



# Control Panel Checklist - Installation Details

Date: ..... Ref: ..... User Code: .....

Name: ..... Default Code: .....

Address: .....

Tel: ..... Panel Model: .....

## Always perform the following tests in the order shown

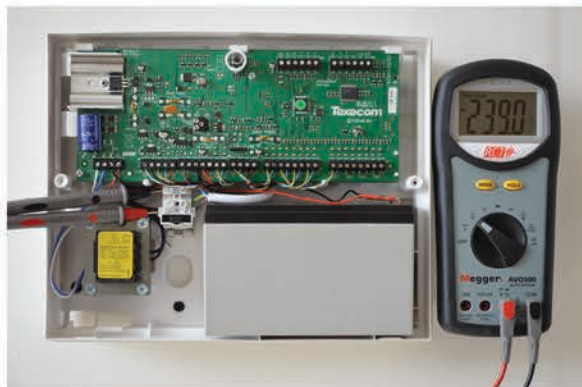
MAINS PHASE NEUTRAL TEST: AC voltage between live and neutral This should measure between 220 - 250VAC	
MAINS PHASE EARTH TEST: AC voltage between live and earth This should be the same as the previous reading	
MAINS NEUTRAL EARTH TEST: AC voltage between neutral and earth This reading should not exceed 1.2VAC	
POWER SUPPLY CURRENT NORMAL TEST: AC current used by system when unset. Measure with meter in series with the transformer output	
POWER SUPPLY CURRENT IN ALARM TEST: AC current used by system when in alarm. Measure with meter in series with the transformer output	
INDUCED AC TEST: AC voltage between DC+ and earth. AC noise should not exceed 1.2volts max	
BATTERY CHARGING VOLTAGE TEST: DC voltage at battery terminals. Measure with charge leads connected to the battery	
PANEL AUXILIARY DC VOLTAGE TEST: DC voltage supply to detectors. Should be within $\pm 1$ volt of the battery charging voltage	
BATTERY FLOAT CHARGE TEST: DC mA current flowing through battery. Should fall from a double mA figure to a single mA figure within 30 seconds	
BATTERY SYSTEM CURRENT NORMAL TEST: DC current used by system when unset. Ideally, not more than five percent of the battery's Ah capacity	
BATTERY SYSTEM CURRENT IN ALARM TEST: DC current used by system when in alarm. Ideally, not more than ten percent of the battery's Ah capacity	
BATTERY TEST: Record temperature, voltage and capacity available. Replace battery when reading falls below 65% of Ah capacity	°C      DCV      Ah
CIRCUIT RESISTANCE TESTS: Record all circuit resistances. Circuits must be removed from control panel before testing	
CIRCUIT EARTH LEAKAGE TEST: Check for resistance between zone, tamper and earth. Test with meter on highest meg ohm range	
BELL TAMPER RETURN TEST: Record resistance between 0 volt and removed tamper return. Check for stable resistance.	
PANEL ZONE WALK TEST: Walk test all detection zones to confirm operation. Check each circuit operates normally, especially after lightning	
SELF-ACTIVATING BELL TEST: Remove hold-off voltage to confirm operation. Replace if defective	
BELL AND STROBE TEST: Activate bell and strobe to confirm operation. Replace if defective	
COMMUNICATOR TEST: Activate communicator to confirm operation. Confirm correct operation with alarm receiving centre	
WIRING AND CONNECTIONS: Check panel for incorrect or loose wiring connections. Check all cables are marked and connected correctly	
DETECTOR VOLTAGE TEST: Check voltage at furthest detector is above 13VDC. Low or unstable DC voltage at the detector is a main cause of false alarms	



# Step by Step Guide

## Pictorial Guide to Control Panel Checklist

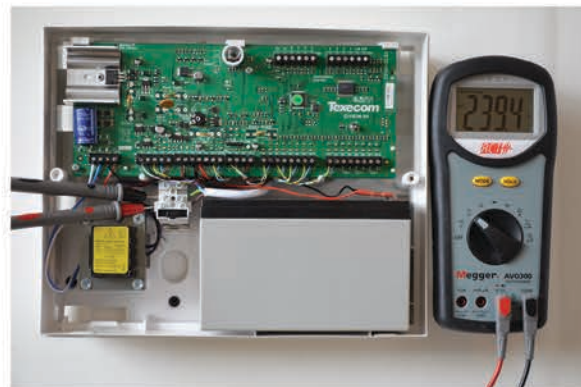
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### Step 1.1

#### MAINS VOLTAGE ACROSS LIVE AND NEUTRAL

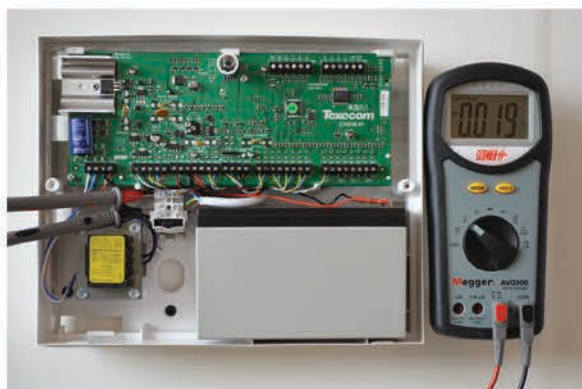
1. Switch multimeter to highest AC range
2. Connect test probes across live and neutral
3. Reading should be between 220 and 250VAC and reasonably stable



### STEP 1.2

#### MAINS VOLTAGE ACROSS LIVE AND EARTH

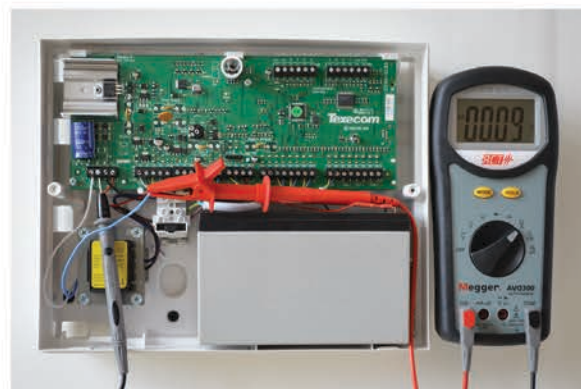
1. Connect test probes across live and Earth
2. Reading obtained should be almost identical to previous reading
3. A difference of more than 1.2VAC means an Earth fault may exist



### STEP 1.3

#### MAINS VOLTAGE ACROSS NEUTRAL AND EARTH

1. Switch the multimeter to 20VAC range
2. Connect test probes across neutral and Earth
3. Reading should not exceed 1.2VAC (example shows 0.019V)



### STEP 2

#### POWER SUPPLY CURRENT NORMAL (UNSET)

1. Switch meter to highest AC current range
2. Disconnect either AC output lead to panel
3. Connect test probes in series with removed lead and power supply terminal
4. Record AC mA reading obtained

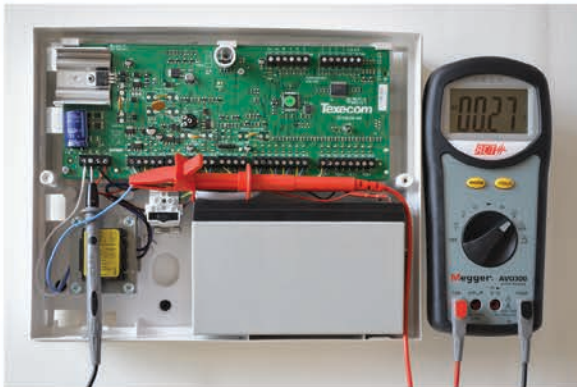




# Step by Step Guide

## Pictorial Guide to Control Panel Checklist

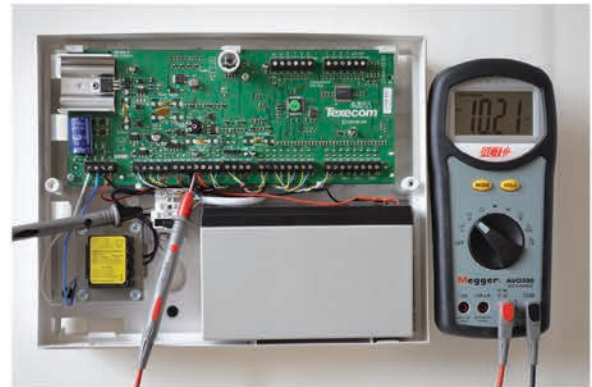
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### Step 3

#### POWER SUPPLY CURRENT IN ALARM

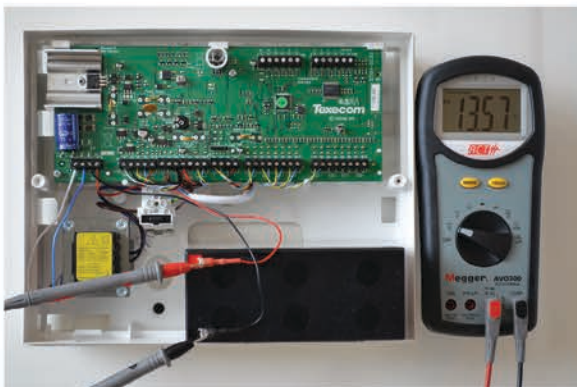
1. Generate a full alarm condition
2. Record AC mA reading obtained
3. Excessive current in this or previous test indicates a system fault
4. Disconnect 12VDC supply to PIRs, bells, battery etc in turn to identify fault



### STEP 4

#### INDUCED AC VOLTAGE

1. Switch multimeter to 20VAC range
2. Connect probes across any DC+ and Earth
3. Induced AC reading should not exceed 1.2V
4. To eliminate induced AC, fit an ACT 1313 12V spike suppressor



### STEP 5

#### BATTERY CHARGING VOLTAGE

1. Switch multimeter to 20VDC range
2. Connect test probes across battery
3. Reading should be between 13.5 - 14VDC (Below 13V the battery will not charge, above 14.5V the battery will overcharge)

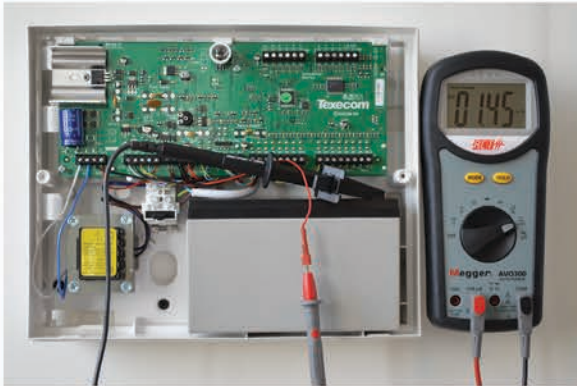


### STEP 6

#### AUXILIARY DC VOLTAGE

1. Connect probes across auxiliary DC supply
2. Reading obtained should be within 0.5VDC of battery charging voltage
3. Any variation  $\pm 1$ VDC may cause false alarms





### Step 7

#### BATTERY FLOAT CHARGE

1. Switch multimeter to DC mA range
2. Remove red charge lead from battery
3. Connect test probes in series with removed charge lead & positive battery terminal
4. A double mA reading, falling to a single mA reading should occur within 30 seconds
5. If a constant high or no mA reading, replace battery

### STEP 8

#### BATTERY CURRENT NORMAL (UNSET)

1. Switch multimeter to 20A DC range
2. Disconnect mains supply by removing panel or 'spur' fuse
3. Reading ideally should not exceed 5% of battery capacity (7Ah = 350mA)

### STEP 9

#### BATTERY CURRENT IN ALARM

1. Generate a full alarm condition
2. Reading ideally should not exceed 10% of battery capacity (7Ah = 700mA)



### Step 10

#### BATTERY CAPACITY TEST

1. Disconnect battery from control panel
2. Check battery terminals are clean
3. Connect battery tester leads red+ black-
4. Record ambient temperature, DC voltage and Ah capacity available
5. Replace battery when capacity falls below 65% (e.g. 7Ah replace below 4.55Ah)