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.

In order for inbuilt suppressors to function the outputs MUST be wired according to the wiring diagram.

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 a JTL pack controller or defrost scheduler. The IF13 interface comprises 7 suppressed changeover relay outputs. 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 31 to 2 press:

ITEM 3 1 ENTER SET 2 ENTER

To correct errors press: CANCEL

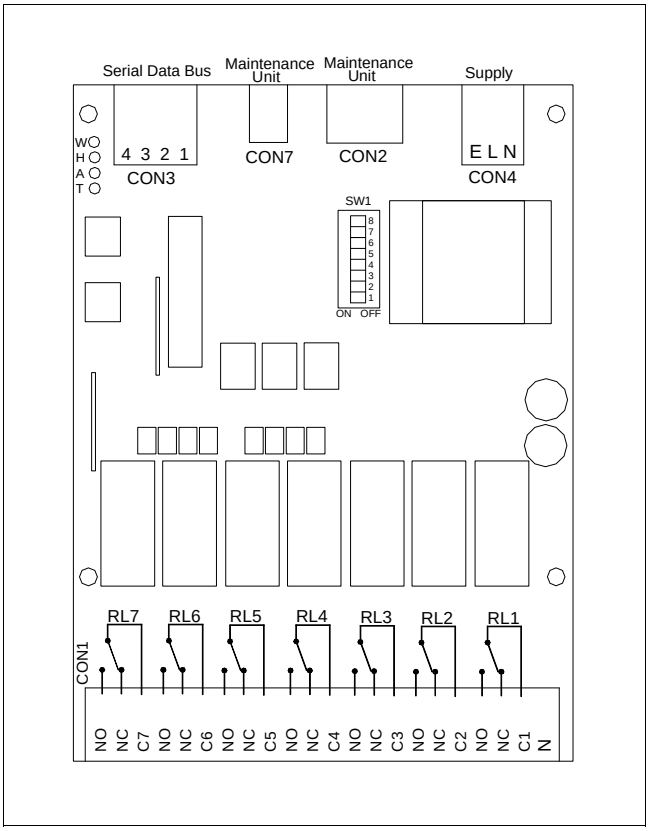
To select next or previous items press:
– and +

Communications
The Pack Controller Serial data (CON3) is arranged for 4 wire (full duplex) communications. The wiring of the port is:

	4 wire
1	Rx-
2	Rx+
3	Tx-
4	Tx+

Note all plant interfaces must be connected in parallel without cross connections. The Rx connections must be connected to the Tx connections at the pack controller or defrost scheduler.

Functionality & Configuration
The interface is connected to the plant communication zone of a JTL pack controller. The interface has a unique "address" on the zone, and it is set up by items 30 and 31 on the maintenance unit. Item 31 defines the interface "type" and item 30 defines the interface number, where there is more than one interface of the same type. For type setup see tables overleaf.



Four LEDs are located in the top left hand corner of the PCB. These are for diagnostic purposes.

W (Green) = Watchdog, blinks if board is healthy
H (Green) = Illuminated when interface processor is healthy
T (Red) = Illuminated when interface is transmitting data to pack controller
A (Red) = Illuminated when interface is in "Active" mode. ie, communicating correctly with pack controller

Legacy Support
The IF13 has been designed to replace the previous model IF3. On the IF3 the address functions were set up using bit switches SW1 and SW2. These bit switches have been replaced by items 30 and 31 respectively. To provide exact replacement functionality these items must be set up as described overleaf.

Item 32 must be set to 0 for defrost control functionality.

Interface Backup Mode
To ensure fail safe operation, each interface card has a watchdog timer. When the data messages are received from the pack controller unit the watchdog timer is reset.

In normal operation the watchdog timer should not time out. In this state the red indicator (A) on the card should be on. The watchdog time out period is approximately 90 secs.

If the watchdog timer does time out then the indicator will be extinguished and the card reverts to standby mode. In standby mode all outputs can be directly operated by bitswitches (SW1) mounted on the interface card.

There is one bitswitch for each relay output. These bitswitches should be set to a particular combination for failsafe control in the event of a breakdown. When the switch is closed, the relay is energised. For switches without text when the dot is showing, the switch is closed.

While the watchdog has not timed out the bitswitches are inoperative.

On power up the watchdog is reset to the start of the timeout period. This allows 90 secs for the central controller to establish control before the standby mode is selected.

For use as a defrost scheduler, it would normally be appropriate for the backup switches to be set off.

Maintenance Features

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

Logical outputs (outputs commanded by the pack controller or defrost scheduler) are displayed in binary coded form on item 72. Physical outputs are displayed on item 73. Physical outputs can be forced, overriding pack commands by entering a non zero value in item 79.

The binary coding works as follows:

1 = output 1
2 = output 2
4 = output 3
8 = output 4
16 = output 5
32 = output 6
64 = output 7

If more than 1 output is active then the code is added arithmetically.
Eg., output 1 & 3 active = 1 + 4 = 5.

Forced functions remain forced whilst the maintenance unit is plugged in. They are cancelled automatically 30 minutes after the maintenance unit is unplugged.

ADJUSTABLE PARAMETERS

Item	Function	Range
30	Interface number	0 to 9
31	Interface type	0 to 15
32	Compressor control	Must be set to 0

OTHER USEFUL ITEMS

Item	Function
72	Output status (command from pack controller)
73	Output status (actual)
79	Forced output status

INTERFACE FUNCTION OPTIONS

Function	Legacy controllers up to & inc. CP4x		CPSA 2 stage screw controllers		All other controllers	
	Item 31	Item 30	Item 31	Item 30	Item 31	Item 30
Defrost Stub Valve	4	2 - 5	4	2 - 4	4	1 - 7
Defrost Drain Down Valve	4	6 - 9	4	6 - 8	6	1 - 7
Oil Cooler (3 stage)	-	-	4	5	-	-
Group Defrost Valve	5	1	5	1	5	1

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 6 VA maximum
Relay rating 5 A resistive

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

Applicable Documentation

Item Numbers	Doc No. 02786
Firmware Variations	Doc No. 02778
Connection Diagram	Doc No. 02763
Installation Requirements	Doc No. 02777
Outline Details	Doc No. 02781

Application Drawings

Oil Cooler (CPSA)	Doc No. 01073
Group Defrost (non xPLT)	Doc No. 02023
Defrost System Stub & Drain down (Legacy)	Doc No. 02780
Defrost System Stub & Drain down	Doc No. 02779

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