

**Electrical Installation Requirements**

Care should be taken to separate the power and signal cables to prevent electrical interference and possible damage due to inadvertent connection.

The outputs are unsuppressed.

The plant inputs are electrically isolated. A volt free contact should be connected for the logical conditions stated below between the input and common (14).

**CE Conformance**

This unit conforms with the relevant EU standards when installed according to the JTL Installation Requirements for this product.

Digital Outputs				
1	LN DQ1	3 4	Unsuppressed	Watchdog
2	LN DQ2	6 5	Unsuppressed	Not used
Digital Inputs				
1	14 11		Volt Free	Plant healthy
2	14 12		Volt Free	Flow pulse
3	14 13		Volt Free	Auto

**Use of Maintenance Unit**

The controller can be checked and the operation adjusted using a JTL portable maintenance unit which plugs into the controller. Each item of information has an item number. The more important items are listed in the tables overleaf. Examples:

To read item 22 press: **ITEM** **2** **2** **ENTER**

To set item 40 to 100.0 press:

**ITEM** **4** **0** **ENTER** **SET** **1** **0** **0** **ENTER**

To correct errors press: **CANCEL**

To select next or previous items press: **+** and **-**

**Initial Commissioning and Bitswitch Settings**

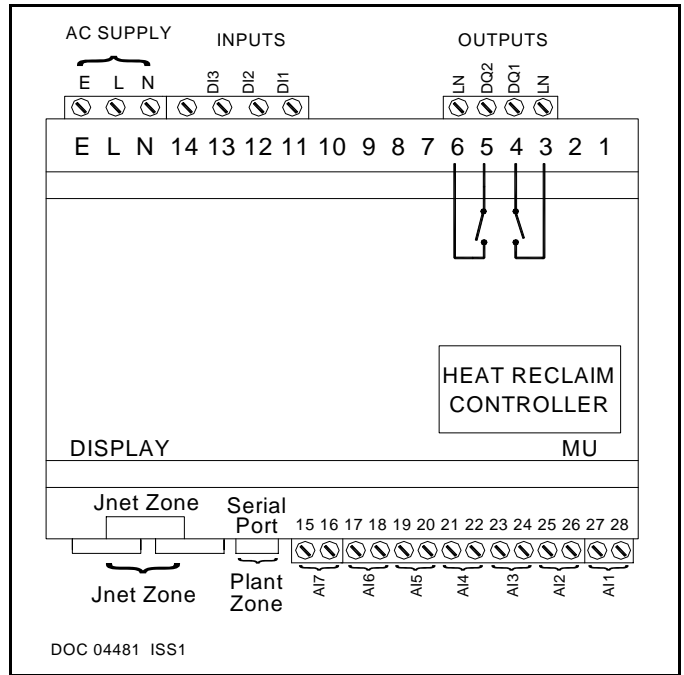
The controller has 1 set of data built in to its program for use during commissioning. Initialize to this data by setting item 9 to 1234. This loads into the controller a suitable set of data, adjustments should then be made as necessary.

**JTL Network Connection**

This unit can be configured onto the JTL as one or two units depending on the number of heat exchangers. The JTL unit numbers are set on items 101 & 201.

**Water Flow Monitoring**

The water flow is monitored using a water meter with a pulse output.



**Display**

The FL220 controller drives the JTL LCD14 display using a CAB75 cable. Various cable lengths are available.

**Alarm Display**

Various alarms are indicated on the display. Typical messages displayed are:

P.Flt Plant fault (highest priority)

The alarm conditions are flashed alternately with the heat delivered. In the event of there being more than one alarm the highest priority alarm is displayed.

**Daylight Saving**

When connected to a JTL network this controller can operate by displaying daylight saving time for its time. Daylight saving operation is selected by setting item 18. The connected network controller then adjusts the times automatically during the daylight saving period.

ADJUSTABLE PARAMETERS				FL220
	Item	Function	Range	Units
FLOW SETTINGS	40	Volume measured pulse	1 - 250	l
DISPLAY	178 189	Temperature units (MU) Backlight control	0 - Celsius 1 - Fahrenheit 0-off, 1-on, 2-off flashes alarm, 3 on flashes alarm	
JNET FUNCTION	101 18	Unit number Daylight saving operation	0.1 - 899.7 0= standard time, 1 daylight saving time	

OTHER USEFUL ITEMS					
Item	Function	Item	Function	Item	Function
31	FLOW DATA Average flow rate over the last 15 mins				
32	Average flow rate over the last hour				
33	Average flow rate over the last 24 hours				
34	Total flow over the last 24				
35	Flow in last minute				

**Relay Output Rating**

2A resistive

**Supply Requirements**

230 V ac 48-62 Hz Supply 6 VA maximum inputs  
2 mA maximum

24 Vac (optional)

**Applicable Documentation**

Item Numbers  
Doc No.04782

Firmware Variations  
Doc No. 04783

Connections Diagram  
Doc No. 04785

Installation Information  
Doc No.04784

**Note:** The information contained in this document applies to the current version of the unit supplied with it. Full operating manuals, item number and software variation information can be obtained from the supplier JTL Systems.

