____ **FAX:** _____

1) APPLICATION

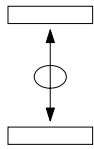
- INDOOR OUTDOOR MARINE ENVIRONMENT MOBILE EQUIPMENT OVERHEAD CRANE/HOISTING CRANE CHAIR
- PORTABLE EQUIPMENT FOOT PEDAL OTHER _____

2) CONTROLLER SIZE & DURABILITY

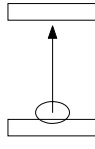
- MINIATURE: V10 H100 H7 V14 V20 S14 MEDIUM: V11 V8 D8
- SMALL: V5 VV5 S2 S21 S22 S23 S24 N6 LARGE: V3 V6 VV6 D64 DD64 K2

3) CONTROLLER FUNCTIONS

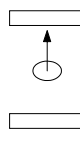
SINGLE AXIS (PICK 1 OF 3 ITEMS BELOW)



STANDARD BI-DIRECTIONAL

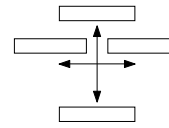


FULL TRAVEL UNI-DIRECTIONAL

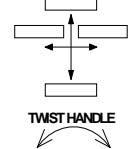


CENTER TO END UNI-DIRECTIONAL

DUAL AXIS



MULTI AXIS



4) SWITCH SPECIFICATIONS

LEFT HAND MOUNTING

RIGHT HAND MOUNTING

- VOLTAGE _____ AC/DC CURRENT _____ AMPS.
 DIRECTION 1&2 DIRECTION 3&4
 NUMBER OF CONTACTS _____ NUMBER OF CONTACTS _____
 STEPLESS OR STEPS _____ STEPLESS OR STEPS _____
- SPRING RETURN SPRING RETURN
 - FRICTION BRAKE FRICTION BRAKE
 - POTENTIOMETER _____ POTENTIOMETER _____
 - ELECTRONICS ELECTRONICS

- VOLTAGE _____ AC/DC CURRENT _____ AMPS.
 DIRECTION 5&6 DIRECTION 7&8
 NUMBER OF CONTACTS _____ NUMBER OF CONTACTS _____
 STEPLESS OR STEPS _____ STEPLESS OR STEPS _____
- SPRING RETURN SPRING RETURN
 - FRICTION BRAKE FRICTION BRAKE
 - POTENTIOMETER _____ POTENTIOMETER _____
 - ELECTRONICS ELECTRONICS

5) ELECTRONICS

A) VALVE SPECIFICATIONS

VALVE MANUFACTURE _____ MODEL NUMBER _____

SUPPLY VOLTS: _____ VDC COIL RESISTANCE: _____ OHMS THRESHOLD: _____ mA MAX. OUTPUT _____ mA

SINGLE COIL DUAL COIL FLOW CONTROL SWITCHES FOR DIRECTIONAL VALVES PWM FREQUENCY: _____ Hz

B) SIGNAL OUTPUTS

SUPPLY VOLTS: _____ VDC 4-20mA 0-20mA 0-10V -10V to +10V OTHER _____

C) OPTIONS FOR BOTH

SINGLE MAX. (A ADJ.) DUAL MAX. (A & B ADJ.) DUAL RANGE _____ mA RAMP TIME _____ SEC.

6) HANDLE TYPE

- STANDARD KNOB MECHANICAL INTERLOCK PUSHBUTTON DEADMAN PUSH DEADMAN PULL DEADMAN
- PALM HANDLE _____

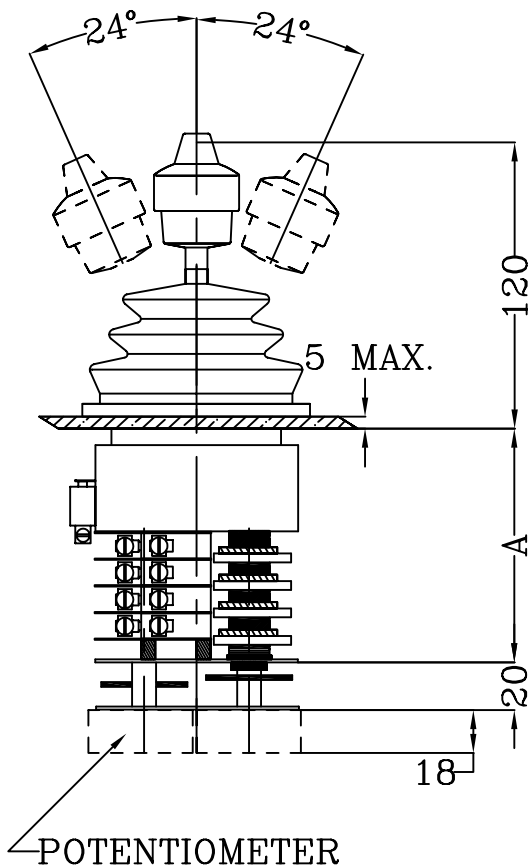
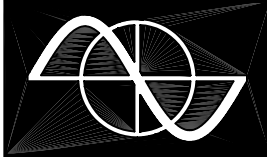
7) NAMEPLATE SPECIFICATIONS

- STANDARD NAMEPLATE _____ SPECIAL NAMEPLATE (ATTACH LAYOUT DRAWING OR SPECIFICATIONS)

8) ENCLOSURE

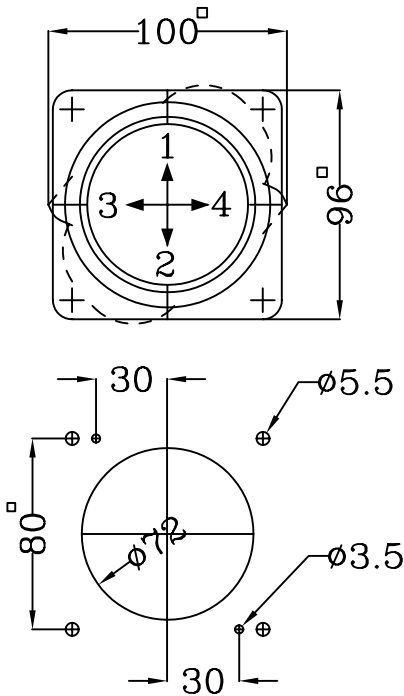
- GENERAL PURPOSE WEATHERPROOF CORROSIVE RESISTANT (PLASTIC) PORTABLE CONSOLES
- ENCLOSURE DIMENSIONS L= _____ W= _____ H= _____ TS1 TS2

9) NOTES

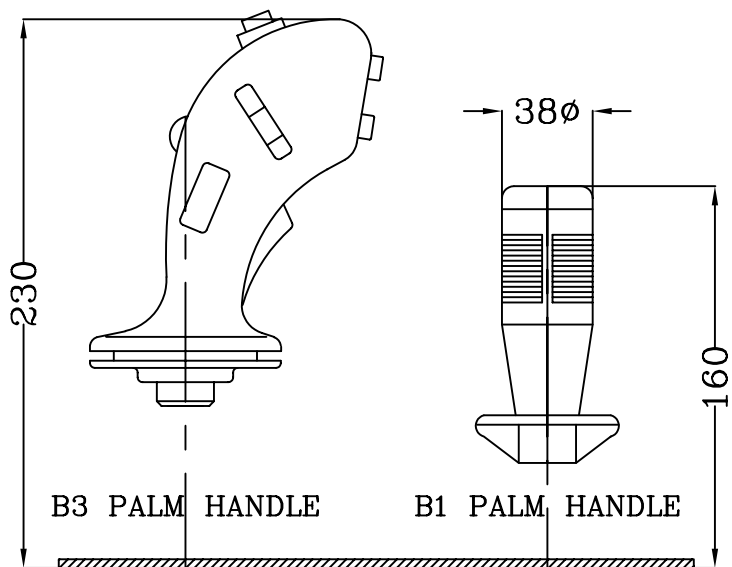


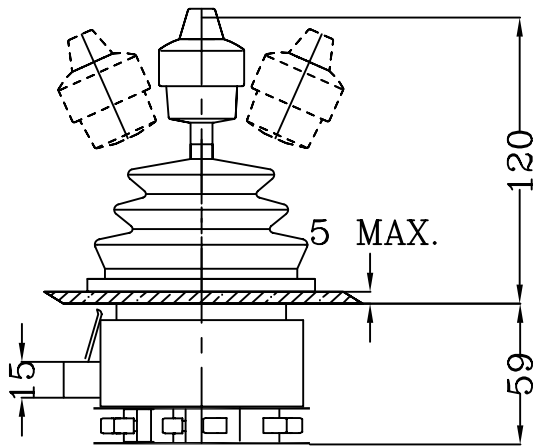
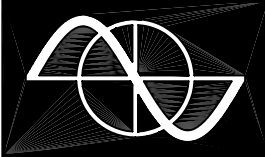
THE VV5 MASTER SWITCH IS RUGGED, COMPACT AND IT'S MODULAR DESIGN IS SUITABLE FOR ALMOST ANY APPLICATION. IT IS BUILT FOR 10 MILLION OPERATIONS. IT IS OIL, OZONE, UV AND SALT ATMOSPHERE (OCEAN CONDITION) RESISTANT. CONTACTS ARE RATED AT 2A 250V AC15 RES. 3A 24V DC13. DEGREE OF PROTECTION FRONT: IP54

SIZE	# OF CONTACTS	A DIMENSION
1	1	66
2	2	77
3	3	87
4	4	98
5	5	108
6	6	119

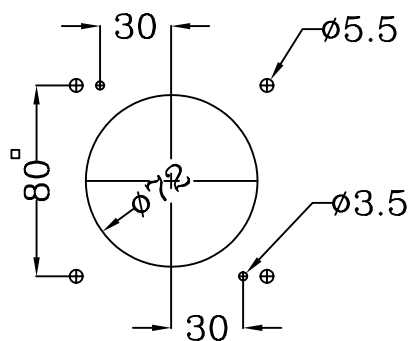
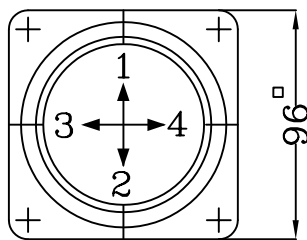
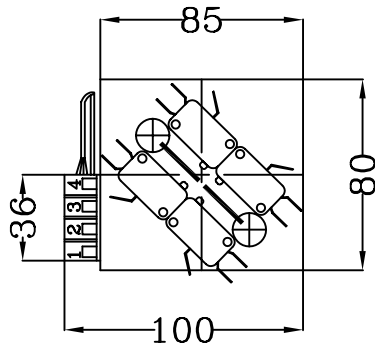


PANEL CUT OUT

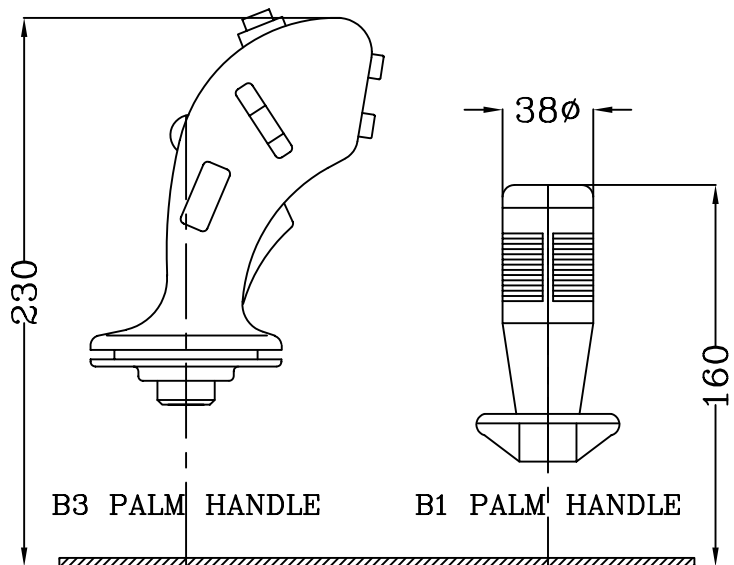




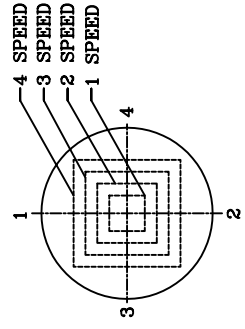
THE VV5 BANG BANG MASTER SWITCH IS RUGGED, COMPACT AND IT'S MODULAR DESIGN IS SUITABLE FOR ALMOST ANY APPLICATION. IT IS BUILT FOR 10 MILLION OPERATIONS. IT IS OIL, OZONE, UV AND SALT ATMOSPHERE (OCEAN CONDITION) RESISTANT. CONTACTS ARE RATED AT 10A 250V AC15 RES. (STANDARD) 3A 24V DC13. (OPTIONAL) DEGREE OF PROTECTION FRONT: IP54



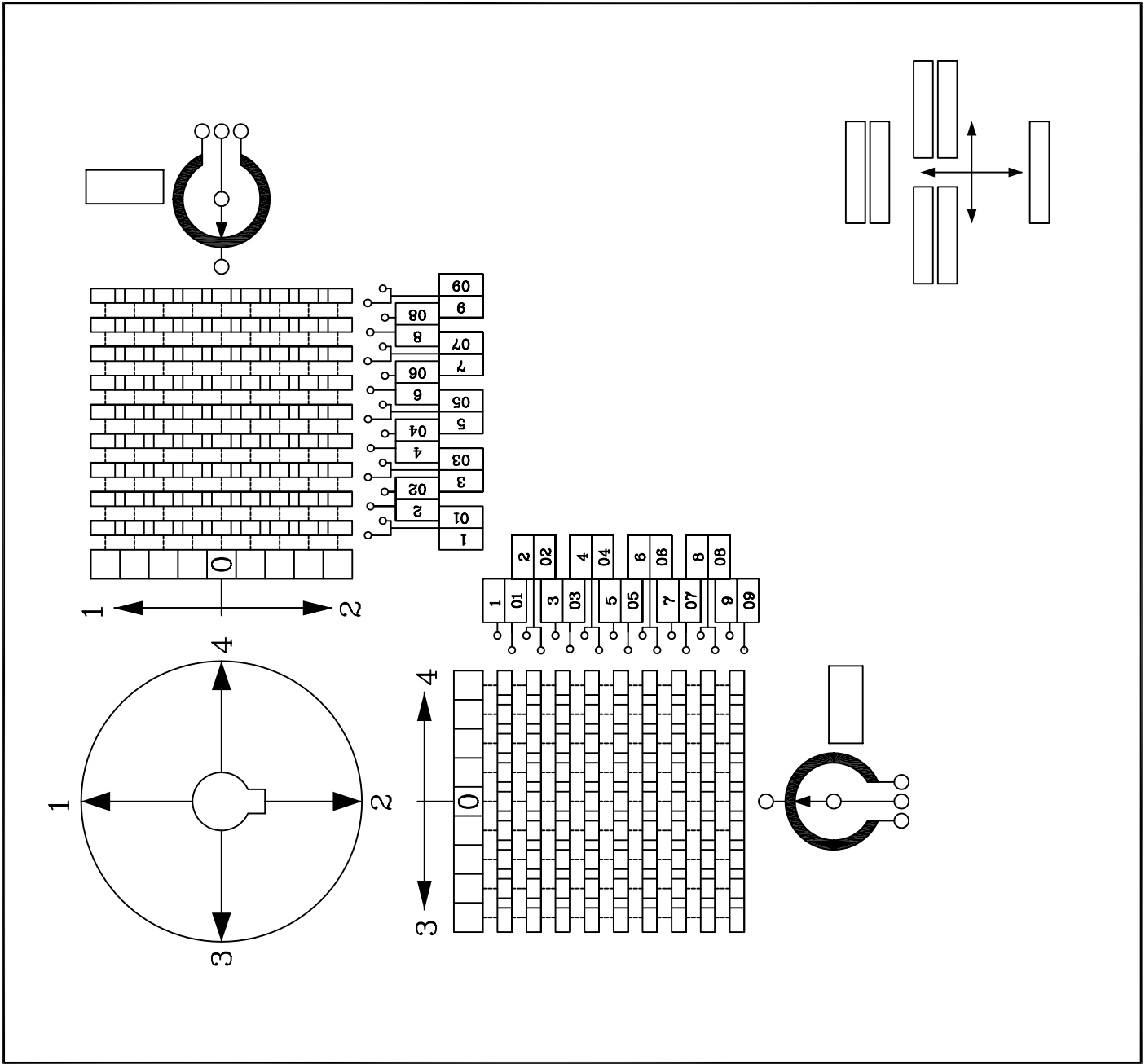
PANEL CUT OUT



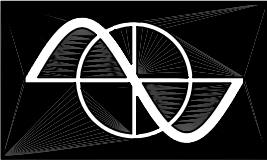
	VV51-BASIC SINGLE AXIS SWITCH
	VV5-BASIC DUEL AXIS SWITCH
	X-STANDARD HANDLE
	T-DEAD MAN TO PRESS
	P-DEAD MAN TO PULL
	B-PUSH BUTTON IN HANDLE
	M-MECH. INTERLOCK IN O POSS. SPECIAL HANDLE SEE SECT. 5
	1-SWITCHING GATE #1 1
	2-SWITCHING GATE #2 +
	3-SWITCHING GATE #3 □
	4-SPECIAL SWITCHING GATE
	CONTACT ARR. DIR. 1-2
	A-Z-FROM SHEET 20.2.1
	O-SPECIAL CONTACT ARRANGEMENT
	X-IF NOT REQUIRED
	Z-SPRING RETURN
	T-BRAKE ADJUSTABLE
	X-IF NOT REQUIRED
	P-POTENTIOMETER SEE SECT. 6
	P-POTENTIOMETER MOUNTING
	X-IF NOT REQUIRED
	CONTACT ARR. DIR. 3-4
	A-Z-FROM SHEET 20.2.1
	O-SPECIAL CONTACT ARRANGEMENT
	X-IF NOT REQUIRED
	Z-SPRING RETURN
	T-BRAKE ADJUSTABLE
	X-IF NOT REQUIRED
	P-POTENTIOMETER SEE SECT. 6
	P-POTENTIOMETER MOUNTING
	X-IF NOT REQUIRED
	1-M-STANDARD NAMEPLATE. SECT. 20.1
	X-IF NOT REQUIRED
	O-SPECIAL NAMEPLATE MARK IN CHART
	G-GENERAL PURPOSE ENCL.
	W-WEATHERPROOF ENCL.
	O-OPEN TYPE SWITCH



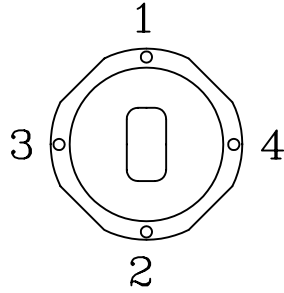
MARK IN SPECIAL SWITCHING GATE ONLY



GESSMANN VV5 MASTER SWITCH		JOB #
DATE:	FROM:	
NAME:		

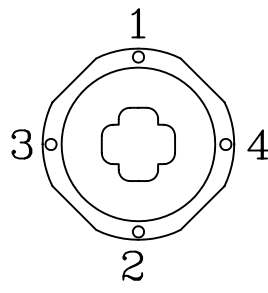


#1



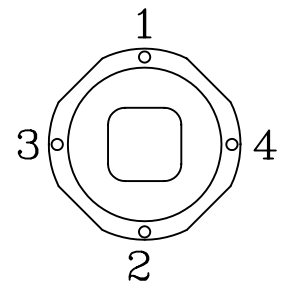
STANDARD	
— — —	KBKP 5
1-0-1	KBKP 5
— — —	KBKP 6
2-0-2	KBKP 6
— — —	KBKP 6
3-0-3	KBKP 6
— — —	KBKP 6
4-0-4	KBKP 6

#2

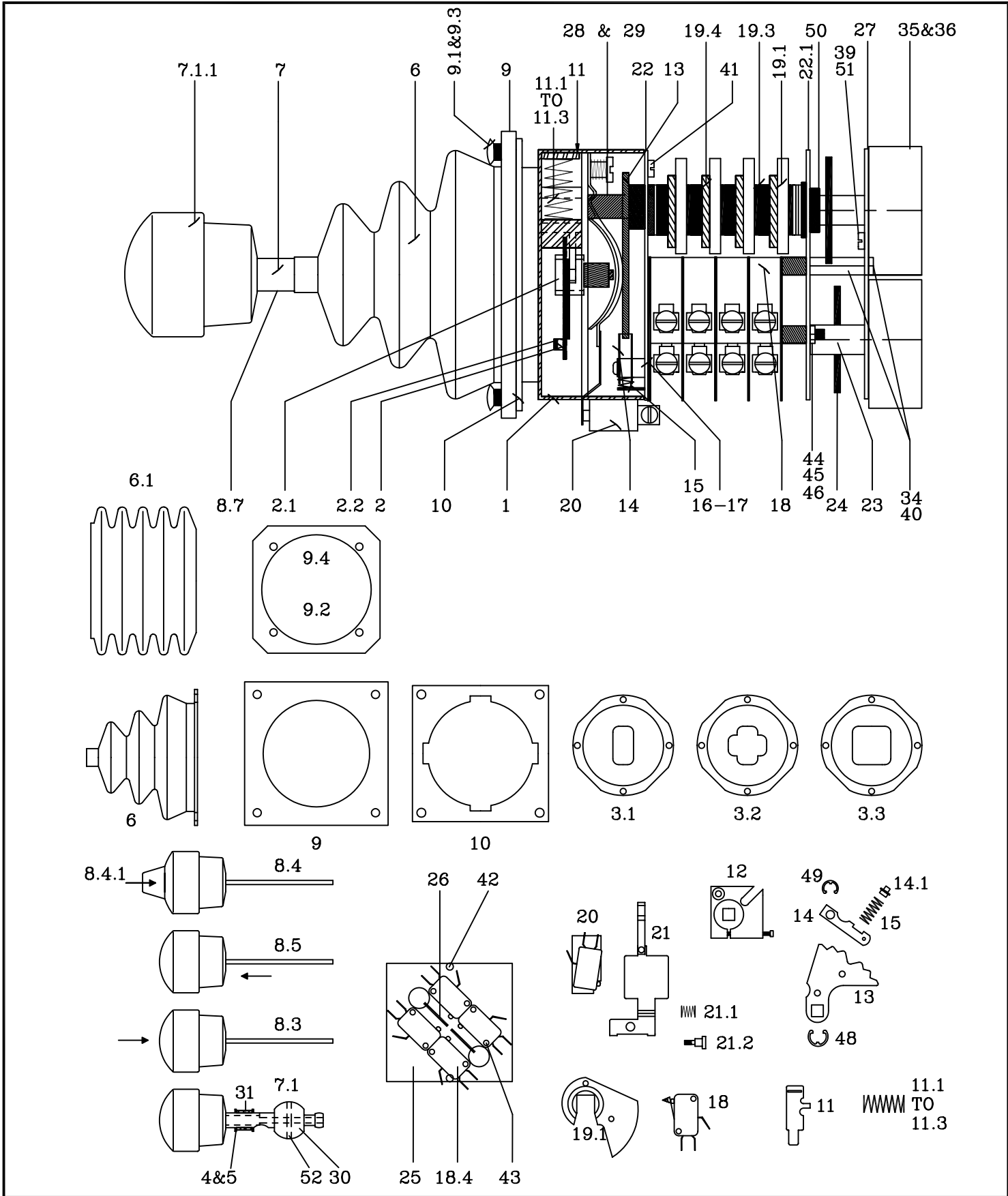


STANDARD	
1-0-1	KBKP 3
1-0-1	KBKP 3
2-0-2	KBKP 4
2-0-2	KBKP 4
3-0-3	KBKP 4
3-0-3	KBKP 4
4-0-4	KBKP 4
4-0-4	KBKP 4

#3



STANDARD	
1-0-1	KBKP 1
1-0-1	KBKP 1
1-0-1	KBKP 8
2-0-2	KBKP 8
1-0-1	KBKP 8
3-0-3	KBKP 8
1-0-1	KBKP 8
4-0-4	KBKP 8
2-0-2	KBKP 2a
2-0-2	KBKP 2
3-0-3	KBKP 2
2-0-2	KBKP 2
4-0-4	KBKP 2
3-0-3	KBKP 2
3-0-3	KBKP 2
3-0-3	KBKP 2
4-0-4	KBKP 2





PART#	DESCRIPTION	PART#	DESCRIPTION
1	VV51 SINGLE AXIS DRIVE c/w RETURN SPRINGS	18.5	INSULATING PLATES FOR MICROSWITCHES
1.1	VV5 MULTI DRIVE c/w RETURN SPRINGS	18.6	INSULATING PLATES FOR MICROSWITCHES
1.2	VV5 MULTI DRIVE c/w RETURN SPRING FOR B HANDLE	18.7	MICROSWITCHES c/w ROLLER (0.250 TABS)
1.3	CASTING WITH HOLE FOR WIRES	18.8	MICROSWITCHES c/w ROLLER (0.187 TABS)
2	CAM SHAFT OPERATOR	19.1	BLANK PLASTIC CAM
2.1	PLASTIC CAM SHAFT ACTUATOR	19.3	CAM HOLDER
2.2	PLASTIC ROLLER	19.4	CAM RETAINER WASHER
3	SWITCHING GATES SEE PAGE 1.3.3	20	DEAD MAN MICROSWITCH ASSEMBLY
4	FLAT WASHER M10	21	DEAD MAN ACTUATOR
5	RETAINING RING EXTERNAL 10mm	21.1	DEAD MAN SPRING
6	RUBBER BOOT	21.2	SHOULDER SCREW M4x6
6.1	RUBBER BOOT FOR B3, B7/B8 & B9 HANDLES	21.3	BLANK DEAD MAN PLATE
7.1	STANDARD SHAFT ASSEMBLY	21.4	BLANK DEAD MAN PLATE c/w HOLES FOR TERMINALS
7.1.1	SOLID KNOB	21.5	ROLL PIN 1.5x6
7.2	STANDARD SHAFT ASSEMBLY FOR PUSH DEAD MAN 'T'	22	TOP MOUNTING PLATE
7.3	STANDARD SHAFT ASSEMBLY FOR PULL DEAD MAN 'P'	22.1	BOTTOM MOUNTING PLATE
7.4	STANDARD SHAFT ASSEMBLY FOR PUSH BUTTON DEAD MAN 'B'	23	SMALL GEAR WITH 6mm HOLE
7.5	STANDARD SHAFT ASSEMBLY FOR MECHANICAL INTERLOCK 'M'	23.1	SMALL GEAR WITH 1/4" HOLE
7.5.1	KNOB AND ROD FOR MECHANICAL INTERLOCK 'M'	24	LARGE GEAR
7.5.2	BRACKET FOR MECHANICAL INTERLOCK	25	BANG BANG PLATE
7.5.3	BOTTOM SLEEVE FOR MECHANICAL INTERLOCK	26	BANG BANG CONTACT ACTUATOR
7.6	SHAFT ONLY 140mm	27	POTENTIOMETER ADAPTER PLATE METAL
7.7	B1T PALM HANDLE WITH ROD	27.1	POTENTIOMETER ADAPTER PLATE PRINTED CIRCUIT BOARD
7.8	STANDARD SHAFT ASSEMBLY FOR B	27.2	POTENTIOMETER ADAPTER PLATE FOR 3 POTS.METAL
8.1	STANDARD SHAFT ASSEMBLY 140mm	27.3	PRINTED CIRCUIT BOARD FOR CP.17 POTENTIOMETER
8.2	STANDARD SHAFT ASSEMBLY 100mm	28	CAM SHAFT 01-07
8.3	KNOB AND ROD FOR PUSH DEAD MAN 'T'	29	CAM SHAFT 01p-07p & 01r-07r
8.4	KNOB AND ROD FOR PUSH BUTTON DEAD MAN 'B'	30	BALL BEARING
8.4.1	RUBBER CAP FOR PUSH BUTTON DEAD MAN	31	BRASS BUSHING
8.4.2	KNOB AND ROD FOR PUSH BUTTON DEAD MAN 'B' 140mm	32.1	SMALL PLASTIC SPACER FOR BANG BANG POT.SHAFT
8.5	KNOB AND ROD FOR PULL DEAD MAN 'P'	32.2	LARGE PLASTIC SPACER FOR BANG BANG POT.SHAFT
8.6	SHAFT ONLY FOR 'B'	32.3	SPACER FOR CAM SHAFT
8.7	PLASTIC SLEEVE	33.1	4 POLE TERMINAL STRIP
8.8	RUBBER INSULATOR FOR WIRES	33.2	5 POLE TERMINAL STRIP
9	PLASTIC PLANGE PLATE	33.3	6 POLE TERMINAL STRIP
9.1	OVAL HEAD SCREWS M5x15	33.4	7 POLE TERMINAL STRIP
9.2	TOP METAL FLANGE FOR B3, B7/B8 & B9 HANDLES	33.5	8 POLE TERMINAL STRIP
9.3	OVAL HEAD SCREWS M5x20	34.1	HEX STANDOFF M4x20
9.4	GASCET FOR TOP METAL FLANGE PLATE	34.2	HEX STANDOFF M4x25
10	METAL FLANGE PLATE	34.3	HEX STANDOFF M4x10
11	RETURN SPRING ARM	35	POTENTIOMETER SEE SECTION 6
11.1	RETURN SPRING NORMAL	36	POTENTIOMETER CP-17
11.2	RETURN SPRING STRONG	38	WEATER PROOF ENCLOSURE 140x220x150
11.3	RETURN SPRING WEAK	39	SPLIT LOCK WASHER M4.
12	FRICTION BRAKE	40	HEX NUT M4
13.1	2 STEP RATCHET	41	CHEESE HEAD SCREW M4x8.
13.2	3 STEP RATCHET	42	FLAT HEAD SCREW M4x8
13.3	4STEP RATCHET	43	CHEESE HEAD SCREW M4x16.
13.4	0 STEP RATCHET (SMOOTH)	44	SPLIT LOCK WASHER M3
14	RATCHET ARM	45	FLAT WASHER M3
14.1	RATCHET SPRING HOLDER	46	HEX NUT M3
15.1	RATCHET SPRING NORMAL	47	HEX SOCKET SET SCREW M3x5
15.2	RATCHET SPRING STRONG	48	RETAINING CLIP
16	SWITCH CONTACT ASSEMBLY FOR SINGLE AXIS	49	RETAINING CLIP
17	SWITCH CONTACT ASSEMBLY FOR MULTI AXIS	50	SQUARE PLASTIC BUSHING
18.1	MICROSWITCHES (166)AC c/w ROLLER (SCREW TERMINALS)	51	PAN HEAD SCREW M4x6
18.2	MICROSWITCHES (166)AC c/w ROLLER (SCREW TERMINALS) GOLD	52	ROLL PIN 3x18
18.3	MICROSWITCHES c/w ROLLER (0.187 TABS)	53	BEARING CONTAINER
18.4	MICROSWITCHES (0.187 TABS)		