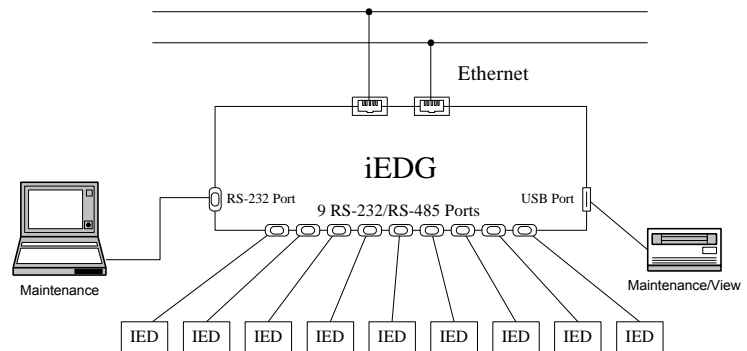


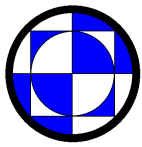
Overview

The Intelligent Ethernet Data Gateway (iEDG) is the most advance product for data communication gateway. Operating independently, it acts as Data Gateway, Protocol Converter, and Data Concentrator for IEDs. It also provides the Ethernet interface for the Dynatrol DS-32 RTU, DS-32C RTU, iPAC FTU and iPAC-C FTU.

iEDG Advanced Features

- Motorola ColdFire MCF5282 Integrated Processor running @ 66 MHz (66 MIPs)
- 1 on-chip Ethernet port with RJ-45 Connector (IEEE 802.3 compliant 10/100 BaseT) support TCP/IP and Telnet, Logical Serial Ports, WEB Server applications
- Optional 2nd Ethernet port for redundant/dual LAN capability with RJ-45 connector (IEEE 802.3 compliant 10/100 BaseT)
- 9 RS-232/RS-485 selectable user ports (1200 – 115.2 kBaud) with RTS, CTS, DCD handshaking signals
- One (1) RS-232/RS-485 port for maintenance/application selectable with RTS, CTS, DCD handshaking signals
- 1 CAN port
- 1 PC port, two-wire bi-directional serial bus over a short distance.
- 2-Mbytes of Flash Memory
- 2-Mbytes of SRAM
- CPU On-chip Memory: 2-Kbytes cache, 64-Kbytes dual ported SRAM, and 512-Kbytes of interleaved Flash Memory
- 3 Optional USB with 12Mbps for device controller and transceiver
- Optional SDRAM for total up to 32Mbytes
- IRIG-B time synchronization
- Real Time Clock (RTC)
- CPU supervisory with dual backup batteries for replacement without power down
- Background debug mode (BDM) for in-circuit debugging and bootstrap code programming
- Compatible with all existing Dynatrol applications including communication protocols such as DNP3.0, IEC870-5-101, Modbus, CDC II, LG8979, SC1801, CDT and protocols (such as DNP3) over TCP/IP, IEC T104.
- Multiple iEDG boards can be connected together (using Dynatrol Network Database NDB Software *Note 1) to provide more Ethernet and serial communications connections
- KADAK AMX Multitasking Kernel for ColdFire
- KADAK AMX KwikNet TCP/IP Stack





Power Requirement

- Power Requirement: 9 – 36 VDC
- Power Output: 5V and 3.3V regulated

CPU

- Motorola ColdFire MCF5282 Microprocessor @ 66 MHz Core and External Bus Speed Frequency.
- Oscillator: Ecliptek E11 Series @ 66MHz or Raltron CO13 @ 66MHz

Memory

- 2 Mbyte Flash Memory
- 2 Mbytes of SRAM with dual battery backup
- 512 Kbyte Flash internal to MCF5282
- 64 Kbyte SRAM internal to MCF5282
- Optional 32 MB of SDRAM implemented as a daughter board to be plugged on to the iEDG mother board.

Peripherals

- One (1) Ethernet port 10/100Mb/s with dual speed Ethernet transceiver and MII.
- Optional 2nd Ethernet port 10/100 Ms/s for redundant/dual LAN configuration, implemented as a daughter board to be plugged on to the iEDG mother board.
- RS232/RS485 port (MCF5282 UART0) for maintenance/application
- RS232/RS485 port (MCF5282 UART1) for application interface to master and slave device
- Eight (8) RS232/RS485 ports (external OCTART) for application interface to master and slave devices
- All 10 RS232/RS485 ports have CTS, DCD, and RTS hand-shaking signals. Communication baud rates are configurable (300 – 115.2kbaud)
- FlexCAN 2.0 interface to CAN devices
- I²C interface for future implementation of LCD panel
- Optional USB 2.0 with 12Mb/s for device control and host transceiver, implemented as a daughter board to be plugged on to the iEDG mother board. Provide 2 host and 1 device ports
- QSPI Interface to Real Time Clock (RTC) with battery backup
- IRIG-B time format demodulated input
- BDM/JTAG interface for background debugging

Real-Time Operating Systems

- Kadak AMX for Coldfire
- Kadak AMX MCF5282 Ethernet Driver
- KwikLook for Fault Finder with CodeWarrior

TCP/IP Stack

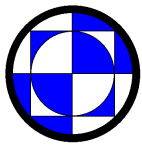
- Kadak high performance KwikNet TCP/IP Stack
- KwikNet Configuration Builder

Software Development System

- Metrowerks CodeWarrior Development Studio for ColdFire Architectures
- Dynatrol Systems Software Development System

Operating Environment

- Temperature Range: -40 to +85 Degrees Celcius
- Humidity: < 95% non-condensing



Applications

- **Network Database (NDB)** application is Dynatrol proprietary software for distributing the database and applications on a networks of RTU to form one large RTU. NDB provides a very sophisticated database link for highly efficient database mirroring mechanism in a network of multi-processing processors. Every processor in the network has full access to the database of the whole network. With this special **Database Mirroring Technology (DMT)**, the information of every point in every processor can be transferred to the other processor very efficiently.