MAN200

MODEL 601 INSULATION CHECKER

OPERATING INSTRUCTIONS

HOW TO TEST THE BATTERIES:

1. REMOVE THE PLASTIC PROBE GUARDS.
2. FLIP THE LEFT HAND TOGGLE SWITCH TO THE "ON" POSITION.
3. TURN THE POTENTIOMETER KNOB UNTIL THE NEEDLE GOES FULL SCALE (TO THE RIGHT).
4. IF THE NEEDLE WILL NOT GO FULL SCALE, THE TWO "C" SIZE BATTERIES MUST BE REPLACED, BY REMOVING THE 4 PANEL SCREWS AND LIFTING OFF THE FRONT PANEL TO ACCESS THE BATTERIES.

HOW TO CHECK A FLANGE GASKET USING THE TWO FIXED PROBES

a. FLIP THE LEFT-HAND TOGGLE SWITCH TO THE "ON" POSITION.
b. FLIP THE RIGHT HAND TOGGLE SWITCH TO THE "**ZERO**" POSITION.
c. ADJUST THE POTENTIOMETER KNOB UNTIL THE NEEDLE IS AT "ZERO".
d. FLIP THE RIGHT HAND TOGGLE SWITCH TO THE "**TEST**" POSITION. (NEEDLE WILL JUMP HARD TO THE RIGHT).
e. APPLY THE TWO FIXED PROBES ACROSS THE FLANGE SYSTEM, MAKING SURE TO BREAK THROUGH ANY PAINT COATING THAT MAY BE PRESENT.

POSSIBLE OUTCOMES: *[1] NEEDLE REMAINS PEGGED TO THE RIGHT – GASKET IS A GOOD INSULATOR. [2] NEEDLE MOVES ON SCALE OR PAST ZERO – GASKET IS NOT A GOOD INSULATOR, OR, THERE IS A SHORTED BOLT (SEE BELOW REGARDING HOW TO TEST THE INDIVIDUAL FLANGE BOLTS)*

HOW TO CHECK A FLANGE GASKET USING THE FLEXIBLE PROBE AND ONE FIXED PROBE

a. FLIP THE LEFT-HAND TOGGLE SWITCH TO THE "ON" POSITION.
b. FLIP THE RIGHT-HAND TOGGLE SWITCH TO THE "**TEST**" POSITION.
c. TOUCH (SHORT) THE FLEXIBLE PROBE TO THE FIXED PROBE IDENTIFIED BY A WHITE DOT ON THE FRONT PANEL.
d. ADJUST THE POTENTIOMETER KNOB UNTIL THE NEEDLE GOES PAST "ZERO" AND JUST TOUCHES THE LEFT-HAND METER STOP.
e. BREAK CONTACT BETWEEN THE PROBES - THE NEEDLE SHOULD JUMP HARD TO THE RIGHT-HAND METER STOP.
f. APPLY THE FLEXIBLE PROBE TO ONE SIDE AND THE FIXED PROBE IDENTIFIED BY THE WHITE DOT TO THE OTHER SIDE OF THE FLANGE SYSTEM, MAKING SURE TO BREAK THROUGH ANY PAINT COATING THAT MAY BE PRESENT.

POSSIBLE OUTCOMES: *[1] NEEDLE REMAINS PEGGED TO THE RIGHT – GASKET IS A GOOD INSULATOR. [2] NEEDLE MOVES ON SCALE OR PAST ZERO – GASKET IS NOT A*

GOOD INSULATOR, OR, THERE IS A SHORTED BOLT (SEE BELOW REGARDING HOW TO TEST THE INDIVIDUAL FLANGE BOLTS)

HOW TO LOCATE A SHORTED FLANGE BOLT USING THE FLEXIBLE PROBE AND ONE FIXED PROBE

a. FLIP THE LEFT-HAND TOGGLE SWITCH TO THE "ON" POSITION.
b. FLIP THE RIGHT-HAND TOGGLE SWITCH TO THE "**TEST**" POSITION.
c. TOUCH (SHORT) THE FLEXIBLE PROBE TO THE FIXED PROBE IDENTIFIED BY A WHITE DOT ON THE FRONT PANEL.
d. ADJUST THE POTENTIOMETER KNOB UNTIL THE NEEDLE GOES PAST "ZERO" AND JUST TOUCHES THE LEFT-HAND METER STOP.
e. BREAK CONTACT BETWEEN THE PROBES - THE NEEDLE SHOULD JUMP HARD TO THE RIGHT-HAND METER STOP.
g. [1] ON A DOUBLE INSULATED FLANGE UNIT, APPLY THE FIXED PROBE IDENTIFIED BY THE WHITE DOT TO ONE FLANGE AND THE FLEXIBLE PROBE TO EACH BOLT IN TURN ON THE OPPOSITE FLANGE, MAKING SURE TO BREAK THROUGH ANY PAINT COATING THAT MAY BE PRESENT.
[2] ON A SINGLE INSULATED FLANGE UNIT (WHERE THE BOLTS ARE INSULATED THROUGH ONE FLANGE ONLY), APPLY THE FIXED PROBE IDENTIFIED BY THE WHITE DOT TO THE FLANGE THROUGH WHICH THE BOLTS ARE INSULATED AND THE FLEXIBLE PROBE TO EACH BOLT IN TURN AROUND THE SAME FLANGE, MAKING SURE TO BREAK THROUGH ANY PAINT COATING THAT MAY BE PRESENT.

POSSIBLE OUTCOMES FOR EACH BOLT TESTED: *[1] NEEDLE REMAINS PEGGED TO THE RIGHT – BOLT INSULATION IS GOOD. [2] NEEDLE MOVES ON SCALE OR PAST ZERO – BOLT INSULATION IS NOT GOOD.*

ADDITIONAL NOTES:

1. TO CONSERVE BATTERY POWER, TURN THE INSTRUMENT "OFF" AFTER EACH SET OF TESTS.

2. THE MODEL 601 INSULATION CHECKER SHOULD NOT BE HARMED BY DC VOLTAGES NORMALLY ENCOUNTERED IN CATHODIC PROTECTION, SINCE THE UNIT HAS BEEN CONSTRUCTED TO WITHSTAND UP TO 50 VOLTS DC ACROSS THE PROBES.

3. AC VOLTAGES PRESENT ACROSS AN INSULATOR SHOULD NOT HARM THE INSTRUMENT UNDER NORMAL OPERATING CONDITIONS. A SLIGHT POSSIBILITY EXISTS, HOWEVER, THAT HIGH TRANSIENT AC VOLTAGES MIGHT DAMAGE THE IN34 DIODE.

INTEGRATED HARDWARE/SOFTWARE & TRAINING SOLUTIONS FOR THE CATHODIC PROTECTION INDUSTRY

Technical Specifications for Model 601 and Model 702 Insulation Checkers

Model 601 – For Above Ground Insulators

- Enclosure: Heavy duty electronic instrument enclosure (black in color) with an average wall thickness of 0.13" (3.3mm). Molded in flame retardant ABS plastic. Designed to meet IP54 standard.
- Power Source: Two C size alkaline batteries
- Operating Temperature Range (alkaline battery limited): -20°C to +55°C
- Recommended Storage Temperature Range (alkaline battery limited): -20°C to +35°C
- Dimensions: 8"L x 5"W x 3.25"H [20.3cm x 12.7cm x 8.25cm]
- Weight: 1.54lbs [0.7kg]

Model 702 – For Below Grade (Buried) Insulators

- Enclosure: Molded Glossy Black Phenolic MIL-M-14, CFG. Designed to meet IP54 standard.
- Power Source: Two D size alkaline batteries and two AA batteries.
- Operating Temperature Range (alkaline battery limited): -20°C to +55°C
- Recommended Storage Temperature Range (alkaline battery limited): -20°C to +35°C
- Output Voltage: 1.5V DC
- Dimensions: 7"L x 5.25"W x 4"H [17.8cm x 13.3cm x 10.16cm]
- Weight: 3lbs [1.36kg]

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