

**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.

**Analogue Inputs**

4-20 mA (CON5)

		General Purpose	Pack Pressures (psi)	Liquid Level	LPA (psi)	Transcritical CO <sub>2</sub> (bar)
+1 A1	Channel 1	IP 1	Discharge	Liquid	Discharge Pressure	Discharge pressure
+2 A2	Channel 2	IP 2	HT suction		Liquid Pressure	Liquid pressure
+3 A3	Channel 3	IP 3	LT suction		Liquid Level	HT suction pressure
+4 A4	Channel 4	IP 4				LT suction pressure

**Use of Maintenance Unit**

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

To read item 20 press:

To set item 24 to -20.0 press:

To correct errors press:

To select next or previous items press: and

**JTL Network Communications**

JTL network connections are available as screw terminal or RJ connections for use with JNet cables.

All JTL network products must be connected in parallel without cross connections.

**Initial Commissioning**

The monitor has a set of data built in to its program for use during commissioning. This can be accessed by setting item 9 to 1234. This will load into the monitor a standard set of data. Adjustments should then be made as necessary. The range over which the settings can be adjusted is shown overleaf.

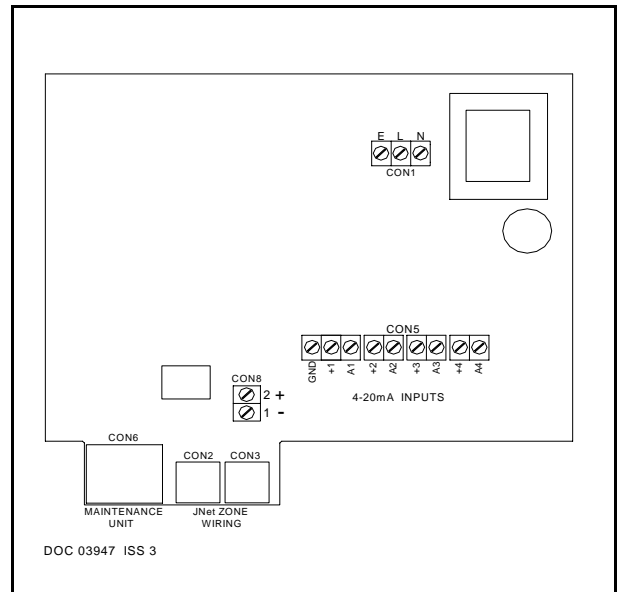
The monitor communicates on a JTL network. The unit number should be set on item 1.

**Unit Function**

The function of this unit can be selected on item 60. This is used to change the presentation on the JTL network.

**Analogue Signal Monitoring**

Each sensor input can be viewed as a damped and undamped value. The damping time constant can be adjusted on item 65. An average of the analogue values can be viewed on item 160. The sensors included in the average can be individually selected.



**Alarms**

The alarm level polarity is selectable as either high or low level alarms. This enables the units to be set for high and low alarms or two levels of high or low alarms.

The analogue inputs are monitored continually. The readings are averaged over the period set on item 65. If the average reading exceeds or falls below the appropriate level then an alarm is given after a programmable time, on the JTL alarm system.

**Item Numbers**

The AI221 monitor is a 4 sensor unit. Items 20-29 are for sensor 1, items 30-39 are for sensor 2, items 40 - 49 are for sensor 3 and items 50 - 59 for sensor 4.

ADJUSTABLE PARAMETERS			
Item	Function	Range	Units
1	JTL unit number	0.1 to 899.8	
65	Damping time constant	0 - 120	min
60	Unit function	1=general purpose 2=pack pressures 3=liquid level 4=LPA monitoring 5= Transcritical CO <sub>2</sub>	
66	Critical alarm period	10 - 120	min
29,39,49,59	Enable channel	0=off 1=on	
22,32,42,52	Alarm level 1	Depends on unit function	
23,33,43,53	Alarm level 1 polarity	0=low level 1=high level	
24,34,44,54	Alarm level 2	Depend on unit function	
25,35,45,55	Alarm level 2 polarity	0=low level 1=high level	
27,37,47,57	Alarm delay	0 - 120	min
26,36,46,56	Alarm type	0=levels 1 & 2 critical 1=neither level critical 2=level 1 critical 3=level 2 critical	
28, 38, 48, 58	Sensor averaging	0=exclude 1=include	

OTHER USEFUL ITEMS	
Item	Function
20,30,40,50	Damped reading
21,31,41,51	Reading
160	Average of selected damped readings

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

#### Supply Requirements

230 V ac 48-52 Hz

Supply 3 VA maximum



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

#### Applicable Documentation

Item Numbers	Doc No. 03486
Firmware Variations	Doc No. 03487
Connection Diagram	Doc No. 03388
Evaporator Manual	Doc No. 01923
Datasheet	Doc No. 03434
Application Drawings	Doc No. 04003
Application Drawings	Doc No. 03389
Application Drawings	Doc No. 03847