



ETH-BITR3

Ethernet/BITBUS-Gateway

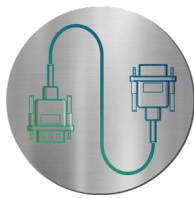


ETH-BITR3 is a rail-mount gateway between ETHERNET and BITBUS, working as master or slave.

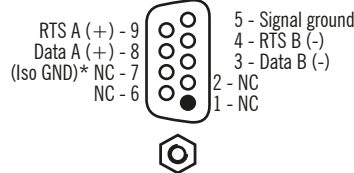
A firmware task implements a BEUG-compliant BAPI-over-TCP server that can be accessed directly using a TCP/IP connection on port 8044. Under Windows, a DLL encapsulates the TCP/IP transfer and mimics a local board to the application.

Technical data:

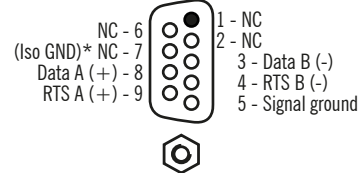
Power requirements:
 24V +/-15% @80mA, fused 8A max.
 Ambient temperature (storage): -40..+50°C, no condensing
 Dimensions: 49x106x95mm (including DIN rail)



BITBUS Socket:

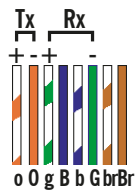
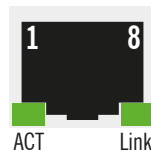


BITBUS Plug:



The BITBUS port not only provides data but also RTS lines as needed in a repeater coupled subnet. The pins used are the Intel defined standard pins 3 and 8 for data, 5 for signal ground and 4/9 for RTS. The signals are isolated (500V test voltage) and driven by 75LBC176 BiCMOS RS485 line drivers that allow up to 50 node loads.

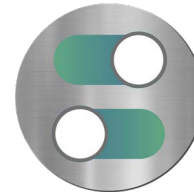
ETHERNET



The Ethernet connection is a standard Modular 8P8C (RJ45) connector with EIA/TIA-568B pin assignments as shown left. The PHY (physical layer driver) used in ETH-BITR3 accepts normal and uplink (reversed) cables. The right LED within the ETH connector signals "Link established" while the left LED is lit during Ethernet activity.

USB Port

The USB implements a VCP that connects to the system monitor of the ETH-BIT3 for setup or debug.

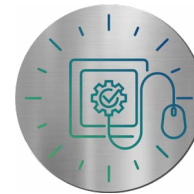


Termination

ETH-BITR3 can be terminated using the on/off switches. Both switches have to be set to ON for active termination.

LEDs

- The four LED indicators are lit as follows:
- Blue USB: When the USB is connected.
- Yellow BITBUS activity: When this device transmits to BITBUS.
- Green SYS: Flashes when the kernel is working.
- Red ERR: Flashes when the system is in boot-loader mode



Software Setup

The factory default for the IP address is 192.168.17.17, it can be modified using the Elzet80 Device Discovery Tool. To set the IP, connect the device to your ethernet, open 'Device Discovery', select the correct network adapter and click the Discover Devices button. Select your device from the list and click the IP-Configuration button. Edit the settings according to your needs and click Set.

By default, BITBUS is set to master (node 255 or Ffh) and 375kBit/s. These settings can be changed in the system monitor of the ETH-BITR3. To access to the system monitor, connect to the USB VCP and use a terminal program (i.e. Hyperterm) set to 115200 bit/s, 8N1 ANSI. To go to the Bitbus menu, enter: z in the system monitor command line. To change the node address to 3, enter: node 3. After you have changed all the settings according to your needs enter "save" and "reset" to make them valid.

On the PC side, please download BAPI/TCP from files.elzet80.de/bapitcp.zip and follow the directions in the readme. The tool bapitpcfg.exe is used to assign logical BITBUS names per BAPI convention (BBUS0, BBUS1, ...) to multiple ETH-BITs with their respective IP addresses. Each ETH-BIT can talk to up to 16 PC applications concurrently, even from different PCs.

Using the bapitcp.dll, ETH-BITR3 simulates a PC add-on-board within Windows. For other operating systems there is the option to directly send BITBUS messages to port 8044 of the ETH-BIT.

24V Power supply input

