MAXIFLEX Single Channel Harwell Network Interface Module

Model M1588D Canberra Harwell Network Interface Module

DATASHEET

FEATURES

- **Integral RS232/485 Serial Port**
- **Serial Port isolation to 1500Vac**
- **Built in communication for Canberra instruments; namely AB96, iCAM and G64**
- **Integrates Canberra instruments into standard SCADA or DCS or PLC systems**
- **Programmable to allow special features to be implemented**

The Maxiflex M1588 Single Channel Harwell[1] NIM is an Omniflex product designed to communicate with the Canberra (Harwell) range of radiological monitoring instruments, namely the AB96, iCAM and G64. The term 'Single' is used to indicate that the NIM has a single channel to differentiate it from dual serial port versions. The Harwell NIM is not available in a dual channel version.

The Canberra / Harwell AB96 monitor is an alpha / beta monitor, the iCAM is a newer Canberra offering which effectively replaces the AB96 whilst the G64 is a gamma monitor. A mixture of these monitor types can be accommodated by the NIM on the same network.

A typical system may consist of one or more Harwell NIMs each connected to one or more monitors. A multi-drop, 2 or 3 wire RS485 network is used to connect the NIM (Host) to the monitors (Slaves).

All data is accessible by a SCADA, DCS or PLC via the Maxiflex system CPU through a 4000 register Data Interchange Table.

All system configuration data and dynamic data can be read and written through this convenient table interface.

In addition, the Harwell NIM can support the development of 'special' applications in EziFORTH programming language although this is not the norm. Custom code may be downloaded to the module to communicate with any device equipped with a RS232 or RS485 serial port.

Using the supplied Omniset configuration utility, advanced polling schemes may be easily set up without the need for programming. All polling and communications processing is performed in the module, unloading the Maxiflex CPU module for the more important system tasks such as control and SCADA communications.

[1] Harwell was the original name of the company Canberra. As some of the older instruments are still tagged 'Harwell' and for historical reasons this module is still referred to as the 'Harwell NIM'

APPLICATIONS

- **Designed specifically to communicate with the Canberra (Harwell) range of radiological monitoring instruments, namely the Lab Impex, AB96, iCAM and G64 and integrate the data from this device into a DCS, PLC or SCADA system.**
- **Remote I/O for SCADA software packages incorporating third party devices.**
- **Communicate over wide area networks, integrating remote RTU's into local systems.**

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Specifications

Serial Port

Type	Asynchronous RS232/485 serial port
Protocols	Canberra / Harwell Protocol as standard Modbus Master (ASCII or RTU) Modbus Slave (ASCII or RTU) Conet/s
Baud Rate	300 – 38,400 baud.
Maximum cable length	5 meters (50ft) in RS232 mode 1200m (4000ft) in RS485 mode
Connection	9 pin sub-miniature DB9 (male).
Isolation to Logic	Tested to 1500Vac

Memory

User Program	10k EEPROM
User Variables	10k Battery Backed RAM
Data Interchange Table	4000 16 bit Registers

Front Panel Indicators

OK (Green)	On = Healthy Flashing or Off = NIM faulty
RUN (Green)	On = Application Program Running Off = No application program or application program not running
Tx (Red)	On = Data is being sent out the serial port.
Rx (Amber)	On = Data is being received on serial port.

Environmental

Operating Temperature	-25°C to +50°C (-13°F to +140°F)
Storage Temperature	-40°C to +70°C (-40°F to +158°F)
Humidity	95% max. at 40°C (104°F) non-condensing.
Protection	Electronics conformal coated

Logic Power Consumption

From Logic Power Supply	250mA from 5Vdc max.

Mass

Excluding Packaging	390g (13.8oz)
Including Packaging	480g (16.9oz)

Ordering Information

Description	**Order Code**
Maxiflex Harwell NIM	M1588D

Serial Port Connection Details

The selection of either RS232 or RS485 is accomplished by specific wiring of the serial port connector. No internal links need be changed to select between RS232 and RS422/485.

Pin number	***Communication Standard***	
	RS232	***RS485***
1	Do not connect	Rx Data + (In)
2	Rx Data (In)	Rx Data – (In)
3	Tx Data (Out)	Do not connect
4	Do not connect	Tx Data+ (Out)
5	Ground	Ground
6	Do not connect	+5V
7	RTS (Out)	Do not connect
8	CTS (In)	Do not connect
9	Do not connect	Tx Data – (Out)

***Pin allocation of serial port connector*.**

NOTE1: The RTS and CTS handshaking lines are available for applications that require it. It is not a requirement of the CPU to use handshaking. In most applications connecting handshaking lines is not a requirement.