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.

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

Description
JTL plant control interfaces are designed to be used with JTL plant controllers. The IF51 comprises 6 PT1000 temperature sensor inputs.
A JTL maintenance unit is required to configure this product.

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

To read item 30 press:

[ITEM] [3] [0] [ENTER]

To set item 30 to 2 press:

[ITEM] [3] [0] [ENTER] [SET] [2] [ENTER]

To correct errors press:

[CANCEL]

To select next or previous items press:

[−] and [+]

JTL Network Communications
The JTL network port is arranged for 2 wire (half duplex) communications and supports Modbus ASCII and Modbus RTU protocols.

Connection to the IF51 plant zone use JTL cables type CAB60. Communications speed should be set to 9600 baud by setting item 36=24. The plant controller should be set to 9600 baud also.

Note all network products must be connected in parallel without cross connections.

Functionality & Configuration
The interface is designed to require very little configuration beyond network address, communication speed and communication protocol.

Temperature Reporting
Temperature of each sensor channel can be read on item 1x1 where x is replaced by channel number. Shorted sensors will report a value of -80.0 (minimum range) and open circuit sensors or unused channels report a value of 125.0 (maximum range)

Maintenance Features
In addition to address configuration, the maintenance unit enables the user to look at various items for diagnostic purposes.

Raw ADC codes can be examined on items 21-26 for channels 1-6 respectively.

ADC spread (an indication of how much electrical noise is present) can be checked on items 1x8, where x is replaced by the channel number.

Two LEDs are located in the top left hand corner of the unit. These are for diagnostic purposes.

WD (Green) = Watchdog, blinks if board is healthy

TX (Red) = Illuminated when interface is transmitting data to plant controller
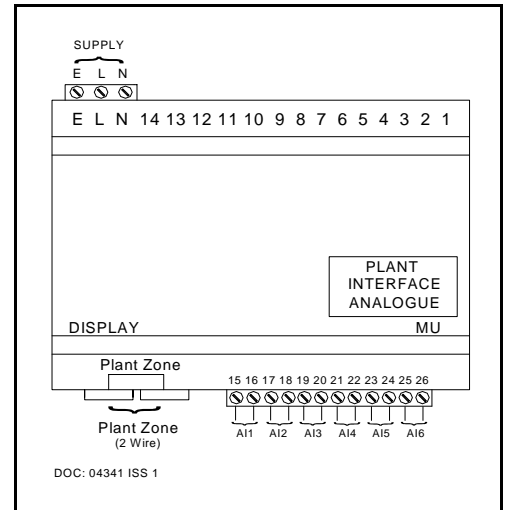
ADJUSTABLE PARAMETERS		
Item	Function	Range
30	Modbus ID	1 - 254 (0 reserved)
36	Communications baud rate	1=1200 2=2400 3=4800 4=9600 (default) 5=19200
37	Communications protocol	0=Modbus ASCII 1=0 reserved 2=reserved 3= Modbus RTU (default)
111	Channel 1 temperature	
121	Channel 2 temperature	
131	Channel 3 temperature	
141	Channel 4 temperature	
151	Channel 5 temperature	
161	Channel 6 temperature	

OTHER USEFUL DIAGNOSTIC ITEMS	
Item	Function
21	Channel 1 Raw ADC code
118	Channel 1 ADC code spread
22	Channel 2 Raw ADC code
128	Channel 2 ADC code spread
23	Channel 3 Raw ADC code
138	Channel 3 ADC code spread
24	Channel 4 Raw ADC code
148	Channel 4 ADC code spread
25	Channel 5 Raw ADC code
158	Channel 5 ADC code spread
26	Channel 6 Raw ADC code
168	Channel 6 ADC code spread

Supply Requirements and Input/Output Specification
230 V ac 48-52 Hz
Supply 3 VA maximum
PT1000 temperature inputs excited by 1mA supply and cover range
-80.0 C to +125.0 C

Full operating manuals and item number information can be obtained
from your supplier or JTL Systems.

Technical documentation can also be obtained from our website
www.jtl.co.uk.

CE This unit conforms with the relevant EU standards
when fitted in accordance with its installation
instructions.

Applicable Documentation
Item Numbers	Doc No. 04336
Firmware Variations	Doc No. 04337
Connections Diagram	Doc No.
Installation Requirements	Doc No. 02777

Application Drawings
Doc No.04191

IF51.wpd Issue 1 June 2014 Doc No. 04340

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