Traffic Cabinet Components and Accesories

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BIU

What, exactly, is a BIU?

The Bus Interface Unit (BIU) is a rack module that interfaces 24V logic I/O signals to the Synchronous Data Link Control (SDLC) serial bus of TS2 Type-1 traffic cabinets. The BIU is required in all TS2 Type-1 cabinets and in TS2 Type-2 cabinets when controller I/O interface is through the SDLC bus.

About BIU

The BIU is required in all TS2 Type-1 cabinets for serial communication and in TS2 Type-2 cabinets for detection I/O.

Physically, the BIU-64 consists of a circuit board and a front panel. A male 64-pin DIN 41612 Type-B series connector provides the connection to the backplane of the rack. A female 15-pin metal shell D subminiature connector with latching blocks provides the connection to the SDLC cable. The front panel provides separate indicator lights for Power, Transmit, and Valid Data. It also provides a handle for easy removal of the unit from the rack. A separate TS2 cabinet power supply provides the required 24 VDC power plus a 60 Hz line-timing reference.

Hardware

The BIU measures 2.34 in. W x 4.50 in. H x 6.60 in. D. Low-profile components are used in order to facilitate an optional half-width front plate unit which measures 1.17 in. x 4.5 in. x 6.60 in. The BIU will slide freely into two rack card-guides having a nominal slot width of 0.075 in. and a maximum slot width of 0.125 in.

An aluminum handle is provided on the front panel to allow easy removal of the BIU from the rack. Nominal outer dimensions of the handle shall be 1 in. x 2½ in.

The card rack connector on back of the BIU is a male 64-pin DIN 41612 type-B series. The connector is centered at the edge of the circuit board and oriented with Pin 1 located on top. The circuit board edges align with the connector per DIN 41612.

The Port-1 SDLC bus connector on the front panel of the BIU is a 15-pin metal shell sub-miniature type with female gold plated contacts. The connector is equipped with latching blocks and mates with a male 15-pin D-type cable connector that is equipped with spring latches (Amp part number 745012-1 or equivalent).

The front panel made of 0.090 in. sheet aluminum and is finished with a durable protective coating. Two indicator lamps are provided on the front panel, as specified by the TS2 Standard, for Power and Transmit. In addition, the front panel provides a Valid Data indicator, which lights whenever a Valid Data frame is received. The Power light flashes during absence of Line Frequency Reference (LFR) from the cabinet power supply. The BIU operates with internally generated 60 Hz reference in the absence of the LFR signal.

Pin Assignments

- Port-1 (SDLC bus) pin assignments shall be as specified in Section 8.6.2.1 of the TS2 Standard:
  - *1 - Rx Data*
  - *2 - Logic Ground*
  - *3 - Rx Clock +*
  - *4 - Logic Ground*
  - *5 - Tx Data*
  - *6 - Logic Ground*
  - *7 - Tx Clock +*
  - *8 - Logic Ground*
  - *9 - Rx Data -*
  - *10 - Not Used*
  - *11 - Rx Clock -*
  - *12 - Earth Ground*
  - *13 - Tx Data -*
  - *14 - Reserved*
  - *15 - Tx Clock -*

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