

ComAp MainsPro Quick Setup Guide



Please Note: The set-points values offered in this document are examples only and have been provided strictly for information purposes only. Final setpoint values must be consistent with DNSP specifications and where relevant site-specific requirements as detailed by a professional engineer's protection study. Supply Partners consequently takes no responsibility for the correct setting of this relay.

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Setpoints

Below we describe how to set the following example setpoints in the MainsPro Relay

ANSI CODE	PROTECTION
	10 Min Average Over Voltage
27	Under Voltage 1/2
59	Over Voltage 1/2
81U	Under Frequency
81O	Over Frequency
81R	ROCOF
78	Vector Shift

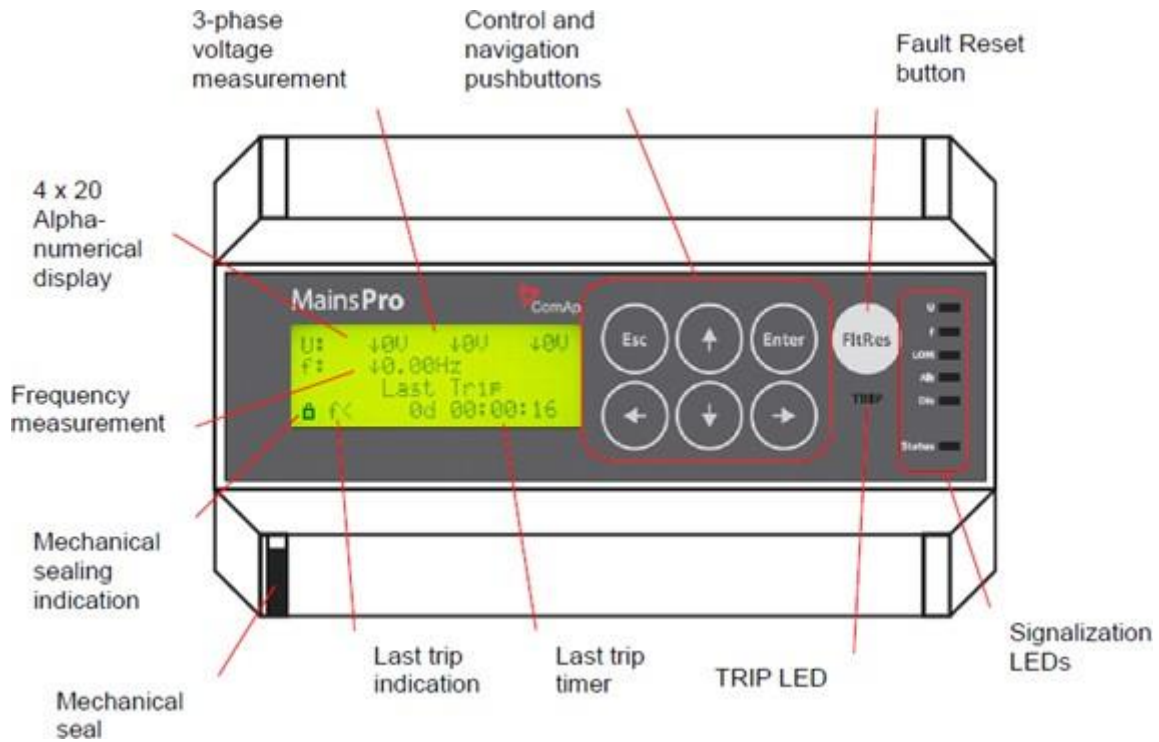
To enter setpoints you will firstly be required to power up the Mains Pro. After the initiation page has been displayed you will be shown the main page as below.



To return to the main page at any point hold the Esc button for two second

Mechanical Seal

The Mechanical Seal is to prevent setpoint change when an operator is reviewing the setpoints. To change any setpoints the Mechanical Seal needs to be opened. This can be achieved by sliding the seal up. You will notice that the Mechanical Seal indication will disappear.



Setpoints can now be changed in the MainsPro

Setpoint 1 – 10 Minute Average Overvoltage

Follow the below example to change the 10 minute Average Overvoltage protection setpoint to 255 Volts with a 3 second delay.

- At the main page push the right arrow
- You will now be shown the setpoints menu.
- Scroll down using the down arrow
- When you get to the **A.V<>** push the right arrow again
- You will now be prompted with the setpoints available for Average Voltage protection. You can also view all the setpoints here.
- To enter Average Over Voltage setpoint push the right button at the **A.V>**
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits to show 00255
- Now you have selected 00255 you must **Push the Enter button to save the new setpoint**
- After pushing the enter button you will be sent back to the Average Voltage protection setpoints page. You will notice that the setpoint has now changed.
- To set the delay for the Average scroll down to the **A.V> Del** and push the right button
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits
- Make the change to 003.00 and press enter
- You will now see on the Average Overvoltage setpoint for the delay to be 3.00s.

This set point is now complete. Press and hold the Esc button for two seconds to return to the Main Page.

Setpoint 2 – Under Voltage

Follow the below example to change the Undervoltage protection setpoint to 180 Volts with a 2 second delay.

- At the main page push the right arrow
- You will now be shown the setpoints menu.
- Scroll down using the down arrow
- When you get to the **V<>** push the right arrow again
- You will now be prompted with the setpoints available for Under and Over Voltage protection. You can also view all the setpoints here.

- To set the Under Voltage setpoint push the right button at the **V<**
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits to show 00180
- Now you have selected 00180 you must **Push the Enter button to save the new setpoint**
- After pushing the enter button you will be sent back to the Voltage protection setpoints page. You will notice that the setpoint has now changed.
- To set the delay for the undervoltage setpoint scroll down to the **V< Del** and push the right button
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits.
- Make the change to 002.00 and press enter
- You will now see the Under Voltage setpoint delay as 2.00s.

This set point is now complete. Press and hold the Esc button for two seconds to return to the Main Page.

Setpoint 3 – Over Voltage

Follow the below **example** to change the Over Voltage protection setpoint to 260 Volts with a 2 second delay.

- At the main page push the right arrow
- You will now be shown the setpoints menu.
- Scroll down using the down arrow
- When you get to the **V<>** push the right arrow again
- You will now be prompted with the setpoints available for Under and Over Voltage protection. You can also view all the setpoints here.
- To set the Over Voltage setpoint push the right button at the **V>**
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits to show 00260
- Now you have selected 00260 you must **Push the Enter button to save the new setpoint**
- After pushing the enter button you will be sent back to the Voltage protection setpoints page. You will notice that the setpoint has now changed.
- To set the delay for the undervoltage setpoint scroll down to the **V> Del** and push the right button
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits.
- Make the change to 002.00 and press enter
- You will now see the Under Voltage setpoint delay as 2.00s.

This set point is now complete. Press and hold the Esc button for two seconds to return to the Main Page.

Setpoint 4 – Under Frequency

Follow the below example to change the Under Frequency protection setpoint to 47 Hz with a 2 second delay.

- At the main page push the right arrow
- You will now be shown the setpoints menu.
- Scroll down using the down arrow
- When you get to the **f<>** push the right arrow again
- You will now be prompted with the setpoints available for Under and Over Frequency protection. You can also view all the setpoints here.
- To set the Under Frequency setpoint push the right button at the **f<**
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits to show 047.00
- Now you have selected 047.00 you must **Push the Enter button to save the new setpoint**
- After pushing the enter button you will be sent back to the Frequency protection setpoints page. You will notice that the setpoint has now changed.
- To set the delay for the Under Frequency setpoint scroll down to the **f< Del** and push the right button
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits.
- Make the change to 002.00 and press enter
- You will now see the Under Voltage setpoint delay as 2.00s.

This set point is now complete. Press and hold the Esc button for two seconds to return to the Main Page.

Setpoint 5 – Over Frequency

Follow the below example to change the Under Frequency protection setpoint to 52 Hz with a 2 second delay.

- At the main page push the right arrow
- You will now be shown the setpoints menu.
- Scroll down using the down arrow
- When you get to the **f<>** push the right arrow again
- You will now be prompted with the setpoints available for Under and Over Frequency protection. You can also view all the setpoints here.
- To set the Over Frequency setpoint push the right button at the **f>**
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits to show 052.00
- Now you have selected 052.00 you must **Push the Enter button to save the new setpoint**
- After pushing the enter button you will be sent back to the Frequency protection setpoints page. You will notice that the setpoint has now changed.
- To set the delay for the Over Frequency setpoint scroll down to the **f< Del** and push the right button
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits.
- Make the change to 002.00 and press enter
- You will now see the Under Voltage setpoint delay as 2.00s.

This set point is now complete. Press and hold the Esc button for two seconds to return to the Main Page.

Setpoint 6 – ROCOF

Follow the below example to change the ROCOF protection setpoint to 3 Hz / sec with a 0.10 second delay.

- At the main page push the right arrow
- You will now be shown the setpoints menu.
- Scroll down using the down arrow
- When you get to **LOM** push the right arrow again
- You will now be prompted with the available setpoints for Loss of Mains protection. You can also view all the setpoints here.
- To set the ROCOF setpoint push the right button once at **ROCOF**
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits to show 003.00
- Now you have selected 003.00 you must **Push the Enter button to save the new setpoint**
- After pushing the enter button you will be sent back to the Loss of Mains page. You will notice that the setpoint has now changed.
- To set the delay for the ROCOF setpoint scroll down to the **ROCOF Del** and push the right button
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits.
- Make the change to 00.10 and press enter
- You will now see the ROCOF setpoint delay as 0.10s.

This set point is now complete. Press and hold the Esc button for two seconds to return to the Main Page.

Setpoint 7 – Vector Shift

Follow the below example to change the Vector Shift protection setpoint to 8 Degrees.

- At the main page push the right arrow
- You will now be shown the setpoints menu.
- Scroll down using the down arrow
- When you get to **LOM** push the right arrow again
- You will now be prompted with the available setpoints for Loss of Mains protection. You can also view all the setpoints here.
- To set the Vector Shift setpoint push the right button once at **Vs Lim**
- Now you can use the left and right button to select the digit you want to change and the up and down buttons to change the digits to show 00008
- Now you have selected 00008 you must **Push the Enter button to save the new setpoint**
- After pushing the enter button you will be sent back to the Loss of Mains page. You will notice that the setpoint has now changed.
- VectorShift is an instantaneous trip therefore there is no delay available.

This set point is now complete. Press and hold the Esc button for two seconds to return to the Main Page.

Protections Not Required

There are several other protections available in the MainsPro protection relay. There is also “over over” and “under under” protection available. For further information on these please refer to the Global Guide. If they are not required set the setpoints to 0. This will effectively turn the protection off.

Relay Outputs

There are five relay outputs on the MainsPro. Each output can be programmed to trigger as a common protections (trips with any fault), with individual protections, or the inverse as signalled by a ! in front of the type of trip. They can also be set to trip permanently for use with contactors or to trip for a set impulse, usually used with circuit breakers.

In normal circumstances when using a single contactor to disconnect from the mains supply you would only require a single CommTrpPer output.

Binary Inputs

There are four binary inputs available. These can be programmed to be things like external Fault Reset or to disable the Mains Pro externally for example in conjunction with a generator ATS. However, in normal circumstances these are not required.