

# MANUAL

## Field Current Thyristor Controller

### Q3-F



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## 2 General

### 2.1 Field Current Thyristor Q3

The field current supply in the thyristor Q3 can be used as a field current controller or a field transfer circuit with combined armature field control.

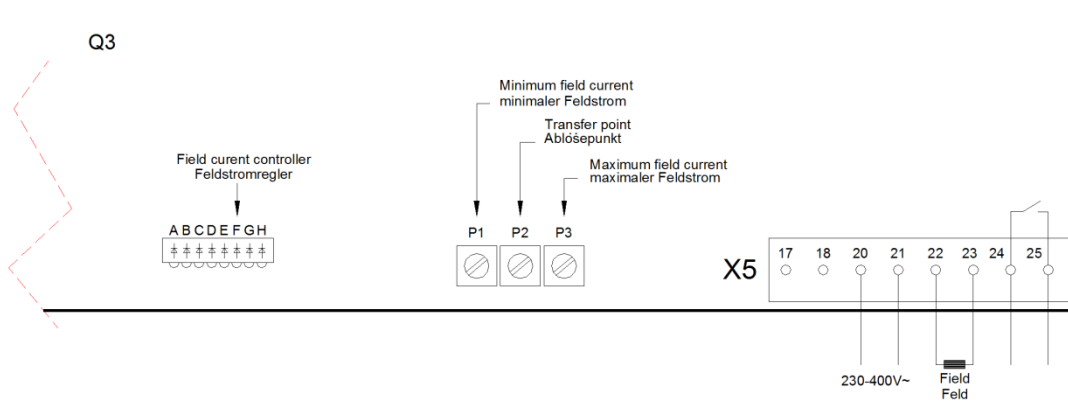
The field supply can separately be fed with 230V to 400V across the terminals X5:20, X5:21.

The field voltage across the terminals X5:23+ and X5:22- is max. 0.8 x input voltage.

The maximum field current is 10A (depending on the unit type).

The field current is monitored and the alarm relay attracts.

Contact at terminal X5: 24 and X5: 25 is closed and opens with loss of field current.



ED-Q3-F-A410-2

## 3 Field Current Controller 0-10A

### 3.1 Potentiometers

Function	Symbol	Number
Minimum field current	I <sub>min</sub>	P1
Maximum field current	I <sub>max</sub>	P3
Fully clockwise position!	Abl.	P2

### 3.2 Field current adjustment

- Ammeter in the field current circuit.
- Enable the controller, command value - zero
- Turn the potentiometer P2 to fully clockwise position.
- Adjust the maximum field current by means of the potentiometer P3.
- With the controller disabled, the field current is reduced to approximately 50%.

## 4 Field transfer circuit

### 4.1 Potentiometers

Function	Symbol	Number
Minimum field current	$I_{min}$	P1
Maximum field current	$I_{max}$	P3
Transfer point	Abl.	P2

### 4.2 Field transfer adjustment

- The max. field current is adjusted by means of the potentiometer P3 when the command value-zero is enabled and the motor is at a standstill.
- Set the Potentiometer P2 and Potentiometer P1 to fully clockwise position.
- Increase the motor speed until the armature voltage exceeds the adjusted transfer triggering point by 5%.
- Turn the potentiometer P2 anti-clockwise until - at constant speed - the armature voltage has fallen to the set transfer voltage.

Example:

-Set potentiometer P2 to right full scale.

-Increase the speed command value at the motor controller until the armature voltage reaches 420 V.

-Turn potentiometer P2 anti-clockwise until the armature voltage has fallen to 400 V.

-Now the transfer triggering point is at 400 V armature voltage.

- Further increase the command value and if the desired max. speed limit cannot be reached, reduce the min. field current by turning the potentiometer P1 to the left.
- When the controller is disabled, the field current is reduced to approximately 50 %.

## 5 Warranty

### 5.1 Warranty

**UNITEK** warrants that the device is free from material and production defects. Test results are recorded and archived with the serial number.

The warranty time begins from the time the device is shipped, and lasts two years.

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- non-observance of the manual which is included in all consignments,
- non-observance of the electrical standards and regulations,
- improper maintenance
- acts of nature.

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