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 inputs are electrically isolated. A line voltage should be connected for signal present. The terminal marked **COM** should be connected to the supply voltage neutral.

NOTE: The line voltage MUST BE on the same phase as the unit supply.

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. The IF11 interface comprises 8 optically isolated mains "digital" inputs and 7 suppressed non-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:

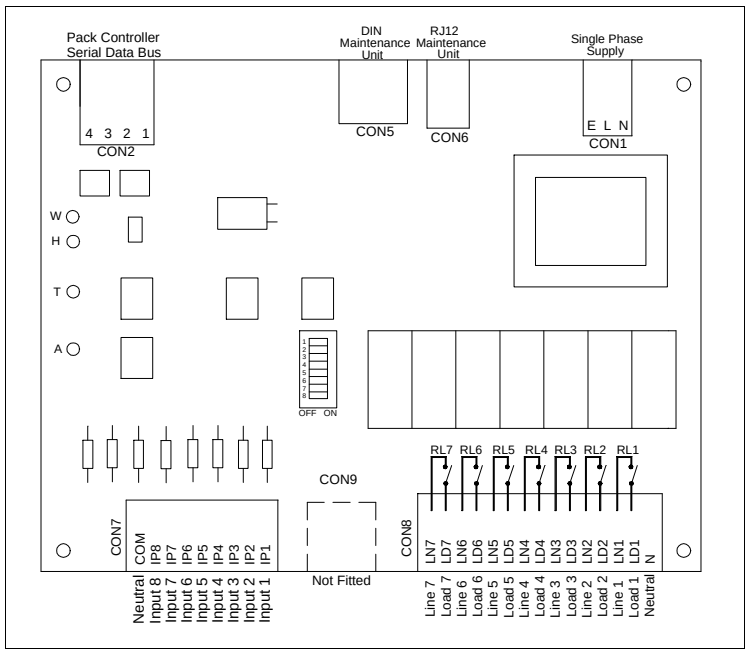
− and +

JTL Network Communications

The JTL network port (CON2) 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 network products must be connected in parallel without cross connections. The Rx connections must be connected to the Tx connections at the pack controller.



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 and enhancements

The IF11 has been designed to replace the previous model IF1. On the IF1 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 above and item 32 should be set to 0.

However the IF11 offers enhanced control which improves fault operation. This control is selected using item 32. For settings where the IF11 is used for compressor control see the Adjustable Parameter Table. Where item 32 is set to 1 the compressor(s) will only run when the appropriate healthy input is present. If item 33 is set to 0 then input 7 must be present while if item 33 is set to 1 then the input 1 must be present for compressor 1 to run, input 2 for compressor 2 etc.

The enhanced control is done locally within the IF11 regardless of the command information from the main controller. Setting item 32 to 1 is allowed with all pack controllers that support the IF11 (IF1) interface unit.

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.

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

Logical inputs (the inputs the pack controller sees) are displayed on item 71 in binary coded form. These input values can be forced to read differently by setting a non-zero value on item 78. The physical inputs however, are always displayed on item 100.

Logical outputs (outputs commanded by the pack controller) 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 = input 1 / output 1
2 = input 2 / output 2
4 = input 3 / output 3
8 = input 4 / output 4
16 = input 5 / output 5
32 = input 6 / output 6
64 = input 7 / output 7
128 = input 8

If more than 1 input or output is active then the code is added arithmetically. Eg., input 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 - 9
31	Interface type	0 - 15
32	Compressor control	0=no 1=yes
33	Type of compressor control	0=non-xPLT 1=xPLT style

OTHER USEFUL ITEMS

Item	Function
71	Logical input status (as seen by main controller)
72	Logical output status (as sent by main controller)
73	Output status (actual)
78	Forced input status (for maintenance purposes)
79	Forced output status (for maintenance purposes)
100	Input status (actual)

INTERFACE FUNCTION OPTIONS

Function	Legacy controllers (up to & inc CP4x)		CPSA/C 2 stage screw controllers		CPST		xPLT		All other controllers	
	Item 31	Item 30	Item 31	Item 30	Item 31	Item 30	Item 31	Item 30	Item 31	Item 30
Single Compressor (up to 4 stages)	3	0 - 9*	3	1 - 4	-	-	-	-	3	0 - 9*
Multi Compressor (single stage)	-	-	-	-	-	-	3	1 - 2	-	-
Condenser (multi stage)	4	1	4	1	4	0	4	0	4	0

* 0 = compressor 10

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

Supply and Input Requirements
230 V ac 48-62 Hz
Supply 6 VA maximum
Inputs 2 mA maximum

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
Connections Diagram	Doc No. 02765
Installation Requirements	Doc No. 02777
Outline Details	Doc No. 02783

Application Drawings

Single Compressor (non-Linde)	Doc No. 02788
Single Compressor (Linde)	Doc No. 02787
2 Speed Screw Compressor (CPSA)	Doc No. 02789
Multi Compressor (xPLT)	Doc No. 02790
Multi Stage Condenser	Doc No. 02791

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