Voltage Controllers
TC Three Phase Step Transformers
Installation and Maintenance Instructions.

THESE INSTRUCTIONS MUST BE READ FULLY BEFORE COMMENCING INSTALLATION.

Code	Supply	Max. Peak Current	H x W x Depth	IP Rating	Weight kg
TC33T	415V/1Ph/50Hz	3 Amps	320 x 300 x 180mm	IP40	12
TC35T	415V/1Ph/50Hz	5 Amps	320 x 300 x 180mm	IP40	14
TC310T	415V/1Ph/50Hz	10 Amps	400 x 300 x 230mm	IP40	25

1.0 DESCRIPTION.

Five step transformer speed controller suitable for use with three phase fan units. The TC3 range of auto-speed controllers are a 5-step design, and vary the speed from 100% down to approximately 30% of full speed.

Auto transformers vary the voltage to the motor to vary its speed. This method is very efficient, as the power consumption is reduced by as much as 95% and does not generate noise. When used to control multiple fans the total full load amps of all the connected fans must not exceed 85 % of the maximum rating of the controller (refer above table).

If numerous fans are to be controlled, they should all be identical.

The motors must be designed for speed control by voltage reduction.

SAFTEY FEATURES.

The unit is fitted with internal thermal protection, and if activated the trip light will illuminate. To reset simply press the reset button, and the unit will start.

*** PLEASE NOTE ***

If the power supply is interrupted to the controller, then the trip light will also light. To re start the unit, the reset switch must be activated before the controller and unit being controlled will start. If you desire to use this controller in a remote area away from the main switching point / control room, then consideration into the units location needs to be taken.

2.0 INSTALLATION

2.1 Upon receipt, the controller should be visually inspected to check for any damage

2.2 If there are any queries concerning the fan equipment, Fantech should be contacted prior to the installation.

2.3 The controller must be securely mounted in the desired position to suit the application.

2.4 The controller is only suitable for surface mounting and must not be recess mounted.

2.5 Install in a dry sheltered position with a minimum clearance of 150mm above and below the controller to allow for adequate ventilation.

2.6 Do not install in close proximity to a heat source or in areas of high humidity. The maximum ambient temperature for the controller must not exceed 40º C (104º F).

2.7 All electrical installation must be carried out by suitably qualified and competent personnel in accordance with all current & local statutory requirements.

2.8 Check the details on the rating plate to ensure that the correct power supply (voltage, frequency and phase) is available. An incorrect power supply will lead to permanent damage of the unit.

2.9 Check that the number, size and speed of the fan(s) can safely be controlled by the controller supplied.

2.10 Connections are provided for one (1) fan outlet. If more than one fan is to be controlled then a correctly wired external junction box should be used.

WARNING! The controller must be isolated from the power supply during installation and maintenance.

2.11 Remove the front cover of the controller by using the locking key. This provides access to mounting holes and electrical terminals.

3.0 WIRING

Earthing

All fans must be earthed in accordance with AS/NZS3000:2007 and local supply regulations

Power Supply

For the controller to operate, it requires an Earth, Neutral, and 3 phase power to operate.

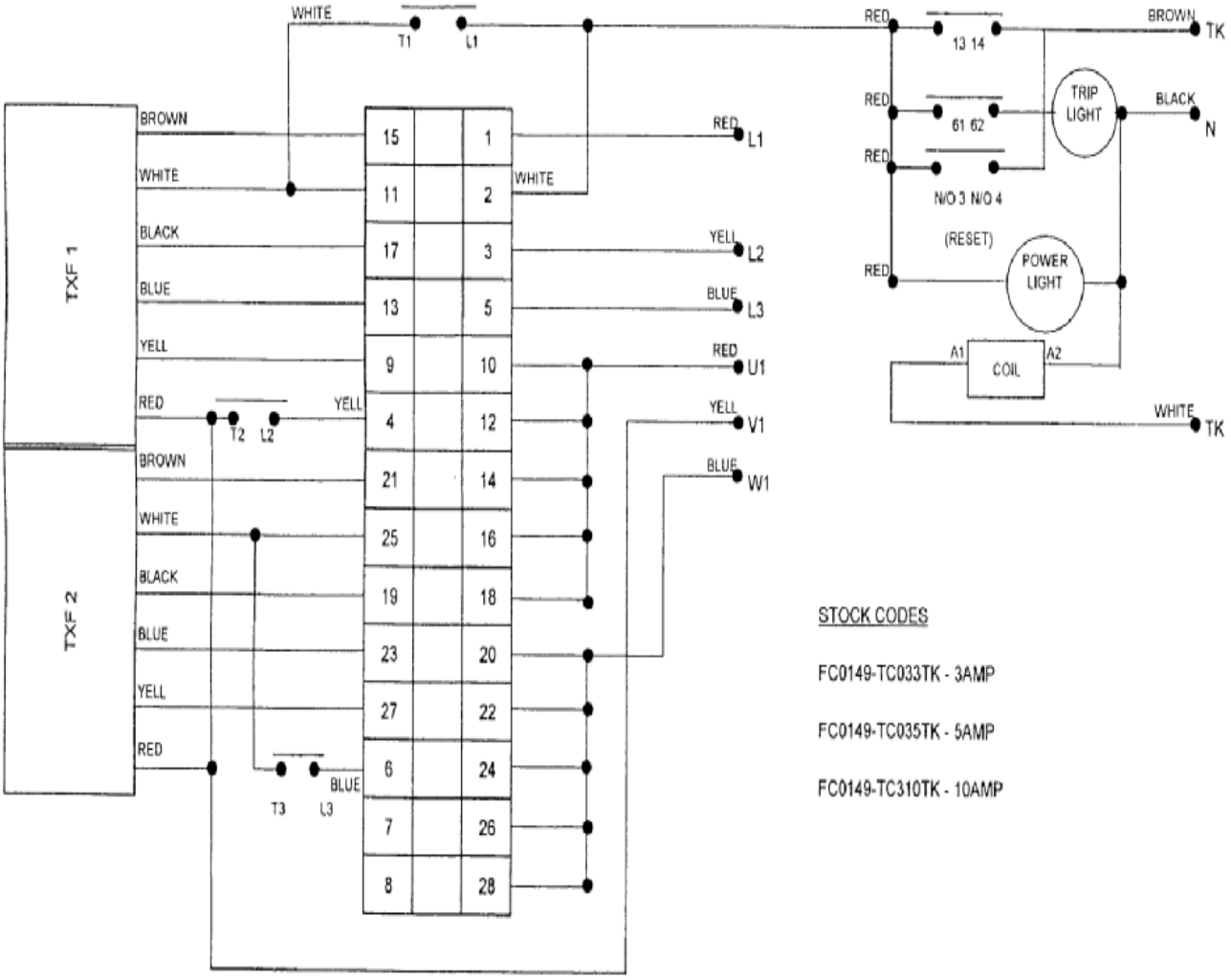
The incoming 3 phases are connected to ports L1, L2 & L3, & the incoming Neutral to N.

Outgoing lines to fan(s) are connected to ports U1, V1, W1

Protection

If the motor is to be protected by thermal overloads, and the two TK terminals are not being used, then a link must be fitted between the white TK and Brown TK (refer below diagram) to allow operation of the unit, and ensure inbuilt safety systems operate.

REFER THE BELOW DIAGRAM FOR WIRING CONNECTIONS



3.0 Wiring (continued)

3.1 Select the correct wiring diagram for the fan and controller supplied. Ensure that all earth connections are made.

3.2 Read the fan serial plate to determine the number of phases and amperage drawn by the unit. Check that the available supply is suitable, and that the controller can handle the units specified full load current. Running the controller with a unit larger than the specified maximum peak current can lead to premature failure, and void the warranty.

3.3 Wiring must be in accordance with AS/NZS3000:2007 and local supply regulations. This wiring diagram should be read in conjunction with the fans wiring diagrams.

3.4 In the event that the wiring connections for the fan supplied do not correspond to diagrams shown, please refer to the fan instructions or contact Fantech for further assistance.

4.0 OPERATION

4.1 The controller has a combined OFF/ON/REGULATION switch. Rotating the switch clockwise will increase the speed of the fan(s) in five steps from minimum to full speed.

4.2 The unit is fitted with In-built thermal protection. If the power is Interrupted, or the thermal protection activates, then the trip light will illuminate, and the controlled fan will not run. To restart the controller & fan when safe, simply depress the reset button, and the unit will restart at the set speed.

4.3 Children should be supervised to ensure that they do not play with the product.

WARNING

This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the product by a person responsible for their safety.

The fan must be isolated from the power supply during installation and maintenance. Only a suitably qualified and competent

GOODS AND WARRANTY

1. When supplying goods to a consumer, the following mandated statement applies:
   "Our goods come with guarantees that cannot be excluded under the Australian Consumer Law.
   You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure."

2. The benefits of this warranty are in addition to any rights and remedies imposed by Australian State and Federal legislation that cannot be excluded. Nothing in this warranty is to be interpreted as excluding, restricting or modifying any State or Federal legislation applicable to the supply of goods and services which cannot be excluded, restricted or modified.

3. Subject to the conditions and limitation below, the Company warrants products of its manufacture to be free of defects in workmanship and/or materials at the time of delivery to the Buyer.

4. Any part, assembly or portion thereof found to be defective within one year from the date of commissioning or eighteen (18) months from date of shipment from our factory, whichever is the sooner, unless expressly stated otherwise in the Company's Publications or Literature, will be repaired or exchanged F.O.B factory.

5. The Company reserves the right to replace defective parts of the goods with parts and components of similar quality, grade and composition where an identical component is not available.

6. Goods presented for repair may be replaced by refurbished goods of the same type rather than being repaired. Refurbished parts may be used to repair the goods.

7. Goods or parts that have been returned for repair (except where the repair is as a result of the Company's failure to comply with the statutory guarantees in the ACL) or warranty assessment are deemed to have been abandoned by the Buyer if not collected within 30 days after the Company has notified the Buyer in writing of the warranty assessment outcome or the completed repair.

8. The Company reserves the right to dispose or otherwise deal with an abandoned product or part at its discretion.

9. This warranty does not apply if:
   (i) the goods have not been paid for by the Buyer as per the credit terms provided; or
   (ii) the goods have not been installed in accordance with AS NZS 3000/2000 Australian/New Zealand Wiring rules; or
   (iii) the goods have been misused or neglected.

10. The Company assumes no responsibility under this warranty for the labour costs involved in the removal of defective parts, installation of new parts or service charges related thereto.

11. If a fault covered by this warranty occurs, the Buyer must first contact the Company at the contact address listed below.

12. Any warranty claim must be accompanied by:
    (i) proof of purchase;
    (ii) written details of the alleged defect; and
    (iii) appropriate documentation (such as installation and maintenance records etc).

13. The Company shall have the option of requiring the return of the defective part (transportation prepaid by the Buyer) to establish the claim.

14. The Company makes no warranties or representations other than set out in this clause 7.

15. The repair or exchange of the goods or part of the goods, is the absolute limit of the Company's liability under this express warranty.

FANTECH
Intelligent Ventilation

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