

070305T4ELC

ELECTRONICS CRAFTSPERSON LEVEL 5

ENG/OS/ET/CR/03/5/A

Install Electrical Machine Control Systems

Nov/Dec 2024



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION  
COUNCIL (TVET CDACC)**

**PRACTICAL ASSESSMENT**

**OBSERVATION CHECKLIST**

<b>Candidate's Name &amp; Registration Code</b>			
<b>Assessors Name &amp; Registration Code</b>			
<b>Venue of Assessment</b>			
<b>Date of Assessment</b>			
<b>Items to be Evaluated:</b> <i>Please award marks as appropriate. Give a brief comment on your observation.</i>	<b>Marks Available</b>	<b>Marks Obtained</b>	<b>Comments</b>
<b>TASK:</b>			
1. Wore Personal Protective Equipment			
i. Dustcoat/Overall ( <i>Award 1 or 0</i> )	1		
ii. Safety gloves ( <i>Award 1 or 0</i> )	1		
2. Applied good housekeeping practice			

<ul style="list-style-type: none"> <li>i. Ensured clean working area before beginning working. <i>(Award 1 or 0)</i></li> <li>ii. Tidy working area arrangement before beginning <i>(Award 1 or 0)</i></li> </ul>	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p>		
<p>3. Identified and correctly used the following of tools and equipment:</p> <ul style="list-style-type: none"> <li>i. Multimeter <i>(Award 1 or 0)</i></li> <li>ii. Side cutters <i>(Award 1 or 0)</i></li> <li>iii. Wire Stripper <i>(Award 1 or 0)</i></li> </ul>	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p> <p style="text-align: center;">1</p>		
<p>4. Drew the wiring diagrams of the Star delta starter</p> <ul style="list-style-type: none"> <li>i. Power circuit <i>(Award 10 or 0)</i></li> <li>ii. Control circuit <i>(Award 10 or 0)</i></li> </ul> <p><i>(Sample wiring diagrams are attached on the appendix)</i></p>	<p style="text-align: center;">10</p> <p style="text-align: center;">10</p>		
<p>5. Mounted electrical and electronic components</p> <ul style="list-style-type: none"> <li>i. 3 -phase circuit breaker <i>(3 or 0)</i></li> <li>ii. Start – Stop Button <i>(2 or 0)</i></li> <li>iii. Remote stop <i>(2 or 0)</i></li> <li>iv. Main contactor with Overload relay <i>(2 or 0)</i></li> <li>v. Indicator lamp Start (green) <i>(2 or 0)</i></li> <li>vi. Indicator lamp Stop (red) <i>(2 or 0)</i></li> </ul> <p>6. Performed wiring of electrical components as per IEEE regulations</p> <ul style="list-style-type: none"> <li>i. Correct colour code <i>(any 4 x 1)</i></li> <li>ii. Firmly jointing <i>(any 4x1)</i></li> <li>iii. Firmly terminated electrical wiring <i>(any 4 x 1)</i></li> </ul>	<p style="text-align: center;">3</p> <p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">4</p> <p style="text-align: center;">4</p> <p style="text-align: center;">4</p>		

7. Performed correct configurations and tested the electrical wiring of the machine			
i. Continuity test ( <i>4 or 0</i> )	4		
ii. Earth Impedance test ( <i>4 or 0</i> )	4		
iii. Insulation resistance test ( <i>4 or 0</i> )	4		
8. Applied good housekeeping practice			
i. Tidy working area arrangement after work ( <i>Award 1 or 0</i> )	1		
ii. Proper Waste disposal ( <i>Award 1 or 0</i> )	1		
9. Terminated the following as per the system functionality			
i. Start-Stop button ( <i>Award 2 or 0</i> )	02		
ii. Electrical motor ( <i>Award 2 or 0</i> )	02		
iii. Start button ( <i>Award 2 or 0</i> )	02		
iv. Stop button ( <i>Award 2 or 0</i> )	02		
v. Remote Stop ( <i>Award 2 or 0</i> )	02		
vi. Indicator Lamp (green) ( <i>Award 2 or 0</i> )	02		
vii. Indicator Lamp (stop) ( <i>Award 2 or 0</i> )	02		
<b>TOTAL</b>	<b>80</b>		
<b>ASSESSMENT OUTCOME</b>			

The candidate was found to be:	
Competent <input type="checkbox"/>	Not yet Competent <input type="checkbox"/>
<i>(Please tick as appropriate)</i>	
<i>(The candidate is competent if the candidate obtains at least 50%)</i>	
<b>Feedback from the Candidate:</b>	
<b>Feedback to the Candidate:</b>	
<b>Candidate Signature</b>	<b>Date:</b>
_____	_____
<b>Assessor's Signature</b>	<b>Date</b>
_____	_____

**Appendix**

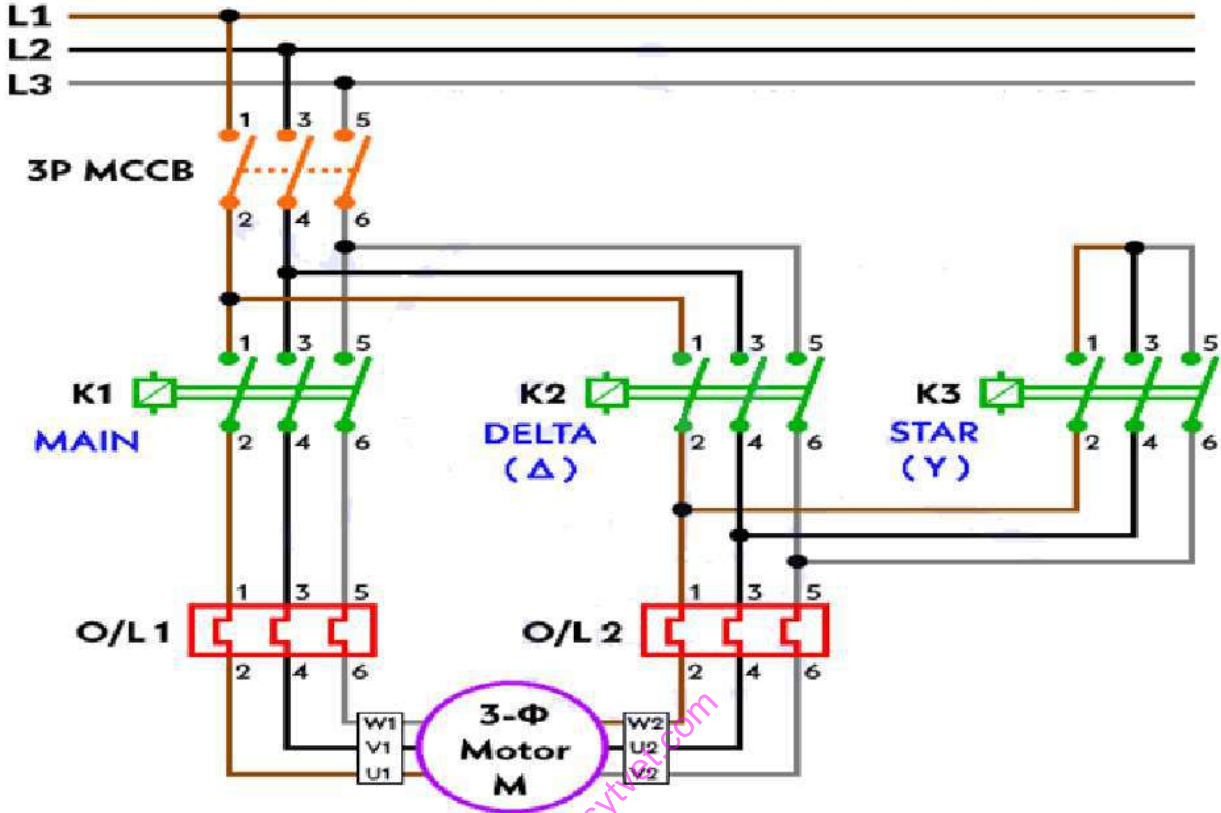


Figure 1. Star Delta power circuit diagram

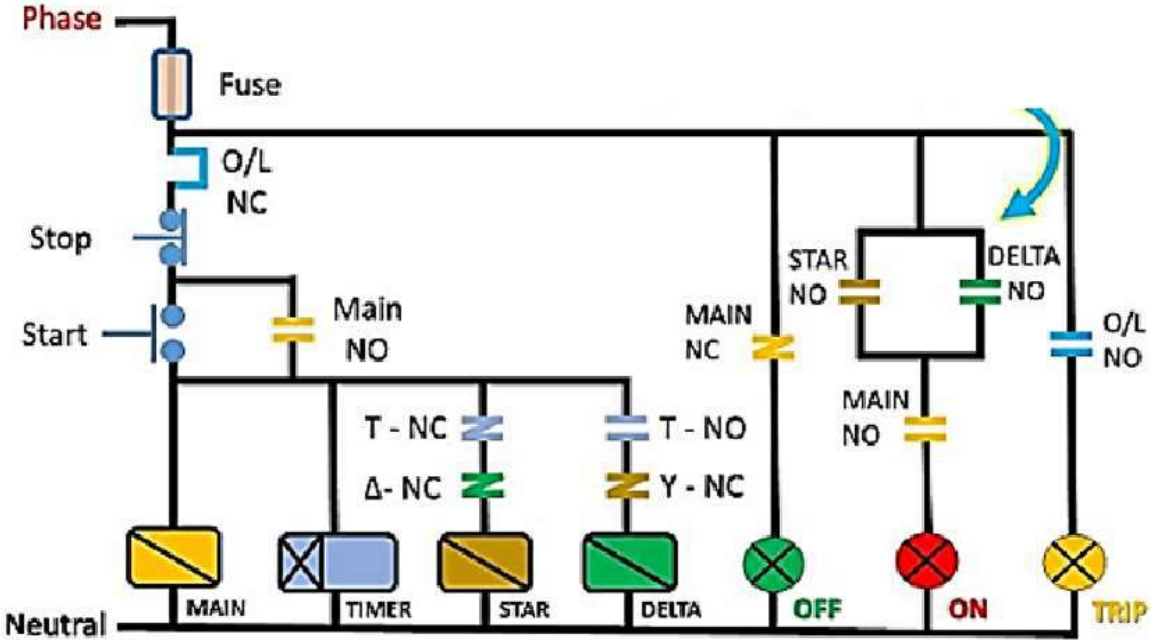


Figure 2. Star Delta control circuit