

Inspection and Testing of Fire Alarm Systems

“√” Yes - Tested correctly “X” No - Did not test correctly (Explain NO answers in comments) “NA” Not applicable

<p>2.1 Control Unit or Transponder Tests</p> <p>_____ Power on visual indicator operates?</p> <p>_____ Common visual trouble signal operates?</p> <p>_____ Common audible trouble signal operates?</p> <p>_____ Trouble signal silence switch operates?</p> <p>_____ Main Power supply failure trouble signal operates?</p> <p>_____ Ground fault tested on positive and negative trouble signal</p> <p>_____ Alert signal operation operates?</p> <p>_____ Alarm signal operation operates?</p> <p>_____ Automatic transfer from alert to alarm signal operates?</p> <p>_____ Manual transfer from alert signal to alarm signal operates?</p> <p>_____ Auto transfer from alert to alarm signal cancel operates</p> <p>_____ Alarm signal silence inhibit function operates?</p> <p>_____ Alarm signal manual silence operates?</p> <p>_____ Alarm signal silence visual indication operates?</p> <p>_____ Alarm signal when silenced automatically reinitiates on subsequent alarm?</p> <p>_____ Alarm signal silence automatic cut-out timer?</p> <p>_____ Audible visual and alert and alarm signals programmed and operate as per design & specification. (app C)</p> <p>_____ Input circuit alarm and supervisory operation including audible and visual indication operates?</p> <p>_____ Input circuit supervision fault causes a trouble indication?</p> <p>_____ Output circuit alarm indicators operate?</p> <p>_____ Output circuit supervision fault causes a trouble indication?</p> <p>_____ Visual indicator test (lamp test)?</p> <p>_____ Coded signal sequence operate not less than the required number of times and the correct alarm signal thereafter.</p> <p>_____ Coded signal sequences are not interrupted by subsequent alarms?</p> <p>_____ Ancillary circuit by-pass will result in a trouble signal?</p> <p>_____ Input circuit to output circuit operation including ancillary device circuits, for correct program operation as per design & spec. (App “C”)</p> <p>_____ Fire alarm Reset operates?</p> <p>_____ Main power to emergency power supply transfer operates?</p> <p>_____ Status change confirmation (smoke detectors) verified</p> <p>_____ Receipt of alarm transmission to signal receiving center?</p> <p>_____ Receipt of supervisory trans to signal receiving center?</p> <p>_____ Receipt of trouble transmission to signal receiving center?</p> <p>_____ Operation of the fire signal receiving center disconnect results in a specific trouble indication at control unit?</p> <p>2.3 Control Unit or Transponder Inspection</p> <p>_____ Input circuit designations, correctly identified in relation to connected field devices</p> <p>_____ Output circuit designations correctly identified in relation to connected field devices.</p> <p>_____ Correct designations-common control functions / indicators</p> <p>_____ Plugin components and modules securely in place?</p> <p>_____ Plugin cables securely in place</p> <p>_____ Record date, revision and version of Firmware & software</p> <p>_____ Date: _____ Rev: _____ Ver: _____</p> <p>_____ Clean and free of dust and dirt?</p> <p>_____ Fuses in accordance with MFGs specification?</p> <p>_____ Control Unit or transponder lock functional?</p>	<p>_____ Termination points from wiring to field devices secure</p> <p>2.6 Annunciator & Remote Trouble Test & Inspection</p> <p>_____ Power on indicator operates?</p> <p>_____ Individual alarm and supervisory input zone clearly indicated and separately designated?</p> <p>_____ Individual alarm and supervisory zone labels identified?</p> <p>_____ Common trouble signal operates?</p> <p>_____ Visual indicator test - Lamp test operates?</p> <p>_____ Input wiring from control unit/transponder is supervised?</p> <p>_____ Alarm signal silence visual indicator operates?</p> <p>_____ Switches for ancillary function operate as per design?</p> <p>_____ Other ancillary function visual indicators operate?</p> <p>_____ Manual activation of alarm signal and indication operates?</p> <p>_____ Displays are visible in installed location operates?</p> <p>_____ Operates on emergency power?</p> <p>2.4 Power Supply Inspection</p> <p>_____ Fused with mfgs marked rating of the system?</p> <p>_____ Adequate to meet the requirements of the system?</p> <p>2.8 Remote Trouble Signal Unit Test and Inspection</p> <p>_____ Input wiring form control/transponder is supervised?</p> <p>_____ Visual trouble signal operates?</p> <p>_____ Audible trouble signal operates?</p> <p>_____ Audible trouble signal silence operates?</p> <p>2.5 Emergency Power Supply Test and Inspection</p> <p>_____ Correct battery type as recommend by manufacturer?</p> <p>_____ Correct rating as determined by battery calculations based on full system load?</p> <p>_____ Battery voltage main power on? _____ Vdc?</p> <p>_____ Battery voltage and current with main power supply “off” and fire alarm in supervisory condition?</p> <p>_____ voltage _____ Vdc Current _____ A</p> <p>_____ Battery voltage and current with main power supply “off” and fire alarm in full load alarm condition?</p> <p>_____ voltage _____ Vdc Current _____ A</p> <p>_____ Charging current is _____ A</p> <p>_____ Inspected for physical damage?</p> <p>_____ Terminal cleaned and lubricated?</p> <p>_____ Terminals clamped tightly?</p> <p>_____ Correct Electrolyte level?</p> <p>_____ Specific gravity within mfg specifications?</p> <p>_____ Electrolyte leaks?</p> <p>_____ Adequately ventilated?</p> <p>_____ Battery mfg’s date code or in-service date _____</p> <p>_____ Disconnection causes trouble signal?</p> <p>_____ Indicate type of Battery Test Performed?</p> <p>_____ (1) supervisory load for 24h followed by full load operation.</p> <p>_____ (2) silent test by using load resister method -App F1</p> <p>_____ (3) Silent accelerated test – App F2</p> <p>_____ (4) A battery capacity meter test App F3</p> <p>_____ (5) In lieu of battery tests, Replace with new set having current date code, as per mfg</p> <p>_____ Record calculated battery capacity App F4 _____ A h</p> <p>_____ Record battery terminal voltage after tests _____ V dc</p> <p>_____ Battery voltage not less than 85% of its rating after tests.</p> <p>_____ Generator provides power to the AC circuit for FA syst.</p>
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Date	Building Name
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<p>2.5 Emergency Power Supply Test and Inspection _____ Trouble condition at the em gen shall result in an audible common trouble signal and a visual indication at the required annunciator?</p> <p>2.7 Annunciator or Sequential Displays _____ Power on indicator operates? _____ Individual alarm, supervisory zone indication operates. _____ (Exception: operation of each individual alarm and supervisory zone indication, or lights the identical indicators at the other annunciators and sequential display) _____ Specify method of confirmation _____ _____ _____ Minimum of 1 alarm zone and one supervisory zone tested per annunciator or sequential display to confirm operation. _____ Individual alarm and supervisory zone labels identified. _____ Common trouble signal operates? _____ Visual indicator test (lamp test) operates? _____ Input wiring from control unit/transponder supervised _____ Alarm signal silence visual indicator operates? _____ Switches for ancillary function operate as per design? _____ Other ancillary functions visual indicators operate? _____ Manual activation of alarm signal and indication operate? _____ Displays are visible in installed location?</p> <p>2.9 Printer Testing _____ Operation as per design and specification? _____ Zone of each alarm initiating device is correctly printed? _____ Rated voltage is present?</p> <p>2.10 Data Communication Link Test (DCL) _____ Confirm that a trouble signal is receive at the control unit or transponder under an open loop fault for each DCL _____ Where fault isolation modules are installed in DCL serving field devices, wiring shall be shorted on the isolated side, annunciation of the fault confirmed, and then a field device on the source side shall be operated, and activation confirmed at the control unit or transponder. _____ Where a fault isolation in DCL is provided between control units/transponders and between _____ Transponders, introduce a short circuit fault and confirm _____ Continued.....</p>	<p>Annunciation of the fault and operation outside the shorted section between each pair of : _____ (i) Control unit to control unit _____ (ii) Control unit to transponder _____ (iii) Transponder to transponder</p> <p>2.2 Voice Communication Inspection/Tests _____ Power “ON” operates? _____ Common visual trouble signal operates? _____ Common audible trouble signal operates? _____ Trouble signal silence switch operates? _____ All call voice paging including visual indicator operates? _____ Output circuits for selective voice paging including visual indication operates? _____ Output circuits for selective voice paging trouble operation including visual indication operates? _____ Microphone including press to talk switch operates? _____ Operation of voice paging does interfere with initial inhibit time of alert and alarm signal? _____ All call voice paging operates on emergency power? _____ Upon failure of one amplifier, system automatically transfers to backup amplifier. _____ Circuits for emergency telephone call in operation including audible and visual indication operates _____ Circuits for emergency telephone for operation, including two way voice communication operates? _____ Circuits for emergency telephones trouble operation including visual indication operates? _____ Emergency telephone verbal communication operates? _____ Emergency telephone operable or in-use tone at handset.</p> <p>2.11 Ancillary Device Circuit Test _____ Circuit _____ confirmed _____ Circuit _____ confirmed _____ Circuit _____ confirmed _____ Circuit _____ confirmed</p>
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Additional Comments:

Individual Device Record

Inspection and Testing of Fire Alarm Systems
3.1 Field Device Testing – Legend and Notes

Device	Description	Type	Model No.
M	Manual Pull station		
RHT	Heat detector, Restorable		
HT	Heat detector, non restorable		
S	Sensitivity test method or test equipment: <hr/> Mfg sensitivity range: <hr/>		
RI	Remote indicator unit		
DS	Duct smoke detector		
SFD	Supporting field device (monitor)		
FS	Sprinkler flow switch		
SS	Sprinkler supervisory device		
EM	Fault isolation module		
B	Bell		
H	Horn		
V	Visual signal device		
SP	Cone type speaker		
HSP	Horn type speaker		
AD	Ancillary device		
ET	Emergency Telephone		
EOL	End of line resistor		
	Other supervisory devices		
	Other type of detector		

Note 1. Smoke detector sensitivity measurement and cleaning date should be recorded in the remarks column.

Note 2. Smoke detector cleaning or replacement date should be recorded in remarks column.

Note 3. Status change, including time delay, should be recorded in the remarks column.

Note 4. Duct smoke detector pressure differential should be confirmed and recorded in the remarks column.

Note 5. Time delay setting of water flow switch should be recorded in the remarks column.

Note 6. Sprinkler supervisory switches cause trouble condition to be annunciated but not an alarm condition.

Note 7. Upper and lower pressure setting of supervisory devices should be recorded in the remarks column.

Note 8. Low temperature setting should be recorded in the remarks column.

Note 9. Identify the specific ancillary devices in the remarks column.

Note 10. Identify date field device was changed in remarks column.

Note 11. Identify correct field device operation (eg alarm, trouble, supervisory, annunciation indication).

Note 12. Identify zone, circuit number or address.

Note 13. Identify conventional field device location.

Note 14. Identify active field device and supporting field device, data communication link (DCL) address and location.

Note 15. Test and confirm conventional field device supervision of wiring.

Note 16. Confirm field device free of damage.

Note 17. Confirm field device free of foreign substance (eg paint).

Note 18. Confirm field device mechanically supported independently of the wiring.

Note 19. Confirm field device protective dust shields or covers removed.

Caution: The tests reported on this form do not include the actual operational test of ancillary devices.