

EMERGENCY ALARM SYSTEM
AUTOMATIC FIRE-DETECTION FEATURE
EQUIPMENT DESIGN REQUIREMENTS
COMMON SYSTEMS

1. GENERAL

Scope

1.01 This specification, together with supplementary information listed herein, covers the equipment design requirements for the automatic fire-detection features of emergency alarm systems with or without code signaling for use in central offices as a means of automatically detecting fires in the frame local cables and simultaneously sounding a warning.

1.02 This specification is reissued to incorporate two appendices and to rate the specification A&M Only due to the replacement of No. 1A fire-detection wire with commercial fire detection equipment.

Description

1.03 In order to automatically detect frame local cable fires in their incipient stages and simultaneously sound a warning by means of the sounding devices of the emergency alarm system, fusible fire-detection wire lengths are installed on top of the skimmers and on the surface of the local cables and connected together in series by ESCB wire. This wiring is connected into the emergency alarm circuit as supplementary normally closed loops and provided on a zone basis so that the opening of a zone loop will operate the emergency alarm system sounding devices in the same manner as the opening of a station box switch in that zone.

Fire-Detection Wire

1.04 The No. 1A fire-detection wire employed for automatically detecting fires consists of solder wire with a pliable nonmetallic core

to increase sensitivity and a covering of red cotton braid.

1.05 Although the wire is furnished with a pliable core, it requires handling with much greater care than copper wire. Kinking or unnecessary bending should be avoided since this would set up strains in the solder and eventually result in cracking or breaking of the wire.

1.06 The solder wire is not sensitive to changes in room temperature but must be located in the path of the flames to prove effective as a fire detector. It has therefore been located on the frame local cables in the path the flames would be most likely to follow.

2. SUPPLEMENTARY INFORMATION

- 800-600-000 — List of General Equipment Requirement Sections
- 800-614-151 — Installing Requirements for Emergency Alarm Systems Including Automatic Fire-Detection Feature
- 801-000-000 — Equipment Design and General Equipment Requirements and Engineering Information — Common Systems
- J28350 — AA247.801 — Emergency Alarm Systems With or Without Code Signaling Including Automatic Fire-Detection Feature — Common Systems
- J98303 — 801-601-155 — Emergency Alarm System Without Code Signaling

3. DRAWINGS

WECO J drawings should be ordered by referring to the prefix and base number and requesting the current dash (—) number.

Circuits

- SD-90437-01 — Emergency Alarm Circuit Arranged for Code Signaling
- SD-90560-01 — Emergency Alarm Circuit for Use in 24-Volt Multizone Non-code Office
- SD-90641-01 — Emergency Alarm Circuit for Use in 24-Volt Single Zone Office
- SD-96049-01 — Emergency Alarm Circuit for Use in 48-Volt Multizone Non-code Office
- SD-96052-01 — Emergency Alarm Circuit for Use in 48-Volt Single Zone Office

Assembly and Equipment

- ED-92166-01 — Fire-Detection Relay Casing
- J98302A-() — Automatic Fire-Detection Zone Equipment Unit — Emergency Alarm System With Code Signaling

Fire-Detection Wire Application Drawings

- ED-90817-03 — Distributing and Protector Frames
- ED-90847-01 — Typical Panel Double-Sided Frames
- ED-90855-01 — Panel Line Finder Frames
- ED-90865-01 — Panel Subscribers Sender Frames
- ED-90867-01 — Panel Decoder Frames
- ED-90870-01 — Panel District Frames Arranged for Zone and Overtime Registration
- ED-90871-01 — Typical Panel Selector Test Frame
- ED-90877-01 — Relay Rack — Miscellaneous or Unit Equipment
- ED-90964-10 — SXS Universal Switch Frame With Overaisle (Bar Type) or Overframe (Ladder Type) Cable Rack — Protection at Two Levels — Line Finder Units
- ED-90909-01 — Toll Frames and Test Boards
- ED-91128-01 — Mounting Details
- ED-91222-01 — Panel District Sender Selector and Line Switch Frames
- ED-91859-01 — 701A and 711A PBX Switch Frames
- ED-91861-10 — SXS Universal Switch Frame With Overaisle (Bar Type) or Overframe (Ladder Type) Cable Rack — Protection at Two

Levels — Selector, Connector, and Miscellaneous Shelves

- ED-92189-01 — Duct-Type Equipment Racks
- ED-95082-10 — SXS Angle-Type Framework With Overaisle (Bar Type) Cable Rack — Protection at Two Levels — All Frames (Excluding Line Finder, Selector, Connector, or Miscellaneous) Relay Racks, Miscellaneous or Unit Equipment, and Fuse Bays

Miscellaneous

- ED-90854-01 — Fire-Detection Wire Clip

4. EQUIPMENT

J98302A — A & M Only — Automatic Fire-Detection Zone Equipment Unit — Emergency Alarm System With Code Signaling

Equipment — J98302A-()

List 1 — Assembly, equipment, and wiring per SD-90437-01, Fig. 14, for one automatic fire-detection zone equipment unit for emergency alarm system with code signaling.

| | WIRE | EQUIP | NOTES |
|---|------|-------|-------|
| Casing Assembly ED-92166-01, Fig. 1 | | 1 | |
| Fire-Detection Loop Ckt, SD-90437-01, Fig. 14 | 1 | 1 | |

Notes

- A. Relays associated with the fire-detection loop wiring are mounted in a relay housing located in each zone of the emergency alarm system with code signaling. In the noncode signaling systems, the relays which function in the fire-detection loop also serve to control the zone alarm circuit and are covered in the specification for the emergency alarm equipment.
- B. The relay housing associated with each zone loop of an emergency alarm system with code signaling shall be located approximately 2 inches above the code signal sending device of its zone at a height of approximately 7 feet, 3 inches from the floor, measured to the bottom of the housing.

- C. The battery and ground supply for the fire-detection relay equipment shall be secured from the fuse panel furnished as part of the code signaling emergency alarm system central control equipment.
- D. Mounting and miscellaneous details per ED-92166-01.

5. GENERAL NOTES

5.01 The automatic fire-detection feature shall be furnished only when specified by the telephone company and, in general, applied on all frame and rack equipment including all sequence switch, interrupter, unencased relay, and similar bays having exposed cabling. The detection wire, however, shall not be applied on a standard basis to the following equipment unless especially ordered by the telephone company:

- Operating room desks
- Terminal room desks
- Switchboards
- Testboards of switchboard type (except No. 4 toll testboard)
- Panel OGT testboards (frame mounted)
- Message register racks with casings
- Traffic register racks with casings
- Coil racks
- District finder bank bays of panel subscribers link frames
- Casings enclosed equipment such as panel call distributing B sender, panel decoder connector, and similar frames
- Ringin g machines and associated power boards
- Power boards, battery distributing fuse boards, and battery and power machine room equipment in general

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Protector side of MDFs and CDFs

Enclosed equipment on cable duct-type frames except fuse panel bays and alarm relay bays

5.02 Distributing and Protector Frames: Protection shall be furnished at distributing frames and protector frames only when specified by the customer.

5.03 Step-by-Step Frames: Fire-detection wire shall be applied on two levels on line finder, selector, connector, and miscellaneous frames.

5.04 No. 4 Toll Testboards: Provide a single level of fire-detection wire fastened to the top skimmers of the terminal strips in the upper part of the sections.

5.05 Crossbar-Type Frames: Provide fire-detection wire for the frames of crossbar equipment (Crossbar Systems No. 1 and No. 5 and No. 4 Toll Switching System) in accordance with the application drawings listed in J28350.

5.06 Cable Duct Frames: Where required provide fire-detection wire as shown on ED-92189-01.

List of A&M Only and Mfr Disc. Equipment

| EQUIPMENT | RATING | DETAILS LAST SHOWN IN ISSUE | REPLACING EQUIPMENT |
|-----------|----------|-----------------------------------|------------------------|
| J98302A | A&M Only | 7 | — |

The above equipment has been replaced as indicated. Where A&M Only items appear, the issue numbers shown are those of the issue in which the rating was first applied.