Thames Valley Controls

UPS COMMISIONING

ON RECEIPT OF THE UPS

- Please check for damage. Please inform TVC of any damage is found.
- This is to be fitted in a clean dry and dust proof location.

PLEASE NOTE

- The UPS must have 300mm clear space behind the ups exhaust port (fan) for ventilation.
- The dry contact card should be configured and wired as per TVC diagram and slotted in to the expansion slot on the rear of ups. Also check R.E.P.O jumper is fitted to rear of UPS (remote emergency power off)Please check range of ups as not fitted to all (default off , as set by manufacturer)
- UPS wiring should be of a suitable type and be rated to the same size cable as the TVC mains and motor wiring in the panel. Suitable glands should be fitted to protect cable entry into the UPS .Isolate mains supply and UPS supply and verify before any works are carried out.
- Mains isolator should be checked for an additional pole to disable ups auto rescue when mains isolator is manually switched off
- Before powering on UPS the wiring should be checked that the terminals are wired correctly, US1,US2, US3 for input and US4,US5,US6 for output . If wired incorrectly this will damage the UPS.

POWERING UP THE UPS

1) TO POWER ON THE UPS PRESS THE MAIN BUTTON BELOW THE KEYPAD.

2) DISPLAY SHOULD LIGHT AND A BEEP WILL SOUND.

3) THE RED TRIANGLE SHOULD BE DISPLAYED AND BE BLINKING. THIS IS STAND- BY MODE.

4) PRESS AND HOLD THE ON BUTTON ON KEYPAD. THE UPS WILL BLEEP. FULL OPERATION WILL START.

5) PLEASE SEE MANUAL SUPPLIED WITH UPS FOR FULL OPERATION AND DISPLAY INFORMATION.

THERE ARE TWO TYPES OF DRY CONTACT CARDS , CONFIGURATION IS AS FOLLOWS :-

MULTICOM 382 (JUMPERS FITTED 1- 6)

MULTICOM 384 (ROTARY SWITCHES FITTED SW1 , SW2 , SW3 ,SW4)

MULTICOM 382 :-

CONFIGURATION OF THE CONTACTS PORT SECTION

The Bypass, Battery Working, Battery Low and Alarm signals can be associated with the four relays on the card (two with switchover contacts (SC) and two with an (N.O.) contact).

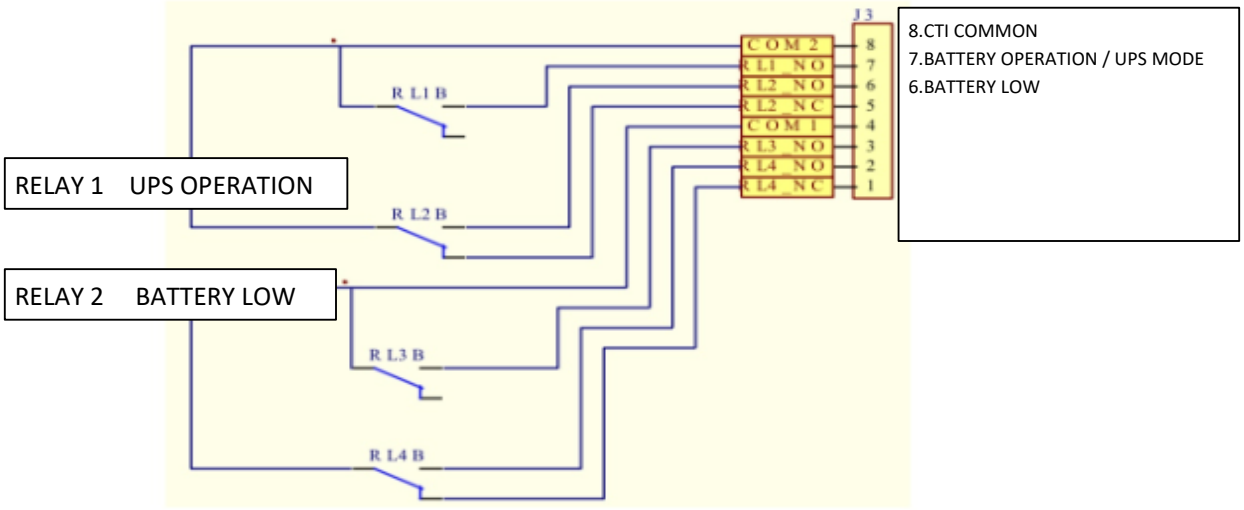
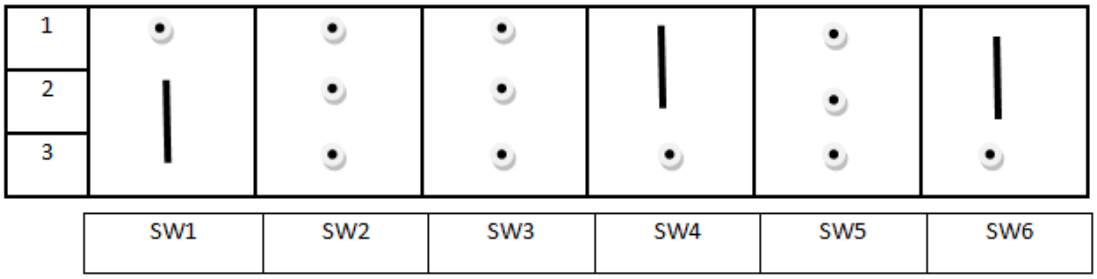


Figure 2: Contacts on the internal relays and how they are connected to the connector



TVC CONFIGURATION FOR UPS OPERATION

RELAY 1 :- UPS OPERATION
RELAY 2 :- BATTERY LOW

J1 TERMINAL BOARD – DESCRIPTION AND CONFIGURATION

EMERGENCY INPUT (ESD)

The Emergency input (ESD) allows the immediate and safe shutdown of the UPS in any emergency situation. With the two terminals on the ESD input connected together (J1 Connections 3 – 4 with wire strap, or emergency button with N.C. contact, etc.), the UPS operates normally. If the connection is opened, the UPS will shutdown immediately and cannot be switched on until the connection is closed again.

CONFIGURATION OF DELAY TIMES ON THE CONTACTS PORT

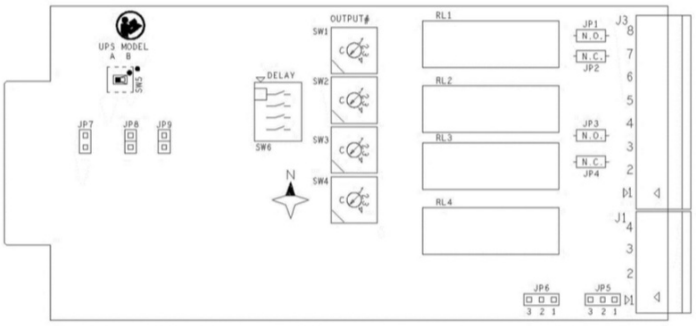
Another configuration inserts a relay switching delay of approximately 8s from the activation of the command signal. The delay may be useful for filtering brief unwanted signals such as sudden mains blackouts, switching to bypass due to distorting loads, etc. The default configuration and the association between the signals and jumpers are shown below delay is active when the jumper is closed.

2-pin Jumper (JP1…JP4): graphic example of various setting possibilities

Command	Associated Jumper	Default Configuration
Battery Working	JP1	Closed
Battery Low	JP2	Open
Bypass	JP3	Open
Alarm	JP4	Open

MULTICOM 384 :-

ALLOCATION OF CONFIGURATION SWITCHES AND THE TERMINAL BOARDS

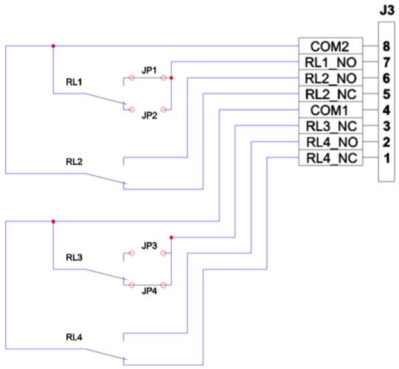


OUTPUT	1	2		3	4	
EVENT	BATTERY LOW	BATTERY WORKING		INVERTER LOCKED	LOAD ON BYPASS	
RELAY	RL1	RL2		RL3	RL4	
CONTACT	N.O.	N.O.	N.C.	N.C.	N.O.	N.C.
PIN #	7	6	5	3	2	1

NOTE: check the features that are compatible with your UPS model in the "CONFIGURATION CARD" chapter.

The figure below shows the internal connections between the Relay contacts (two relays with switched contacts, a normally closed contact (N.C.) relay and a normally open contact (N.O.) relay and terminal block J3.

CONTACTS ON THE INTERNAL RELAYS AND CONNECTION TO THE TERMINALS



RELAY 1 :- BATTERY LOW

RELAY 2 :- UPS OPERATION

MODEL SHOULD BE SET BY MANUFACTURER PLEASE CHECK, SW5 A / B

ROTARY SWITCHES SHOULD BE LEFT AT DEFAULT AS THEY COME PRESET FOR TVC OPERATION

ROTARY SWITCHES SW #

The rotary switches SW1-SW2-SW3-SW4 can be used to modify the association between UPS outputs and relays.

NOTE: it is possible to associate the same signal to two or more relays.

RELAY	ROTARY SW		UPS OUTPUT
RELAY 1	SW1	**POS. 1**	**OUTPUT #1**
		POS. 2	OUTPUT #2
		POS. 3	OUTPUT #3
		POS. 4	OUTPUT #4
RELAY 2	SW2	POS. 1	OUTPUT #1
		POS. 2	**OUTPUT #2**
		POS. 3	OUTPUT #3
		POS. 4	OUTPUT #4
RELAY 3	SW3	POS. 1	OUTPUT #1
		POS. 2	OUTPUT #2
		POS. 3	**OUTPUT #3**
		POS. 4	OUTPUT #4
RELAY 4	SW4	POS. 1	OUTPUT #1
		POS. 2	OUTPUT #2
		POS. 3	OUTPUT #3
		POS. 4	**OUTPUT #4**

INPUTS ARE CONFIGURABLE BUT THESE COME PRESET AND ARE NOT REQUIRED FOR TVC OPERATION

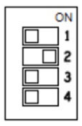
JP5 , JP6 = LEAVE AS MANUFACTURER DEFAULT AS REMOTE ON AND OFF IS NOT USED

J1 ESD :- CONNECTIONS 3-4 SHOULD BE CONNECTED TOGETHER, PLEASE SEE DEFAULT DIAGRAM)

DELAY TIME

By switching on the dip switch SW6, it is possible to delay the switching (8-10 seconds) in respect to the activation of the control signal. This delay can be useful for filtering short unwanted conditions such as instantaneous network interruptions, bypass operations for distorted loads, and so on.
Each switch is associated with a relay, and by default all switches are in OFF position.

DIP SWITCH SW6: *EXAMPLE ACTIVATION DELAY FOR RELAY* ***RL2***



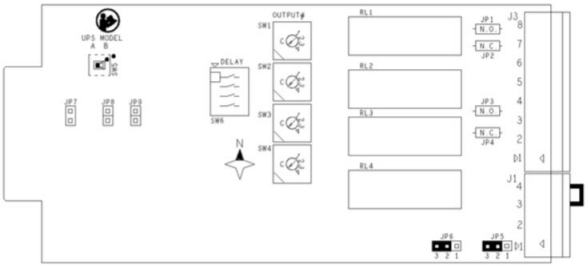
NOTE: the delay activation has effect on the closing and on the opening of the relay together.

CARD CONFIGURATION

The MultiCOM 384 card is compatible with most UPS series. This chapter will show board settings and features for each UPS series.
Refer to the code on the UPS data plate to trace back to the UPS model you own (ex. P/N: C**SDU**K10AA5...).

SWITCH / JUMPER / TERMINALS	DEFAULT CONFIGURATION
SW5 (UPS MODEL)	**A**
JP7 (PIN STRIP)	**OPEN**
JP8 (PIN STRIP)	**OPEN**
JP9 (PIN STRIP)	**OPEN**
JP5 (PIN STRIP)	**2-3**
JP6 (PIN STRIP)	**2-3**
J1 (4 WAYS TERMINAL)	**3-4**

DEFAULT CONFIGURATION

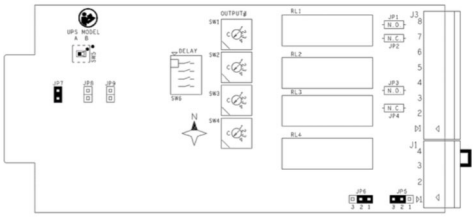


SERIES VST / VSD

Below are the instructions for configuring the MultiCOM 384 card, the possible settings and features of the card for the series VST / VSD.

SWITCH / JUMPER / TERMINALS	BASIC CONFIGURATION	OPTIONS
SW5 (UPS MODEL)	**A**	**FIXED**
JP7 (PIN STRIP)	**CLOSED**	**FIXED**
JP8 (PIN STRIP)	**OPEN**	**FIXED**
JP9 (PIN STRIP)	**OPEN**	**FIXED**
JP5 (PIN STRIP)	**2-3**	**FIXED**
JP6 (PIN STRIP)	**1-2**	**CONFIGURABLE**
J1 (4 WAYS TERMINAL)	**3-4**	**CONFIGURABLE**

BASIC CONFIGURATION

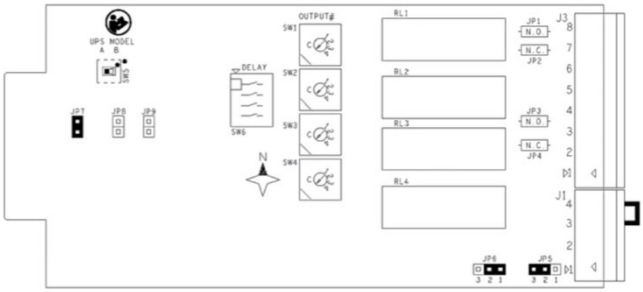


SERIES SDL (3,3÷4KVA)

Below are the instructions for configuring the MultiCOM 384 card, the possible settings and features of the card for the serie SDL (3,3÷4kVA).

SWITCH / JUMPER / TERMINALS	BASIC CONFIGURATION	OPTIONS
SW5 (UPS MODEL)	A	FIXED
JP7 (PIN STRIP)	CLOSED	FIXED
JP8 (PIN STRIP)	OPEN	FIXED
JP9 (PIN STRIP)	OPEN	FIXED
JP5 (PIN STRIP)	2-3	CONFIGURABLE
JP6 (PIN STRIP)	1-2	CONFIGURABLE
J1 (4 WAYS TERMINAL)	3-4	CONFIGURABIE

BASIC CONFIGURATION

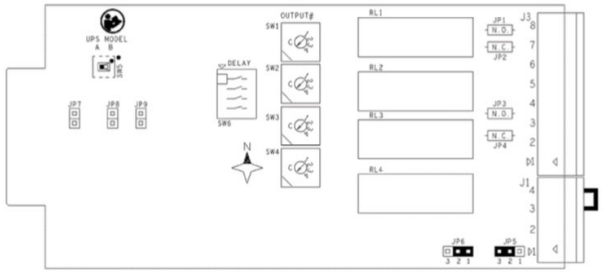


SERIES SDL (5÷6KVA) / SPT / SPW

Below are the instructions for configuring the MultiCOM 384 card, the possible settings and features of the card for the series SDL (5÷6kVA) / SPT / SPW.

SWITCH / JUMPER / TERMINALS	BASIC CONFIGURATION	OPTIONS
SW5 (UPS MODEL)	A	FIXED
JP7 (PIN STRIP)	OPEN	FIXED
JP8 (PIN STRIP)	OPEN	FIXED
JP9 (PIN STRIP)	OPEN	FIXED
JP5 (PIN STRIP)	2-3	CONFIGURABLE
JP6 (PIN STRIP)	1-2	CONFIGURABLE
J1 (4 WAYS TERMINAL)	3-4	CONFIGURABLE

BASIC CONFIGURATION

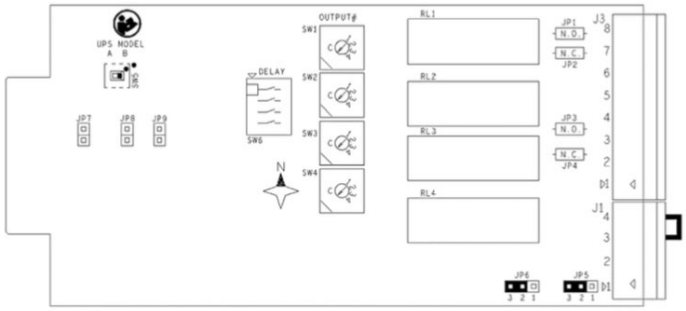


SERIES SDU (5÷10KVA)

Below are the instructions for configuring the MultiCOM 384 card, the possible settings and features of the card for the series SDU (5÷10kVA).

SWITCH / JUMPER / TERMINALS	BASIC CONFIGURATION	OPTIONS
SW5 (UPS MODEL)	**B**	**FIXED**
JP7 (PIN STRIP)	**OPEN**	**FIXED**
JP8 (PIN STRIP)	**OPEN**	**FIXED**
JP9 (PIN STRIP)	**OPEN**	**FIXED**
JP5 (PIN STRIP)	**2-3**	**CONFIGURABILE**
JP6 (PIN STRIP)	**2-3**	**CONFIGURABILE**
J1 (MORSETTO 4 VIE)	**3-4**	**CONFIGURABILE**

BASIC CONFIGURATION



INFORMATION IS AVAILABLE FROM THE UPS BY PRESSING THE SEL / SET BUTTON ON THE DISPLAY

- MAINS VOLTAGE
- MAINS FREQUENCY
- UPS OUTPUT VOLTAGE
- OUTPUT VOLTAGE FREQUENCY
- REMAINING BATTERY BACK UP
- BATTERY CHARGE PERCENTAGE
- CURRENT ABSORBED BY THE LOAD
- TEMPERATURE
- FAULTS AND ALARMS AND LOCK

UPS TESTING

Once full operation of the lift is checked and working correctly with the UPS, testing the UPS operation auto rescue can begin.

1) WHEN THREE PHASE IS LOST TO THE CONTROLLER,(A PANEL SHORT MAY BE USED TO KEEP THE 4TH POLE ON LINE WITHIN THE LIFT MAINS ISOLATOR . (THIS ENABLES THE AUTO RESCUE /UPS MODE TO WORK)

2) THE CONTROLLER WILL SWITCH TO UPS MODE, VIA THE DRY CONTACT CARD FITTED IN THE UPS , THE DRIVE WILL SWITCH TO LOW MAINS MODE AND WILL RUN AT RESCUE SPEED

3) THE LIFT WILL CONTINUE TO RUN ON UPS MODE UNTIL IT REACHES THE MAIN FLOOR. ONCE THE LIFT REACHES THE MAIN FLOOR THE DOORS WILL CYCLE OPEN AND THEN CLOSED. (DOOR OPEN BUTTON WILL REMAIN ACTIVE ,IF THE UPS BATTERY IS LOW THE LIFT WILL STOP AT THE NEXT AVAILABLE FLOOR

4) THE PROCESSOR WILL REMOVE THE LIFT FROM OPERATION AND A FAULT WILL BE LOGGED IN THE MANUAL RESETABLE FAULTS LIST WITHIN THE TOOL BOX, UPS MODE RESET THIS IS DEPENDANT ON THE SOFTWARE THAT IS FITTED

5) IF ANY ERRORS OCCUR WITH THE UPS , PLEASE CHECK MANUAL OR TVC SHOULD BE CONSULTED

Thames Valley Controls

UPS DOCUMENTATION

- **CONFIRM AND DOCUMENT :**

TYPE:	MODEL:
SERIAL NUMBER:	RUN TIME:
BATTERY DETAILS:	

- **MAINS SUPPLY TO UPS SHOULD BE CONFIRMED AND PRESENT**

☐ (Please tick)

- **OUTPUT SUPPLY CONFIRMED AND PRESENT**

☐ (Please tick)

- **BATTERY CHARGE LEVEL:**

Level:

- **AMBIENT TEMPERATURE SHOULD BE CHECKED ON DAY OF INSTALLATION:**

Ambient temperature on day of install:

- **ON THE DAY OF INSTALLATION THE INVERTOR SYSTEM WAS SWITCHED ON AND THE BATTERIES TESTED FOR TWO MINUTES**

  ON THE DAY OF THE INSTALLATION THE MAINS INPUT VOLTAGE AND FREQUENCY WAS:

  _____V _____HZ

- **ON THE DAY OF THE INSTALLATION THE UPS OUTPUT VOLTAGE AND FREQUENCY WAS:**

  _____V _____HZ

- **ON THE DAY OF THE INSTALLATION THE BATTERY CHARGE LEVEL WAS _____ %**

- **ON THE DAY OF THE INSTALLATION THE RUN TIME WAS _____**

- UPS LOCATION HAS 300mm BEHIND THE UPS EXHAUST PORT FOR VENTILATION _____

- THE UPS WAS LEFT SWITCHED ON AND WORKING IN LINE WITH MANUFACTURER CONDITIONS_____

If the ambient temperature is above 30’C contact TVC
If the UPS shows any code other than SO5 contact TVC
If the UPS location is dusty, wet contact TVC
If the UPS location prevents 300mm behind the UPS exhaust port contact TVC
If the UPS dry contact card does not work contact TVC
If none of the above tests work with a “YES” result and the information required contact TVC

SIGNED:

DATE:

(DOCUMENTATION TO BE RETURNED TO TVC)

UPS TESTING

Once full operation of the lift is checked and working correctly with the UPS, testing the UPS operation auto rescue can begin.

6) WHEN THREE PHASE IS LOST TO THE CONTROLLER,(A PANEL SHORT MAY BE USED TO KEEP THE 4TH POLE ON LINE WITHIN THE LIFT MAINS ISOLATOR . (THIS ENABLES THE AUTO RESCUE /UPS MODE TO WORK)

7) THE CONTROLLER WILL SWITCH TO UPS MODE, VIA THE DRY CONTACT CARD FITTED IN THE UPS , THE DRIVE WILL SWITCH TO LOW MAINS MODE AND WILL RUN AT RESCUE SPEED

8) THE LIFT WILL CONTINUE TO RUN ON UPS MODE UNTIL IT REACHES THE MAIN FLOOR. ONCE THE LIFT REACHES THE MAIN FLOOR THE DOORS WILL CYCLE OPEN AND THEN CLOSED. (DOOR OPEN BUTTON WILL REMAIN ACTIVE ,IF THE UPS BATTERY IS LOW THE LIFT WILL STOP AT THE NEXT AVAILABLE FLOOR

9) THE PROCESSOR WILL REMOVE THE LIFT FROM OPERATION AND A FAULT WILL BE LOGGED IN THE MANUAL RESETABLE FAULTS LIST WITHIN THE TOOL BOX, UPS MODE RESET THIS IS DEPENDANT ON THE SOFTWARE THAT IS FITTED

10) IF ANY ERRORS OCCUR WITH THE UPS , PLEASE CHECK MANUAL OR TVC SHOULD BE CONSULTED