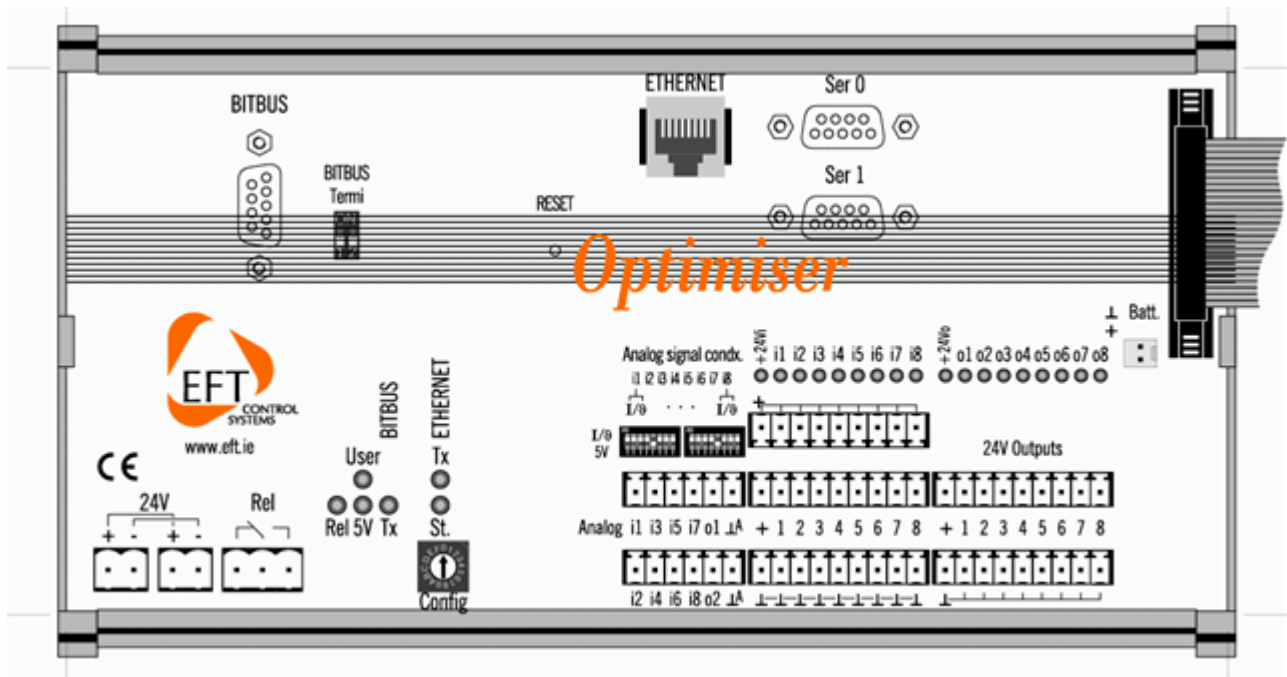


Optimiser Data Sheet



Hardware

The EFT Optimiser is a fully CE marked industrial data logging module capable of receiving up to 72 inputs in total (either Digital pulses or Analogue 4-20mA) using expansion cards. The basic unit has 8 inputs. Logging capacity in the RAM is approximately **20 weeks** without expansion modules. This is reduced according to capacity of modules connected and is 4.5 weeks at the full 72 inputs. The RAM is backed-up by a large lithium cell which is clipped to the case and which also supplies the highly accurate I²C-realtime-clock. The battery is able to ensure long backup time and can be exchanged when the module is operating. There is also a serial EEPROM at the I²C-bus with 64 words for storing configuration data like network address, serial interface speed etc Besides to that, there is a rotary switch labelled "config" with 16 positions that can be set by the user for addressing the main Optimiser (0) and subsequent expansion cards.

The isolated Ethernet interface is accessible at a RJ45 connector and automatically detects 10 or 100 MBit.MAC and IP address etc. are stored in the EEPROM. The Optimiser has two standard UART interfaces; those are RS232-driven and are accessible through two 9pin D-connectors. RTS and CTS are supported as handshake signals; DTR is activated when the CPU is turned on. Standard configuration setting of time and IP address is done using telnet or HyperTerminal.

Ethernet

The Ethernet-Connector has a standard 10/100-base-T pinouts with 1/2 for Rx and 3/6 for Tx.

Inputs

All of the eight Analogue inputs (Analogue i1...i8) are set at the 0/4-20 mA range and have 10Bit resolution. The odd numbered dip switches (1,3,5,7) on each bank of switches must be set on for the Analogue inputs to work with 0/4-20mA. Both switches set to ON must not be selected.

There are also 8 digital inputs that are isolated against the CPU. They are suitable for p-switching transducers and expect 24V nominal for an active input. Each input has a red LED as well as a 24V terminal and a ground terminal PNP-transducers can be connected directly.

Voltage supply ST1/2

At ST1 and ST2 the module has to be supplied with 24V. The two connectors are internally connected in parallel, so supply voltage can be obtained from the 2nd connector.

The module (except for 24V-i/os) and the Optimiser-Bus are supplied from the supply voltage via the internal voltage regulator

Optimiser-Bus

Up to 64 extra expansion Inputs can be connected. The maximum number of connected modules is generally limited by their power consumption. The maximum current of all modules may not exceed 3A having regard to the capacity of the overall power supply. At its physical end (last module or on the CPU itself if no module is connected) the bus has to be terminated with the enclosed terminator.

Configuration:

To Set the IP address & Time and clear the memory

1. All modules will be shipped with the default IP address '**192.168.17.17**' Connect to the module using a standard RJ45 patch lead. Open 'HyperTerminal' and connect using 'Winsock'
2. To set the time and date. Example 10:02 June 12th 2008.
 - a. `settime #10 #02 #00 #12 #06 #2008` >enter
 - b. `reset` >enter
3. To set the IP address, subnet and Gateway, Example 10.0.0.12, Subnet 255.255.255.0 Gw 10.0.0.1
 - a. `Ipset ip "10.0.0.12"` >enter
 - b. `Ipset nm "255.255.255.0"` >enter
 - c. `Ipset gw "10.0.0.1"` >enter
 - d. `Reset` >enter
4. **The buffer should be cleared before using an Optimiser for the first time as follows:**
Format >enter
Do you want to format Y/N >y > enter
Reset >enter

After this you will need to connect again as in step 1

Alternatively, connection can be made using a standard 232 Null Modem cable onto serial port '0' connected at 19200 Baud rate.

EFT recommend that the unit is configured using the serial port as the unit can be difficult to reconnect to using Ethernet if a mistake is made during configuration of IP address etc.