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VULCANIC

CONTROL AND REGULATION CABINET



***READ THIS MANUAL CAREFULLY AND FULLY BEFORE INSTALLING
THE UNIT. THIS MANUAL IS AN INTEGRAL PART OF THE PRODUCT
AND SHOULD ACCOMPANY IT THROUGH TO DISASSEMBLY.***

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1 **COMMISSIONING:**

- You are in possession of a VULCANIC control and regulation cabinet.
Check that the information given on the identification plate correctly matches the details of your order and the delivery note. Verify the presence of and read the contents of the technical file that accompanies it:
 - Electrical diagrams and parts lists.
 - Manuals for the main regulation and safety devices.
- Install the unit vertically in its position, sheltered from impacts and adverse weather, and make sure that the radiator is unobstructed.
CAUTION: do not let any dust accumulate on the radiator in order to prevent malfunctions that could lead to the unit losing power.
- Make the electrical connections to the interface terminal strips according to best practice and the standards in force, referring to the electrical connections chapter and passing the cables through the installed cable glands. The ground terminal must be connected to the earth. **Do not connect the loads, they will be connected later.** Check that the connections are correctly tightened.
- Then check the connection cabling wire by wire, and check that the voltage, current, power and external functions comply with those given in this file. Also check for the presence and rating of the protective fuses or devices (if necessary preset their thresholds).
- Electrically power up the cabinet, and check the supply voltage.
- Preset any configurable or programmable electrical devices (regulator). Check that their operation complies with the manual or the attached specification. All the functions must then be tested in turn.
- CAUTION: during the following live tests, the heating loads (electrical resistances) must be put in normal operating situation: presence of fluids and nominal flows.
- Switch off the main power supply then connect the loads. Switch on the power supply in order to carry out the first full scale test. It is preferable to raise the value of the parameters gradually during this test (power, temperature, etc.) and monitor the behaviour of the various control and safety functions.
- Check the correct operation of the installation at full load; all the contractual sequences must be tested.

2 ELECTRICAL CONNECTION:

Item:	Terminal strip:	Terminal:	Connection:
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Power supply

Main power supply input (single phase):	BN0	Ph	Phase
	BN0	N	Neutral
	BN0	Earth	Green / Yellow

Load output

Output to the load (single phase):	BN1	Ph	Phase
	BN1	N	Neutral
	BN1	Earth	Green / Yellow

Sensor wiring: Caution, the sensor wiring depends on the unit reference

Sensor TC.J (32045-20)	BN3	5	Black
	BN3	6	White
Sensor TC.K (32045-21)	BN3	5	Green
	BN3	6	White
Sensor PT100 (32045-22)	BN3	5	White
	BN3	6	White
	BN3	7	Red

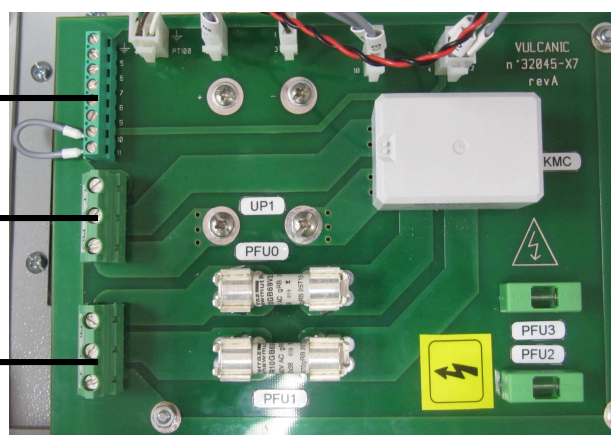
Alarm report / External loop

Alarm report / Fault report	BN3	8	
	BN3	9	
External loop / External safety	BN3	10	
	BN3	11	

Terminal strip
BN3

Terminal strip
BN1

Terminal strip
BN0



3 **FUNCTIONAL ANALYSIS:**

- The illuminated "ON/OFF" switch is for starting (position I) or stopping (position 0) the equipment. The indicator light comes on in start position.
- Temperature regulator:
PID regulator for regulating the process temperature by comparing the measurement from the regulation sensor with the set point set by the operator. Its displays go off when there is no voltage at its terminals.
 - **Model 30656**
- Red LED "▲" and on regulator:
Comes on when the instantaneous power calculated by the regulator is positive, i.e. when it calls for heating (from 1% to 100%), given the settings of its P, I & D parameters. However, the hot output relay is supplied according to the calculated power.
- Red LED "ALM" on regulator:
Comes on when the measurement deviates too far from the set point. Value set by the optional parameter P-Hi (full scale high), bAnd (band) or dE (deviation).
- Red LED "AT" on regulator:
Comes on when the optimization setting of the P.I.D parameters is automatic (self-adapting mode). Flashes in self-adjusting mode (and on each start of self-adapting mode).
Goes off when the optimization setting of the P.I.D parameters is done manually.
- Red LED "MAN" on regulator:
Comes on in setting mode reserved for qualified personnel; flashes on mode change.

4 PARAMETER SETTINGS SPECIFICATIONS:

The regulator's settings specifications are shown below, but the factory settings for the "safety" functions (temperature, flow rate, pressure, etc.) are theoretical and approximate. Their final value is set as follows:

- Shift each function to the tripping threshold, in the worst operating case (maximum or minimum value as appropriate), without exceeding the threshold.
- Then increase (for maximum values) or decrease (for minimum values) this tripping threshold by 5 to 10% of the full scale.

Caution: The inPt parameter depends on your unit's reference, for:

- Unit 32045-20 with measurement sensor TC.J, put the parameter JC
- Unit 32045-21 with measurement sensor TC.K, put the parameter KC
- Unit 32045-22 with measurement sensor PT100, put the parameter PTC

TYPE 30656					
MENU: CONFIGURATION		MENU: SETTINGS		MENU: SELF-ADJUSTING	
Name of parameter	Factory setting	Name of parameter	Factory setting	Name of parameter	Factory setting
ULoc	20	ULoc	10	Ptun	ON
inPt		Filt	2.0	Stun	OFF
ruL	350	OFFS	0	tLoc	0
rLL	0	PPw	read only		
dPoS		Pb_P	automatic		
CtyP	SnGL	ArSt	automatic		
Ctrl	rEu	rAtE	automatic		
ALA1	P_Hi	biAS	25%		
PhA1	300	SPuL	350		
AHy1	1	SPLL	0		
ALA2	nonE	diFF			
PhA2		OPuL	100%		
AHy2		Ct1	1		
LAEn	diSA	Ct2			
Inhi	nonE	Ct3			
USE1	Pri	PhA1	300		
USE2		AHy1	1		
USE3	A1_r	PhA2			
tyP3		AHy2			
ro3H		APt	EnAb		
ro3L		PoEn	diSA		
diSP	1	SPr	diSA		
Cloc	20	rP			
		SP	40		
		Sloc	10		

5 MAINTENANCE:

- Check that the interface connections are correctly tightened after 50 hours operation, then annually.
- Clean the radiator whenever dust accumulates.
- Check the correct operation of the device annually. Replace any defective parts.

6 TROUBLESHOOTING:

- Some common components can have procurement times that are incompatible with the availability requirements of your installation, including during the warranty period. Check these times and procure the necessary spare parts from VULCANIC.

7 WARRANTY:

- Unless otherwise specified by contract, the warranty complies with VULCANIC's general terms and conditions of sale. Whatever the case, no work on site under warranty will be accepted if VULCANIC had not previously received an order for assistance upon initial commissioning, and sent out qualified personnel.