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

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 20 press: ITEM 2 0 ENTER

To set item 21 to 6 press:

ITEM 2 1 ENTER SET 6 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. Set item 9 to 1234. This loads into the controller a suitable set of data for initial commissioning. Adjustments should then be made as necessary.

For communications on the JTL network set the unit number on item1.

Display
The display shows the systems that are currently on defrost in sequential order.

Item 77 sets whether the display shows the system number (1-48) or the full JTL style number (e.g. 301-348)

The DP3xx drives the JTL LCD14 display using a CAB75 cable. Various cable lengths are available.

Item 75 controls the backlight for the display.

Co-ordinator Function
The function of the co-ordinator is to organise the fixture defrosts to ensure the defrosts are sensibly sequenced taking into account the required number of defrosts a day and balancing the defrost load. For electric defrosts this includes which distribution panel, circuit and phases the fixture evaporator uses for defrost. When the fixture is set for patented JTL PREDICT operation the fixture controller can determine that a defrost is required based on the fixture evaporator conditions.

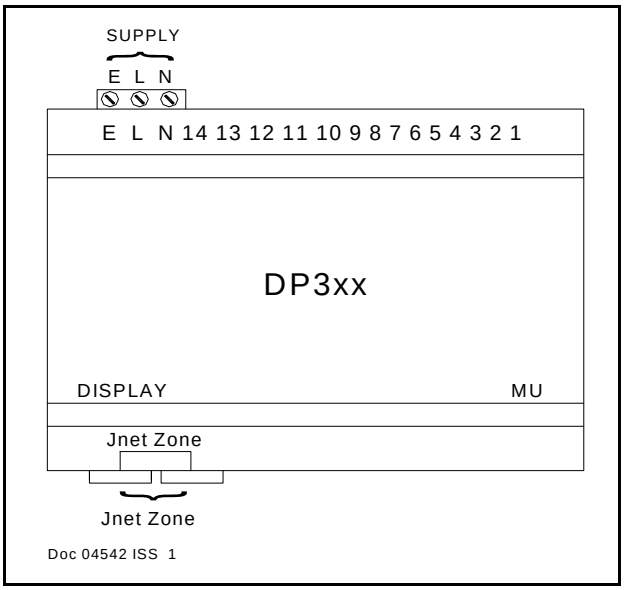
In the standard strategy the evaporator controller requests a defrost based on the number of defrosts required per day. In the PREDICT strategy the evaporator controller requests a defrost when required by the appropriate JTL PREDICT algorithm.

When a fixture requires a defrost the defrost requirement number (DRN) is set >0. Normally this would be set to 1 but the fixture can be set to start at a higher DRN (priority) if desired.

Fixtures may be put onto forced defrost at the fixture using a JTL maintenance unit. When a forced defrost is activated the DRN is set to 128 taking the fixture to the top of the DRN priority list.

The fixture will be put into a queue of other fixtures requiring a defrost. If after 15 minutes the fixture hasn't started a defrost the DRN will be incremented by 1. This is to ensure that fixtures are defrosted in a sensible sequence.

The co-ordinator determines when the request can be actioned. A command is then sent to the appropriate fixtures. Once the fixtures have gone onto defrost the fixture request is removed from the queue.



There are instrinsic delays in the communications network as the defrost requests and commands are polled. The delays depends on the zone polling time on a particular installation, 2 to 3 minutes are typical on a reasonably large site. The overall delay (latency) on such a site would typically be 7 to 11. minutes from defrost request to command completion. The latency is taken into account when requesting a defrost eg if 4 defrosts a day are required and the network latency is 10 minutes then the next defrost is requested 5 hours and 50 minutes from the start of the previous defrost.

The fixture identification number is used to determine which fixtures are controlled by this co-ordinator. The fixture numbering is in blocks of 480 starting at 101.0 to 148.9, 151.0 to 198.9, etc. Digits 2 and 3 are the system group number. Digit 4 is the fixture number within the system group. All fixtures in the same system group will start defrosting together regardless of which fixture requests the defrost. Fixtures can individually terminate defrosting but refrigeration does not resume until all fixtures in the system group have terminated.
Fixtures that are not set for co-ordinated or PREDICT defrost but that are included in the appropriate numbering range will be taken into account by the co-ordinator when making decisions as to what can defrost and when.

The fixture at the top of the queue is the one with the highest demand. However it may not be the next unit to be assigned for defrost as the conditions may only allow a unit further down the queue to start defrost.

Co-ordination Strategy
a) The maximum number of the fixtures that may be put on defrost associated with this co-ordinator.
b) The maximum number of fixtures that may be put on electric defrost on the specified circuit number in a particular distribution panel.
c) The maximum number of fixtures that may be put on electric defrost on each phase
d) The maximum defrost duration allowed by the co-ordinator regardless of the settings in the fixture. If this value is exceeded the network defrost command is terminated.

PREDICT Licencing
PREDICT cannot be selected unless the licence has been assigned.

Energy Reduction Strategies
There are two strategies in the energy reduction co-ordinators.
a) Time of day.
JTL network timer can be selected which specifies when the electric defrost initiation is inhibited. Any one of the eight network timers can be selected using item 78.
b) Global plant input.
Electric defrost initiation can be disabled by a global plant input on the JTL network. When this input is energised electric defrost is inhibited. Any one of eight inputs can be selected using item 76.

ADJUSTABLE PARAMETERS				OP3XX DP4XX
	Item	Function	Range	Units
Co-ordinator Setup	20	Strategy	0=Disabled 1=Non-Predict 2=Predict	
	21	Maximum no of evaporators allowed on defrost	0 - 24	
	27	Maximum off cycle defrost duration	30 - 60	mins
	24	Maximum no of evaporators per circuit allowed on defrost	0 - 4	
	23	Maximum no of evaporators per phase allowed to defrost	0 - 4	
	26	Maximum electric defrost duration	20 - 60	mins
Load Shedding	76	Electric defrost inhibit Broadcast plant data selection	0=Disabled 1 - 8=Plant input choice	
	78	Electric defrost inhibit broadcast timer selection	0=Disabled 1 - 8 Timer choice	
Display	77	JTL numbering on systems on defrost display	0=Off 1=On	
	75	Backlight control	0=Backlight off 1=Backlight on 2=Backlight off, flashes for alarm 3=Backlight on, flashes for alarm	
Jnet Functions	1	Unit number	0.1 - 899.7	
	18	Daylight saving operation	0= standard time, 1 daylight saving time	

OTHER USEFUL ITEMS

Item	Function	Item	Function	Item	Function
	CO-ORDINATION		**SORTED LIST** (x=0-9)		**EVAPORATOR DATA (nn=21-92 where 21=evaporator 1 etc)**
39	Strategy as allowed by network	1x0	Evaporator unit number		
30	Current number of evaporators on defrost	1x2	Evaporator mode		
		1x7	Evaporator electrical distribution	nno	Evaporator unit number
32	Current predicted unit number		Panel no	nn6	Defrost requirement number
79	Electric defrost inhibit state	1x3	Evaporator electrical circuit number	nn2	Evaporator mode
200	Highest system number in use	1x4	Defrost method	nn3	Distribution panel & circuit number
201	No of evaporators in use	1x6	Defrost requirement number		
202	Current no of evaporators potentially requiring defrost			nn4	Evaporator method
				nn5	Defrost command to evaporator

Applicable Documentation

Item Numbers	Firmware Variations	Connections Diagram
Doc No. 03402	Doc No. 03403	Doc No. 03351

Supply Requirements
230 V ac 48-62 Hz Supply 3 VA maximum inputs

24 Vac (optional)

Installation Information
Doc No. 03344

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.

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

PREDICT® is the patented JTL pattern recognition algorithm for providing defrost on demand for the cabinets on a system.

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