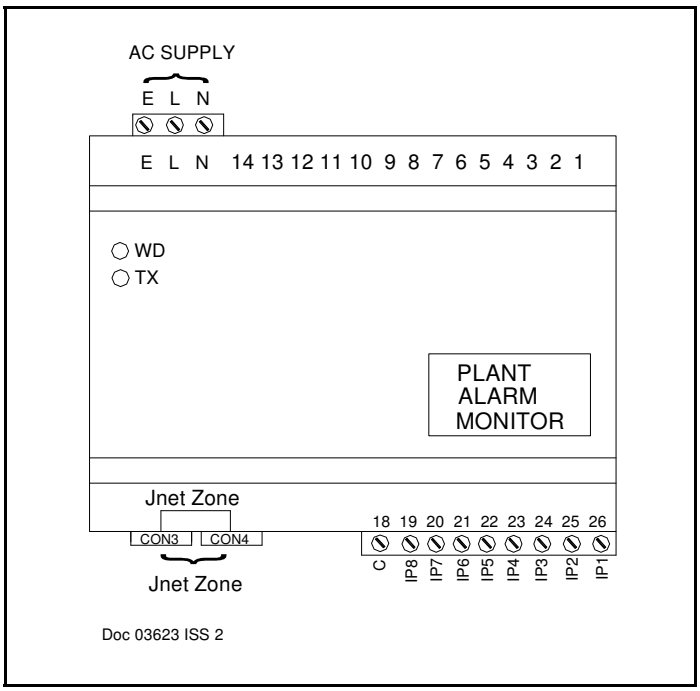
Overview
The PA68x monitor is designed to report as up to 8 individual single-input units on the JTL Jnet network. Inputs 1 to 8 are assigned to network units 1 to 8 respectively. Each input is assigned to an event or alarm condition on the network. Through this document 'n' is used as a substitute for numbers 1 to 8 in reference to the 8 individual network units. eg Item 1n1 would refer to Items 111, 121, 131, 141 etc.

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 plant inputs are electrically isolated.
Model 680
A line voltage should be connected for input present. The terminal marked **C** should be connected to the supply neutral.
Model 681
An on board isolated 15V ac supply is present on the **'C'** terminal. This provides voltage for the alarm inputs. Inputs are energised via volt free contacts connecting '**C**' to the appropriate 'IP' terminal. ON NO ACCOUNT MUST AN EXTERNAL SUPPLY BE USED FOR INPUTS.

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



Inputs

C	COMMON		
IP1	Plant event Unit 1	IP5	Plant event Unit 5
IP2	Plant event Unit 2	IP6	Plant event Unit 6
IP3	Plant event Unit 3	IP7	Plant event Unit 7
IP4	Plant event Unit 4	IP8	Plant event Unit 8

Note: See relevant connections diagram for wiring details

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 21 [ITEM] [2] [1] [ENTER] press:

To set item 21 to 4 press:

[ITEM] [2] [1] [ENTER] [SET] [4] [ENTER]

To correct errors press: [CANCEL]

To select next or previous items press: [+] and [−]

JTL Jnet Communications
Note all network products must be connected in parallel without cross connections. The unit is designed to be connected in a "daisy-chain" fashion using CON3 & 4 RJ8 connectors.

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 loads into the monitor a standard set of data. Adjustments should then be made as necessary. The range over which the settings can be adjusted shown overleaf.

The unit number for the Jnet communications should be set on item 1n1.

Events
The monitor is designed to be as versatile as possible. To configure each network unit an event list containing the required event/alarm is selected first (see table overleaf) and set on item 2n. A specific event/alarm is then assigned and set on Item 1n5.
A value of 0 in this item means that events are disabled for this input.

Events are reported on the network after an adjustable delay set on item 1n4. The default strategy for monitoring is that a signal present on the input means an event condition is present. However, if a lack of input constitutes an event condition, the logic can be inverted (individually for each input) on item 1n2.

Item 1n3 determines whether the event is reported as critical or non critical on the JTL network.

ADJUSTABLE PARAMETERS

Item	Function	Range	Units
1n1	Unit number	0.1 to 899.8	
2n	Event text selection list number (see below)	1 - 10	
1n4	Event delay	0 - 120	mins
1n5	Event function	0 - 22 (0=disabled)	
1n3	Alarm critical selection	0 - 1 (0=critical, 1=non-critical)	
1n2	Invert input	0 - 1 (0=event present for input present) (1=event present for input absent)	

DIAGNOSTIC ITEMS

Item	Function
71**	Logical input value adjusted by inversion or forcing function where appropriate
78	Force inputs to read value 0 - 255 (0 = unforced)
100**	Physical input value

** input 1 has value 1, input 2 value 2, input 3 value 4, input 4 value 8, input 5 value 16 etc.
If more than 1 input present then the displayed value is the sum of the individual input values. eg. if input 1 and 5 present then 17 (1 + 16) will be displayed.

ALARM TEXT SELECTION LISTS (Item 2n)

	1		2		3
1	High suction pressure	1	Electrical supply fault	1	Man trapped * (See note 1)
2	Low suction pressure	2	Electrical supply OK	2	Severe refrigerant gas leak * (see notes 1 & 2)
3	Oil pressure fault	3	Generator fault	3	Floor heater fault
4	Motor thermistor fault	4	Generator running	4	Door heater fault
5	low liquid level	5	Low pressure	5	Drain heater 1 fault
6	Backup system fault	6	High pressure	6	Drain heater 2 fault
7	Primary controller fault	7	Low level alarm	7	Threshold heater fault
8	Liquid pump fault	8	High level alarm	8	Refrigerant gas leak * (see note 2)
9	Refrigerant leak	9	Pump 1 fault	9	Gas leak caution * (see note 2)
10	Severe refrigerant leak	10	Pump 2 fault	10	Gas leak detector fault * (see note 2)
11	Phase failure	11	Air filter blocked	11	Emergency stop
12	High discharge pressure	12	Pump 3 fault	12	Sensor fault
13	Condenser/cooler fault	13	Pump 4 fault	13	Alarm activated
14	Condenser override on	14	Pump 5 fault	14	Fire alarm activated
15	General plant fault	15	Pump 6 fault	15	Extract fan fault
16	Oil filter blocked	16	Pump 7 fault	16	Inlet fan fault
17	Compressor fault	17	Pump 8 fault	17	Break glass activated
18	Condensing unit fault	18	-	18	Test switch activated
19	Evaporator Shutdown	19	-	19	Ammonia in Glycol
20	HT compressor fault	20	-	20	-
21	LT compressor fault	21	-	21	-
22	Low oil level	22	-	22	-

ALARM TEXT SELECTION LISTS (Item 2n)

	4		6
1	Suction pressure fault	1	(reserved)
2	Discharge pressure fault	2	Severe refrigeration gas leak* (see note 1)
3	Low liquid level	3	Refrigerant gas leak
4	Condenser/cooler fault	4	Low level refrigerant leak
5	Plant controller fault	5	Leak detector fault
6	General plant fault	6	Severe ammonia leak
7	Control voltage fault	7	Ammonia leak
8	Compressor inverter	8	Extract fan fault * (see note 3)
9	LPA fault	9	Fire alarm activated * (see note 3)
10	Evaporator Shutdown	10	Break glass activated * (see note 3)
11	Oil level fault	11	Test switch activated * (see note 3)
12	Heat reclaim fault	12	Inlet fan fault * (see note 3)
13	-	13	Ammonia in Glycol * (see note 3)
14	-	14	-
15	Compressor 1 fault	15	-
16	Compressor 2 fault	16	-
17	Compressor 3 fault	17	-
18	Compressor 4 fault	18	-
19	Compressor 5 fault	19	-
20	Compressor 6 fault	20	-
21	Compressor 7 fault	21	-
22	Compressor 8 fault	22	

Note 1. "MAN TRAPPED" and "SEVERE REFRIGERANT GAS LEAK"
are regarded as critical on the network regardless of settings on items 1n3.

Note 2. These are for legacy support. For new installations use set 6.

Note 3. These are for legacy support. For new installations use set 3.

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

Supply Requirements

PA680/PA681	230 V ac 48-62 Hz
PA680-24/PA681-24	24 V ac 48 -62 Hz

Supply 1 VA maximum
Inputs PA680 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. 04561
Firmware Variations	Doc No. 04592
Connection diagram for PA680	Doc No. 03451
Connection diagram for PA681	Doc No. 03450

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