

DC-TO-DC CONVERTER PLANT CONTROL PANEL EQUIPMENT DESIGN REQUIREMENTS POWER SYSTEMS

1. GENERAL

SCOPE

1.01 This specification, together with the supplementary information listed herein, covers the equipment design requirements for the engineering, manufacture, and installation of the J85543A dc-to-dc converter plant control panel as used in the J5A007C power conversion distribution frame for use with 1A ESS* 2 Wire and 4 ESS 1A Processor.

1.02 Whenever this section is reissued, the reason for reissue will be specified in this paragraph.

DESCRIPTION

General Circuit Features

1.03 The J85543A converter plant control panel monitors and controls the operation of two J87461A dc-to-dc regulated converters that provide an isolated +24 volt output at a current range of 0 to 30 amperes with 30 amperes of spare capacity from a -48 volt source. A master regulator in the control panel controls the output to 1-percent regulation from 0 to 30 amperes, within a ± 2 percent band established by the converters' guard regulators.

1.04 The converter output circuit breaker opens when a converter selective high voltage shutdown, at 27.5 ± 0.3 volts, turns off the converter and sends a trip signal to the circuit breaker.

1.05 The control panel monitors converter alarms for: high voltage shutdown, when a high- or a low-guard regulator becomes active; abnormally low output current as compared to the regulator command signal; rear heat sink temperatures exceed 95°C .

*Trademark of Western Electric.

General Equipment Features

1.06 The converter plant control panel assembly measures 10 inches high, 25 inches wide, and 15 inches deep and weighs approximately 15 pounds.

1.07 The assembly has two side flanges for fastening the unit in an ED-4C190-70 frame. Wiring between this assembly and the associated J87461A converters requires that the control panel be located immediately above the two converters.

1.08 The front of the assembly is a door, on which the converter output current and voltage meters are mounted. When the door is closed, there are additional openings to provide front access to the converter output circuit breakers, fusing, power switches, test jacks, and indicating LEDs.

1.09 Replacement of the CP1 printed wiring board in the frame mounted assembly is through the open front door. Electrical connections are made through a board-mounted header assembly that mates with an external connector housing.

1.10 Electrical circuit connections from the control panel to the converters are made with connector-equipped cables to facilitate ease of installation.

1.11 The -48 and +24 volt bus terminations are provided on the rear of the assembly.

2. SUPPLEMENTARY INFORMATION

- 802-000-000 — Numerical Index-Power Systems
- 800-020-001 — Cross Reference List-J, NJ, IS and X Specifications to BSP Numbers
- 800-600-000 — Checking List-General Equipment Requirements

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

J5A007 — 820-701-156 — Power Conversion and Distribution Frame for use with No. 1A ESS 2 Wire and No. 4 ESS 1A Processor.
 J87461 — 802-223-160 — Converter DC-to-DC Regulated +24 Volt 30 Amp Output -48 Volt Input
 254-201-072 — Power Conversion and Distribution Frame Description
 254-201-073 — Power Conversion and Distribution Frame Theory
 SD-5A015-03 — 1A Processor Power Conversion and Distribution Frame Circuit
 SD-5A022-02 — +24 Volt DC, -48 Volt DC, 110 Volt AC Power Distribution and Grounding Circuit and Current Drain Data
 SD-82600-01 — DC-to-DC Converter -48 Volt Input, +24 Volt 30 Amp Output
 X-79891 — Manufacturing Testing Requirements

3. DRAWINGS

To order WE J drawings, refer to the prefix and base number and request the current dash (-) number.

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SD-82601-01 — DC-to-DC Converter Plant Control Panel
 J85543A-() — Converter Plant Control Panel
 ED-83000-() — Control Panel Printed Wiring Board Assembly (CP1)

4. EQUIPMENT

J85543A — AT&T Co Std — Converter Plant Control Panel

List 1 — Framework, assembly, equipment, and wiring for one converter plant control panel per SD-82601-01.

5. GENERAL NOTES AND INDEXES

5.01 The converter output is not internally grounded, but is grounded in the J5A007C power conversion distribution frame.