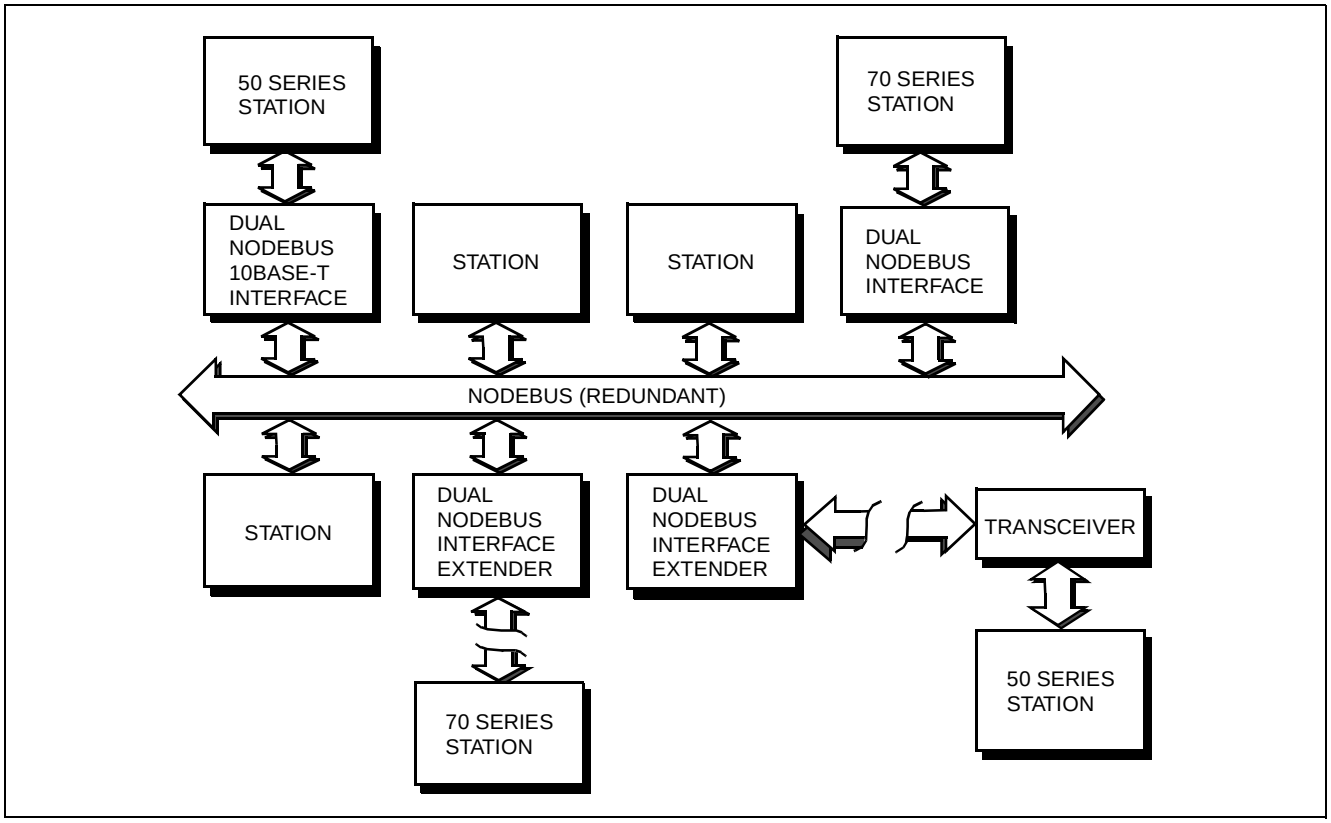
FOXBORO®

PSS 21H-7B2 B4

I/A Series® Hardware
Dual Nodebus Interface, Dual Nodebus 10Base-T Interface, and Dual Nodebus Interface Extender



The Dual Nodebus Interface, Dual Nodebus 10Base-T Interface, and Dual Nodebus Extender provide for direct interfacing of a 50 Series or 70 Series station to an I/A Series Nodebus. This station can be any of the following:

- Application Processor 51
- Application Workstation 51
- Workstation Processor 51
- Application Workstation 70
- Workstation Processor 70

Transmission of data between the Dual Nodebus Interface (DNBI) and the 50 Series or 70 Series station takes place via an Attachment Unit Interface (AUI) cable.

For maximum security, the DNBI allows the 50 Series or 70 Series station to switch between the two redundant Nodebus cables. The switching is effected via commands sent to the DNBI by the external station over an RS-423 control cable. The control cable is also used for ancillary functions such as verifying the status of the Nodebus transceivers, and reading the DNBI module identifier (letterbugs).

The Dual Nodebus 10Base-T Interface (DNBT) is functionally similar to the DNBI. The only major difference is that the DNBT transmits data over a single 10Base-T (twisted-pair) cable instead of AUI and RS-423 cables. The DNBT is optimized for use with Model 51, Style E (and later) processors and 70 Series processors.

The DNBT is shown in Figure 1.

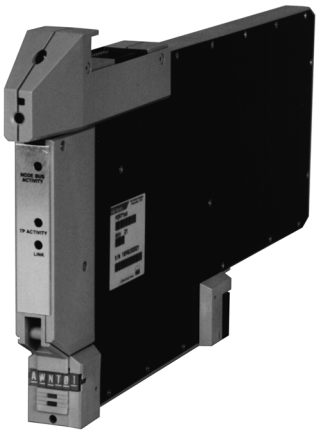


Figure 1. DNBT Module

The Dual Nodebus Interface Extender (DNBX) is functionally similar to the DNBI. The only major differences are the cable type and maximum cable length over which they operate. While data transmission for the DNBI operates over a multiconductor cable at distances up to 45 meters (150 feet) in length, data transmission for the DNBX operates over a coaxial cable at distances up to 450 meters (1500 feet) in length. The matching of cable characteristics (coax-to-AUI, or coax-to-10Base-T) is accomplished at the external station end by means of standard IEEE 802.3 transceivers.

None of these interfaces (DNBI, DNBT, or DNBX) interprets or reacts to data on its associated signal cable: they only electrically convert voltage levels and repeat the signals.

Each of these interfaces (DNBI, DNBT, and DNBX) consist of a single Z-module, designed for mounting in an I/A Series enclosure.

FUNCTIONAL SPECIFICATIONS
DUAL NODEBUS INTERFACE, DUAL NODEBUS 10BASE-T INTERFACE, AND DUAL NODEBUS INTERFACE EXTENDER

Cabling - DNBI

SIGNAL CABLE TYPE
AUI (ref. IEEE 802.3)
CONTROL CABLE TYPE
EIA RS-423
MAXIMUM CABLING DISTANCE
45 m (150 ft)

Cabling - DNBT

CABLE TYPE
Category 5, 10Base-T (shielded twisted-pair) (ref. IEEE 802.3) - (carries both signal and control information)
MAXIMUM CABLING DISTANCE
91 m (300 ft)

Cabling - DNBX

50 SERIES SIGNAL CABLE TYPE
Coaxial 10Base2/5 (ref. IEEE 802.3) interconnected by transceiver
70 SERIES SIGNAL CABLE TYPE
Coaxial 10Base2 (ref. IEEE 802.3)
CONTROL CABLE TYPE
EIA RS-423
MAXIMUM CABLING DISTANCE
10Base2
150 m (500 ft)
10Base5
450 m (1500 ft)

Power Requirements

INPUT VOLTAGE (REDUNDANT)
26 to 42 V dc
CONSUMPTION (HEAT DISSIPATION)
DNBI
7.1 W, maximum
DNBT
7.0 W maximum
DNBX
8.5 W, maximum

ENVIRONMENTAL SPECIFICATIONS
DUAL NODEBUS INTERFACE, DUAL NODEBUS 10BASE-T INTERFACE, AND DUAL NODEBUS INTERFACE EXTENDER

Operating
TEMPERATURE
0 TO 60°C (32 TO 140°F)
RELATIVE HUMIDITY
5 to 95% (Noncondensing)
ALTITUDE
-300 to +3,000 m (-1,000 to +10,000 ft)

Storage
TEMPERATURE
-40 TO +70°C (-40 TO 158°F)
RELATIVE HUMIDITY
5 to 95% (Noncondensing)
ALTITUDE
-300 to +12,000 m (-1,000 to +40,000 ft)

Environmental Contamination Level
Class G3 (Harsh) as defined in ISA Standard S71.04

PHYSICAL SPECIFICATIONS
DUAL NODEBUS INTERFACE, DUAL NODEBUS 10BASE-T INTERFACE, AND DUAL NODEBUS INTERFACE EXTENDER

Configuration
Z-module form factor

Mass (Maximum)
0.9 kg (2.1 lb)

Mounting
Any mounting structure slot which can accept Z-modules, such as the 1x8 mounting structure.