SLC® Series 5 Carrier System

AUA412 Power Converter Unit — 5SPQAAX

This data sheet describes the AUA412 power converter unit (PCU) (COMCODE 106275969) and is intended for the end-user of the unit. The AUA412 PCU is designed to be used at a *SLC*®-2000 multi-services distant terminal (MSDT) to support the 120 V AC and −48 V DC local powering applications. The AUA412 PCU accepts input voltage from either an AUA414 or AUA415 power interface unit (PIU) and converts it to the specified voltage levels required by the electronics in the MSDT.

This datasheet is reissued to make minor editorial changes.

Figure 1 is a functional block diagram of the unit, and Figure 2 shows the faceplate.

The AUA412 PCU converts the PIU supplied voltage of −48 V DC (nominal) to −48 V, +5 V, and −5 V sources to be used by the narrowband electronics and ringing generator in the MSDT. A 60 V DC source is also generated and supplied to the battery charger located in the PIU. Table 1 lists the distribution of the converter outputs to the various MSDT units. The maximum output power of the AUA412 PCU is 65 watts.

In order to protect the narrowband electronics in the MSDT from overvoltages caused by an AUA412 PCU failure, the control circuit monitors the +5 V, −5 V, and −48 V outputs; and in the case of overvoltage, it sends a shutdown signal to the main and 5 V DC/DC converters. The shutdown signal will not latch the unit in the shutdown mode, but the unit will cycle on and off at a slow rate as long as the overvoltage condition exists. The control circuit also monitors these same outputs for the presence of low voltage; and if low voltage is detected with input power present, the AUA412 PCU will issue a failure alarm that causes the FAIL LED to light.

Table 1. Distribution of PCU Output

Output Lead	MSDT Unit(s)
−48S	All circuit packs except BYB1B optical unit (OU)
−48R	AUA413 ringing generator unit (RGU)
+48R	AUA413 RGU
+5S	All circuit packs
−5	All circuit packs
+5R	All circuit packs except BYB1B OU and AUA414 or AUA415 PIU
−60	AUA414 or AUA415 PIU

The inventory and alarm circuit contains factory-installed information peculiar to the AUA412 PCU (for example, COMCODE number) that can be remotely accessed using an operation interface processor. This circuit also gathers alarm information from the PCU and transmits it to the FHA1 backplane interface unit (BIU) over a serial interface.

Removal of the AUA412 PCU from its slot in the MSDT will interrupt all narrowband services.

FAIL (Red LED): When lighted, indicates that an undervoltage condition is detected at the +5 V, −5 V, or −48 V output. This LED also lights while the ON BAT TEST switch is pressed.

ON BAT TEST (Pushbutton): When pressed, this switch forces the PCU onto battery reserve power and also causes the FAIL LED to light and the −48 V converter to cease operation for as long as the switch remains pressed. Releasing the switch allows the PCU to resume operation.

−**48V**, −**48V RTN** (Faceplate Test Points): These test points are used to measure the input voltage (−28 to −60 V DC) to the PCU.

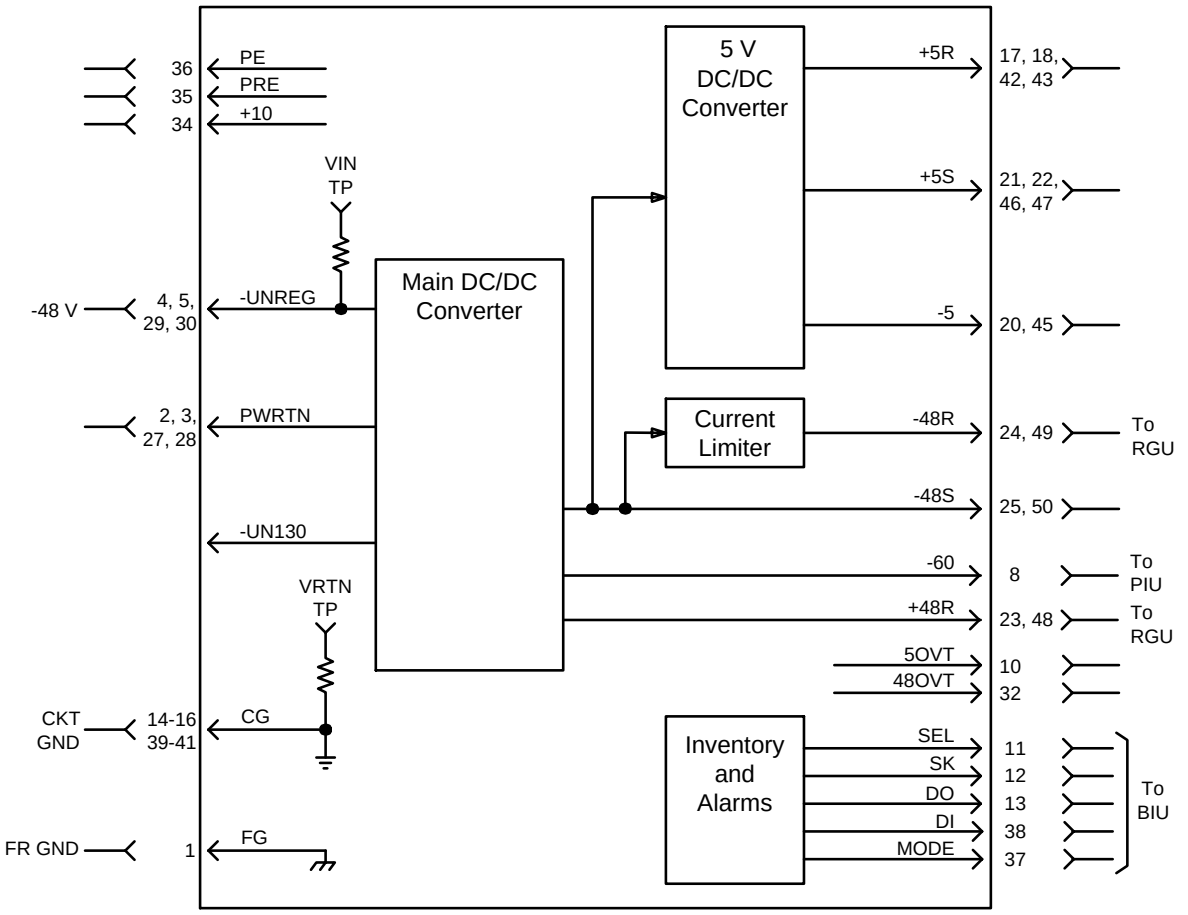

Figure 1. AUA412 PCU Block Diagram

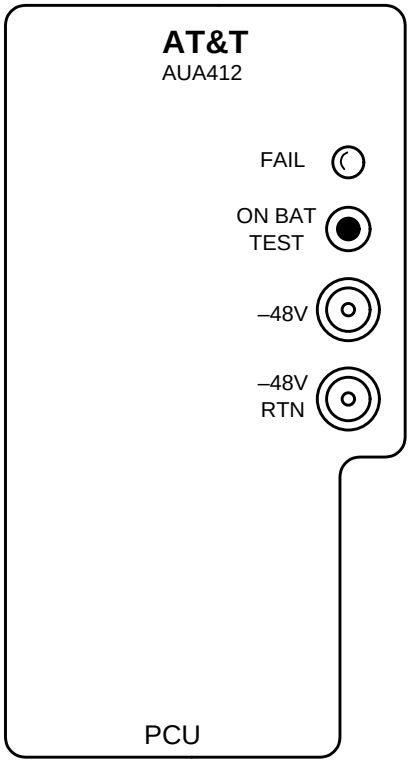

Figure 2. AUA412 PCU Faceplate

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