

## VPL SERIES - FIG 5

Long coils (case 4 or 5, see Fig. 1 & 2). The table below lists the characteristics of all standard VPL Series relay coils.

Note: against 'Min. Volts' the sub-headings refer to the various options. i.e. S = single light duty contacts, TC = twin contacts, 5A = 5 amp contacts, HD = heavy duty contacts, SEN = sensitive adjustment. The characters below these sub-headings refer to the number of poles and the contact action, i.e. M = make, B = break, C = changeover.

COIL TYPE (Nominal voltage)		8	12	19	22	28	36	45	60	85	130	200			
Resistance (ohm) $\pm 10\%$ (except $\pm 15\%$ )		42	90	220	310	450	750	1250	2200	4200	*9700	*27500			
Number of Turns		1950	2800	4400	5300	6300	8000	10100	13000	19000	28000	45000			
MAXIMUM VOLTS (40°C ambient)		10.5	15.5	24	29	35	45	58	77	106	161	265			
MIN. VOLTS	S														
	TC														
	2C	2.3	3.4	5.3	6.1	7.5	10.0	13.5	18.0	23.0	38.0	67.0			
	4C,6M,6B	3.2	4.6	7.2	8.4	10.3	13.5	18.0	24.5	32.0	52.0	92.0			
		2C	2C												
		4C,6M,6B	4C	4C	4.6	6.7	10.6	12.2	15.0	19.4	26.0	36.6	46.0	76.0	134.0

## VPAC SERIES (AC SHADED POLE) - FIG 6

COIL TYPE (Nominal Voltage)	Turns	Resistance ohms $\pm 10\%$	Voltage @ 50Hz	
			maximum	minimum
6	760	7	7	4.8
12	1530	34	13.5	9.5
24	3050	120	27	19
42	5350	380	46	33
60	7650	750	66	48
110	14000	2500	121	88
220	28000	12500 $\pm 15\%$	242	176

Long coils (case 4 or 5, Fig. 1 & 2).  
Coil power 2W max, 0.7W min.  
Frequency 50Hz  
Available contact combinations:  
2C or 4C light duty contacts  
2C, 4C, 6M or 6B twin contacts  
2C, 4C, 6M or 6B 5amp contacts  
2C heavy duty contacts (HD)

## BASIC VP SERIES WITH BUILT-IN RECTIFIERS FOR AC OPERATION - FIG 7

COIL TYPE (Nominal Voltage)	Resistance ohms $\pm 10\%$	Voltage @ 50Hz	
		maximum	minimum
6AC (double coil)	26X2	6.6	4.8
12AC*	52	13.5	9.5
24AC*	185	27.0	19.0
42AC*	700	46.0	33.0
60AC*	890	55.0	45.0
110AC*	1250	66.0	48.0
220AC*	4700	121.0	88.0

Short coils (case 1, 2 or 3, see Fig. 1 & 2).

Coil power: 1.6VA max, 1.3W max.

Frequency range: 50-120Hz.

Designated in the ordering code by 'AC' immediately following the nominal voltage.

Available contact combinations:

2C & 4C light duty contacts

2C, 4C, 6M or 6B twin contacts

2C, 4C, 6M or 6B 5amp contacts

2C heavy duty contacts (HD)

\*12AC to 110AC have a single coil with series/parallel diode arrangement

## VPR SERIES BISTABLE POLARISED RELAYS - FIG 8

Short coils (case 1, 2 or 3, see Fig. 1 & 2).

These are bistable polarised relays having magnetic latching by means of a ceramic magnet. The relay can be pulsed at 10 milliseconds (min.) sine or square wave. The physical dimensions and base terminals are identical to those of the Basic VP Series, and they are available with single or double wound coils.

Data in the tables below apply to available contact arrangements i.e. 2 or 4 pole changeover, 6 pole make or break.

### SINGLE WOUND COILS AT 20°C (TERMINALS 1 & 4)

Coil Type (nom.volts)	3	5	6	12	24	34	47	72	120
Resistance ohms $\pm 10\%$	9.6	23	49	200	560	1080	2040	4800	*13300
Number of Turns	660	1020	1430	3000	5000	6800	9350	14000	24000
Nominal volts	3	5	6	12	24	34	47	72	120
Minimum volts	1.9	3.0	4.5	8.9	15.4	22	30	47	87
Max.volts(cont)	4.2	6.5	9.4	19	33	44	60	93	150
Max.pulse volts.	6.5	10	16	30	51	72	98	154	280

\* $\pm 15\%$

Polarity (NC closed)

To change state – apply positive to terminal 1.

To return to NC closed, apply negative to terminal 1.

# VP SERIES

## DOUBLE WOUND COILS AT 20°C (TERMINALS 1 & 4 AND 2 & 3)

Coil Type (nom.volts)	2.5	4	6	12	24	36	47	60	100
Resistance ohms $\pm 10\%$ (1 & 4)	4.8	11.5	24.5	100	340	1020	1400	*2400	*6650
(2&3)	4.8	11.5	24.5	100	400	1020	1400	*2400	*6650
Number of Turns (1 & 4)	310	490	730	1450	2600	4600	5100	6700	10900
(2&3)	310	490	700	1450	3020	4220	5650	6700	10600
Minimum volts	2.0	3.2	4.8	9.4	19.5	33	38	51.5	92
Max.volts (cont)	3.0	4.6	6.7	13.4	26.5	42.5	50	65	108
Max.pulse volts	7.0	10.5	15.5	31	65	100	120	160	280

\* $\pm 15\%$

Each coil may be used separately as above.  
 To change state using both coils apply positive to either terminal 1 or terminal 2.  
 To return to original position apply negative to either terminal 1 or terminal 2.

## Contact Materials

**Code A** – Fine silver (gold flashed) – the most effective material for general purposes and has the highest conductivity of all metals. The bare metal is prone to tarnishing in sulphurous atmospheres, but in all but the very lightest of settings the wiping action of all the contacts rapidly breaks down the film.

**Code F** – (BT type 32 Contact Material) 95% Gold, 5% Nickel – arc and weld resistant, hard wearing and the best material for low level applications.

**Code G** – (BT type 23 Contact Material) 60% palladium, 40% silver – the least costly of the tarnish-free alloys at normal temperatures. It is arc resistant and is one of the hardest and most durable of the silver-palladium alloys. Ideal for load applications to 1A, 50Vdc.

## CONTACT RATINGS – FIG 9

TYPE	Max. Amps	Max. Volts	Max. Watts	Max. VA	Materials
S & TC	0.2	100	10	20	F
	1.0	100	30	60	A or G
5 amp & HD	5.0	250	100	200	A

## PLUG IN / WIRING TYPE RELAY – FIG 10

