

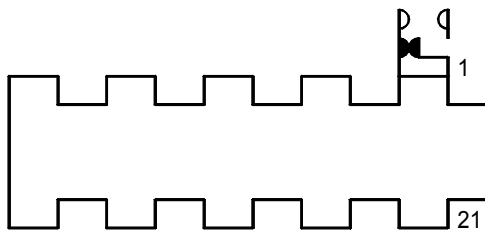
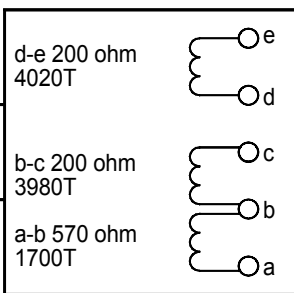


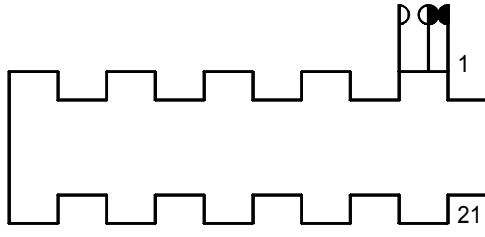
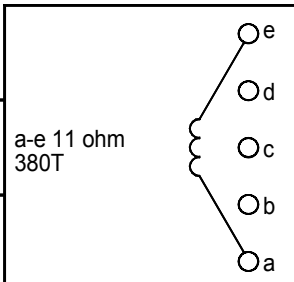
UAX NZ13

**TELEPHONE EXCHANGE
RELAY ADJUSTMENT
DATA**

LIST OF RED LABEL RELAYS FOR UAX13

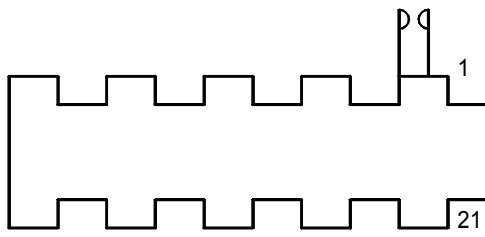
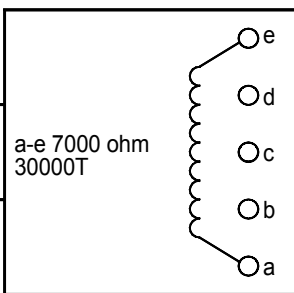
| <u>Drawing No</u> | <u>Relay</u> | <u>P.O. Code</u> | <u>Relay Code</u> |
|-------------------|--------------|------------------|-------------------|
| GBW 13770 | A | 4706 | 1426A |
| | | | |
| GBW 13900 | A | 4706 | 1426A |
| | OC | B15613 | 15613 |
| | | | |
| GBW 13910 | VT | 4652 | 1478A |
| | LK | 4653 | 1479A |
| | | | |
| GBW 15960 | A | 4706 | 1426A |
| | HX | 4652 | 1478A |
| | | | |
| GBW 16660 | A | 4706 | 1426A |
| | OC | B15613 | 15613 |
| | | | |
| GBW 16831 | A | 3/412A | HSD702 |
| | MH | 5247 | 5498 |
| | | | |
| GBW 16880 | LA | B13705P | 13705P |
| | HA,HB | 4941 | 1630 |
| | | | |
| GBW 16900 | LA | 17355 | 22434 |
| | PU | 7181 | 5616P |
| | | | |
| GBW 16910 | A | 3/412K | HSD710 |
| | | | |
| NZ 38332 | A | 3/412K | HSD710 |
| | AA | 3/401R | HS508 |
| | | | |
| NZ 38743 | A | 3/402G | HS 518 |
| | LS | 3/412K | HSD710 |
| | DR | B15613 | 15613 |
| | RR, RS | 3/411A | HSD701 |
| | | | |
| GVR 2010 | AA | 3/401A | HS501 |
| | | | |

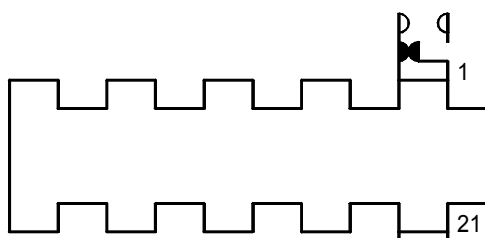
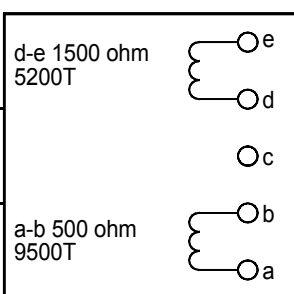
| | | | | | | | | |
|--|--|---|------|---|----------------|----|------|----|
| | P.O. CODE 4706 | | | RELAY No. 1426A | | | | |
| ARMATURE SQUARE ISTHMUS | <u>SPRING THICKNESS</u> 14 mils | <u>TRAVEL</u> 25 mils <u>RESDL</u> 14 mils | | <u>WINDING ASSEMBLY</u> 15ED | 3 N.I. SLEEVES | | | |
| 4 |  | | |  | | | | |
| S.S. CODE | | | | | | | | |
| - | | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | |
| WINDING | b-c + d-e | | a-b | | | | | |
| FUNCTION | TEST | RA | TEST | RA | TEST | RA | TEST | RA |
| SATURATE | 100 | | | | | | | |
| HOLD | | | | | | | | |
| RELEASE | 4.5 | 4.8 | | | | | | |
| NON-OP | | | | | | | | |
| OPERATE | 14 | 13.5 | 70 | 65 | | | | |
| SPECIAL FEATURES :- | | | | | | | | |
| <ol style="list-style-type: none"> 1. SPRING 3 TENSION 16-20 GRMS 2. LEVER SPRING ADJUSTED TO FULFIL TESTS (10-25 GRMS) 3. NO MOVEMENT OF ARMATURE ON DIS 4. TRAVEL TOLERANCE ± 2 MILS 5. RESIDUAL TOLERANCE ± 3 MILS 6. TURNS RESISTANCE $\pm 5\%$ 7. SAT : b-c + d-e 46 VOLTS 115% RES 8. OPERATE TESTS TO BE MADE AFTER SATURATION ON b-c + d-e 9. FITTED WITH ARMATURE RETAINING SCREW 1/DSC/398 | | | | | | | | |

| | | | | | | | | |
|--|--|--|------|---|-----------|----|------|----|
| | P.O. CODE 4652 | | | RELAY No. 1478A | | | | |
| ARMATURE ORDINARY | <u>SPRING THICKNESS</u> SPECIAL | <u>TRAVEL</u> 20 mils <u>RESDL</u> 3 mils | | <u>WINDING ASSEMBLY</u> 122AA | N.I. CORE | | | |
| 3 |  | | |  | | | | |
| S.S. CODE | | | | | | | | |
| - | | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | |
| WINDING | a-e | | | | | | | |
| FUNCTION | TEST | RA | TEST | RA | TEST | RA | TEST | RA |
| SATURATE | 798 | | | | | | | |
| HOLD | | | | | | | | |
| RELEASE | | | | | | | | |
| NON-OP | 180 | 190 | | | | | | |
| OPERATE | 220 | 210 | | | | | | |
| SPECIAL FEATURES :- | | | | | | | | |
| <ol style="list-style-type: none"> 1. TRAVEL TOLERANCE ± 2 MILS 2. CONTACT CLEARANCE 5 MILS MIN 3. SPRING 1 40 MILS : TENSION AGAINST BUFFER BLOCK 80 GRMS MIN 4. SPRING 2 24 MILS : TENSION ADJ TO MEET CURRENT TESTS 5. SPRING 3 24 MILS : TENSION AGAINST BUFFER BLOCK 20 GRMS MIN 6. RELAY MUST ONLY MAKE CONTACT ON OPERATE FIG : MUST OPERATE FULLY ON 250 mA | | | | | | | | |

| | | | | | | | | | | | | | | |
|--|------------------------------------|-----|--|----------------------------------|------|-----------|------|---|--|--|--------------------|--|--------------------|--|
| | P.O. CODE 4653 | | | RELAY No. 1479A | | | | | | | | | | |
| <u>ARMATURE</u> ORDINARY | <u>SPRING THICKNESS</u> SPECIAL | | <u>TRAVEL</u> 20 mils <u>RESDL</u> 3 mils | <u>WINDING ASSEMBLY</u> 124AB | | N.I. CORE | | | | | | | | |
| <table border="1"> <tr><td>3</td></tr> <tr><td>S.S. CODE</td></tr> <tr><td>-</td></tr> </table> | | 3 | S.S. CODE | - | | | | <table border="1"> <tr> <td>d-e 8 ohm 1300T</td> <td> </td> </tr> <tr> <td>a-b 11 ohm 380T</td> <td> </td> </tr> </table> | | | d-e 8 ohm 1300T | | a-b 11 ohm 380T | |
| 3 | | | | | | | | | | | | | | |
| S.S. CODE | | | | | | | | | | | | | | |
| - | | | | | | | | | | | | | | |
| d-e 8 ohm 1300T | | | | | | | | | | | | | | |
| a-b 11 ohm 380T | | | | | | | | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | | | | | | | |
| <u>WINDING</u> | a-b | | d-e | | | | | | | | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST | RA | | | | | | |
| SATURATE | 798 | | 346 | | | | | | | | | | | |
| HOLD | | | | | | | | | | | | | | |
| RELEASE | | | | | | | | | | | | | | |
| NON-OP | 180 | 190 | | | | | | | | | | | | |
| OPERATE | 220 | 210 | 75 | 73 | | | | | | | | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | | | | | | | | |
| <ol style="list-style-type: none"> TRAVEL TOLERANCE \pm 2 MILS CONTACT CLEARANCE 5 MILS MIN SPRING 1 40 MILS : TENSION AGAINST BUFFER BLOCK 80 GRMS MIN SPRING 2 24 MILS : TENSION ADJ TO MEET CURRENT TESTS SPRING 3 24 MILS : TENSION AGAINST BUFFER BLOCK 20 GRMS MIN RELAY NEED ONLY MAKE CONTACT ON OPERATE FIG a-b. MUST OPERATE FULLY ON 250 mA a-b AND ON d-e FIGURES | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|--|------------------------------------|----|--|--------------------------------|------|----|------|---|--|--|-----------------------|--|---------------------|--|
| | P.O. CODE 4941 | | | RELAY No. 1630 | | | | | | | | | | |
| <u>ARMATURE</u> ORDINARY | <u>SPRING THICKNESS</u> 12 mils | | <u>TRAVEL</u> 31 mils <u>RESDL</u> 8 mils | <u>WINDING ASSEMBLY</u> 4CN | | | | | | | | | | |
| <table border="1"> <tr><td>40</td></tr> <tr><td>S.S. CODE</td></tr> <tr><td>40</td></tr> </table> | | 40 | S.S. CODE | 40 | | | | <table border="1"> <tr> <td>d-e 1500 ohm 8250T</td> <td> </td> </tr> <tr> <td>a-b 25 ohm 1000T</td> <td> </td> </tr> </table> | | | d-e 1500 ohm 8250T | | a-b 25 ohm 1000T | |
| 40 | | | | | | | | | | | | | | |
| S.S. CODE | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | |
| d-e 1500 ohm 8250T | | | | | | | | | | | | | | |
| a-b 25 ohm 1000T | | | | | | | | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | | | | | | | |
| <u>WINDING</u> | a-b | | d-e | | | | | | | | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST | RA | | | | | | |
| SATURATE | 450 | | 29.2 | | | | | | | | | | | |
| HOLD | 90 | 85 | | | | | | | | | | | | |
| RELEASE | 55 | 58 | | | | | | | | | | | | |
| NON-OP | | | 11.5 | 12 | | | | | | | | | | |
| OPERATE | | | 23 | 22 | | | | | | | | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | | | | | | | | |
| <ol style="list-style-type: none"> SLIDING RESIDUAL SCHEME APPLIES TENSION LEVER SPRINGS TO MEET CURRENT FIGURES | | | | | | | | | | | | | | |

| | | | | | | | |
|--|--|------|---|---|------|----|------|
| | P.O. CODE 5247 | | | RELAY No. 5498 | | | |
| <u>ARMATURE</u> ORDINARY | <u>SPRING THICKNESS</u> 14 mils | | <u>TRAVEL</u> 25 mils <u>RESDL</u> 20 mils | <u>WINDING ASSEMBLY</u> 2EP | | | |
| 1 |  | | |  | | | |
| S.S. CODE | | | | | | | |
| - | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | |
| <u>WINDING</u> | a-e | | | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST |
| SATURATE | 6.25 | 6.25 | | | | | |
| HOLD | | | | | | | |
| RELEASE | 1.6 | 1.8 | | | | | |
| NON-OP | | | | | | | |
| OPERATE | 4.8 | 4.6 | | | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | |
| 1. TRAVEL TOLERANCE \pm 2 MILS 2. CONTACT CLEARANCE 5 MILS MIN 3. SLIDING RESIDUAL SCHEME APPLIES 4. TENSION LEVER SPRING TO MEET CURRENT FIGURES | | | | | | | |

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|---|--|------|---|---|------|----|------|
| | P.O. CODE 7181 | | | RELAY No. 5616P | | | |
| <u>ARMATURE</u> ORDINARY | <u>SPRING THICKNESS</u> SPECIAL | | <u>TRAVEL</u> 25 mils <u>RESDL</u> 10 mils | <u>WINDING ASSEMBLY</u> 4JD | | | |
| 4 |  | | |  | | | |
| S.S. CODE | | | | | | | |
| 4 | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | |
| <u>WINDING</u> | a-b | | d-e | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST |
| SATURATE | 48 | | 29 | | | | |
| HOLD | | | | | | | |
| RELEASE | | | | | | | |
| NON-OP | 6.9 | 7.2 | | | | | |
| OPERATE | 11 | 10.5 | 20 | 19 | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | |
| 1. TRAVEL TOLERANCE \pm 2 MILS 2. SPRINGS 3 & 23 14 MILS : TENSION 16-20 GRMS 3. SPRINGS 2 & 22 14 MILS : TENSION 10-14 GRMSS 4. SPRINGS 1 & 21 24 MILS : TENSION 50 GRMS MIN 5. CONTACT CLEARANCE 5 MILS MIN 6. FITTED WITH ARMATURE RETAINING CLIP 1/DSC/398 | | | | | | | |

| | | | | | | | | | |
|---|------------------------------------|-----|---|-----------|---------------------------------|----|----------------|----|--|
| | P.O. CODE B13705P | | | | RELAY No. 13705P | | | | |
| <u>ARMATURE</u> ORDINARY | <u>SPRING THICKNESS</u> 14 mils | | <u>TRAVEL</u> 31 mils <u>RESDL</u> 12 mils | | <u>WINDING ASSEMBLY</u> 15ED | | 3 N.I. SLEEVES | | |
| 3 | | | | | d-e 200 ohm 4020T | | | | |
| S.S. CODE | | | | | b-c 200 ohm 3980T | | | | |
| 1 | | | | | a-b 570 ohm 1700T | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | | |
| <u>WINDING</u> | b-c + d-e | | | a-b + b-c | | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST | RA | |
| SATURATE | 110 | | 57 | | | | | | |
| HOLD | | | | | | | | | |
| RELEASE | 4.4 | 4.6 | | | | | | | |
| NON-OP | | | | | | | | | |
| OPERATE | 15 | 14 | 21 | 20 | | | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | | | |
| <ol style="list-style-type: none"> SLIDING RESIDUAL SCHEME APPLIES ADJUST LEVER SPRINGS TO MEET CURRENT TESTS | | | | | | | | | |

| | | | | | | | | | |
|---|------------------------------------|----|--|-----|--------------------------------|----|------|----|--|
| | P.O. CODE B15613 | | | | RELAY No. 15613 | | | | |
| <u>ARMATURE</u> ORDINARY | <u>SPRING THICKNESS</u> 12 mils | | <u>TRAVEL</u> 25 mils <u>RESDL</u> 6 mils | | <u>WINDING ASSEMBLY</u> 4MV | | | | |
| 3 | | | | | d-e 50 ohm 2450T | | | | |
| S.S. CODE | | | | | a-b 50 ohm 2450T | | | | |
| - | | | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | | |
| <u>WINDING</u> | a-b | | | d-e | | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST | RA | |
| SATURATE | 180 | | 180 | | | | | | |
| HOLD | | | | | | | | | |
| RELEASE | | | | | | | | | |
| NON-OP | | | | | | | | | |
| OPERATE | 22 | 21 | 22 | 21 | | | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | | | |
| <ol style="list-style-type: none"> CONTACT CLEARANCE 5 MILS MIN TRAVEL TOLERANCE \pm 2 MILS SPRING 1 TENSIONED AGAINST BUFFER BLOCK : 20 GRMS MIN ADJUST LEVER SPRING TO MEET CURRENT TESTS RESISTANCE TOLERANCE \pm 10% | | | | | | | | | |

| | | | | | | | | |
|---|------------------------------------|-----|--|---------------------------------|------|----------------|------|----|
| | P.O. CODE 17355 | | | RELAY No. 22343 | | | | |
| <u>ARMATURE</u> SQUARE ISTHMUS | <u>SPRING THICKNESS</u> SPECIAL | | <u>TRAVEL</u> 25 mils <u>RESDL</u> 8 mils | <u>WINDING ASSEMBLY</u> 15ED | | 3 N.I. SLEEVES | | |
| 4 | | | | d-e 200 ohm 4020T | | | | |
| S.S. CODE | | | | b-c 200 ohm 3980T | | | | |
| 1 | | | | a-b 570 ohm 1700T | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | |
| <u>WINDING</u> | b-c + d-e | | a-b + b-c | | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST | RA |
| SATURATE | 100 | | 56 | | | | | |
| HOLD | | | | | | | | |
| RELEASE | 4.5 | 4.7 | | | | | | |
| NON-OP | | | | | | | | |
| OPERATE | 14 | 13 | 19 | 18 | | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | | |
| 1. TRAVEL TOLERANCE ± 2 MILS 2. RESIDUAL TOLERANCE ± 2 MILS 3. TURNS RESISTANCE $\pm 5\%$ 4. SPRING 1 24 MILS : TENSION 50 GRMS MIN 5. SPRINGS 2 & 21 12 MILS : ADJUST TO MEET CURRENT TESTS 6. SPRINGS 3 & 22 12 MILS : STANDARD TENSIONS | | | | | | | | |

| | | | | | | | | |
|---|------------------------------------|-----|--|--------------------------------|------|----|------|----|
| | P.O. CODE B15613 | | | RELAY No. 60459 | | | | |
| <u>ARMATURE</u> ORDINARY | <u>SPRING THICKNESS</u> 14 mils | | <u>TRAVEL</u> 31 mils <u>RESDL</u> 5 mils | <u>WINDING ASSEMBLY</u> 4HX | | | | |
| 5 | | | | d-e 200 ohm 4750T | | | | |
| S.S. CODE | | | | a-b 200 ohm 4750T | | | | |
| 1 | | | | | | | | |
| CURRENT IN MILLIAMPS | | | | | | | | |
| <u>WINDING</u> | a-b | | d-e | | | | | |
| <u>FUNCTION</u> | TEST | RA | TEST | RA | TEST | RA | TEST | RA |
| SATURATE | 95 | | 95 | | | | | |
| HOLD | | | | | | | | |
| RELEASE | 3 | 3.2 | 3 | 3.2 | | | | |
| NON-OP | | | | | | | | |
| OPERATE | 21 | 20 | 21 | 20 | | | | |
| <u>SPECIAL FEATURES :-</u> | | | | | | | | |
| 1. ADJUST LEVER SPRINGS TO MEET CURRENT TESTS | | | | | | | | |

| | | | | |
|---|---|---|------|----|
| | P.O. CODE 3/411A | RELAY No. HSD701 | | |
| | <u>TRAVEL</u> 4 - 5 mils <u>RESDL</u> 4 - 5 mils | <u>WINDING ASSEMBLY FRONT</u> HSD/2XD <u>WINDING ASSEMBLY REAR</u> | | |
| | | | | |
| | CURRENT IN MILLIAMPS | | | |
| WINDING | a-e | | | |
| FUNCTION | TEST | RA | TEST | RA |
| SATURATE | 36 | | | |
| HOLD | | | | |
| RELEASE | 1.75 | 1.85 | | |
| NON-OP | | | | |
| OPERATE | 5.5 | 5.25 | | |
| SPECIAL FEATURES :- | | | | |
| 1. ADJUST LEVER SPRINGS TO MEET CURRENT TESTS | | | | |

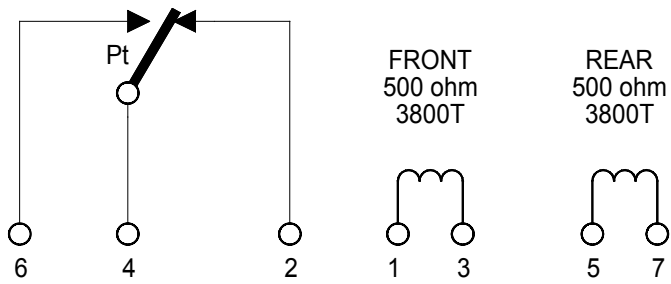
| | | | | |
|--|---|---|------|----|
| | P.O. CODE 3/412A | RELAY No. HSD702 | | |
| | <u>TRAVEL</u> 4 - 5 mils <u>RESDL</u> 8 - 9 mils | <u>WINDING ASSEMBLY FRONT</u> HSD/2XB <u>WINDING ASSEMBLY REAR</u> HSD/2XB | | |
| | | | | |
| | CURRENT IN MILLIAMPS | | | |
| WINDING | a-b + d-e | | | |
| FUNCTION | TEST | RA | TEST | RA |
| SATURATE | 75 | | | |
| HOLD | | | | |
| RELEASE | 8.0 | 8.3 | | |
| NON-OP | | | | |
| OPERATE | 15.5 | 15 | | |
| SPECIAL FEATURES :- | | | | |
| 1. ADJUST LEVER SPRINGS TO MEET CURRENT TEST | | | | |

| | | | | |
|---|-----------------------------|-----|---------------------------------------|----|
| | P.O. CODE 3/412K | | RELAY No. HSD710 | |
| | <u>TRAVEL</u> 4 - 5 mils | | <u>WINDING ASSEMBLY FRONT</u> HSD/2XH | |
| | <u>RESDL</u> 8 - 9 mils | | <u>WINDING ASSEMBLY REAR</u> HSD/2XH | |
| | | | | |
| | CURRENT IN MILLIAMPS | | | |
| WINDING | a-b + d-e | | | |
| FUNCTION | TEST | RA | TEST | RA |
| SATURATE | 69 | | | |
| HOLD | | | | |
| RELEASE | 7.5 | 7.8 | | |
| NON-OP | | | | |
| OPERATE | 14.5 | 14 | | |
| SPECIAL FEATURES :- | | | | |
| 1. ADJUST LEVER SPRINGS TO MEET CURRENT TESTS | | | | |

| | | | |
|---|-------------------------|---|---------|
| | P.O. CODE 3/401A | RELAY No. HS501 | |
| | | WINDING ASSEMBLY FRONT WINDING ASSEMBLY REAR | HS/ZE |
| <p style="text-align: right;">FRONT 145 ohm 2000T</p> | | | |
| | CURRENT IN MILLIAMPS | | |
| WINDING | 1-3 | | |
| FUNCTION | TEST | RA | TEST RA |
| SATURATE | 90 | | |
| HOLD | | | |
| RELEASE | 9.5 | 10 | |
| NON-OP | 22 | 23 | |
| OPERATE | 26 | 25 | |
| SPECIAL FEATURES :- 1. ADJUST LEVER SPRINGS TO MEET CURRENT TESTS | | | |

| | | | |
|---|-------------------------|---|---------|
| | P.O. CODE 3/401R | RELAY No. HS508 | |
| | | WINDING ASSEMBLY FRONT WINDING ASSEMBLY REAR | HS/DL |
| <p style="text-align: right;">FRONT 24 ohm 840T</p> | | | |
| | CURRENT IN MILLIAMPS | | |
| WINDING | 1-3 | | |
| FUNCTION | TEST | RA | TEST RA |
| SATURATE | 210 | | |
| HOLD | | | |
| RELEASE | | | |
| NON-OP | 47 | 50 | |
| OPERATE | 68 | 65 | |
| SPECIAL FEATURES :- 1. ADJUST LEVER SPRINGS TO MEET CURRENT TESTS | | | |

| | | | | | | |
|------------------------|-------------------------|--|------------------------|-------|-----------------------|-------|
| | P.O. CODE 3/402G | RELAY No. HS518 | | | | |
| | | <table border="1"> <tr> <td>WINDING ASSEMBLY FRONT</td> <td>HS/DG</td> </tr> <tr> <td>WINDING ASSEMBLY REAR</td> <td>HS/DG</td> </tr> </table> | WINDING ASSEMBLY FRONT | HS/DG | WINDING ASSEMBLY REAR | HS/DG |
| WINDING ASSEMBLY FRONT | HS/DG | | | | | |
| WINDING ASSEMBLY REAR | HS/DG | | | | | |



| | CURRENT IN MILLIAMPS | | | |
|----------|----------------------|-----|------|----|
| WINDING | 1-3 + 5-7 | | | |
| FUNCTION | TEST | RA | TEST | RA |
| SATURATE | 24 | | | |
| HOLD | | | | |
| RELEASE | 2.8 | 3.0 | | |
| NON-OP | | | | |
| OPERATE | 8.5 | 8.0 | | |

SPECIAL FEATURES :-

1. ADJUST LEVER SPRINGS TO MEET CURRENT TESTS