Firmware version D-0214V01.05.04 or later

TCC300 Digital Tapchanger Control essentials
Advantages that optimize application ease of use, security, and communications

Mission critical control tools

Harmonic Analysis Enhancement – This feature allows both magnitude and percent of fundamental data to be displayed on one easy to read graph. This enhances the usefulness of the Harmonic data the control is measuring.

Definite timers display change – The definite timers on the control, including Raise and Lower Definite timers, used to display in percent, but now display in seconds. When not timing, they will display the setting of the associated timer. When timing, they will count down to zero. This will apply in TCC600 as well as the HMI, where applicable. This addition makes it much easier for a user to determine the timer setting at a glance when the control is not in the timing mode, and how close the control is to an operation when it is in the timing mode.

Dust covers for SD, USB, and Ethernet – Dust covers for The SD card slot, USB port, and Ethernet ports now ship on all TCC300 controls. DNP point "Automatic Status" creation– In current firmware, multiple DNP points must be monitored to tell if the unit is in Auto or in any other mode. This new DNP status point will indicate a 1 if in Auto, and a 0 if in any other state including Manual, Remote Manual, or Off.

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DNP point "Tap Block Status" creation – A new DNP status point will be created which will tell the user if the control is being blocked due to exceeding either Tap Block Raise or Tap Block lower.

Wake screen enhancement – Date and Time have been added to the Wake screen selection menu. This feature will allow a user to ensure the unit's date and time are current when the wake button is pressed and minimize the button presses needed to gain this information.

Remote Manual mode of operation – ABB designed a heartbeat feature in the TCC300 that used DNP to place the unit in a Remote Manual state that differs from using the standard Block Auto via Comm method previously used. This method allows a utility to use the Block Auto via Comm command to place the unit in a lockout state independent of the Remote Manual function.

Tap Statistics enhancement – The existing Tap Statistics feature has been enhanced to include accumulated Load Current for each tap, and a new Individual Tap Wear Alarm. The alarm will trigger when any individual tap exceeds an alarm threshold set by the user. These features allow a utility a more efficient way to plan maintenance considering actual conditions instead of merely scheduling regular physical visits to the regulator.

Sequence of Events and Oscillography enhancements – The Sequence of Events and Oscillography functions now have the added ability to both trigger and view the following control inputs:

- Motor Seal-in input
- Neutral input
- Counter input

These additions give the user more information when analyzing data from the control and provide more flexibility on what events can trigger recording data, which increases the value of Sequence of Event and Oscillographic records to the customer.

Operations counter alarm feature addition – The control now features a programmable alarm based on the existing Predictive Maintenance Alarm feature. This alarm is named Op Count Signal and alerts the user when the operations counter reaches a user settable alarm limit. Previously, if this alarm activated, the user had no way of knowing about it via the front panel. This alarm provides a maintenance alert to a user indicating that the regulator may need servicing.

Ease-of-use/user friendly

TCC600 file name window display – The main settings and monitoring windows will display the file name of a settings file if one has been opened. This enhancement allows a user to know easily which window belongs to a given file when opening several files for comparison on the computer.

Easy access to tools – TapPlot, the Sequence of Events viewer, and a utility to convert Datalogging files into a .CSV format have been made available to the user without needing to either connect to a control or open a new file. This feature makes these tools easier to access quickly.

Cloning feature enhancement – The TCC300 includes DNP mapping and Multi-user Password file in the Clone process when saving and loading a Clone settings file using an SD card. Including these new files in the Clone process ensures the unit is fully cloned. In previous versions, a user would have to save the DNP map and Password file separately.

SD card Quick Capture – The TCC300 includes Quick Capture, a feature that uses a single menu item in the SD card menu to capture the following:

- A single Clone settings file
- DNP map, if available
- Multi-user Access file, if available
- Multi-user Access log, if available
- Sequence of Events records, if available
- Oscillographic records, if available
- Datalog record, if available

Quick Capture provides an easy method to download fully all data available in a control using a single menu solution that minimizes time in front of a control, working in a bucket truck, etc.

Security

Front panel access logging – Any time a front panel button is pressed, an HMI Active point is set high indicating someone is accessing the unit's settings via the front panel. Each time the HMI active point goes high, the unit will create a Sequence of Events record that includes the date and time of the access. This can be downloaded from the control and provides a time stamped method of tracking front panel access to the control. This feature is useful in logging local access for Security purposes and assists the utility in meeting Cyber-Security password control and auditing requirements.

Communications

DP counter addition – DNP contains a data type that is now supported in the TCC300 named Counters. The addition of these points enhances the TCC300 DNP compatibility.

Secure DNP – Secure SNP as defined by the DNP standard has been implemented in the TCC300. This feature encrypts and authenticates access to our control form a master and conforms to the DNP specification on its implementation.

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